



OIL CONSERVATION DIVISION  
NEW MEXICO

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May 3, 1995

Mr. William J. LeMay, Director  
New Mexico Oil Conservation Division  
2040 S. Pacheco Street  
P.O. Box 6429  
Santa Fe, NM 87505

**NMOCD Case No. 11274**

**Proposed Rule 111 - A**

**High Angle/ Horizontal/ Directional Drilling Projects**

Amoco Production Company appreciates the opportunity to provide written comments on the proposed Rule 111 - A regarding the establishment of an administrative approval process for horizontal wells. We provided verbal comments at the hearing on April 27th. Amoco has received NMOCD approval for eight horizontal wells in the Blanco Mesaverde Pool during the past year, each of which has required a hearing. We are continuing our horizontal well program with five more wells planned for 1995 and if successful will extend this program into 1996.

We believe that the rules for administrative approval should be simple, requiring only the minimum pertinent information for the project. They should provide for the Director's approval for projects that are straight forward. Projects that request special conditions such as bonus allowable or reduced setbacks should be reserved for hearing. Using this as our guide, we have reviewed the document prepared by Meridian dated April 27, 1995 and have attached a redlined version with this letter. Our comments regarding the redline version are included below:

Section A, we have chosen to accept the definitions (m) through (q) categorizing the various radius of curvature and build rates used in the directional drilling projects. However, there does appear to be some controversy on this issue. We do not see the need for these definitions in the proposed rules unless the NMOCD intends to keep statistics on the types of projects approved.

Section C (1), we have added the language from the Marathon proposal which includes the phrase **in the applicable pool(s)** to clarify which existing wells in the project area need to be included on the plat, and deletes the requirement to show all adjoining sections since that may

not be appropriate for some projects on 40 acre spacing. The requirement to show all offsetting drilling units **and any wells in those units** should be sufficient.

Section C (6), we have deleted the portion of this section that deals with special allowables. We believe that any proposed allowable other than a standard approach as described in Section E and F is not appropriate for administrative approval of the project. Special or bonus allowable requests should be reserved for hearings. For example, in the Blanco Mesaverde Pool the NMOCD has been approving allowables based on the combined deliverability from only two wells in each proration unit. This concept should be approved administratively. However a request to base the allowable on the combined deliverability from more than two wells in the proration unit should require a hearing for approval.

Section C (7), we have deleted this section in its entirety. This section was deleted in the Marathon proposal. We believe that a summary of why the existing wells are unable to effectively and efficiently drain the project area is not necessary for the administrative approval of the project. This type of information is more appropriate to present in hearings when required by the Director or if the project has been protested.

Section C (8), we have added the phrase **in the applicable pool(s)** to clarify which operators and owners of offsetting spacing units should be notified of the application.

Section D, we have deleted all of the second paragraph regarding waivers from all owners within the project area since the notice to these owners was not included and these owners generally have some type of contractual arrangement for wells.

Section E, we have added the word **area** following project to clarify that the allowable will be assigned to the project area involved and will be produced in any proportion by all wells located in the project area. We have incorporated the simplification that the Marathon proposal offers and deleted the language for a multiplier times the allowable for a single proration unit because this approach is not suitable for prorated pools in northwest New Mexico that have a portion of their allowable based on deliverability. For example, two Blanco Mesaverde proration units will not necessarily have the same allowable. We have also accepted Meridian's idea of including spacing units that are within the footage setback distance of the project well.

Section F, we have deleted the phrase **Director shall determine ...** to the end of the sentence and added the language from the Marathon proposal **project allowable may be produced in any proportion by all wells in the project area**. This supports the project area allowable concept which allows some flexibility in how an operator produces the wells in the project area.

Section G, we have deleted this section in its entirety. This concept is not suitable for pools that allow more than one well to be drilled in the proration unit such as the Blanco Mesaverde

Pool. In the eight horizontal well project orders we have received from NMOCD hearings, none have declared that the project well "shall constitute a special exception to the then approved well spacing pattern". The language is not necessary in this rule as approval from the NMOCD for the project well should be sufficient.

Section H, we have deleted this section in its entirety. The need for creation of non-standard proration and spacing units was not discussed at the hearing on April 27th. The concept of a project area which may consist of multiple drilling units and incorporates an allowable for the project area precludes the need for the creation of a non-standard proration and spacing unit. In addition, the creation of a non-standard proration and spacing unit would open up the question of involuntary pooling for horizontal wells. This language is not necessary in this rule as approval from the NMOCD for the project area should be sufficient.

Sincerely,

A handwritten signature in black ink that reads "Bill Hawkins". The signature is written in a cursive, flowing style.

Bill Hawkins

cc: Marathon Oil Company  
PO Box 552  
Midland TX 79702-0552  
Attn: Richard E. Pollard

Meridian Oil Inc.  
PO Box 4289  
Farmington NM 87499-4289  
Attn: Alan Alexander

New Mexico Oil and Gas Association  
PO Box 1864  
Santa Fe NM 87504-1864  
Attn: Ruth Andrews

**MERIDIAN OIL INC.'S  
REVISED PROPOSED RULE  
April 27, 1995**

**RULE 111-A  
HIGH ANGLE/HORIZONTAL/DIRECTIONAL  
DRILLING PROJECTS**

A. The following definitions shall apply to this Rule:

(a) NMOCD-means the New Mexico Oil Conservation Division

(b) Drilling Unit-means the surface acreage assigned to a vertical wellbore in accordance with NMOCD Rule 104. Included in this definition is a "unit of proration for oil or gas" as defined by NMOCD and all non-standard such units previously approved by the NMOCD.

(c) Wellbore-means the interior surface of a cased or open hole through which drilling, production, or injection operations are conducted.

(d) Project Well-means any well drill, completed or produced as either a horizontal, high angle or directional drilled well.

(e) Project Area-means one or more drilling units which are to be dedicated to the project well.

(f) Penetration Point-means the point where the wellbore penetrates the top of the pool from which it is intended to produce.

(g) Terminus-means the farthest point attained along the horizontal lateral or high angle portion of the wellbore.

(h) Vertical Well-means a well that does not have an intentional departure or course deviation from the vertical.

(i) Horizontal Well-means a wellbore that has a departure or course deviation from the vertical equal to or greater than 85 degrees and whose lateral runs approximately parallel (within practical limits) to formation dip with its penetration point and terminus being within a single formation or pool.

(j) High Angle Well-means a wellbore that has a departure or course of deviation from vertical of less than 85 degrees and whose lateral does not run approximately parallel with formation dip.

(k) Directional drilled well-means a wellbore which is intentionally deviated from vertical with an intentional azimuth. Any well drilled directionally but without an intentional azimuth is only subject to Division Rule 111.

(l) Lateral-means any portion of a horizontal wellbore.

(m) Ultra Short Radius Lateral-means the measured departure of a wellbore from vertical that has an angle of build rate of between 45 degrees and 90 degrees per foot within a 2 to 1 foot radius.

(n) Short Radius Lateral-means the measured departure of a wellbore from vertical that has an angle build rate of between 1.5 degrees and 45 degrees per foot within a 40 to 2 foot radius.

(o) Intermediate radius lateral-means the measured departure from vertical that has an angle build rate of between 0.2 degrees and 1.5 degrees per foot within a 300 to 40 foot radius.

(p) Medium Radius Lateral-means the measured departure of a wellbore from vertical that has an angle build rate of between 0.08 degrees and 0.2 degrees per foot within a 700 to 300 foot radius.

(q) Long Radius Lateral-means the measured departure of a wellbore from vertical that has an angle build rate of between 0.02 degrees and 0.08 degrees per foot within a 3000 to 700 foot radius.

(r) Drilling-Producing Area-means all points that lie along a rectangular or square window formed by plotting the measured distance from the North, South, East and West boundaries of a project area inside of which a vertical wellbore can be drilled in conformity with the setback requirements from the outer boundary of a standard spacing and proration unit for the applicable pool, or applicable pools in the case of dually completed or commingled wellbore(s).

(s) Producing Interval-means that portion of the wellbore drilled inside the vertical limits of a pool, between its penetration point and its terminus (farthest point) and within the drilling-producing area.

(t) Azimuth-means the course deviation of a lateral expressed in terms of compass degrees.

(u) Kick-off Point-means the point at which the wellbore is intentionally deviated from vertical.

B. The Division Director shall have the authority to administratively approve a high angle/horizontal/ directional drilling project when:

(1) the surface location of the proposed or existing project well is within the boundaries of the project area, consisting of a minimum 40 contiguous surface acres, more or less, substantially in the form of either a square or a rectangle, as applicable, being a legal subdivision of the U.S. Public Land Survey ; and

(2) the producing interval of the wellbore(s) is totally confined to a drilling-producing area. The wellbore(s) may be re-oriented to any azimuth based upon a change in conditions either geologic or mechanical, which is encountered either before or after the commencement of a project, but only insofar as the producing interval(s) remains totally confined to the drilling-producing area.

(3) The project area includes either a single or multiple contiguous drilling units.

(4) The project well includes either a single lateral or multiple laterals which conform to conditions 1. and 2 above.

(5) The project area may include one or more non-standard drilling unit(s) which consist of not less than 70 percent nor more than 130 percent of a standard drilling unit for the applicable pool(s).

C. To obtain administrative approval to drill a High Angle/ Horizontal/Directional well, the applicant shall file such application in duplicate with the Division Director, copy to the appropriate OCD District Supervisor, which shall include:

(1) A plat indicating the section, township and range in which the well is to be drilled, the project area, the proposed surface location, the drilling-producing area for the <sup>project</sup> ~~subject~~ well, any existing wells <sup>in the applicable pool(s)</sup> in the proposed project area, ~~all adjoining sections~~, all offsetting drilling units in the applicable pool(s) and their associated operator, ~~well, well location and spacing unit~~, and any wells in those units;

(2) A designation of the project well as having a wellbore which is characterized as one of the types defined in Section A (above);

(3) a vertically oriented plan view for the subject well including the true vertical depth of the top and bottom of the subject pool, true vertical depth, lateral length, estimated kickoff point (TVD)(MD), penetration point (TVD)(MD) and degree of angle to be built in the project wellbore(s);

(4) a horizontal plan view for the subject well and its spacing unit showing the drilling unit and drilling-producing window, including the estimated azimuth and maximum length of the lateral(s) to be drilled;

(5) A type log section on which is identified the top and bottom of the subject pool and the anticipated kickoff point(s) for the wellbore;

~~(6) The proposed allowable (including any proposed special rate/time period) for the project area and how that allowable will be allocated among any other existing well(s), if any, within the project area;~~

~~(7) In the event there are any existing wells within the project area producing from the same pool from which the project well is intended to produce, then application shall submit a summary which demonstrates why any existing wells are unable to effectively and efficiently drain the project area;~~

(8) A statement or plat showing the names and addresses of all operators of spacing units, or working interest owners of undrilled spacing units offsetting the unit <sup>in the applicable pool(s)</sup> in which the project is located and attesting that applicant, on the same date the application was submitted to the Division, has sent notification to all those parties by submitting a copy of the application to them by certified mail return receipt requested including advising them that if they have an objection, it must be filed in writing within twenty (20) days of the date notice was sent.

D. The Division Director may approve the application:

(a) upon receipt of waivers from all offset operators or owners of undrilled tracts or (b) if no offset operator or owner has entered an objection to the project within 20 days after the Application was received by the Director; ~~and~~.

~~(c) upon receipt of waivers from all owners within the project area or (b) if no owner has entered an objection to the project within 20 days after the Application was received by the Director.~~



E. The maximum allowable assigned to the project <sup>area</sup> when dealing with prorated pools shall be based upon a multiplier consisting of the number of standard proration units (or approved non-standard proration and spacing units) for that pool actually contacted by the producing interval of the wellbore **any portion of which is within a distance of the producing lateral of the horizontal wellbore not greater than the footage setback distance for locating a vertical well from the outer boundary of a spacing unit for that pool.** ~~times the allowable for a single proration unit for the applicable pool less any portion of the allowable attributed to any existing well in the project area.~~ The maximum allowable assigned to the project when dealing with NMOC Rule 505 depth bracket allowable oil pools shall be based upon the number of spacing units described in Rule 505 which are actually contacted by the producing interval of the wellbore ~~any portion of which is within a distance of the producing lateral of the horizontal wellbore not greater than the footage setback distance for locating a vertical well from the outer boundary of a spacing unit for that pool~~ times the applicable depth bracket oil allowable.

F. In the event there are any existing wells within the project area producing from the same pool from which the project well is intended to produce, then the ~~Director shall determine if the project well is necessary in order to effectively produce reserve from that pool and if so shall determine how to allocate the project allowable between or among all wells in the project area so as to protect the correlative rights of owners within the project area and the correlative rights of any offsetting interest owners.~~ *Project allowable may be produced in any proportion by all wells in the project area.*

G. ~~In the event there are any existing wells within the project area then the project well, if and when approved by the Division, shall constitute a special exception to the then existing well spacing pattern established by the Division for that pool.~~

H. ~~In the event there are multiple spacing units within the project area then the project area, if and when approved by the Division, shall constitute approval of a non-standard proration and spacing unit for that pool.~~

I. Any order issued by the Director approving an application shall required that:

(1) that the applicant shall conduct a directional survey on the wellbore subsequent to directional drilling operations in order that the direction, extent and terminus of said wellbore may be determined to be in compliance with the provision of any order with copies submitted to the Santa Fe NMOCD and to the NMOCD-district office in which the well is located; and

(2) the applicant shall notify the supervisor of the NMOCD-district office of the date and time of commencement of directional drilling operations and of the conductance of any directional surveys on the proposed well in order that these operations may be witnessed.

J. The Division Director may, at his discretion, set any application for administrative approval for public hearing.