

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE NO. 1787  
Order No. R-1525

APPLICATION OF THE OIL CONSERVATION  
COMMISSION ON ITS OWN MOTION TO  
CONSIDER THE PROMULGATION OF STATEWIDE  
RULES GOVERNING THE OPERATION OF WATER  
FLOOD PROJECTS INCLUDING THE ASSIGNMENT  
OF PROJECT ALLOWABLES.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 14, 1959, at Roswell, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 9<sup>th</sup> day of November, 1959, the Commission, a quorum being present, having considered the application and the evidence adduced, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the Oil Conservation Commission called this case on its own motion to evaluate, in view of some two years' experience, the effect of unrestricted water flood production (capacity allowables) on the market for primary oil production in New Mexico as well as on primary exploration and development. Further, the Commission deemed it necessary to reconsider, in the light of additional engineering data, the question whether curtailed rates of production in water flood projects cause the physical waste of oil.

(3) That the evidence presented in this case, including the records in Case Nos. 1324 and 1294, which records were incorporated by reference into the record of this case, preponderates in favor of the engineering viewpoint that reasonable curtailment of production in water flood projects does not result in a loss of ultimate oil recovery.

(4) The evidence presented in this case establishes to the satisfaction of the Commission that unrestricted production in water flood projects has had a significant and adverse impact on the market available for primary oil produced in New Mexico, and to continue the practice of unrestricted water flood production will aggravate the market problem to a critical degree.

(5) That unrestricted water flood production has contributed to decreased normal unit allowables for Southeast New Mexico which in turn have been a factor in the decline of primary exploration and development.

(6) That the secondary recovery of oil by means of water flooding the producing formation is desirable as a conservation measure and should be encouraged by a statewide rule establishing allowables for such projects which are in excess of normal unit allowables but less than capacity allowables.

(7) That the evidence presented indicates that a relatively constant project injection rate is beneficial from the standpoint of economics and operational efficiency and convenience, and thus the maximum allowable for any particular water flood project should, insofar as possible and practicable, remain constant. Therefore, area allowable factors based upon past allowable histories in each of the marketing areas in New Mexico should be utilized rather than the current monthly normal unit allowables in calculating the water flood project allowable.

(8) That operators of water flood projects heretofore authorized by the Commission have purchased and installed facilities and mechanical equipment designed for producing wells in such projects at rates equal to their capacity to produce. For this reason, as well as for the reason set forth in Finding No. 7, all water flood projects authorized by the Commission prior to the date of this order should be exempted from the water flood allowable provisions of Rule 701 as set forth in this order.

(9) That the establishment of buffer zones between water flood projects may be necessary when offsetting water flood projects have varying allowable provisions. Rule 701 should, therefore, include a provision for the assignment of special allowables to wells in such buffer zones where it is established at a hearing that correlative rights cannot adequately be protected otherwise.

IT IS THEREFORE ORDERED:

(1) That Rule 701 of the Commission Rules and Regulations be and the same is hereby revised to read in its entirety as herein-after set forth; provided however, that the allowable provisions contained in revised Rule 701 shall not apply to water flood projects heretofore authorized by the Commission or to legitimate expansions thereof.

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## **RULE 701. INJECTION OF FLUIDS INTO RESERVOIRS**

### **A. Permit for Injection Required**

The injection of gas, liquefied petroleum gas, air, water, or any other medium into any reservoir for the purpose of maintaining reservoir pressure or for the purpose of secondary recovery or the injection of water into any formation for the purpose of water disposal shall be permitted only by order of the Commission after notice and hearing, unless otherwise provided herein.

### **B. Method of Making Application**

Application for hearing to obtain authority for the injection of gas, liquefied petroleum gas, air, water, or any other medium into any formation for any reason shall include the following:

1. A plat showing the location of the proposed injection well or wells and the location of all other wells within a radius of two miles from said proposed injection well or wells, and the formation from which said wells are producing or have produced. The plat shall also indicate the lessees, if any there be, within said two-mile radius.
2. The log of the proposed injection well or wells if same is available.
3. A description of the proposed injection well or wells' casing program.
4. Other pertinent information including the name and depth of the zone or formation into which injection will be made, the kind of fluid to be injected, the anticipated amounts to be injected, and the source of said injection fluid.

### **C. Salt Water Disposal Wells**

The Secretary-Director of the Oil Conservation Commission shall have authority to grant an exception to the requirements of Rule 701(A) for water disposal wells only, without notice and hearing, when the waters to be disposed of are mineralized to such a degree as to be unfit for domestic, stock, irrigation, and/or other general use, and when said waters are to be disposed of into a formation of greater than Triassic age (Lea County only) which is non-productive of oil and/or gas within a radius of two miles from the proposed injection well, providing that any water occurring naturally within said disposal formation is mineralized to such a degree as to be unfit for domestic, stock, irrigation, and/or other general use.

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To obtain such administrative approval, operator shall submit in triplicate to the Commission at Santa Fe, Commission form entitled, "Application to Dispose of Salt Water by Injection Into a Porous Formation Not Productive of Oil or Gas," together with evidence that a copy of said application was sent to the State Engineer Office, Box 1079, Santa Fe, as well as to all offset operators and the surface owner of the land upon which the well is located.

If no objection is received within 15 days from the date of receipt of the application, and the Secretary-Director is satisfied that all of the above requirements have been complied with, and that the well is to be cased and cemented in such a manner that there will be no danger to oil, gas, or fresh water reservoirs, an administrative order approving the disposal well may be issued. In the event that the application is not granted administratively, it shall be set for public hearing, if the operator so requests.

The Commission may dispense with the 15-day waiting period if waivers of objection are received from all offset operators and the surface owner, and no objection is made by the State Engineer Office.

#### D. Pressure Maintenance Projects

1. Pressure maintenance projects are defined as those projects in which fluids are injected into the producing horizon in an effort to build up and/or maintain the reservoir pressure in an area which has not reached the advanced or "stripper" state of depletion.

2. The project area and the allowable formula for any pressure maintenance project shall be fixed by the Commission on an individual basis after notice and hearing.

#### E. Water Flood Projects

1. Water flood projects are defined as those projects in which water is injected into a producing horizon in sufficient quantities and under sufficient pressure to stimulate the production of oil from other wells in the area, and shall be limited to those areas in which the wells have reached an advanced state of depletion and are regarded as what is commonly referred to as "stripper" wells.

2. The project area of a water flood project shall comprise the proration units upon which injection wells are located plus all proration units which directly or diagonally offset the injection tracts and have producing wells completed on them in the same formation; provided

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however, that additional proration units not directly nor diagonally offsetting an injection tract may be included in the project area if, after notice and hearing, it has been established that such additional units have wells completed thereon which have experienced a substantial response to water injection.

3. The maximum allowable assigned to any water flood project area shall be determined by multiplying the number of proration units in the project area times the basic Area Allowable Factor (as determined in subparagraph 4 below) times the appropriate proportional (depth) factor for the pool as set forth in Rule 505 (b). The allowable assigned to any water flood project area in which there are proration units containing more than one well shall be increased by an amount of oil equal to 0.333 times the basic Area Allowable Factor times the proportional (depth) factor for the pool for each such additional well on the proration unit; provided however, that the additional allowable for any such proration unit shall not exceed the basic Area Allowable Factor times the proportional (depth) factor for the pool.

The project area allowable may be produced from any well or wells in the project area in any proportion.

The production from a water flood project area shall be identified as such on the monthly Commission Form C-115.

Nothing herein contained shall be construed as prohibiting the assignment of special allowables to wells in buffer zones after notice and hearing. Special allowables may also be assigned in the limited instances where it is established at a hearing that it is imperative for the protection of correlative rights to do so.

4. The basic 40-acre Area Allowable Factor for the counties of Lea, Eddy, Chaves, and Roosevelt shall be 42. The basic 40-acre Area Allowable Factor for the counties of San Juan, Rio Arriba, Sandoval, and McKinley shall be 52.

5. Water flood projects shall be expanded and additional wells placed on injection only upon authority from the Commission after notice and hearing or by administrative procedure in accordance with the following:

In order for a well in a water flood project to be eligible for administrative approval for conversion to water injection, it must be established to the

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satisfaction of the Secretary-Director of the Commission that the proposed water injection well has experienced a substantial response to water injection or is directly offset by a producing well which has experienced such response, and that the proposed injection well is located on a water injection pattern which will result in a thorough and efficient sweep of oil by the water flood.

To obtain administrative approval for the conversion of any well to water injection, applicant shall submit to the Commission in triplicate a request for such administrative approval, setting forth therein all the facts pertinent to the need for conversion of additional wells to water injection, and attaching thereto Commission Form C-116, showing production tests of the affected well or wells both before and after stimulation by water flood. Applicant shall also attach plats of the water flood project area and immediate surrounding area, indicating thereon the owner of each lease and the location of all water injection wells and producing wells, and shall submit evidence that a copy of the application to convert additional wells to water injection has been sent to each operator offsetting the proposed injection well and to the State Engineer.

The Secretary-Director may, if in his opinion there is need for conversion of additional wells to water injection, authorize such conversion without notice and hearing, provided that no offset operator nor the State Engineer objects to the proposed conversion within fifteen (15) days. The Secretary-Director may grant immediate approval of the proposed conversion upon receipt of waivers of objection from all operators offsetting the proposed injection well and from the State Engineer.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*John Burroughs*  
JOHN BURROUGHS, Chairman

*Murray E. Morgan*  
MURRAY E. MORGAN, Member

*A. L. Porter, Jr.*  
A. L. PORTER, Jr., Member & Secretary

