STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

APPLICATION OF THE NEW MEXICO OIL CONSERVATION DIVISION TO AMEND RULES OF THE COMMISSION CONCERNING THE DRILLING, SPACING, AND OPERATION OF HORIZONTAL WELLS AND RELATED MATTERS BY AMENDING VARIOUS SECTIONS OF RULES 19.15.2, 19.15.4, 19.15.14, 19.15.15, AND 19.15.16 NMAC; STATEWIDE.

CASE NO 15957

REPORTER'S TRANSCRIPT OF PROCEEDINGS

COMMISSIONER HEARING

Volume 1 of 4

April 17, 2018

Santa Fe, New Mexico

BEFORE: HEATHER RILEY, CHAIRPERSON
ED MARTIN, COMMISSIONER
DR. ROBERT S. BALCH, COMMISSIONER
BILL BRANCARD, ESQ.

This matter came on for hearing before the New Mexico Oil Conservation Commission on Tuesday, April 17 through Friday, April 20, 2018, at the New Mexico Energy, Minerals and Natural Resources Department, Wendell Chino Building, 1220 South St. Francis Drive, Porter Hall, Room 102, Santa Fe, New Mexico.

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INDEX

	PAGE
Tuesday, April 17, 2018	
Case Number 15957 Called	6
NMOCD's Case-in-Chief:	
Witnesses:	
David K. Brooks:	
Direct Examination by Ms. Bada	10
Cross-Examination by Mr. Bradfute	87
Cross-Examination by Mr. Cloutier	89
Cross-Examination by Mr. Feldewert	93
Cross-Examination by Commissioner Balch	111
Cross-Examination by Commissioner Martin	134
Cross-Examination by Chairwoman Riley	136
Cross-Examination by Mr. Brancard	137
Recross Examination by Chairwoman Riley	149
NMOGA's Case-in-Chief:	
Witnesses:	
Rick Foppiano:	
Direct Examination by Mr. Feldewert	153, 171, 173, 185, 207, 226, 247, 250
Cross-Examination by Commissioner Balch	168, 184, 195, 237, 250, 263
Cross-Examination by Mr. Brancard	170, 172, 205, 223, 265
Cross-Examination by Commissioner Martin	173
Cross-Examination by Chairwoman Riley	196
Evening Recess/Certificate of Court Reporter	267

EXHIBITS OFFERED AND ADMITTED

	PAGE
NMOCD Exhibit Number 1	8
NMOCD Exhibit Numbers 3, 4, 5A, 5B, 5C, 6A, 6B and 7A	86

(9:53 a.m.)

CHAIRWOMAN RILEY: We'll go ahead and call this matter today. The following case is scheduled for hearing and possible action by the Commission. And so we're going to be hearing -- we have public hearing for Case 15957. The case is titled "Application of the New Mexico Oil Conservation Division to Amend Rules of the Commission Concerning the Drilling, Spacing and Operation of Horizontal Wells and Related Matters by Amending Various Sections of Rules 19.15.2, 19.15.4, 19.15.14, 19.15.15 and 19.15.16 NMAC; Statewide."

So my goal today is to conduct a hearing so as to provide a reasonable opportunity for all persons to be heard without making the hearing unreasonably lengthy or cumbersome and without unnecessary repetition.

The Commission shall take all testimony under oath or affirmation, which may be accomplished en masse or individually. However, a person may make an unsworn position statement.

The Commission shall admit relevant evidence unless the Commission determines that the evidence is incompetent or unduly repetitious. A person who testifies at the hearing is subject to cross-examination by a person who has filed a

pre-hearing statement. A person who presents technical testimony may also be cross-examined on matters related to the person's background and qualifications. The Commission may limit cross-examination to avoid harassment, intimidation, needless expenditure of time or undue repetition.

The hearing will begin today with the presentation by the Applicant. I will ask each of the parties to identify themselves. If they have witnesses, they should provide us with the number of witnesses they anticipate presenting and an estimate of the length of the total testimony. If you have any witnesses with limited availability, please less us know.

We've received the following submittals that are part of the record in this case: The petition by OCD and pre-hearing statement by the Oil Conservation Division; pre-hearing statement by NMOGA; pre-hearing statement by Jalapeno; pre-hearing statement from Marathon Oil Permian, LLC; a pre-hearing from Energen; and a pre-hearing statement by Independent Petroleum Association of New Mexico. No technical witnesses were listed by them.

This hearing is scheduled for four days. As the hearing continues, we may have a better sense of that. We'll have a period for published nontechnical

testimony each day of the hearing. At the back of the room, there are sign-in sheets. If you wish to testify, please provide your name on the sheet and indicate that you wish to testify. When you come forward to speak, please clearly identify yourself and any group you are speaking on behalf of. It is important that everyone have the opportunity to speak if they want to speak. Please be respectful of others.

Once this hearing is completed, the Commission may immediately begin deliberation on the proposal.

So the first item is Affidavit of Notice.

MR. BRANCARD: It is listed as "OCD Exhibit 1." This is the Commission's Affidavit of Notice. I would request that the Commission submit that as part of the record, if there are no objections to that.

It's so admitted.

(NMOCD Exhibit Number 1 is offered and admitted into evidence.)

CHAIRWOMAN RILEY: So next we need to have the participants make their appearances.

MS. BADA: Cheryl Bada for the Oil Conservation Division. I have one witness, David Brooks. I estimate his testimony will take about two hours.

MR. FELDEWERT: Madam Chair, Members of the Commission, Michael Feldewert, with the Santa Fe office of Holland & Hart, appearing on behalf of New Mexico Oil and Gas Association. We have six witnesses. I would say it's going to take the better part of a day and a half, maybe two.

CHAIRWOMAN RILEY: Thank you.

MS. BRADFUTE: Madam Chair, Commissioners, Jennifer Bradfute and Earl DeBrine with the Modrall Sperling Law Firm in Albuquerque, New Mexico, on behalf of Marathon Oil Permian, LLC. We have one witness, and he will testify. His testimony will take approximately 30 minutes.

CHAIRWOMAN RILEY: Thank you.

MR. HALL: Madam Chair, Scott Hall, Montgomery & Andrews of Santa Fe, appearing on behalf of Energen Resources Corporation. I'll have no witnesses.

CHAIRWOMAN RILEY: Thank you.

MR. CLOUTIER: Madam Chair, Andrew Cloutier, Hinkle Shanor Firm, for IPANM. We do not have any witnesses.

MR. BRANCARD: We did have a pre-hearing statement from Jalapeno, and they have one witness scheduled.

MR. FORT: Correct, for approximately one

hour.

CHAIRWOMAN RILEY: Okay.

MS. BADA: Before I begin, I just wanted to let everybody know I passed out corrected exhibits for the OCD. I've contacted all the other parties, and nobody had any objection to submitting those. So if the Commission or -- or at this opportunity, I'd like to use those instead to avoid having to spend time on corrections.

CHAIRWOMAN RILEY: That would be --

MS. BADA: Yes.

CHAIRWOMAN RILEY: Okay. All right. I think we can go ahead and begin.

DAVID K. BROOKS,

after having been first duly sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MS. BADA:

Q. Mr. Brooks, please state your name for the record.

A. David Brooks.

Q. Where are you employed?

A. I'm employed by the Energy, Minerals and Natural Resources Department of the State of New Mexico in the Santa Fe office.

Q. And what are your duties?

A. My title is assistant general counsel. Theoretically, my duties are to do whatever the general counsel -- the deputy general counsel instructs me to do, but in practice, I work almost exclusively for the Oil Conservation Division and give advice to the director or the district supervisors and anybody else who wants to listen.

Q. What is your prior work experience in education?

A. Okay. I graduated from the University of Texas School of Law in 1973. I had previously received a Bachelor of Arts in Economics from the University of Texas at Austin in 1969. I was a law clerk for Chief Justice Joe R. Greenhill of the Supreme Court of Texas. And I was -- I was employed thereafter for the Midland law firm of Stubberman, McRae, Sealy, Laughlin & Browder; the Dallas law firm of Akin, Gump, Strauss, Hauer & Feld; and the Dallas law firm of Geary, Stahl & Spencer, which is now known as Geary, Porter & Donovan.

I was elected to the bench to the district court of Dallas County in 1986. I served for 12 years. And then I came to the west and practiced law in Durango, Colorado with Mr. Thomas P. Duggan, not to be confused with Thomas A. Dugan, from 1999 to 2001, when I

was hired by the New Mexico Energy, Minerals and Natural Resources Department on behalf of the Oil Conservation Division. I worked there until 2013.

At the end of 2013, I retired, returned to Durango, practiced with Mr. Duggan for a while, and then in 2016, I returned to the New Mexico Oil Conservation Division.

Q. And turning to the rules, are you familiar with the current Commission rules for horizontal wells?

A. Yes, ma'am, I am. I have the rule book right here in case I forget anything.

Q. Okay. Will you explain why the OCD is proposing amendments to the current rules?

A. Well, the perception of the industry appears to be that operators can produce the reserves more efficiently in many parts of the state if they have more flexibility in the spacing and drilling of horizontal wells, especially longer-length horizontal wells and different shapes.

Q. How are the proposed amendments developed?

A. Well, the first person who first submitted proposed amendments to the OCD was Ms. Ocean Munds-Dry, who is sitting in the front row over there. Hers were very limited in scope. It got the ball rolling. And David Catanach, who is somewhere in the audience, the

former director of the Oil Conservation Division, decided to appoint an industry advisory work group to work with the OCD personnel to develop improved groups. I was appointed, along with Ms. Munds-Dry, to be co-chairs of that group. However, Mr. Rick Foppiano actually took it over, and he is going to testify later.

(Laughter.)

MR. FOPPIANO: Objection.

(Laughter.)

Q. (BY MS. BADA) Can you refer to OCD Exhibit 2?

A. OCD Exhibit 2.

Q. And can you describe what OCD Exhibit 2 is?

A. OCD Exhibit 2 is the proposed revisions to the horizontal well rule and certain related rules. It includes a revision of 19.15.2, which revises the general definitions applicable throughout the rules; 19.15.4, which is the procedural rules for adjudicatory proceedings, with amendments related to certain notice issues of the proposed amendments; 19.15.14, which is only cross-references; 19.15.15, which is only cross-references; and the main event, 19.15.16, which is the proposed new rules to horizontal wells.

Q. Can you describe the amendments that are being proposed to 19.15.2 to the general provisions and definitions?

A. Okay. The amendments, you said, to 19.15.2. We decided to amend -- excuse me -- four definitions in 19.15.2, and those are the definitions of "affected persons." There was not a definition of "affected persons" in 19.15.2.7, but there was a definition in 19.15.15 in the rule relating to nonstandard locations. Since the term was used several other places in the rule and was proposed for use in the new hori- -- in the rules, plural, and was proposed for use in the new horizontal well rule, we thought it appropriate to put the definition in the general definitions.

We also amended the definition of "mineral interest owner," the definition of "proration unit" and the definition of "royalty interest."

Q. Can you describe the proposed amendments to those definitions?

A. Yes, ma'am, I can.

The definition of "mineral interest owner" was proposed for clarification because the definition we had of "mineral interest owner" refers to the executive right and says that a mineral interest owner is a person who has an executive right. The definition goes on to put in parentheses what they mean by that, but I felt that that definition was confusing because to oil and gas lawyers, the executive right usually used to mean

something else. I would say to the Williams & Meyers term -- oil and gas terms is a reference if anybody wants to look that up. So we amended the definition to eliminate the reference to executive right.

And also we amended it because the definition -- existing definition described the owner of an unleased mineral interest as -- as a mineral interest owner who has not signed a lease. And while that's one instance of an unleased mineral interest owner, if he has an interest that's subject to a lease, it doesn't matter whether he signed a lease or not. So the correct situation is that it's a mineral interest owner whose interest is not subject to a lease that continues in force.

Q. Is the OCD proposing any amendments to the definition of "proration unit"?

A. Oh, yes. You asked me -- your question was open-ended. I could have gone on.

We are proposing a change to the definition of "proration unit," which is an integral part of the change in the spacing rules concerning horizontal wells. That is because we are adopting horizontal spacing units.

The present definition of a "proration unit" declares that every spacing unit is a proration

unit, but that will not be possible to do with horizontal spacing units for two reasons. First of all, horizontal spacing units can and almost certainly will overlap. And if you had an overlapping situation where two wells -- say you had an A, H, I, P stand-up horizontal in a section and you had an A, B, C, D lay-down horizontal in the same section in the same formation, Unit Letter A would be in both horizontal spacing units. And if your horizontal spacing units were used as proration unit and if we have a proration system, which is proposed for appellation but may continue or may be revived at some time, those two wells would be double-dipping. So that makes it impractical to use the spacing units as proration units.

The other reason is that there is a description in Section 70-2-17 of the Oil and Gas Act of what a proration unit is, and the horizontal spacing units would not be -- would not conform to that definition. There is no definition of what a spacing unit is in the Oil and Gas Act. And the Supreme Court has said that a spacing unit invokes the Division's power to space wells, which is different from proration units.

So for those two reasons, we struck the sentences of -- the definition of "proration unit" that

say that any spacing unit is a proration unit.

Q. What changes are you proposing to the definition of "royalty interest owner"?

A. The change in the definition of "royalty interest owner" is only to limit -- to delete the reference to the executive right, which we believe --

Q. Has NMOGA proposed modifications to any of the proposed --

A. We have, and we agree to those modifications NMOGA.

Q. Let's turn to 19.15.4.

A. Yes, ma'am.

We have also proposed modifications to 19.15.4. They are not extensive. We have proposed a modification to the -- two modifications to -- well, one to notice and one that I'll describe in a moment regarding compulsory pooling.

And I would note -- because I may be raising some issue about -- or may be mentioning some issue about the compulsory pooling rules which are in Part 13, not being open to modification in this proceeding, because no changes have ever been proposed to them, the notice provisions for compulsory pooling are not in Part 13. They are in Part 4 of the rules.

The change we have provided in Part 4 for

compulsory pooling is that we will no longer routinely require notice to offsetting owners when it is sought to compulsory pool a horizontal spacing unit, as we have for project areas. The reason for that being that we've got like ten years' experience of that procedure, and we have found that no -- it's very, very unusual for an offsetting owner to object. So we think there is not a need for them to be noticed in every case. If there is a need, we'll order it.

We also want to change the affidavit procedure, the procedure that permits the presentation of compulsory pooling cases by affidavit because that procedure contains a provision that it is only applicable if the unit sought to be pooled is not larger than a standard spacing unit. And it is probable that the intention was, if it is not larger than a standard conventional spacing unit, since that was that the only kind of spacing unit that existed when it was adopted, and to make it clear that it can be used for compulsory pooling provisions -- cases involving horizontal spacing unit, we deleted the size limitation.

Q. What notice requirements are you proposing for nonstandard locations?

A. For nonstandard locations, we are proposing a fairly complex change in the rule, which was triggered

by an interpretation of the present rule that I don't think I originated, but I did make the OCD interpretation. To illustrate this, we need to look at Exhibits 5A, B and C.

The present rule for nonstandard locations says that notice must be given to all owners -- to all owners of all tracts towards which -- excuse me -- towards which the nonstandard location encroaches. My view has been -- was and has been that if there is a specified -- well, first of all, there is a specified setback distance for each pool. It's generally 330 feet for oil wells, 660 feet for gas wells. I'm going to talk in terms of 330 because that's very common.

My theory was -- or my interpretation of that rule was that if a spacing unit is closer to the common corner between units that are diagonally adjoining, then -- if a well is located closer to the common corner, then the setback distance of 330 feet is located less -- well, let's look at Exhibit 5. Can we go ahead and identify that --

Q. Yes.

A. -- 5A? It will be easier to explain that way.

Q. Please describe 5A -- Exhibit 5A.

A. Okay. Exhibit 5A is a plat of two sections with a well in the southeast quarter of Section 2 and

showing that that adjoins the southwest quarter of Section 1 and the northwest quarter of Section 2. What it shows that is significant is that well is located 456 feet from the common corner, but it is 400 feet from the south line and 220 feet from the west line. Because it is 220 feet from the west line, an operator desiring to drill an offset well in the -- in the diagonally adjoining northwest quarter of Section 12 would have to move farther east in order to get a standard location or else get an approval of a nonstandard location. Depending on which way the reservoir structure was more favorable, that operator can be adversely affected by the location of that well. On that ground, I interpreted the rule as saying that it encroached towards the diagonally adjoining unit.

Industry felt that that was not a significant concern, and in the work group, this was extensively discussed. What we decided to do was to revise the rule so that it provides for notice only to units which are farther than the setback distance from the well. And that would be from any point in the well's completed interval if you're talking about a horizontal or from the actual perforation location or if you're talking about vertical.

In Exhibits 5A, 5B and 5C, we show examples

of such a situation with different distances. In 5A, as I said, the well is less than -- is less than the prescribed distance from the east line, but it is greater than the prescribed distance from the corner. And, therefore, under the old rule, it would be subject to -- the northwest quarter of 12, the owners of that tract, would be required to be noticed for the nonstandard location application. But under the new rule, they would not because the common corner is less than -- if the well is more than 330 feet from the common corner.

Exhibit 5B is the same depiction, only here the well is shown to be 220 feet from the south line and 270 feet from the east line, and that well would be 348 feet from the common corner. While it's nonstandard both ways, 270 is less than 330 and 220 is less than 330, it's not nonstandard as to the diagonal because it's still less than 330 feet from the common corner, and, therefore, notice to the diagonal owner would not be required under the new rule.

We proceed then to Exhibit 5C. It shows the same situation, only we brought the well a little closer. It's now 220 feet from the south line and 160 feet from the east line, so it's 272 feet from the common corner. That's less than 330, so in that case,

notice would be required under the new rule to both the east and south offsets and also to the diagonal offsets. So that would be the same as the present rule. The other two situations, the present rule, with the Brooks corollary and the Pythagorean theorem, would require notice, but the new rule won't.

Q. Has NMOGA proposed any modifications to the amendments to 19.15.4?

A. I believe that they did. I don't recall what they are. Hold on. I'll get to them. They did, and we agree to those changes.

Q. Okay. Let's turn to 19.15.14.

A. 19.15.14, the only changes -- well, the changes that we propose in 19.15.14 are corresponding changes. 19.15.14 deals with the prerequisites for the issuance of an APD, and we have made corresponding changes to correctly identify the sentence in -- let me see if I'm -- this is 14. I'm not sure if it's 14 or 15. I want to make a correct statement here.

Yes. That is in 14. 14 -- 19.15.14.8 provides what has to be the situation in order for an operator to apply for a permit to drill or to commence drilling a well. And the provision for vertical wells would be -- is in 14.8(A) and the provision for horizontal wells is in -- well, the provision for

horizontal wells is in 14(B), and it references -- 14.8(B), and it references the provision in the horizontal well rules on the subject, and we made a change to correct that reference to the new rule -- in accordance the new rules. And NMOGA, I believe, did not propose any change to 14.14 [sic].

Q. Okay. Let's turn to 19.15.15.

A. The changes in 19.15.15 are only cross-reference issues. I believe NMOGA did propose at least one typographical error correction, and we agree to that to be corrected.

Q. Okay. Let's turn to 19.15.16.

A. Okay. This one is the main event. This is the -- this provision contains the new horizontal well rules. Well, Part 16 does. The horizontal well rules are in 16.15 and accompanying definitions and 16.7.

Q. Can you describe the amendments that are proposed in Section 7?

A. In Section 7, we are proposing to -- we are proposing to add some additional definitions, delete some existing definitions and change a couple of definitions.

The ones we're adding are "first take point," "horizontal spacing unit," "infill horizontal well," "last take point," "multilateral well" and

"unitized area." All of those are new definitions.

We are deleting the terms involved in identifying the project area, since we're no longer going to use that terminology. So we propose for deletion the definitions of "nonstandard project area," "penetration point," "producing area," "project area" and "standard project area."

We also propose changes to the definitions of "horizontal well," "kickoff point" and "lateral."

Now, the definitions of "first take point," "last take point," "horizontal spacing unit, "infill well" and -- well, not "multilateral" there. The definitions of "first take point," "last take point," "lateral," "kickoff point" and part of the definition of "horizontal spacing unit" is illustrated on Exhibit 4.

Q. Can you tell us about Exhibit 4?

A. Okay. Exhibit 4 is a cross-sectional diagram of a wellbore, which shows the well at surface, and then it shows the completed interval in the formation where it's to be completed and illustrates the kick point, the first take point, the targeted hydrocarbon interval, which is not a defined term but it's there for identification, the completed interval, the last take point and the lateral.

The lateral is not exactly correct to this

exhibit because the definition of "lateral" actually extends it to the termination -- the terminus so that it's the end of the hole rather than ending at the end of the completed interval. However, the completed interval is correctly identified. The lateral does begin at kickoff point. The first and last take points are the first perforations, which are correctly indicated by the flowers extending out into the formation from those points, as well as for -- perforations.

We believe a picture is worth a thousand words, so I think we'll go to thousand words --

The other added definition -- well, let's see. There are two other added definitions. Those have to do with unitized area and the multilateral well. I'm not going to say anything about multilateral wells except that they have more than one drain hole that goes into the formation and produces. Multilateral wells are not extensively used in New Mexico. And industry had some ideas about regulation, and we largely adopted whatever they proposed. It was pretty sketchy. We believe that there will probably be some further consideration of multilateral wells if and when people start using them significantly in New Mexico. But for the time being, we believe that NMOGA witnesses will

fill in the reasons for these rules.

"Unitized area" is a very important concept I want to talk about for a minute. It is defined in 16.7(P). And the important thing about a unitized area is that it is -- a well drilled in a unitized area is exempt from setbacks and from certain spacing provisions.

The existing rules provide that in certain situations, an entire unitized area may be designated as a project area for the drilling of a horizontal well or multiple horizontal wells. The units that can be so dedicated are defined and limited to statutory units, voluntary units for enhanced recovery or pressure maintenance, state exploratory units and participating areas in federal exploratory units.

I think it's broad enough to extend to include the so-called resource development units that BLM has approved for federal lands recently that do not have participating areas because the whole area participates. But I do not believe it can be further expanded because of the inclusio [sic] -- rule, which Bill Carr tried to get on in the Marbob case.

But anyway, we have not found that this works very well, this adoption of units as spacing units that are intended for unitization, not for spacing,

because we get big areas that are dedicated to a well and it's difficult to keep track of where the well actually is. Furthermore, the fact that it's limited to specific types of units creates a different rule for other types of the units that aren't included.

So what we have done here is we have broadened the definition of "unitized area." We propose to broaden the definition of "unitized area" to specifically include communitized units if all parties join in or ratify or become subject to -- someone pointed out after I wrote this that BLM approves compulsory pool units as applying to all areas, and that should be correct unless the compulsory pooling proration specifically excludes certain interests. And I think the present language is broad enough to say that. However, if others are not satisfied that it is, I have no objection to an appropriate amendment to what we have proposed.

So that's what it -- the unitized area includes communitized agreements and -- I don't know to what extent these actually exist in New Mexico, but I'm familiar with them in Texas -- voluntary private unitizations, which I do not believe would require any regulatory approval but which would be filed in the county records for notice purposes.

Again, as with communitized units, if all interests are committed, the important point is that there are no owners of separate tracts who have correlative rights issues that will require that the wells observe the location and spacing rules that we have for wells in normal horizontal units.

Now, a problem has arisen -- has been pointed out to me that I think is very important. And this came from our district personnel. They have no way of knowing when an APD is submitted whether or not it's unitized area unless that unit has been approved by the OCD and there is an order on it. We need to, I think, supplement this with some kind of procedure. OCD may be able to do it without a rule, but since we're making a rule anyway, it would be a good time to put in some such procedure. And the operator would be the person who ought to know if all interests have been joined. And if the operator certifies that they have, then we would be entitled to rely on the operator's certification. So I believe that would be the most practical way to handle it. We do not intend to examine the titles or to require the submission of a whole lot of title instruments that some lawyer in our office would have to examine.

In addition to "unitized areas" as defined

here, other parts of the proposed rule treat as unitized certain areas that are not defined as unitized areas and that would be what we've called "areas of common ownership," where all interests in the mineral estate in a geological area are common so that like a unitized area, there are no correlative rights issues.

In unitized areas -- those areas have the same privileges as unitized areas. In other words, the consequence of being a unitized area is exactly the same as the consequence of being in an area of common -- of common ownership. And that is that three rules that would otherwise apply do not apply in the unitized area or area of common ownership. The most important one is the setbacks.

The setbacks in such areas apply only from the outer boundary of the unitized area or the area of common ownership and do not apply to the boundaries of horizontal spacing units within that area so that you can drill as close as you want to another unit. And, of course, because the units are very flexible in their definition, you can also drill across those boundaries. That just controls the unit -- the way you've drawn your unit -- the way you draw your spacing unit.

The second thing that is excluded is the one-in-four rule I will discuss in a minute, which is a

part of the present rule and also a part of the proposed rule. That is the rule that if you -- if your horizontal spacing units includes three quarter-quarter sections in a section, it must include the fourth quarter-quarter section in that same section, with an exception that we're proposing.

But another exception is that that rule does not apply within the unitized area or areas of common ownership.

The third rule that does not apply is the rule that in some situations, the horizontal spacing unit must be rectangular in shape. Now, I'll explain that later, because the present rule -- the rules now say that in order to be a standard project area, a project area must be rectangular in shape. We're going to modify that if our proposals are adopted. In most cases, horizontal spacing units will not be required to be rectangular in shape, but there is a certain limited situation in which they will be. That rule will not apply to unitized areas or areas of common ownership.

Now, that explanation was a little complicated, and I don't mind if you didn't follow it all, but I'm sure that I will get some questions on that.

Those are the definitions -- that is the

discussion that involves the definitions in -- the new definitions in 16.7.

The definitions that we have changed or largely changed to implement some of the other proposals, I don't think it's necessary to discuss them at this point, now that I've gotten everyone thoroughly confused.

Q. Can you describe the changes to the definition of "horizontal well" and refer to Exhibit 3?

A. Okay. Yeah. That one is one that needs to be defined.

The existing rules define directional wells, and then they define a horizontal well as being a "directional well that" and go on with the definition, which means -- if you use the term "directional well," that includes horizontal well. If you use the term "horizontal well," that does not include horizontal wells. At the time those rules were adopted, directional wells were very common. Horizontal wells were very uncommon. So we took -- we just adopted the definition of horizontal well as a kind of directional well. Horizontal wells, of course, have taken on -- as everyone knows, have taken on a life of their own. So we think they should not be a subcategory. At least that's what the work group concluded.

So the new definition of horizontal well does not define it as a directional well, and the definition of the directional well has been changed to add that it is not a horizontal well.

We have submitted Exhibit 3 to show the difference between directional and horizontal wells. Exhibit 3 is a picture. It's a very simple picture. It shows one well as a directional. It goes down from the surface. It doesn't show the reason, but for some reason, it was decided necessary to divert it to get it into the -- from the vertical to get it into the targeted formation. So it goes down into the targeted formation and is completed there, but not as a horizontal. If it has at least 100 feet of horizontal lateral, it is called a horizontal well. And as you can see, this one that's depicted has probably quite a bit more than 100 feet, depending on the scale. But we can guess the scale from the size of the rings.

Q. Has NMOGA proposed any modifications to Section 7?

A. They have proposed some modifications to the definitions, which we agree.

Q. Can you describe the amendments that are being proposed to Section 14?

A. Okay. The amendments that we propose to

Section 14 are a consequence to Section -- to 19.15.16.14 are a consequence of the change of directional wells -- the definition of directional wells to exclude horizontal wells. We made no significant changes in the rules about directional wells, but we had to repeat some things in 19.15.16 regarding horizontal wells because some of the rules are the same and the fact that they apply to directional wells no longer makes them, per se, apply to horizontal wells. So we had to repeat them.

But basically the rules for directional wells are what they've always been. There is -- there is one change that I recall, and we no longer require that people use a surveyor approved by the Division for their directional survey because when we inquired about this, we found out that the Division hasn't approved any surveyors. So we now only require that they use a competent surveyor.

Q. Has NMOGA proposed modifications to Section 14?

A. I believe they did. We agree with them. I think they are basically typos. If there are any substantive ones, we have screened them.

Q. Okay. Let's turn to Section 15.

A. Okay. Section 15. Section 15 is going to take a while. So if the Commission is disposed to take a

recess, this would be a good time to do it.

CHAIRWOMAN RILEY: Certainly. We can take a short recess before we head into 19.15.16.

THE WITNESS: Okay. Thank you.

CHAIRWOMAN RILEY: Everybody come back in five minutes. Is that enough time?

THE WITNESS: That's probably doable.

(Recess, 10:45 a.m. to 10:57 a.m.)

CHAIRWOMAN RILEY: Shall we resume?

THE WITNESS: Yes.

Q. (BY MS. BADA) Please describe the purposes of the amendments to Section 15.

A. Okay. That's going to take a while because Section 19.15 is a -- is the section covering horizontal wells. And one of the principal -- one of the principal objectives announced by the people of the work group when we first organized was that there was a desire that all provisions relating to horizontal wells be in one section so that people would know where to look and wouldn't run into surprises from somewhere else in the rules. I think we've come pretty close to that. We may not have quite achieved it because the rules have to cover a lot of different things, but that was prevalent throughout the amendment of Section 16.

Now, Section 16 -- I forget exactly what

you asked me, but --

Q. Section 15?

A. Section 16.15 -- I get -- this is very hard to keep straight because the full NMAC designation of this statute is 19.15.16.15, and it's easy to get those 15s and 16s in the wrong order. But it's Section 15 of Part 16 of the NMAC rules, which the NMAC rules are -- or, I mean of the -- of the OCC rules. And all of the OCC rules are contained in 19.15 of the NMAC.

19.15.16 deals with the spacing of horizontal wells. It deals with setbacks, and it deals with a number of miscellaneous issues, including downhole commingling, including various notice provisions and transitional provisions, and we'll be going through the sections one by one. The big, long one is Section A, which deals with spacing.

Q. Can you describe how the proposed amendments differ from the current rule for well spacing?

A. Okay. There are -- well, I have identified four major changes. There may be -- in horizontal well spacing. Of course, from a terminology standpoint, we are discontinuing the use of the term "compulsory pooling" -- I'm sorry. We're discontinuing the use of the term "project area," and now we will have "horizontal spacing units." That is a linguistic

change, but it's not a major substantive change.

The first major substantive change, though, is while there has been one way to build project areas, there are basically two ways to build horizontal spacing units. An operator may either combine quarter sections if building a horizontal spacing unit for an oil well or -- I'm sorry -- quarter-quarter sections if building a horizontal spacing unit for an oil well or quarter sections if building a horizontal spacing unit for a gas well. And that may be done regardless of the spacing provided for a pool.

Now, of course, the best way to illustrate that is with the new pool that we have in the southeast, the Purple Sage Gas Pool -- the Purple Sage; Wolfcamp Gas Pool, because the spacing in that area is 320 by statewide rule for a Wolfcamp gas in the southeast. But it has developed largely with -- so far with one-and-a-half-mile horizontals, which require 480-acre spacing. Well, that has created a need for a lot of exceptions.

Under the new rules, since an operator can build a horizontal spacing unit with quarter sections for gas -- in a gas pool, the wells in the Purple Sage; Wolfcamp can be based on standard horizontal spacing units and no exceptions will be needed.

The same thing would apply -- many of our Bone Spring pools -- and that's another formation of great interest to horizontal drillers. Many of our Bone Spring pools provide for 80-acre spacing. Not all of them. A lot of them provide for 40 under statewide rules. And a significant number of Bone Spring pools have special pool rules providing for 80-acre spacing. That will not make that much difference under the new rules because you can use quarter-quarter sections in any pool for putting together an oil unit. That's the first big change.

Now, in going along with that, you still have the option as an operator to use tracts of the size prescribed for conventional spacing units in the pool where the well is located. But there is a difference because in the existing rules, it prescribes that you link together spacing units. Well, spacing units exist where there is an existing well. You can create them where there is not, but where there is an existing well, you have an 80-acre spacing pattern. You have either a lay-down horizontal well -- a lay-down unit dedicated to that well, or you have a stand-up unit dedicated to that well. And under the existing rules, it is unclear whether or not you can have a lay-down well -- a lay-down spacing unit that is part of a project area if

it cuts across a stand-up unit in the same pool for the existing well.

We have a slide -- or an exhibit that illustrates that, and that is our Exhibit Number 6A, I believe. No, it's actually not Exhibit 6A. I'm sorry. It's 6B. Exhibit Number 6B illustrates that. The spacing unit shown in Exhibit 6B could not be a nonstandard -- could not be a standard horizontal spacing unit because under the present rules, this would not work because you have existing wells in the west half of Section 2, the southwest quarter of Section 2 that are dedicated to stand-up spacing units, and you have existing wells in the north half of the southeast quarter of Section 2 that are dedicated to a lay-down spacing unit. If you wanted to drill a horizontal well through the north half of the south half of Section 2, you would have to create this L-shaped project area, arguably. Now, I don't believe we've ever really come to a settled interpretation of that situation. But, arguably, you would have to include the three existing spacing units. But that would make it nonstandard under existing rules because it's not rectangular in shape.

Under the new rules, it could not be done either in this format because you would have -- if you linked the 380 shown in yellow on Exhibit 6B, they would

not be in the same orientation. The new rule requires that spacing units that are rectangular and not square, if combined to form a nonstandard -- or if combined to form a standard project area, must be orientated -- we don't have project areas anymore. I'm getting mixed up.

Under the new rule, if you combine spacing units that are rectangular but not square to make a horizontal spacing unit, they must be aligned in the same orientation, that is, stand-up or lay-down. So the area -- the area colored yellow would be a nonstandard horizontal spacing unit.

But what you could do is use 40-acre tracts under the rule permitting use of quarter-quarter sections in lieu of existing spacing units, and you could include only the north half of Section 2 and not the southern halves of the two spacing -- of the two 80-acre spacing units shown in the northwest quarter.

Q. Is that shown on Exhibit 7A?

A. Let's see. 7B.

Q. 7B.

A. The second major change that we have has to do with the "developed" concept, and this has been a source of a lot of interest and varying interpretation by the Division. The present rule provides that a project area consists of multiple spacing units, each of which is

developed by the well. Now, we've been pretty consistent in saying that "developed by the well" means there must be one well that develops the entire spacing unit -- or the entire project area.

The new -- the problem has been with the definition of the word "developed." There is none. The word "developed" is nowhere defined in the rules. If you interpret the word "developed" in what it generically means, we would have to have hearings about each project area and testimony because only by studying the reservoir properties could you determine whether or not the entire -- whether or not the entire project area was developed by the well.

Now, a former director, not Mr. Catanach, interpreted the word "develop" to be equivalent to "penetrate." Whether she would have followed that interpretation in all scenarios, I do not know, but she made it as a rule of thumb. If you wanted anything else, you had to go to hearing and prove it.

The result, of course, has been that the rule has been applied as though it said "penetrated by the well" other than "developed by the well."

We wanted to make it objective so that the district offices could apply this rule and that it wouldn't be necessary to have a lot of hearings, which

are not good for the operator and not good for the OCD. So what the work group eventually agreed upon, after extensive discussion of this topic, was what we call the "330-reach rule" -- what I call the "330-reach rule." I don't think anybody else calls it that.

But if the well is within 330 feet of the boundary line of a horizontal spacing unit, then the operator may, if the operator chooses to do so, bring that adjacent horizontal spacing unit in -- the adjacent spacing unit into the horizontal spacing unit so that if you drill a well in the south half of the south half -- or if you're planning to drill a well in the south half-south half and that well is going to be sufficiently close to the line that it would bring in the north half-south half, then you can -- that it's within 330 feet of the north half-south half, then it can bring that north half-south half in.

Again, calling attention to Exhibit 6A, Exhibit 6A shows that -- it was intended to show that scenario. In Exhibit 6A, the spacing unit in the south half of Section 1 -- the gray area the south half of Section 1 would not be permitted as a project area under the existing rules even though the north -- most northerly well drilled there -- I intended to show that it was less than 330 feet from the northern boundary of

the south half-south half. It doesn't clearly appear that way here, but that was the intention. But that would make no difference under the present rule.

Under the proposed rule, it would make a difference, and it could all be combined in the same spacing unit as illustrated on Exhibit 7A.

The third biggest -- big change is the elimination of the requirement -- or the elimination, in most situations, of the requirement that horizontal spacing units be rectangular in shape, or as it says in the present rule, "project areas must be substantially rectangular in shape." Now, I think there has been some criticism of that rule on the ground that there is no way to tell what is substantially rectangular in shape because that obviously permits some -- some deviation from rectangular. And when you permit some deviation, that opens up the possibility of any size deviation. However, I think the rule has proved reasonably practical to administer.

It has, however, proved unsatisfactory particularly in the San Juan Basin, because the operators in the San Juan Basin feel that -- are convinced that the drilling of wells parallel to the section lines produces less productive wells in the drilling of wells at oblique angles to section lines,

either diagonal or semidiagonal across a section, and that it is really impractical to do spacing units for such wells that follow section lines if they're not parallel -- if the angle is greater than one that will keep it in the same line of legal subdivisions.

For instance, if you're drilling a one-well -- a one-mile horizontal well, you can have a deviation of up to, I believe, 30 degrees from the parallel and keep it within, say, the south half-south half. But if you're drilling a two-mile horizontal, that goes down to 15 degrees. And the longer horizontals become, the less deviation will be permissible under the existing rules. And for this reason, it was decided to relax the horizontal rule and to permit stair-step units in most cases.

Now, I don't have a good drawing of stair-step units. However, one of the exhibits tendered by NMOGA in their pre-hearing statement does have a good drawing, and I have asked Mr. Feldewert to accommodate us by projecting those exhibits while we look. And that would be page 63, would be the page where you have the -- okay. This is a stair-step unit. And this is a permitted unit under the new rules, but it does not require a nonstandard project area exception.

Now, I call your attention to the fact that

the line does not go through the common corner of units. I guess that would be D and H -- no, D and G, D in one section and G of another section. It does not go through that common corner. It goes slightly to the right of that common corner. And, therefore, Unit A of the section to your left is not included in that spacing unit. However, Unit A could be included by the 330 rule regardless of whether that Unit A was penetrated and regardless of whether the corner was penetrated. And that is shown on page 64 of NMOGA's presentation, which they're now projecting.

The area in green -- the area in green could be included with the area in yellow in a standard horizontal spacing unit under the new rule. Now, neither of these projected areas could be a standard project area under the existing rule because they're not rectangular. This is a digression because there is one distinction I want to point out about standard project areas -- standard and nonstandard project areas versus standard and nonstandard horizontal spacing units.

In the definition of "project area," the "develop" rule that -- "the well must develop all spacing units included in the project area" is part of the definition of a project area. A nonstandard spacing unit is defined as a spacing unit that's not a standard

spacing unit. Well, if it doesn't follow the developed criteria, it's not even a spacing unit, so it can't be approved as a nonstandard spacing unit. But if it violates the horizontal well, it can be a nonstandard spacing unit under the present rule because that is a part of the definition of a standard spacing unit. It is not part of the definition of a spacing unit. I recognize the complexity of that concept. I've had to explain it many times because it's very confusing.

So anyway, going back to these units, the stair-step units in this exhibit and the last one would be standard spacing units -- standard horizontal spacing units under the proposed rule. They would not be standard project areas under the existing rule, therefore, would require notice and an opportunity to protest from the adjacent people -- adjacent owners.

I would note that the green quarter sections can be brought in under the 330 rule regardless of what you say about the horizontal well that goes through the point. Again, we had a former director who believed that a horizontal well that went through the point did not develop the diagonally -- the adjacent spacing units on either side. I never understood that concept. But it would be irrelevant under the proposed rule because the 330-foot -- the 330-foot reach-out

would allow those diagonal units to be brought in regardless of whether the well goes through the point and regardless of what the significance going through the point is.

As I said, the rule that spacing units must be horizontal is largely eliminated by the proposed new rule.

There is a surviving requirement, which was a result of a compromise, and it's shown on page 65 of NMOGA's presentation. I'm sorry. I can go ahead and describe it anyway.

If the area penetrated by the well defines a rectangle, then the operator does not have the option to add the spacing units that make it nonrectangular. Now, that was a compromise that was the result of the desire of the OCD to avoid very strange-shaped spacing units. I called them camel spacing units because you can have a spacing unit with a south half-south half that brought in two quarter-quarters from the north half-south half, but not any of the rest of the north half-south half. And that would create a very -- especially if the two quarters brought in were not adjacent. That would present a very unusual shape.

And in just a minute, Mr. Feldewert will bring that up on the screen.

MR. FOPPIANO: I'm sorry. Which slide?

THE WITNESS: 65.

There we are.

What you will note on page 65 is that the well does not penetrate the green unit. The well penetrates only the units in yellow, and the area in yellow is a rectangle so that if you added the green unit to that, it would destroy the symmetry. And because the well does not penetrate the green unit, even though it's within 330 feet, you cannot -- the operator is not allowed to include it in the horizontal spacing unit where it destroys the symmetry in that way. The symmetry already exists. And if the symmetry doesn't exist, they can bring in additional units, as shown in the former slide.

The last major change is the change about unitized areas that I've already described. There is no unitized area that is defined as a horizontal spacing unit in the new rule. Unitized areas have flexible drilling requirements but do not themselves constitute project areas. So the well drilled in a unitized area must have its own spacing unit.

Now, of course, this does not repeal the Division's and the Commission's authority to create nonstandard spacing units. And if you will -- if you

want to look at Section 19 -- Section 70-2-18 of the New Mexico Oil and Gas Act, you would find that the power of the Division and Commission to create nonstandard spacing units is unlimited by any express limitations. Well, of course, we don't rate it as unlimited because we all know that an unlimited delegation of power to an administrative agency is invalid. But the Supreme Court dealt with this situation in the Rutter & Wilbanks case, and they said that yes, the power to create spacing units doesn't have any express limitations on it, but -- or nonstandard spacing units does not have express limitation on it, but it does have the limitations -- it is subject to the general limitation that it must prevent waste and protect correlative rights.

So the result of the statutory delegation of authority and the Rutter & Wilbanks case would seem to be that the Division and the Commission can create any designated area as a nonstandard spacing unit if they find, based on substantial evidence, that that area should be treated as a spacing unit to prevent waste and protect correlative rights. The new rules would, of course, not affect the statutory powers of the Division or the Commission.

So those are the main -- main changes in spacing, that you can use quarter sections for gas or

quarter-quarter sections for oil regardless of spacing as an alternative to using the spacing units as prescribed for the pool, that you can include tracts within 330 feet of the well even though they -- there is no finding of the extent to which the well will develop the adjacent tracts, that generally wells are not required -- generally horizontal spacing units are not required to be rectangular in shape but may be stair-stepped, and that unitized areas of -- areas of common ownership are treated as relaxing the rules applicable to setbacks and spacing but do not themselves constitute separate spacing units.

Q. (BY MS. BADA) How do the proposed amendments address stranded tracts?

A. Okay. The stranded tract in the present rule, in the present -- in the present situation -- in the present rules, the existing rules, is shown -- is depicted in Exhibit 6A.

If your project area, under the existing rule, includes three out of four spacing units in a section -- or three out of four quarter -- quarters-quarters in a section -- now, if they're larger spacing units, it does not apply. But the stranded tract rule is limited to one situation.

If you have -- if you designate a spacing

unit -- a -- I'm sorry. If you designate a project area, because that's what you do under the present rules -- if you designate a project area that includes three quarter sections -- three quarter-quarter sections -- three quarter-quarter sections, but there is a fourth quarter-quarter in the same section that you do not include, then that is not a standard project area, and you have to give notice and get approval on that project area.

The new rule will be the same in that respect except that there is an exception if there is an existing horizontal well in the same pool that is completed in that excluded quarter-quarter section.

Now, I do not have an appropriate slide to show that, so I think that we'll just pretend there is a well -- that that farthest south well -- or one of these wells in the south half-south half of Section 1 on Exhibit 6A continues into Unit P of Section 2. If that were the case, then the M, N, O area in gray would be a standard horizontal well unit under the new rules because the exception for the -- for the area in white would be overridden by the fact that it was developed by an existing horizontal well in the same pool.

It does not apply -- the exception does not apply and it remains in -- and the area in gray remains

a nonstandard horizontal spacing unit if there is a vertical well but not a horizontal well on the excluded -- on Unit P in Section 2, as depicted on Exhibit 6A.

The reason for that is that some of us felt that a horizontal well would not develop in the same way -- that a vertical well would not develop in the same way and, therefore, would not necessarily give rise to an inference that the unit was being developed in that formation.

We also talked about requiring as an exception to the -- an exception to the exception making -- requiring that Unit P only be developed if there was a horizontal well in the same productive zone, because both the Bone Spring and the Wolfcamp, where we see the largest number of horizontal wells, have multiple productive zones. It appears that most geologists believe that a well in one productive zone does nothing to develop a well -- the unit in another zone.

However, we did that adopt that idea because we concluded that it would be essentially impossible to administer, would require a determination of the definition of zones, which would have to be made on geologic testimony and would be very complicated. So

we went with the existing pool definitions.

I believe that explains the stranded -- oh, I would add one thing. Probably, as a practical matter, the two quarter-quarters should be considered as a potentially stranded tract, but that was compromised in the sense that -- at one point it was proposed to define it that way, and then that proposal did not make it through to the final.

Q. How does the proposed amendments address wells completed in multiple pools?

A. There are two relevant provisions. If a well is completed in -- and let me explain. First, there are a lot of places where there are completed pools in the same formation. And under the resource develop -- the resource play theory, which has gotten a lot of currency in geology recently in New Mexico, that most of the major producing formations in New Mexico, at least in the Delaware Basin, are continuous over large areas. Then we would expect the reservoir properties to be much the same when you go from one pool to another.

Believing that to be a relevant consideration, the committee concluded to provide that for a uniform spacing for horizontal wells that move from one unit to another, even though the pool rules provide different spacing in the different pools and

they're in the same formation -- it only applies when they're in the same formation. If they're in a different formation, it doesn't apply. But if two pools are in the same formation and the operator is building his horizontal spacing unit on the basis of combining conventional spacing units rather than combining quarters or quarter-quarters, then the operator may use the largest pool size in any of the pools that the horizontal well penetrates and may use that consistently across the entire length of the well. It does not have to designate a spacing -- a horizontal spacing unit with varying widths in different pools.

There is one other thing. It's not in the same section -- I mean, it's in the same section. It's not in the same subdivision of section. But there is also a provision that we will come to further down, that if you have such a situation where a horizontal well penetrates multiple pools in the same formation, the requirements for pool commingling approval -- downhole commingling approval from the OCD or downhole commingling filing with the OCD do not apply as between those two completions. The reason being that, again, we're assuming that the properties are the same, and there is no need for that approval.

Q. Can you describe the requirements for an order

to be sent -- application to drill or to commence drilling?

A. In order to file an application for permit to drill or commence drilling, the operator must have the consent of at least one working interest owner or unleased mineral interest owner in each tract that is penetrated by the well.

Now, in this connection, I would call your attention to the fact that "tract" is a defined term in the new -- in the proposed rules but not in the existing rules. This consent provision is identical -- identically worded from the existing -- from that in the existing rule. But if the new tract definition applies to the proposed new rule, which presumably it does, it will have a different effect if the well penetrates a tract, in the generic sense, that is smaller than a legal subdivision.

Now, if there is such a tract -- now, I'm not sure there is, unless it has a boundary that doesn't cross any subdivision lines, but that's a whole other question. If you've got a small tract, you might have a tract that was penetrated that did not qualify as a legal subdivision and, therefore, is under the tract under the new rule but would have a tract under the old rule. So there may be a change there. We didn't

discuss that or even notice it at the time we were developing these rules, but I thought it needed to be pointed out.

Q. What does the proposed amendments require for a nonstandard horizontal spacing units?

A. Okay. "Nonstandard horizontal spacing units may be created by administrative process or by hearing. The administrative process will require notice to" the owners of -- or "the affected persons in any tract that is left out of the proposed nonstandard horizontal spacing unit that would make it standard if it were not left out." Or, otherwise, it has to be -- requires notice to the offsets. It does not require notice to both, as the present nonstandard unit rule arguably does, and it does not require notice to royalty owners in the left-out tract, as the present rules for nonstandard spacing units explicitly do.

Once the application is made, there, of course, must be grounds for it, and it will be submitted -- it requires notice. It requires an application with the Division, and it requires that the Division approve it by order, which is a different procedure than one we're going to talk about a little later when we get to subsequent wells in horizontal spacing unit.

I would like to mention at this time that there is an error in the proposed rules, and I think the Commission should address it in one way or another.

The proposed rule states that the procedure -- this is in 19.15(A)6(a). It states that the proposed procedures in paragraphs two through five would apply to nonstandard spacing unit applications. We only say "the procedures apply," and they probably -- that is probably not clear because 19 -- paragraph two of the cited -- of the cited subsection deals with the situations under which nonstandard unit applications may be considered administratively under present rules. We do not intend to limit the power to consider nonstandard horizontal spacing unit applications to those situations in which they can be granted under the present rules. We intend, rather, to adopt the procedures described in paragraphs three, four and five of that same rule, the provision. And that's what we intended. And we would respectfully request the Commission to consider changing paragraph two to paragraph five in the cited provision.

Q. Do you mean paragraph three?

A. Paragraph three instead of paragraph two. And that's in 19.15.6(A) -- 19.15.16(A)(6)(a) -- 19.15.16.15(A)(6)(a) (laughter). Be sure I'm right. I am right. It's 19.15.16.15(A)(6)(a). It's on page 12

of the proposed rules -- of the proposed amendments to 16.15. In the next to the last line, we believe that should have said "paragraphs three through five" and not "paragraphs two through five."

Q. What notice is required if horizontal units include state, federal or tribal minerals?

A. Okay. If it's state, federal or tribal minerals and you're requesting that -- I'm sorry. What did you -- did you ask about nonstandard units?

Q. I'm asking about --

A. Oh, you're asking about Section -- about (A)(7).

Q. Subsection 7.

A. Yes. Notice is required to -- if you're designating a nonstandard spacing unit -- if you're designating a horizontal spacing unit, whether it's standard or nonstandard, involving tribal land -- federal or tribal land or state land, you have to give notice to the appropriate managing agency, the governmental managing agency. Now, if it's federal -- if it's on federal land and it penetrates federal minerals, then, of course, you'll have to file an APD and get it approved by the BLM.

But under the 330 reach-out rule, a part of your project area -- a part of your nonstandard -- I'm

sorry. I've got the terminology -- a part of your horizontal spacing unit -- it's no longer called the project area. But the horizontal spacing unit may be federal minerals, but it may not be penetrated. So, again, if you don't penetrate federal minerals, you don't have to file your APD with the BLM. But under this rule, you will still have to notice the BLM. Of course, you never have to file your APD with the SLO, but you have to notify the SLO under this rule. And if it's tribal -- well, this rule does not require notice to the BIA or the tribal authority. There is another provision in there somewhere that does. But this is not the one, and that provision relates to something else.

Q. What is the purpose of Subparagraph 8 on Subsection A?

A. Well, there's been some confusion about dedicated acreage under the existing rules. Is the dedicated acreage the project area, or is the dedicated acreage the spacing units composing the project area? This rule is intended to solve that problem. You have to dedicate -- you have to dedicate a horizontal spacing unit to each horizontal well. Now, if the horizontal well is an infill, you can dedicate an existing spacing unit. But if the horizontal well is not an infill well, then you have to dedicate a horizontal spacing unit that

is either nonstandard or is an approved -- either standard or an approved nonstandard well for the -- for that well. And, of course, that means it must include only units that are penetrated by the well or within 330 feet.

Q. How does the rule address horizontal --

A. Well, we have consented to some proposed changes by NMOGA, so I think I will let them explain that provision because I'm not sure that I would state it correctly. So I will leave that to Mr. Foppiano.

Q. Describe the sum of having proposed amendments address unitized areas.

A. Okay. Well, I've been over this previously, but this is controlled by the definition in the unitized area. The unitized area or the area of common ownership, which you will remember is not a unitized area under the definition but is treated like a unitized area. In either a unitized area or an area of common ownership, the requirement that a spacing unit be horizontal in a limited situation, as illustrated by NMOGA's exhibit, the last one we saw, does not apply. And the stranded tract rule, the one-and-four rule for spacing units across a section, does not apply. Furthermore, the setback provisions do not apply, except the well must be set back the required distance from the

boundaries of the unitized area or area of common ownership within the area, knowing the boundaries have to be considered.

So that's -- this provision actually -- 19.15.16.15(A)(10) deals with the two spacing rules that are not applicable in the unitized area, namely the horizontal shape, to the extent it survives, and the stranded tract.

Q. How do the proposed amendments address wells that are in existing project areas?

A. That are in existing project areas?

Q. An existing project area.

A. The same way but really that the present rule does. An existing well when -- when an area is designated for the first time as a horizontal project area and there is an existing well that's not a horizontal well or that it -- or if it's -- well, that complicates my explanation.

If there is an existing vertical well, it stays in its own spacing unit. It doesn't become dedicated to the nonstandard or standard horizontal unit. The same thing applies if it's an existing horizontal well and it has a horizontal spacing unit unless the new well is an infill, in which case it still retains its existing spacing unit. So the existing well

is going to retain the existing spacing unit unless the owners of that well and the owners of the project area for the new horizontal well agree otherwise.

Now, the only thing that's changed in the new rule -- all that's the same between the new rule and the old rule. The only thing that's changed in the new rules is we put in that procedure. If they do agree that they want to dedicate the existing wells to the new project area and it otherwise qualifies, they can do that by filing an amended C-102 together with a certificate that all the owners have agreed with the OCD.

I think we now come to an area -- to a provision that was the subject of extensive discussion in the work group, namely the question of how the new rule will deal with subsequently drilled wells that are either partially within or wholly within an existing horizontal spacing unit.

It is important that they be either partially or wholly within an existing horizontal spacing unit because horizontal spacing units can overlap. One can drill a horizontal well that crosses the path of an existing horizontal well. I have seen, for example, a situation where there was -- there were stand-up horizontal wells drilled across a section and

there were lay-down horizontal wells drilled across the same section in the same pool, and those would be a different horizontal spacing units, but they would cross so that there would be portions of the unit that would be in both the horizontal spacing unit -- there would be portions of the section that would be in the horizontal spacing unit that's going both ways.

What was eventually decided by the committee was that a subsequent well, whether wholly or partially -- well, first let's talk about partially.

A subsequent well partially in an existing spacing unit requires consent of the owners of both spacing units or -- well, I'll say it requires consent, and I'll come back and talk about the procedures, because NMOGA proposes different procedures, which we agree with as long as we know for sure what they mean. But consent is required to partially invade an existing project area.

Now, what about if the well is wholly within an existing project area? Well, in that case it can be drilled as an infill, and that doesn't require any elaborate -- or any approval or notice even. But under the definition of an infill well, a well in a project area -- I'm sorry. Lingo again. A horizontal spacing unit under the new rule, if it's entirely within

that horizontal spacing unit, it can be an infill well but only if the operator of the well designates it to be an infill well. If the operator chooses to drill it as a non-infill well, then the operator must designate a separate spacing unit, and that requires consent.

Now, how is consent -- what is the procedure for consent? Well, we made it -- what we proposed, we made it require notice, and it couldn't be drilled until the -- until an application was filed, notice was given of the application to all those required to consent and the Division issued an order.

NMOGA has proposed that we instead use the procedure which is used in some other provisions of the rule, where notice is given and the notice says if you want to protest, you notify the operator. Then the district office holds the APD for 20 days to permit the operator to receive those notices, and at the end of that time, they either forward those notices to OCD or they -- if they receive no protest, they certify that, and then the APD becomes effective, does not require an order of the Division.

The Division is okay with that provision -- with that procedure that NMOGA proposes in those situations. The only problem we have with it is that 11 -- (A)(11)(E) provides that the provisions of

Subsection B of 19.15.15.12 NMAC shall be required -- let me get NMOGA's -- I'm sorry. I'm on the wrong track.

Okay. Section -- Subparagraph 11(A) -- Subparagraph 11(E) of 16.15(A) says that the provisions of Subsection B of 19.15.15.12 "shall apply to notices required pursuant to the subsequent well provisions." Then you go to 19.15.15.12 and 19.15.15.12(B)(1) says, "An operator who intends to operate a well in the spacing or proration unit containing an existing well or wells operated by another operator shall" do thus and so. Well, we're okay with NMOGA's procedure, but we want it to apply for any well drilled in a -- proposed to be drilled in an existing horizontal spacing unit unless it's an infill well regardless of whether it's another operator or the same operator. So we're concerned about incorporation by reference of 19.15.15.12(B)(1), and we think that -- well, our agreement with NMOGA's procedure is conditioned on that being -- that issue being resolved in such a way that it applies even if the same operator is proposing an additional well or a well in the existing spacing unit.

Now, there is one other thing I would like to point out about this rule because it's changed from the present rule, and it has been somewhat

controversial. I've got to go back to my draft of the new rule.

The subsequent well provision provides, in (B)(1), "any subsequent well horizontal or otherwise" -- I'm sorry. Wrong area.

"Any subsequent well that will have completed interval partially in an existing well's spacing unit in the same pool or formation may be drilled only with approval," et cetera. Well, that is not limited to an existing horizontal well. In other words, if one wants to drill a horizontal well that's located partially in a spacing unit that contains a vertical well, they have to have approval from the owner of that vertical well under -- have to give notice to and have approval of the owner of that vertical well under this procedure.

That does create an anomaly in one situation. Suppose that unit is required to be included in the project area under the stranded tract provision, but they can't include it because the owner of the existing vertical well protests. Well, that's got to give one way or another, and the Division's going to have to decide it. But, obviously, the Division's going to be reasonable enough not to require them to both include it and not include it.

Q. How do the proposed amendments address pooling of horizontal spacing units?

A. The operator is required to either voluntarily pool or force pool a horizontal spacing unit in essentially the same terms as used in the Oil and Gas Act with regard to the pooling of a spacing unit -- spacing or proration units.

Q. Please describe when an adjoining owner may file a protest with the Division regarding a proposed horizontal well.

A. Basically, if that adjoining owner claims that the proposed horizontal well will affect -- adversely affect his correlative rights. And I would add that I believe they have that right. I don't think that section was necessary to make that right occur, but I thought -- because under the OCD rules, anybody can file an application at any time if it raises any issue within the jurisdiction of the OCD. But it might give somebody some comfort to know that it's specifically provided.

Q. What setback requirements are proposed for horizontal spacing units?

A. 330 feet for an oil well and 660 feet for a gas well on the standard setbacks. And those actually apply statewide, I believe, under the new rules.

Q. When is a horizontal well's location considered

unorthodox?

A. If the horizontal well is -- the proposal for the horizontal well contemplates that it will get closer to an adjacent unit than the setback. So if it's going to go -- any portion of the completed interval -- and we're talking only about the completed interval. The setback does not apply to the portion of the well where they're drilling down to the -- to the objective formation. It's only within the completed interval, between the first take point and the last take point. But the completed interval goes within 330 or, for a gas well, 660 feet. If it's projected to get that -- to get closer than 330 or 660, then it's -- it's unorthodox. But there is a 50-foot tolerance if the as-drilled gets closer to the boundary than the setback distance.

And the way that works is if the well is projected -- if the as-drilled departs from the projected course of the well by less than 50 feet and it goes into the setback, that's tolerated. But if it departs from the intended location by more than 50 feet and it goes into the setback area, it's not tolerated. So the tolerance applies only if the well deviates more than 50 feet from its intended course. But, of course, it's not nonstandard unless it crosses the setback line. It can deviate however much it wants to if it stays

within the setbacks or stays -- I have a problem with "within the setbacks." Let's say within the drilling window. As long as the well stays within the drilling window, it's a nonstandard location. But if it crosses the boundaries of the drilling window, it is within -- it is considered orthodox even though it crosses the boundaries if it's within 50 feet of its intended course.

Now, if it's intended to be nonstandard, then it's a question of how far the tolerance supplies to the distance from the intended course only to the extent that it gets closer to the boundary than the intended course. And in that case, the 50-foot tolerance is reduced if the well is very close to the boundary, reduced down to 25 percent of the distance to the boundary if it's less than 50 feet.

Q. What are the requirements for allowables in the proposed amendments?

A. Now, I don't know how much detail you or anybody else wants me to go into, but I'm going to say this for the benefit of the Commissioners. I have studied the allowables provisions of the existing rules, and I am prepared to summarize them. But I will not do so unless anybody asks -- unless someone asks me to because I am certainly not the authority on allowables.

The Division has not dealt in a practical manner with allowables in many years, and that includes it has not dealt with those issues within the 18 years that I have been with the Division except when an operator raised the issue specifically.

Now, what is intended -- what is proposed in the present rules is to abolish allowables for horizontal wells and, in effect, for all pools that include horizontal wells. Under the proposed new rule, every well will be permitted to drill -- to produce -- and I suppose everybody knows what an allowable is.

An allowable is a legal limitation of the amount of oil or gas that may be produced from a well or from a unit. It's usually applied to proration units rather than to individual wells. But anyway, it's a limitation on the amount of oil that can be -- oil or gas that can be produced from a well.

The rule that is proposed -- and this is a very drastic change in existing rules -- will provide that any well may produce the maximum amount it is permitted -- is capable of producing. So whatever it can produce, in fact, it can produce in law.

Now, this is considered a conservation measure because it will permit greater production. And my understanding is that NMOGA will present witnesses

who will testify that the exception to proration for horizontal wells will not reduce efficiency so as to reduce the total amount of product that will eventually be produced from the pools where horizontal wells are being drilled in New Mexico.

We have not developed that evidence; the OCD has not. So we urge you to adopt this proposal or not, depending on whether you are convinced by the evidence submitted -- by the testimony of NMOGA witnesses.

Q. Okay. Let's turn to --

COMMISSIONER BALCH: Madam Chair.

CHAIRWOMAN RILEY: Yes.

COMMISSIONER BALCH: Assuming that was not in your detailed description of allowables --

THE WITNESS: It was not.

COMMISSIONER BALCH: -- I think that I would like to have that detailed description of allowables as they're presently done. We're talking about abolishing them. I would like to know --

THE WITNESS: I would be happy to do it. And although I'm not the expert on it, I'm probably in comparable expertise to any of the people sitting at the front table, except perhaps Ms. Davidson, who has been around -- who was around here when we published the

proration schedule every month on all the proration units in the state.

COMMISSIONER BALCH: How long would that discussion take?

THE WITNESS: Just a few minutes. It's not real long. I can tell you everything I know.

(Laughter.)

THE WITNESS: My wife used to say, "You told me everything you know, and I still don't know anything." That may be the way, but I'll give it a try.

COMMISSIONER BALCH: With your indulgence.

CHAIRWOMAN RILEY: Yes, please.

THE WITNESS: Oil is prorated on a statewide basis. Now, there may be some oil pools that are exempted from proration by special rules. I don't know of any, but, of course, they could be because special pool rules supersede statewide rules.

Oil is prorated on what we call the depth-bracket proration system. There is a table in, -- I believe it's 19.15.20.12, which sets forth daily quantities that may be produced based on the depth of the pool. The depth bracket applicable to a pool is determined by the casing shoe or first perforation in the first well dedicated to the pool. And that information, I'm sure, is available somewhere. I don't

know where to find it, but when it comes up, we look it up.

The quantity is different for different sizes of proration units, and it is not proportional to the size of the proration unit. Now, the reasons for that -- the reasons why the proportions are assigned the way they are seems to have vanished from the memory of my -- perhaps Paul Kautz remembers. I don't know that anyone else would know. But once you know the depth bracket applicable to the pool, then you have a number for -- if you know the depth bracket applicable to the pool and the size of the proration unit for that pool, you can go to that table and determine what's called the top unit allowable from the number given in that table.

Unless there is a pool rule providing otherwise, the top unit allowable is the maximum amount that can legally be produced per day on an average over a 30-day period and sometimes longer. It's complicated rules. An average of a 30-day period from the wells in a proration unit in that pool. If there is more than one well in the proration unit, the operator is entitled -- unless otherwise required by gas-oil ratio limitations, the operator is allowed to allocate the allowable for the proration unit among the wells in the proration unit.

Now, the rule provides that the top unit allowable must be multiplied by the market-demand factor. The market-demand factor is to be determined by the Commission monthly so that the allowable production from all the pools in the state will be reduced proportionately to prevent an excessive production that would break the price -- the market price, which was a concern in the 1930s.

There has not been -- in the 18 years I've worked here, there has been no market-demand proration order. So the applicable proration -- the applicable allowable for any proration unit is always the top unit allowable. This is for an oil proration unit.

Now, gas is prorated much the same way, except we don't have a depth-bracket allowable for gas. The allowable for gas is set for a prorated gas pool by pool rule, if at all. And most of the gas pools in the state now are nonprorated. But there are some, including some important ones, that are still prorated, which brings me to another concept that affects proration.

There is the concept of a marginal unit. A marginal proration unit is a proration unit in which the wells in that unit cannot produce the allowable that would otherwise be applicable for the unit -- to the

proration unit. In that case the wells are entitled to do what we now are proposing to let all wells do, that is, to produce the maximum amount they can produce.

About 18 years ago, because it had just recently been done when I came here, we hired a consultant on a contract to determine the effect to proration of natural gas, and he did what any red-blooded consultant would do if he wanted to find out something about the OCD. He went to Florene Davidson and got her to supply him the necessary information. But the conclusion he reached was that there were -- that virtually all -- I think he found that there were about three nonmarginal gas proration units in the state and that all the other proration units -- gas proration units in the state, the wells were not capable of producing the prescribed allowable. That resulted in the deep proration of gas -- of natural gas -- of a few natural gas pools, but there was never -- it was never followed through on. The director at the time had ambitions to follow through on that, but it never happened.

I do not know how many nonmarginal units there are for all of them, and that brings me to an important part of our proposal, because our proposal is to remove the proration limitations on production of oil

on a statewide basis. Now, there may be some legal considerations involved where those allowables are fixed by special pool rules, but I will allow the Commissioners to consult the Commission counsel to make that decision. Of course, we're prepared to brief it if necessary, but I think our brief would be short when there is not a lot of authority.

Anyway, that's -- that's part of our proposal. No more allowables for -- no more restrictions on production for horizontal wells.

But then part two of that is, there will also be no restrictions on production for nonhorizontal wells, which are located in pools in which there are also horizontal well completed. Now, of course, you can see there are no restrictions on nonmarginal wells, so the result of that is that there is not restrictions on any wells. Proration no longer applies to any well in a pool where there is at least one horizontal well.

Now, we thought that the latter provision about non- -- about nonmarginal wells in pools that have horizontal wells was arguably necessary to protect correlative rights of the owners of those wells because it seemed like it was -- there were correlative rights considerations that came into play if you deprorate all horizontal wells but leave some wells restricted in what

they can produce when they share the same pool with horizontal wells, because that allows the horizontal operator to take -- to take arguably allows the horizontal well operator to take the production that would otherwise be allowable -- otherwise be allocated to the nonmarginal, nonhorizontal unit. That is debatable.

I understand that the NMOGA witnesses will present possibly some evidence in case you were concerned about that to show that horizontal wells actually won't draw off of production that could otherwise be captured by vertical wells in most situations. But we're not presenting that evidence.

I believe that's my summary. If you have any questions, I will answer them if I know the answer.

Q. (BY MS. BADA) How did the proposed amendments address correctional surveys?

A. The only change is the one I told you about. We put a special provision in 19.15.16 on this subject because we wanted to apply the horizontal wells. Whereas, the one in 19.15.14 -- 19.15.16.14 applies only to directional wells. But the only change is that while we still require directional surveys and all the other requirements still apply, we don't require that the OCD approve the surveyor because the OCD doesn't approve

surveyors.

Q. How do the proposed amendments address downhole commingling?

A. If a horizontal well penetrates multiple pools in the same formation, downhole commingling rules, whether they require approval from the OCD or whether they require merely filing with the OCD, do not apply.

Q. How do the proposed amendments address conflicts with existing rules or special pool orders?

A. Okay. Existing rules do not apply -- existing rules that may -- whether they be pool rules, statewide rules -- whether they be contained in statewide rules or in special pool orders, existing rules that conflict with the new proposed rules will not apply to horizontal wells to the extent of the conflict. They still apply to the extent they do not conflict, but they do not apply to the extent of the conflict.

Now, subsequently enacted pool rules will preempt the new horizontal well rules in the same way that pool rules preempt statewide rules under Section 2.9 of the rules.

We recognize there are some legal issues involved here, and, again, we leave the Commission to consult Commission counsel. And we will brief if requested.

There is a complication in this provision, and we are talking here about 19.15(D)(3). There is a complication in this provision because of the Purple Sage; Wolfcamp Gas Pool again.

The Purple Sage; Wolfcamp Gas Pool was created while the new horizontal well rules were in the process of formation, and there are some provisions in there that we want to continue, and we have made specific revision for that. However, we've created something of an anomaly here because 19.15.16 says: Provisions of statewide rules or special pool rules in effect on February 1, 2017, save and except the provisions for the Purple Sage; Wolfcamp Gas Pool, in ordering paragraphs such-and-such, that conflict in any provisions do not apply to horizontal wells. Special pool orders are amended -- or amendments thereto after date of adoption -- the date of adoption is going to be quite a while after February 1, 2017, at least 15 months or 16 months -- shall prevail over the rules as provided in 19.15.2.9. So our current draft proposals do appear to leave a gap as to what the status will be of any pool rules that were adopted after February 1, 2017 and before the date of enactment.

Now, there was some discussion of these dates in the work group, and I believe somebody

suggested that there weren't any special pool rules that fell in that gap, but I don't know that. And it's worth checking into before we enact -- before the Commission enacts this as written before they decide to do so.

Q. Please describe the transitional provisions in the proposed --

A. Okay. What we're going to attempt to do on the transitional provisions is to grandfather all wells that have an assigned acreage now -- horizontal wells that have an assigned acreage now to their presently assigned acreage, whether it be a spacing unit or a project area.

Now, that has the consequence in at least one situation that I know of because we have one area of 9,000 acres that is one project area, and all the wells in that area will continue to be dedicated to that 9,000 acres, which will, under the terms of this rule, become -- under the terms of this proposed rule if adopted will become a nonstandard 9,000-acre spacing unit. But that we thought was the easiest thing to do, because when you change the spacing for an existing well, the Oil and Gas Act requires that you designate new spacing units and that the ownership of the well changes in accordance with the new spacing. And we don't want that to happen anywhere. So we think the best way to cope with this both administratively and

legally is to grandfather all existing horizontal wells.

There was some talk also about grandfathering permitted wells, but apparently that didn't make it into the rules. I have forgotten whether it did or not. So apparently it's only existing wells, which would -- although not -- perhaps not ambiguous but seemingly require them to be studied.

Q. Please describe the amendments that are being proposed to 19.15.16.20?

A. These are only conforming amendments to make -- to make the cross-references in that section correspond to the provisions in the new rule rather than the provisions in the existing rule.

Q. Does OCD have any concerns or comments regarding Marathon's proposed modifications?

A. We do.

Q. What are those?

A. Well, we are not entirely sure where Marathon is intending -- what the intended -- Marathon's intended effect for these rules are, because the rules are not clear to me.

I need to refer to Marathon's pre-hearing statement here. They've only proposed two changes to the rule -- or changes to two subdivisions of the rule, so this is not going to be a long talk like my one on

proration.

But the first change they make -- they propose is to put a provision in 19.15.16.15(A)(11)(C). Now, that is a part of the -- actually, that is a part of the subsequent wells' provision, and I think it's perhaps misplaced. But that's another issue. "Operators may propose to drill multiple wells within a horizontal spacing unit and such wells shall not be considered infill wells under the regulations." Okay. Now, the paragraph above that, under "Statement of the Case," tends to indicate to me that what they mean by that provision is that operators may propose to drill multiple wells in a compulsory pooled unit, and in an application for compulsory pooling, they may propose multiple wells to be drilled in the compulsory pooled unit.

To the extent that that's the intended meaning -- first of all, it should be clarified because it could have other meanings. And second, we do not believe it's necessary because we believe that there is not any statute or rule presently prohibiting the proposal of multi-well -- multiple wells in a compulsory pooled unit, in a compulsory pooling application. And, in fact, it has been done, and the OCD has issued orders approving such compulsory pool unit and providing

specifically for the drilling of multiple wells. So we believe this change is unnecessary.

Now, we would agree that there is a further change in the same section. We would agree that if multiple wells are proposed in a compulsory pooling offered, then the permission to drill those wells will be governed by the provisions of the compulsory pooling order and not by the infill wells provisions of the compulsory pooling rules. But we don't -- again, we don't believe that's necessary to provide in this context because we think that would fall away from the compulsory pooling orders as written, which I'm very familiar with because I review several every week.

The other change proposed to A(8) is more difficult for me to assess, and that has to do with simultaneous drilling. Now, I have heard extensive testimony that the new simultaneous drilling procedures that are being pursued by many operators actually do prevent waste and that they are more efficient. What I have heard described is what I call a DDD, CCC pattern. That is where you go along the line of wells, drill, drill, drill, drill and then come in with a completion rig and complete, complete, complete, complete. I'm not sure if that's exactly what Marathon has in mind, but that is an instance of simultaneous drilling.

There is an issue with the infill well provisions that I recognize and that -- there are two separate issues that I recognize, and I'm not sure if Marathon's proposals are intended to deal with one or both of those.

One is that the infill well provisions are written in such a way that they only apply literally if there is a defining well for a spacing unit that is drilled first, because an infill well is defined as a well that is drilled subsequently. Well, that would mean that if you're going to put five wells across a horizontal spacing unit, you've got to drill the middle one first, because otherwise portions of what you want to be the unit are not within 330 of any well until you drill that middle well, so the others can't be infills. And that's where you're trying to do it. Your purpose is to bring more units into a spacing unit and maintain a uniform pattern of development across that spacing unit, which, of course, is a good thing from our point of view because it prevents waste and protects correlative rights.

If you're going to drill five wells across a half section, you want to have one down the middle and you want it all to be in the same spacing unit because then all the owners share proportionately. If you drill

three wells in one quarter section -- quarter-quarter sections, you drill two wells in the other, you've got an imbalance there, unless the formation is in balance, that violate correlative rights.

So we have no objection to the idea that an operator could be within a horizontal spacing unit, propose to simultaneously drill a group of wells that would qualify as a defining well and an infill well.

Now, we do not know and the committee did not consider whether by drilling a group of wells, you can expand the width -- or should be able to expand the width of the horizontal spacing unit beyond what is developed by that central well because the defining well concept and the fact that you can bring in units within 330 feet of the defining well was a corollary to the "developed" provision that is in the existing rule.

And if we allowed the operators to expand the horizontal spacing unit by drilling, say, five wells, one of which is down the middle of the two-unit tier, a half section, and then bring in additional wells because the side wells are within 330 feet of the side boundary, there would be the potential to widen the horizontal spacing unit far beyond what was developed by any one well within the pattern. And no policy recommendation ever came from the committee that that

should be permitted or that it shouldn't.

But it's just that it would be a drastic change. It would depart from the concept that a horizontal spacing unit is an area developed by one well. Not completely developed like the proration unit definition in the Oil and Gas Act. It's not going to drain it. But that one well is going to develop all portions of the spacing unit. If you drill along the centerline of a -- of a half section, that's very credible. But if you drill along the centerline between the north half-south half and the south half-south half, you're probably not going to develop the north half-north half, unless it's a very extraordinary reservoir. But your side wells, if they were projected indefinitely 330 from each well, that would create a completely different situation.

We're not sure if Marathon wants to go there. We're not sure what our position would be. It's not a matter that was ever discussed in the work group.

Q. Were Exhibits 3, 4, 5A through 5C, 6A, 6B and 7A prepared by you or under your direction?

A. They were.

MS. BADA: I move to admit those exhibits.

CHAIRWOMAN RILEY: So moved.

MR. FELDEWERT: No objection.

MS. BRADFUTE: No objection.
MR. HALL: No objection.
MR. CLOUTIER: No objection.
CHAIRWOMAN RILEY: We accept the exhibits presented by OCD into the record.
(NMOCD Exhibit Numbers 3, 4, 5A, 5B, 5C and 6A, 6B and 7A are offered and admitted into evidence.)
CHAIRWOMAN RILEY: Do I have a vote on this?
MR. BRANCARD: No.
CHAIRWOMAN RILEY: We don't need to do that?
COMMISSIONER BALCH: I would move for lunch.
CHAIRWOMAN RILEY: Yeah. We are into the lunch hour.
So are you finished with this witness?
MS. BADA: I am finished with direct.
CHAIRWOMAN RILEY: So obviously we'll have questions for you after lunch, Mr. Brooks.
How about if we break for one hour and return here at 20 until 2:00? I know it's hard in Santa Fe, but please try to be back in time.
(Recess, 12:39 p.m. to 1:48 p.m.)

CHAIRWOMAN RILEY: Let's get started again.

Mr. Brooks, you did finish your testimony before lunch; is that correct?

THE WITNESS: That's correct.

CHAIRWOMAN RILEY: So I can -- we can open it up now --

We might want to shut those doors.

Thank you.

Open it up for counsel. Who would like to go first?

CROSS-EXAMINATION

BY MS. BRADFUTE:

Q. Good afternoon, Mr. Brooks.

A. Good afternoon, Ms. Bradfute.

Q. You testified earlier about Marathon's proposed changes to two provisions and the regulations located under 19.15.16.15. -- is Part A?

A. Yes, ma'am.

Q. Is it your understanding that Marathon in both of its changes is trying to seek clarification as to when operators can drill several wells whether in a consequence and then complete those wells simultaneously or within a short time period in order to promote a more comprehensive development plan within a specific area?

A. That's my understanding.

Q. Okay. And is it your understanding that both of Marathon's proposed changes are aimed at trying to address that issue?

A. Yeah. I assume that is true. I continue to believe that the ones regarding compulsory pooling applications can be handled at the compulsory pooling hearing, in the order, but I think that's the focus of both suggestions.

Q. Do you agree in principle with Marathon's objective in trying to add language to the proposed regulations to this effect?

A. I do. I have actually heard a considerable amount of testimony in various cases where I have sat as counsel for the Examiner that these simultaneous completion technologies do reduce the cost of drilling these wells and, in some cases, increase the total production that's achieved from them.

Q. Okay. And would you be willing to continue to work with Marathon as this hearing progresses and with the New Mexico Oil and Gas Association to develop language which addresses some of the concerns that you raised in your testimony?

A. I would. And I would hope we could do it in the context of this proceeding because that would be very -- I would very much dread the idea of another

rulemaking.

Q. So it's your preference that we would be able to come to agreeable language that could be included within the regulation?

A. Yes. I think we can easily do it if the Commission decides not to deliberate at the conclusion of this hearing, which I think is likely. However, we will fit into whatever the Commission's time frame may be.

Q. Okay. Thank you. That concludes my questions.

CHAIRWOMAN RILEY: Would you like to go next, Mr. Feldewert?

MR. CLOUTIER: IPANM has a few questions.

CHAIRWOMAN RILEY: Okay.

MR. CLOUTIER: Can I sit in your lap, Mike?

MR. FELDEWERT: Yeah.

(Laughter.)

CROSS-EXAMINATION

BY MR. CLOUTIER:

Q. I have two areas of questioning for you Mr. Brooks. The first was the transition provisions of the rule.

A. Okay. Let me get it.

Q. And that would be -- I apologize. We just walked back in from our --

A. That would be on page 18.

Q. 18. Yeah. There we go.

And the first thing, there is some -- as I appreciated, any permitted well under the old rules are going to be permitted to continue to operate under those rules? Is that your understanding?

A. Yes. That's the way it reads. I had forgotten whether that provision -- whether the permitted part of it was in there or not. But I look at it now and it is. I don't believe NMOGA proposals would change that at all. So I think that is the rule.

Q. Okay. Yeah. I was reading it a little differently from your testimony, and I just wanted to make sure.

A. If a well is permitted on a -- to a project area under the existing rule, then as long as that permit remains in force, which it does for -- I forget -- a year or two years, whatever the term is, then it can be drilled on the spacing unit constituted by the old rule.

Q. Okay. Good. Thank you. Thank you for that clarification.

The second question: Your questioning involves the initial take point. And is there a requirement in horizontal wells that they're all going

to have to be cemented, or are we going to permit open-hole initial take points in --

A. Well, if you will look at the definition of "completed interval," which has not been -- I believe -- let's see. The definition of "completed interval" seems to contemplate that it will be -- that an open hole will be permitted, and that is -- that definition is in 19.15.16.7(B), not proposed to be changed.

Q. And I guess let me just tell you what the concern is from IPANM and as to your thoughts on that. We're concerned with the notice provision on open-hole intervals that, given the volume of frac fluid that goes in there, could there be communication beyond the 330-foot reach in certain formations. And I'm wondering if in open-hole situations, we should have broader notice requirements.

A. Well, that issue was not addressed in the work group, and it's beyond my expertise. So I would think that it would need to be commented on by the technical witnesses who will be presented by NMOGA.

Q. Okay. That's fair enough. Thank you, Mr. Brooks.

MR. CLOUTIER: I don't have any further questions, Madam Chair.

THE WITNESS: Thank you.

CHAIRWOMAN RILEY: Thank you.

Are there any other questions from anyone else?

Mr. Feldewert?

MR. FELDEWERT: If I may approach, Madam Chair, members of the Commission, I want to hand you what's been provided in our pre-hearing statement. And the reason I'm providing that is because I think it will be helpful to hand it out separately while we're going through some of these rules right now.

CHAIRWOMAN RILEY: That'll be great. Thank you.

MR. FELDEWERT: Madam Chair, members of the Commission, I want to note a couple of things. First of all, all of NMOGA's changes within Attachment 1 have been highlighted in yellow. Okay?

Secondly, they follow the pagination numbers in the Division's Exhibit Number 2, the proposed rule. So if it's page 16 in the Division's proposed rules in the right section, it's page 16 here as well, to make it easy. Okay?

Third, what you'll notice, unfortunately, is because of the way various sections were put together, the pages aren't necessarily sequential as you move from one section to the other. So you may have one

or two pages in one section, and then you get to another area of change and the pagination starts over again. So I just wanted to point out in case there is any confusion there.

I'd also like to have out in front of you and I think it would be helpful to have the proposed rule, which is in Division's Exhibit 2, because there are certain pages within that proposed rule where we didn't have any changes, and, therefore, in order to see the text, you're going to need that out in front of you as well. Okay?

Then if I go to their Exhibit Number -- actually, let me step back.

CROSS-EXAMINATION

BY MR. FELDEWERT:

Q. And if I go to Attachment 1, Mr. Brooks, NMOGA's Attachment 1 --

A. Yes.

Q. -- and I go to the first page of the Adjudicatory Proceedings, 19.15.4 --

A. Okay. So you want to talk about 19.15.4 first?

Q. Yes, sir. And I think the easiest way to do it is if you go to NMOGA's Attachment 1. Okay? That way we're not thumbing around with different pages.

MR. DeBRINE: Mike, Exhibit B to their

application?

MR. FELDEWERT: Yes. I think that's right.

THE WITNESS: Now, what you just handed me is not any different from what's attached to your pre-hearing statement, is it?

Q. (BY MR. FELDEWERT) Correct.

A. Okay.

Q. Okay. And you made note of some changes there with respect to the absence of the need to notify interest owners in offsetting tracts when you are creating a standard horizontal spacing unit. Do you remember that?

A. A standard horizontal or -- yeah, I remember that.

Q. So I'm looking at 19.15.4.12(A)(1).

A. Right.

Q. -- and I believe you had talked about this change, but at the time you talked about it, I believe we were looking at your exhibit and it wasn't in there. Isn't it true that this is one of the changes that NMOGA has in their proposed modifications that not only the committee agreed with but the Division thought appropriate, the addition of that last sentence?

A. I'm -- you're talking about the sentence at the end of 19.15 -- 19.15.4.12(A)(1)(a)?

Q. Yes, sir.

A. Yes, that's correct. We do agree with that.

Q. All right. And the reason is because you're now, under these proposed rules, creating a standard horizontal well?

A. It would be a standard horizontal spacing unit. It's also true that we have this experience when requiring that for compulsory pooling of project areas, and we've not had people coming in in response to that notice.

Q. Okay. Then I want to stay within this document, okay, within this Attachment 1.

A. Yes.

Q. I want to proceed more towards the end and get into what you call the main event, and that is the primary rule that's going to be changed.

A. 16.

Q. Yes. And go to that page 12 of that particular section, the one dealing with nonstandard horizontal spacing units.

A. Okay. Page 12(A)(6).

Q. (A)(6)(a) is where I'm at --

A. (A)(6)(a).

Q. -- "Administrative Approval."

A. Yes, sir.

Q. And you made note during your testimony that it references Subsection B of 19.15.15.11?

A. That is correct.

Q. And you were concerned that the paragraph should say -- paragraphs -- rather than same paragraph two, it should say "paragraphs three through five," correct?

A. That is what I said. Yes.

Q. Okay. And I just want to confirm with you that I checked with NMOGA, some of the committee members, and we agree that that would be appropriate. So if we're all on board, that would be an appropriate change, to change that paragraph two to paragraph three.

A. Thank you.

Q. Okay?

Now, I want to talk about a little more about this complicated provision. Go two pages further on to page 14 of this Attachment A [sic]. Okay?

A. Okay.

Q. Now, your concern involved to whom notice goes to for existing and subsequent wells and horizontal spacing units. And in this proposed rule, it would be a subparagraph, 11(B), where you have subsequent wells in existing spacing units, right?

A. Yes, sir.

Q. And in particular, you referenced on the next page, page 15, Subsection C, which references to 19.15.13.11, correct?

A. Yes. 13.10 and 13.11.

Q. Okay. And your concern was that if you go to those rules as written, these other rules that are not at issue today, that those rules provide notice to just operators?

A. And my concern was not about 19.15.13.10. It was about the reference to 19.15.15.12.

Q. Okay. Thank you. Thank you.

So you and I can go there. I don't know if anybody else needs to go there. But you made the observation that if you look at that particular rule, that its current language, which is not at issue here, would require only notice to operators?

A. Well, not that it would only require notice to operators but that it only requires notice in the event that the proposed well is proposed by a different operator, because it says -- 15.12(A) says, "If an operator completes a well in a pool" -- "in a pool or prorated gas pool located within a proration unit containing an existing well from that pool operated by a different operator." And that's a predicate to the rest of it. And what we were concerned about is we wanted

the referenced provisions of the proposed rule to apply even if a new well is proposed by the same operator.

Q. Okay. So you were concerned about the condition of notice in that particular rule?

A. That's right. Not who notice goes to but the condition of notice.

Q. Okay. So let me stop you right there. I'm going to address that concern.

So if I read under page 15 would be -- under the change provision, Subsection D, which is where you're at on your proposed rule --

A. Right.

Q. Okay?

-- it says, "The provisions of Subsection B of 19.15.12 NMAC shall apply to notices required" -- and then we have some changes there that I think you agree with, right?

A. I agree with that change.

Q. "Notice is required pursuant to items one or two of Subparagraph B."

A. Correct.

Q. And you're talking -- referencing -- you're referencing in there, in Subparagraph B on the previous page 14, right?

A. Right.

Q. Okay. And when you look at Subparagraph B on the previous page 14, those provisions require notice to, do they not, Mr. Brooks, to the operators and working interest owners?

A. That is my understanding. Yes.

Q. And that's the intent, correct?

A. Yes.

Q. And so I guess we all can look at this differently. You may see a concern there, but at least the committee's intent was to require notice pursuant to those provisions to go to operators and working interest owners as set forth in B1 and 2?

A. I would assume that is true.

Q. That was the intent of the committee?

A. As far as I know.

Q. Okay. All right. So the only question is where the language actually accomplishes that.

A. Well, the question is not about who the -- my question is not about who the notice goes to but the event in which notice will be required.

Q. Right.

A. And my concern is a subsequent well drilled by a different operator as opposed to a subsequent well drilled by the same operator. Now, I would agree that

19.15.11(B) seems to contemplate that the -- it seems to contemplate that the only triggering factor is a subsequent well being drilled.

Q. Yes, sir.

A. And that requires notice.

But then if you incorporate the provision by reference of 19.15.15.12, 19.15.15.12 states specifically that it only applies if the subsequent well is to be drilled by a different operator. And that's my concern.

Q. I agree with your concern. I guess the area of disagreement would be that the triggering events for the notice that is required, in our opinion, okay, is clearly set forth in B1 and 2, and I'm not sure that we would agree that there is ambiguity simply because we reference how the notice that's triggered by B1 and 2 is to occur.

A. Yeah. I'm not sure that it does either, but, you know, these rules are going to be in effect for a while if they're adopted, and there will be other attorneys for operators and other attorneys for the Division, and I'm not sure that it may not be subject to varying interpretations. So I think the time to clarify a rule is when it's being adopted.

Q. Okay. But no disagreement about the intent?

A. I did not disagree about the intent. I didn't even notice that until I was preparing the final draft. Well, no. It was even after I was preparing the final draft. It was when I was getting ready for the hearing that I noticed it.

Q. Now, I want to next talk about page 17 of Attachment A, the provision dealing with allowables.

A. Okay.

Q. First off, you don't have any disagreement with the proposal modification made by NMOGA, correct?

A. Well, I don't have any disagreement with it. Frankly, I don't understand it. I don't know what the difference is. But that's -- you know, other people know a lot more about allowables than I do.

Q. All right. Here is my next question. I wasn't entirely clear during your discussion.

Both the committee and, I understand, as well the Division agree with the allowable change in terms of the language that is proposed in this rule.

A. I think we agreed that it was acceptable. We did discuss some other alternatives that can also be acceptable, but I believe we thought it was probably as good as any.

Q. And I assume, therefore, that the Division even likewise today agrees that a modification to the current

allowable circumstance, as reflected in this language, is appropriate?

A. Well, I believe there are some reservations within the Division, which we are hoping will be clarified by the testimony being put on by NMOGA in this proceeding.

Q. All right. But at least I think you said that you believe that the current depth-bracket allowable chart, which is in the current rules, that the reasons for that appear to have -- I think your word was vanished from the memory of the Division?

A. I do not know -- I have sought to understand why the depth-bracket allowables are constructed the way -- the table is constructed the way it is. I haven't been able to find anyone who can enlighten me.

Q. So would it be fair to say, looking at that today, that it would give the appearance to anyone looking it that it is somewhat arbitrary?

A. That would seem to be the case. I have not -- I have not attempted to locate the transcript of the proceeding at which they were adopted and look at what evidence was prevented, however.

Q. Okay. Now, the other thing that I want to make note of is -- I apologize. I skipped this one.

If I go back two pages to page 15 of

Attachment 1 --

A. Okay. Go back to page 15.

Q. -- of NMOGA's Attachment 1 --

A. Yeah. Right.

Q. -- you discussed setbacks, right?

A. Right.

Q. Okay. The one thing you didn't note is the provisions in Sections -- Subsection B(1)(a). I'm sorry. It would be the next page, page 16. You noted the provisions in Subsection B(1)(a), but there is an additional -- there actually is a modification to the setback requirements set forth in Subsection B(1)(b), right?

A. That is correct. And I forgot to mention it.

Q. That's fine.

And that's with respect only to the first take point and the last take point for horizontal wells?

A. Correct.

Q. And the committee agreed and the Division agreed that it made sense to modify those setback requirements as reflected in Subsection paragraph B because of the nature of the horizontal wells?

A. That is correct. And we had a rather persuasive presentation made, which I'm hopeful a comparable presentation will be made by NMOGA at this

hearing because I thought it was a very good presentation.

Q. Okay. Then there was a concern you raised about the transitional provisions?

A. Yeah. I think that Mr. Cloutier called my hand on that, and I was probably --

Q. Well, that was a difficult one. And that is -- and I apologize. This would be on page 19.

A. It would be page 18. But actually there is a -- on the same page.

Q. Okay. Thank you. Thank you. I'm sorry.

So we can use page 18, I believe. Yes. Okay.

Well, let's first off deal with the proposed change to the transitional provision on page 18. The Division doesn't have any -- does not have any concern or objection to that proposed change?

A. No, we don't.

Q. In fact, doesn't that carry, under these current rules, a provision about the absence of the density limitation that exists in the current rules?

A. It does. And I think I actually was the author of that provision.

Q. Okay. All right. So you likewise believe that that provision you authored to likewise be carried over

into the proposal?

A. I do believe it should.

We have been operating under the rule that density -- well, density requirements do not apply to horizontal well rules for six years now, and we have not seen any difficulties. Nobody's objected to that.

Q. And no harm from that?

A. Not that we've ever heard of.

Q. Okay. Now, let's get to the issue you raised, and I thought it was a good one, Mr. Brooks. And that is when you look at the next paragraph or now what will be the second sentence of this Section D(3), you talk about there being a reference to February 1, 2017?

A. Yes.

Q. And then as you go on down, the next provision: says: Special pool orders are amended -- amendments thereto adopted after. And then we have a place that says "date of adoption."

A. Correct.

Q. And you're concerned about the gap that would exist between February 1st, 2017 and the date of adoption?

A. That is my concern.

Q. Would that concern be alleviated, Mr. Brooks, if they simply changed both references to say "date of

adoption"?

A. That would be, if that doesn't destroy something the committee wanted to achieve by that first date, which I'm not sure -- I don't really remember why that date was in there, except that it had something to do with when the Purple Sage Pool was adopted.

Q. Right. And I think that was referenced -- I think that was taken care of by a specific reference in the rule to the Purple Sage.

A. I thought it was. And I kind of remember somebody saying that there hadn't been any more pool rules -- any more special pool rules adopted except the Purple Sage since February of 2017, but I don't -- I don't know if that's true or not. I haven't investigated it.

Q. But to agree with that -- at least to address your concern, you would agree to cross out "February 1st, 2017" and just put a placeholder in the date of adoption?

A. That would eliminate the uncertainty I was concerned about. Yes.

Q. Okay. Now, Mr. Brooks, you have been an attorney for this Division for 15 years?

A. I think it's about that. I was away for two years.

Q. How many directors of the Division did you serve under? Maybe that's not the right term. How many directors of the Division did you advise?

A. Rotenberry, Fesmire, Bailey, Catanach and Riley.

Q. Five?

A. That's five, plus some actings.

Q. Acting directors?

A. Acting directors, yes.

Q. And I believe your responsibilities through that entire time has included the interpretation and enforcement of statutes and regulations governing the oil and gas development in New Mexico?

A. It has.

Q. And you indeed acted here as the co-chair of the committee that developed proposed rules?

A. Yes.

Q. And you've brought that background that you have about the statutes, about the regulations and your experience to the table at that committee, right?

A. Well, I didn't leave it at home (laughter).

Q. Did you have some assistance or was there input into the selection of the other members of that committee?

A. I was a part -- one of the persons involved in

the selection.

Q. Okay. And how many months did you guys meet periodically or regularly?

A. If I remember correctly, we began in November of 2016, and we had our last meeting probably in October of 2017, although it may have been in November.

Q. Okay. Throughout all that time, you brought together your experience and then the technical expertise of the other participants that were brought into that committee?

A. There was considerable experience in that group.

Q. You jumped ahead of me. In your opinion, Mr. Brooks, did that committee possess the technical knowledge and the expertise to develop rules governing horizontal well development in New Mexico?

A. Well, to formulate rules. Of course, only the Commission could adopt those rules. I don't remember what words specifically you used.

Q. I'll take "formulate."

A. Okay. Formulate, yes.

Q. And the rules that were developed by the committee, do they embody that technical expertise and knowledge?

A. Well, I think so. Of course, there wasn't

complete agreement on everything, but we reached several compromises that were acceptable to enough people.

Q. And I believe one of the goals was to develop rules that allowed operators the flexibility that they needed for efficient and effective development of oil and gas reserves by horizontal wells?

A. My understanding was that was the primary objective.

Q. And as a co-chair of that committee and a participant of that committee, did you achieve that goal?

A. Well, I don't know. We'll see if they're adopted (laughter).

Q. But in terms of the rule that was developed by the committee, do you believe that --

A. Well, I believe the committee was fairly happy with -- the members of the committee were, as a general matter, fairly happy with the rules when we got through with the process.

Q. And, likewise, wasn't one of the goals to provide for efficient and effective oversight by the Division of horizontal well development in New Mexico?

A. Well, we took that into consideration. Yes.

Q. And do you believe that these rules that were developed by the committee to promote efficient and

effective oversight by the Division of horizontal well development in New Mexico?

A. So as far as I'm able to understand what is necessary for that purpose. Yes.

Q. And do you believe, Mr. Brooks, that these -- the rules developed by the committee protect correlative rights?

A. Well, I have some reservations about that.

But, you know, there is a joke that's been going around. A gentleman comes into a restaurant and says, "I would like a table for dinner." And the head waiter says, "Do you have reservations?" And the customer says, "Yes, but I'm going to eat here anyway."

So as far as I can see, it is with some -- which I consider reasonable compromise, yes, I think it probably does protect correlative rights.

Q. And more importantly, Mr. Brooks, would you agree with me that the Division's paramount statutory responsibility is to prevent the waste of oil and gas reserves?

A. Clearly, that is where it -- legally its primary responsibility is, because correlative rights are defined in terms of the right to develop what can be developed without waste -- practically developed without waste.

Q. And you know my next question?

A. (Indicating.)

Q. Mr. Brooks, in your opinion, the rules that were put together and developed -- or formulated by the committee, will those rules, in your opinion, prevent waste?

A. Well, I would have to caution my response by saying that I am not a technical person. I have been working in the oil industry for 40-plus years, and I have some knowledge about it. To the extent my knowledge goes, I would say yes.

MR. FELDEWERT: That's all the questions I have.

CHAIRWOMAN RILEY: So at this point, I think we need to take questions from the Commission.

Would you like to go first.

COMMISSIONER BALCH: I have questions.

CHAIRWOMAN RILEY: Okay.

CROSS-EXAMINATION

BY COMMISSIONER BALCH:

Q. Good afternoon, Mr. Brooks.

A. Good afternoon, Dr. Balch.

Q. Thank you for your testimony.

I wish you had more to say about prorationing allowables.

(Laughter.)

A. Well, if you want to ask me some more questions, I'll try to find some more things to say about it (laughter).

Q. I might well get to that.

All right. So, actually, I had the fortune or misfortune to be on the Commission when the first horizontal rule was put into place, so I remember some of those discussions.

A. I remember both you and Mr. Martin were both on the Commission at that time; were you not?

COMMISSIONER MARTIN: This is my first rodeo.

THE WITNESS: Oh, that's right.

Mr. Dawson has pointed out to me in recent weeks that he was on the Commission when the existing rules were adopted.

Q. (BY COMMISSIONER BALCH) Okay. Anyway, one of the concerns that was brought up that was pretty important to the Commission at that time was preventing waste. And as Mr. Feldewert was pointing out, that's one of our two primary statutory duties --

A. Correct.

Q. -- preventing waste and preserve correlative rights. Those are the two big things. And then we take

care of the environment, preventing waste or polluting the water and things like that --

A. Yes, sir.

Q. -- human health.

So under the proposed rule -- the proposed rule, oil wells can be built from any combination of quarter-quarter sections, basically.

A. Well, they have to be contiguous, but, generally speaking, that is correct. They have to be contiguous, and they have to be penetrated by or within 330 feet of a particular well. But subject to those qualifications, the answer is yes.

Q. And similarly for gas wells on a quarter section?

A. I believe that is correct.

Q. So my main concern -- I'm hoping this will be addressed in additional testimony, but I wouldn't mind your input on it as well, and that is on the potential for stranding assets.

A. Potential for what?

Q. Stranding resources.

A. Yes.

Q. So part of the reason why the original -- I can't remember the word, rectangular. But the reason for that was to try and prevent people leaving the

quarter sections or the two quarter sections will never be addressed by a horizontal well and can't reasonably be produced by a vertical well.

A. I am concerned about that. I attempted several times during the committee process to develop a better stranded well provision than the very limited one that is in our proposed rule, which is just basically the same as the one in the existing rule. I was unable to write one that would address or would -- met with the acceptance of a significant number of -- any significant number of other members of the committee or, frankly, that I was happy with.

The problem you run into in trying to write a stranded well rule is that -- I know that it's stranded until it's all the way around, and so the only well that definitively strands a unit is the one that closes the box. But the others that are all around influence it.

Q. Sure.

A. And so that was a concern that we had.

Another concern was one that I mentioned specifically in my direct testimony, that it's all right to strand a unit that's already developed because that's not a problem. But we have so many different productive zones that you could strand a well in one productive

zone, which would cause waste, but we have no objective way to determine, and it would create massive enforcement problems to try to develop -- to try to have a rule that would distinguish between production -- productive zones within the same pool, in writing our pool determinations that are rather ancient.

Q. Yes. I think it's pretty recognizable that geology doesn't care about our orthogonal grid system.

A. I'm sorry?

Q. Our geology doesn't care about our orthogonal grid system nor does the stress fields that are going to impact the appropriate directions to lay down a well.

A. Correct.

And we did experiment, at the instance of our secretary, with the idea of examining units -- spacing units that conform to the actual drainage area of a horizontal well, which would be basically more or less cylindrical. We gave up the idea because the land considerations were so complicated that we thought they would cause more waste than they would prevent, and it also involves substantial correlative-rights issues.

Q. So on 7A and 7B, your Exhibits 7A and 7B --

A. Let me get those exhibits.

Q. -- in the bottom box on the left, it says, "Since the southernmost well is the infill well, it does

not have to penetrate the quarter-quarter section represented by Unit Letter P." I don't see Unit Letter P.

A. 7A --

Q. And B both have the same --

A. -- and 7B. Oh, Unit Letter P is the southwest quarter of the southwest quarter of the section, so we're talking about Unit P.

Q. That's the one that would previously show stranded under the existing rule?

A. Yes. There are situations in which that stranded well provision would not apply even though a pool with a quarter-quarter is stranded. The one shown on 7A, if the second well -- or the middle well in Section 2, on Exhibit 7A, is within 330 feet of the south line of the south half -- of the north half of the south half -- that is the line dividing the north half and south half of the south half -- if it's within 330 feet, then you can extend the unit by incorporating all of the quarter-quarter sections in the south half-south half, but you don't have to drill into them.

Q. As long as a piece of that 330 feet offset is within that quarter-quarter section?

A. That's correct, yes.

Q. Pretty obviously, that's not going to drain the

entire quarter-quarter section?

A. I would agree with that. I mean, I am not a reservoir engineer, but from what I've heard about it, I would assume that in most cases it would not.

Q. I mean, generally speaking, when you're producing some of these shale assets, you could be -- you can be described as creating your reservoir by the process of fracturing?

A. I've heard that expression.

Q. The reservoir is not there until you do that. So more effectively, you fracture the entire volume and more effectively you produce the entire volume. But you'll run into issues where you have communication of wells and where somebody's correlative rights may be negatively impacted.

A. You will. And I believe that one of the things I have -- I least understand about the modern processes is to what extent do local reservoir conditions influence the area from which a horizontal well will draw?

Q. I think people will think, you know, the better wells in the Wolfcamp -- that they're getting into some area where the fractures are intersecting. So basically you're getting an improved area of the reservoir that you're created and opening up more -- because there are

plenty of examples of communication between horizontal wells that are further apart than 330-foot offsets.

A. So I have heard.

Q. So I guess if you're the owner of Section P, how do you feel about your correlative rights?

A. Well, you're getting money from those other wells, so you might like it. But I can see that you would be concerned about the nondevelopment of your acreage because you should be able to get more.

Q. So you'd get a portion for your whole quarter section?

A. Well, yeah. And that makes it depend to what extent your production -- what extent you're benefiting from the unitization. What's, in effect, the unitization of this south half and to what extent you're not benefiting. I suppose it's fair to assume that the operator in that situation would have some reasoning for unitizing it in that way.

Q. Well, the only option to make money out of it is to get it into the unit.

A. That would be -- and certainly be an option, and it might be influenced by the -- by the ownership considerations. I do not know.

COMMISSIONER BALCH: I wonder, Mr. Feldewert, if you would put up your slide 65 again.

MR. FELDEWERT: Yes, sir.

COMMISSIONER BALCH: I thought that was a good example of a nonrectangular unit.

THE WITNESS: I thought it was, too. That's why I asked him to display it.

MR. FELDEWERT: So 65? Is this the one you were talking about?

COMMISSIONER BALCH: That's a good one to start with.

Q. (BY COMMISSIONER BALCH) That's the proximal tracts, basically, and you've got a little, tiny piece of the toe of that -- or heel of that well impacting that proximal tract, right, Mr. Brooks?

A. Well, page 64 is an illustration of the very limited situation in which the horizontal-shape requirement would still apply. So I'm not sure how to answer your question.

Q. I may have -- I wrote down 65. But I was looking for the one where you had the diagonal horizontal well.

A. And I believe those --

Q. This one right here.

A. Those were on 63 and 64.

MR. FELDEWERT: So right now we're looking at slide -- it would be NMOGA Exhibit A, page 64.

Q. (BY COMMISSIONER BALCH) And the tract size is 64.

And I presume, then, you're going to put this well in because that's what the geology tells you to do? Your best drainage ellipse is going to occur from this frac job, this orientation?

A. Well, I understand that the technical people in the companies are very anxious to drill their wells where they can produce the most product.

Q. Right.

And in some places, it's going to be stand-up or lay-down, and in other places, they're going to be different angles such as this?

A. Right. And that is a particular interest to people in the San Juan Basin, according to what I have heard.

Q. We definitely had a big discussion of that in the 1990ss with the tight gas production. This is with vertical wells, and you would have these drainage ellipses that would dictate how you best place your vertical wells. But in a similar sense, in horizontals, you want to be able to intersect those fracture points, if there was a wellbore or from fractures that you induce.

A. Well, I would assume so. Now, let me say what

I do know, because you're getting into territory that's beyond my knowledge.

Very early in my career, I had a client who was very much into developing the Austin Chalk. And, of course, we had no such thing as horizontal wells onshore in those days. I don't know when they started offshore. But his strategy was to get a geophysicist to give him the best idea he could get where natural fractures were and try to drill into them so he could produce from those natural fractures in a tight formation. I do not remember the discussions in the 1990s of the tight gas formations in New Mexico. That was -- I didn't come to New Mexico until 1999.

Q. So looking at this figure on NMOGA slide 64, the concern is perhaps this on the issue of stranded resources. Say you have a really smart company, but they don't have enough money to drill but three wells. So they put three of these things in sequence next to each other. They've done the geology and geophysics. They understand the right orientation for the well. The companies around them are then forced to either follow that same trend or you have a bigger chance of impacting their stand-up or lay-down wells that may go around these diagonal horizontals.

A. That would seem to be the case.

Q. I'm not sure how to address that. Potentially, it could cause some waste, though, and more stranded units or unit like these proximal tracts, where you may just have a small corner of it that's being impacted by a well.

A. That is going to happen from time to time in all probability under the new proposals much more often than it does in existing proposals. And we did discuss in the committee using our -- permitting the spacing units that would follow something like these dotted blue lines around the wells on Exhibit 64, A64, and the land people in the group were horrified. They said you could never practically administer that type of spacing units. I believe somebody in the committee calculated that there would be like 64 -- 65 or 70 percent difference in the production allocable -- disparity between the production allocable to the spacing units in a stair-step unit like this on an acreage basis versus on a footage -- well-footage basis, which I think we'd all agree is not a good thing. And that is one thing I was specifically thinking about when I said, in response to Mr. Feldewert's question, that I had some reservations about this proposal being adequate to protect correlative rights.

Q. So overall, though, do you think that the new

proposed rule is going to -- I think there is a potential for waste, of course, by stranding assets. But do you think that the added flexibility will impact that level of waste, or the fact that we can drill more than what we can do with the current rule, is that going to offset that in any way?

A. That is what the operators seem to think. And they have the advantage of having reservoir engineers on their staffs and having the expertise and experience to understand their testimony, which I do not, but you do. And so you can make that evaluation, Dr. Balch.

Q. So on this issue, proximal, you have this well drilled and you want to drill the one parallel to it, you're going to pick up the proximal tracts that will allow you to do that. Then you have to notice people around you.

A. Exactly.

Q. And the noticing has gone from being -- the noticing burden is now on the -- on the operator that wants to drill a well under the new rule, right?

A. To get a nonstandard unit, yes -- nonstandard horizontal spacing unit, yes.

Q. And the requirement is: 20 days prior to submitting their APD, they have to send out a notice to the impacted or affected parties?

A. Well, yes. I think that's true. It's actually more than 20 days because they will have to get approval, although they can submit an APD to be -- to go into effect when it's approved. So they do have to get approval. The OCD has -- is authorized to improve -- to approve an application administratively after 20 days from the date notice is sent out.

Q. So 20 days from the operator sending out a letter, they can get an approval, essentially?

A. If no one protests.

Q. If no one protests.

And the protest goes to them, and then they would report it to the OCD?

A. Okay. There are two different procedures involved here. There is one for getting approval on a nonstandard spacing unit -- horizontal spacing unit, and then there is a different procedure for drilling a subsequent well in an existing spacing unit. If you want to drill a subsequent well in an existing spacing unit which is not an infill well -- and it wouldn't be an infill well if it has to bring the acreage beside the yellow and green boxes. If you want to do that, then you're right about the procedure. The operator sends out the notice. The APD is held for 20 days. If there is no protest sent to the operator within 20 days, then

the operator can certify that he's not received a protest, and the request is automatically granted.

If you want to design a nonstandard spacing unit, then you would have to file an application, give notice and then the -- the persons receiving notice could file a protest with the OCD. If they did not within 20 days after the mailing, then the OCD can grant the application but would have to do so by order.

Q. Where, Mr. Brooks, did the 20-day number come from?

A. Well, I don't know, but I would speculate that it came from medieval England, where writs were issued commanding the recipient to appear before -- to appear before us wherever we should be within this realm of England on the Monday next after 20 days from the service of this writ.

(Laughter.)

Q. That's a very honest opinion.

So, I mean, it's not based on some other previous OCD requirement?

A. Well, yes. It permeates the OCD rules, and it permeates the Rules of Civil Procedure in most states, incidentally not New Mexico, which allows 30 days. But the idea that service -- service of a notice requires a response within 20 days goes back as far as the law we

know.

Q. Do you think it's long enough to notify the operators in the white cells in that block?

A. I have no opinion on that.

Q. Okay. So the allowables -- you remember I had you give a full discussion on the allowables?

A. Yes, sir.

Q. Because in a sense, the new rule is asking us to abolish 80 years of precedent, even though it hasn't been applied lately.

A. That is, I think, correct.

Q. I think when I read the section on allowables, while you were talking about that, the two things that stuck out for me were -- first of all, I think that best practices are the way to do -- to get the best production.

The second thing is, you do want to sometimes nudge people in the direction of best practices in a case where overly fast production could cause formation damage or where you could have waste surface because you don't have handling facilities for water, casinghead gas, et cetera.

A. Correct.

Q. You may have excessive flaring, for example, that you wouldn't need to truck back for a little while.

A. Especially with the casinghead gas. That raises the issue of gas-oil ratios, which I did not discuss.

Q. So if we do this and we take out the prorationing, which doesn't appear to have any real reason to exist anyway, except as protection of the formation and the prevention of waste, are there other areas of the statute that will cover that protection?

A. I do not know. I do have some reservations about it, but there are people much more knowledgeable than me that don't want to make a decision on it until they hear the technical testimony. So I don't think I can meaningfully comment on that.

Q. Is this the testimony we're going to get during this hearing?

A. That's what we have been told by the NMOGA people throughout this deliberation -- throughout the committee process, that that is true, that it is adequate to prevent waste and that they have evidence that will show that, and they will present that evidence to the Commission here.

Q. So, anecdotally, I've heard from our producers that their concern is Company A that's big and has a lot of money will come in, drill a bunch of wells real fast, pump them out, produce them, pay them off in a couple of

years, make their money off of them and then dump them off on intermediate and smaller-size producers, but they may be receiving a damaged product because of overly rapid production.

A. I have heard that same concern. And I have also heard engineers say that the rate of production does not -- from a horizontal well does not impact -- does not negatively impact the EUR of that well.

Q. Well, I think my concern would be more along the lines of closing down your prop fractures, smashing your proppant or compressing it, basically closing down your -- basically, you've created the reservoir with the fractures, and then you take the reservoir away if you don't maintain those -- those open connections.

A. You're getting well ahead of my technical expertise.

Q. Okay. Well, maybe we'll get to that a little bit later on.

And then do you think we flirt a little bit with this on switching New Mexico to right of capture?

A. Well, as you doubtless know, the rule of capture was originated by the courts before there was regulation. And the oil conservation agencies such as ours were designed to prevent that because of the idea that the first guy got there got all of it, so that

defeated correlative rights and also because of the idea that you suggested, that overly rapid withdrawal caused waste.

There is, in fact, a statute in the Oil and Gas Act that says that if proration is necessary within a pool to prevent waste, then the Oil and Gas -- then the Oil Conservation Division has a mandatory duty to allocate the oil in that pool in a manner that will protect correlative rights. And there is a similar statute for gas.

Now, that is distinguished from proration between pools. The only time the Commission has -- both are done by the depth-bracket allowable system. It serves both purposes. But the only time when the Oil Conservation Commission is statutorily directed, so far as I've been able to tell, to prorate between pools -- among pools is when it determines that it is necessary for -- that that is -- that that is actually necessary to prevent -- or necessary on account of deficient demand, market demand. And they have not determined that anytime recently.

Q. Technology changes continuously, and that's actually how we ended up twice in the last seven years.

A. It does. And I am sure that the people who wrote the Oil and Gas Act had no specific intent about

the problems we face now.

Q. So I think that people that could be left with some of these stranded assets and their only recourse for their correlative rights is to take their share of the production from the pool, forced or otherwise, may -- you know, in ten years, there may be another technology which would allow them to get at those assets that have potentially been depleted.

A. Well, this is anecdotal and it's also hearsay, but my father was in the oil business and he said to me one time, "I'm not worried about exhausting the supply of oil because for every barrel we take out, there's eight more that we leave in the ground." Of course, the technology has improved enormously since he made that statement.

Q. I can't remember where I first heard it, but 100 years of production in the Permian Basin, 85 percent of the original oil in place is still there, but it's waiting on technology and the price of oil. So eventually it's not impossible to conceive of going after even these little stranded pieces at some point at some time.

Also, the production right now in horizontal wells in the shale plays are primarily almost entirely everywhere a primary production operation, but

people are already looking at ways to get a secondary or tertiary process going in those. So we do have to anticipate that the 4 or 5 percent of the oil they take out right now is not all that's going to come out of those shales, and you want to preserve that ability to produce that oil later on --

A. Yes, sir.

Q. -- or somebody else's correlative rights could be impacted.

So I just wanted to get that into the discussion. Thank you for being there for that.

The other thing was on 19.15.16, page 15, B under "Setbacks."

A. Let me find that reference. It was in front of me a minute ago, but --

Q. This is 19.15.16B(1)(b).

A. B(1)(b). Okay.

Q. Yeah, B(1)(b). "The first and last take point of a horizontal well shall be no closer than 100 feet for an oil well or 330 feet for a gas well, in the horizontal plane, to any outer boundary of the horizontal unit."

A. I remember the provision, but I haven't found it yet. Okay. Found it.

Q. Bottom of page 15.

A. I found it.

Q. This is probably going to be a question for the engineers later on.

A. Probably, but go ahead.

Q. I'm priming the pump, so to speak.

I think they've mostly gone to slickwater over crosslinked frac fluid for these shale plays, so there is a lot of literature on frac lengths, how far proppant goes out from the wellbore and things like that. And some of those are tied into things like the 330-foot offset that has been promulgated through this rule before, and some of it is still in here now. Some of that is based on modeling that shows the proppant can go out about 250 feet. Some of those studies are also done with crosslinked gels. And I think with slickwater, I think that there is some indication that they can go out even further. You can have much greater than that in some cases. There are some cases with tracers -- radioactive tracers, for example, where they found proppant 1,200 feet away from the initiated frac point. Now, that's not saying you're getting fully fracked -- fracture wing all the way out to 1,200 feet, but it means there is potential that there is some conductivity even beyond the 330 feet that's in the current rule and parts of this new rule.

So when the IPANM lawyer, Mr. Cottier --

MR. CLOUTIER: I've been called worse.

(Laughter.)

COMMISSIONER BALCH: Sorry about that.

Q. (BY COMMISSIONER BALCH) You know, he echoed something that I had written down in my notes. You know, if you have an open toe on your well, you know, open -- you're not -- you're not casing your horizontal -- I think most of them are not being cased now, actually -- then there is a potential that you're going to have fractures going more than 100 feet away from that toe point, and then that's the -- what do they call it -- the last take point.

A. Yes.

Q. That would definitely get you into the realm where you may be impacting someone else's production. So do you know where the 100-foot number came from in this section?

A. I do not remember the gentlemen's name. I believe he was with Apache Corporation, who made the presentation to us and moved that that be -- that provision be adopted. Clearly, his presentation and your observations concerning the situation, I have heard discussed, but they are outside my area of expertise.

Q. Thank you for taking all those engineering

questions and the education on the 20-day notice.

(Laughter.)

A. Well, if I had been better at science and math when I was young, I would perhaps have become an engineer and done something much more useful with my life.

(Laughter.)

CHAIRWOMAN RILEY: You finished?

COMMISSIONER BALCH: (Indicating.)

CHAIRWOMAN RILEY: Mr. Martin?

COMMISSIONER MARTIN: Just a couple.

CROSS-EXAMINATION

BY COMMISSIONER MARTIN:

Q. So should the drilling of multilaterals become more common, you think the provisions in this rule concerning multilaterals are sufficient?

A. I have some doubts about it. I am a little unclear on the subject -- more than a little unclear on the subject. So --

Q. You said that the Division had concerns about being able to determine whether a well was included or excluded from the unit and you talked about instituting some procedures. Is it the Division's intent to try to put that in this rule?

A. I'm not sure what you're referring to.

Q. You said that the district offices had some concerns. There was a -- I should have that. As part of the rule that says if a unit -- if a well is included in a unit or not included in a unit and the district's concern was that at the time of the APD, they may not be able to determine that.

A. Well, they wouldn't be able to determine under the present rule whether or not a unit was developed by the well. They wouldn't even be able to make any particularly worthwhile conclusions about that without a lot of additional or scientific evidence.

Q. Are the district offices concerned about that?

A. Yes, because they want to be able to grant an APD. After all, we're not the BLM. We want to be able to grant or deny an APD in a reasonable amount of time.

Q. Are there procedures that would cover such an eventuality?

A. Pardon me?

Q. Are there procedures that exist that could cover such a problem, solve such a problem?

A. Well, the new rule -- the proposed new rule will say that it's in if it's penetrated, which is one interpretation of the present rule, although it's not what the present rule says. It's in if it's penetrating or if it -- it's in any tract that it penetrates, and

it's in any tract within 330 feet if the operator wants it to be. That's the new rule.

The present rule is it has to be -- it has to develop the tract for the tract to be included, but we don't know how we determine that.

Q. That's all I have.

A. Okay.

CHAIRWOMAN RILEY: Thank you.

CROSS-EXAMINATION

BY CHAIRWOMAN RILEY:

Q. I just have a clarifying question and comment on your Exhibit 5A.

A. I have that.

Q. So I believe this to be a typo. But in the well location, the box here (indicating) where it calls out distances from lines, I think that should read "from the east line" and not the "west line." Would that be correct?

A. You're right. I corrected a number of typos in these exhibits, and I'm just as -- I'm just as responsible for typos as for other errors because I did the typing, but that one, I didn't catch.

Q. So then my question for you is: Is your proposal now that we get rid of the Pythagorean theorem for determining that this is from a corner adjacent

tract and that we just say whatever that distance is from the corner determines if it's -- if it's nonstandard or not?

A. That's correct.

Q. Okay.

A. If it's closer to the corner than the setback, then you have to notify the people in the diagonal tract. If it's not, you don't.

Q. Is that by use of Pythagorean theorem, though?

A. No. No. That's -- it's -- in that case it's just a -- or the 330 feet you draw a line from the well to the corner, and it's 330 feet. And if it's less than 330 feet, you're notified. If it's not, you don't have to.

Q. Okay. That's what I needed to know.

The only other question I have is you had talked about "developed." Is that a definition in -- I didn't find it defined in here.

A. It's not in the present rule. It's not in the proposed rules.

Q. Okay. That's all I have. Thank you.

A. Thank you.

CROSS-EXAMINATION

BY MR. BRANCARD:

Q. I have a few --

A. Yes, Mr. Brancard.

Q. -- to clarify a few things for the record. I'll start with -- and pardon my ignorance with a lot of what you understand, Mr. Brooks.

A. Well, that's what I kept saying to Dr. Balch.

Q. But as you said, these rules are not just for people in this room today. Two, five, ten years from now, people will walk in and have to look at them for the first time.

A. I agree.

Q. So on Rule 2, you mentioned four definitions that were changed. And as I look through Rule 2, I see lots of little -- what appear to be grammatical corrections; is that correct?

A. Yes. Whenever we repeal and replace a rule, the State Records administrator requires us to make certain kinds of corrections, and -- or at least you have to do that to get their approval. Now, if you file it without getting their approval, you have some problems, as you may be aware.

Q. Okay. I just want to get on the record why those changes were made. Thank you.

Okay. In the definition of "affected persons" --

A. Yes.

Q. -- the term "identified tract" is used repeatedly there, yet I don't see a definition for that. What is your sense of what "identified tract" means in terms of this?

A. Well, when we say, "Notify affected persons," we usually say, "Notify affected persons in a particular tract," be it an adjoining spacing unit or adjoining quarter section or whatever that may be. The "affected persons" definition is to establish what some people in the Division call drill-down procedure, where you're trying to notify the person most directly responsible for that tract and its development but not require notification to a lot of other people.

So if there is a designated operator, you notify the designated operator. If there is a -- if there is not an operator, you notify the working interest owners. And if the tract is unleased, you have to notify the mineral owners, what I would call the mineral owners, not technically -- not in what the OCD definitions call the mineral owners.

But anyway, that said, the "affected persons" definition does indeed beg the question of what is an affected tract. Usually, that's going to be defined in some other way where that term is used, but I won't guarantee you that's true everywhere where it's

used.

Q. Or maybe at the request of the Division under some rules?

A. That may be, yes. And there are some that specifically allow the Division to request additional notice, I believe. I can't recall what they are, though.

Q. I know this would be a rare occasion, but in looking at (8)(d), it refers to -- and this is in several provisions throughout the notices and elsewhere in these proposed rules. It refers to the U.S. or the state owning the mineral estate, and it says the BLM or State Land Office gets notice but not all land -- not all state land is state trust land.

A. I am aware of that. I'm not aware of what exactly is and isn't. So it would be perhaps -- perhaps should be to the agency responsible if it's someone other than the State Land Office.

Q. Okay. Going to Rule 4, then, under 4.12(A)(2), when they're talking about unorthodox well in the notice. So you notify affected persons in each adjoining spacing unit. Okay? So if you have already approved a spacing unit next to you which is 240 acres, that means you have to notify all affected persons in that 240-acre spacing unit?

A. You're talking about (2)(A)(2).

Q. 2(A) -- it's 12(A)(2)(a).

A. 12(A)(2)(a). Okay. I'm on the wrong page.

Q. Page 2 of your Rule 4.

A. Yes. I was looking at NMOGA's draft, unfortunately, instead of ours, and they only put pages where they make changes.

Okay. 4.12(A)(2). Okay. I've got the page. Now, what was your question?

Q. So it creates two scenarios where if you have to notify somebody next door, if there -- if there is a spacing unit, you notify all affected persons in that spacing unit. If there is not a spacing unit, then there is a specific provision about how to deal, which is actually quite clear.

A. Right.

Q. But I'm saying if -- say you have a 240-acre spacing unit, do you have to notify all affected persons in those 240 acres? I mean, that's the way I read it. I want to make sure.

A. I believe that is true, yes.

Q. Sorry. I'm moving quickly, so we don't take up time.

Rule 16, your definitions.

A. Yes, sir.

Q. So infill horizontal well -- okay. It's located wholly in a horizontal spacing unit dedicated to a previously drilled horizontal well completed in the same pool. So if you have a horizontal well that has been approved and there is a horizontal spacing unit created by that horizontal well that's been approved but has never been drilled and completed, then that doesn't mean your next well is not an infill well? It's just a new well?

A. I think that is the effect under this rule. Now, this is the very issue that Marathon is concerned about, and I agree with in them principle, that that should not be the rule in all circumstances. But we were not able in the one-hour lunch period to work out a mutually acceptable language to achieve that end. But we would request the opportunity to do that at some point in this rulemaking proceeding.

Q. Okay. Drop down a few lines to that page to "last take point."

A. Yes, sir.

Q. I find this confusing because it seems like you're trying to do two things at once in this definition. It says, "The deepest measured depth of the well where the completed interval ends." Okay?

A. Yes, sir.

Q. Where the completed interval ends on a horizontal well, is that always the deepest measured depth of the well?

A. Measured depth, it would be because -- well, it depends on --

Q. Is that lateral always going downhill?

A. Well, it's not -- measured depth is from the top of the hole to the bottom of hole. So if you drill a well that's 1,000 feet deep and it has a horizontal shaft that's 1,000 feet, the total measured depth is 6,000 feet.

Q. Okay.

A. Now, that concept is somewhat problematic to me because where the completed interval begins and where it ends depends on where you start. And when you're drilling, you start at one end, and when you're completing, you start at the other end. So the drilling engineers get all confused about that.

Q. All right. I think I now understand.

Okay. Let's get to what you say was the important stuff.

A. Okay.

Q. And so "standard horizontal spacing unit." Let me get this on the record and clear here. Is it your intent that a standard horizontal spacing unit requires

no approval from the Division?

A. That -- well, the APD requires approval for other reasons, but the spacing does not require any approval. As long as that's standard, they can do it.

Q. So when would the Division know what acreage is being dedicated to that well?

A. When they file the APD, because it's required to file a C-102 designating the acreage with the APD.

Q. Okay. So the C-102 comes with the C-101 on the APD?

A. The initial C-102, yes. There are subsequent C-102s filed at subsequent times. I'm not really sure exactly of all the situations, but there are situations in which you're required to file an amended C-102.

Q. I was just looking at the C-102 form I think that you submitted as a proposal. It says, "As drilled."

A. Yeah.

Q. This seems to indicate that the C-102 is done long after drilling.

A. An amended C-102 can be filed. Now -- or is required to be filed with the completion report, as I understand it. Now, if you want me to -- I'm not sure that I'm giving you the correct answers. I would like to verify that and possibly if you could hold the

opportunity for me to respond to that because what I'm telling you may be wrong, and I don't want to tell you wrong.

Q. I guess it would just be useful to have something in the rules that say where -- I mean, you have all these requirements in order to qualify as a standard horizontal spacing unit?

A. Yes.

Q. Where does the operator fulfill that information?

A. Right.

Q. What can the Division look at and say, "Oh, yup," or, "No, it's not; you need to be going another direction with a nonstandard"?

A. There is such a provision with regard to the project area in the present rule, and we did not carry that forward. So that's a good point. And I think that the C-102 is required to be -- a C-102 is required to be filed with the C-101, but I need to verify that because there are a lot of things I don't know.

Q. I don't know these rules in and out, and I could not find it in there.

Okay. Another quick thing: On A(5), on page 12 --

A. Okay.

Q. -- I mean, this is a basic requirement that's in the current rule that you're carrying over?

A. It is.

Q. But the language here, (A)(5)(a), says, "Received the consent of at least one lessee or owner of each tract...." Okay?

A. Yes. And NMOGA has proposed a change to that, which we agree with.

Q. Let me take a look at that.

Their change says, "Received the consent of at least one lessee or an unleased mineral interest." I'm not sure how an unleased mineral interest can give consent. Usually, it's a person who gives consent.

A. I had the same concern, and I don't know how it got changed to -- from "owner of" to just "unleased mineral interest." I thought there probably wasn't any problem understanding what was meant, although grammatically it's problematic for the reason you mentioned.

Q. And you clarify these new definitions like "mineral interest owner."

A. Yes.

Q. And if they're applicable, I encourage you to use them rather than trying to repeat the concept in more words.

A. Yes, sir. And "lessee" is not really a good word to use in that context either because it has a completely different meaning to the State Land Office. The lessee is not the same as the working interest owner, as I understand it, in your regime, Mr. Martin.

Q. So the rest of that sentence says, "Each tract in which any part of the horizontal oil or gas well's completed interval will be located." Okay? So, I mean, just to clarify for the record, "tract" means a totally different thing for an oil well as it means for a gas well, correct?

A. Well, "tract" is a defined term.

Q. Yeah. "Tract" is defined as a governmental subdivision unit.

A. But I don't know that we really looked at that. The rule -- the existing rule that we were tracking did not take account of the definition we have in the proposed rules of "tract" because "tract" is not defined in the existing rules.

So in the existing rules, it would have meant any area of separate ownership. So if you had John Doe who owned the entire mineral interest in a one-acre tract, and the well penetrated that tract, you would have to have his permission. I do not understand that to be true under the new rule given the definition

of "tract."

What I would understand it to mean is that if it -- if it penetrates a legal subdivision, that you have to have an owner in that legal subdivision. And I know that a quarter-quarter is a legal subdivision. I'm not sure whether a quarter-quarter-quarter is or not.

Q. Are you looking at "tract" meaning the same thing for an oil well as a gas well?

A. I don't see why a tract in that context would not mean the same thing. So I'm not sure why that is worded the way it is.

Q. Okay. I think I have one more little -- I think someone else may have brought this up, too. On the next page, on page 7 --

A. Well, the next page after 12 is page 13.

Q. Right.

A. So you want me to go back to page 7?

Q. No, no. I'm looking at page 13, but I'm looking at A(7).

A. Very good.

Q. There is a reference to "tribal lands" and "tribal minerals," but there is no reference about notice to who you would give notice to if that was true, tribal lands or tribal minerals.

A. To the BLM, I suppose, but I think that

probably is an omission that should be considered for correction.

Q. That's all I have.

CHAIRWOMAN RILEY: I have another question that's come up after listening to your questions.

RECROSS EXAMINATION

BY CHAIRWOMAN RILEY:

Q. In talking about the first take point and the last take point compared to the "completed interval" definitions and then the setbacks for those --

A. Yes.

Q. -- I'm not sure we don't have a conflict in that. The completed -- and I'm also looking at Exhibit Number 4 from your exhibits, OCD exhibits.

A. Let me get that Exhibit 4. I'm afraid I mislaid 4 somewhere.

Q. Mr. Martin and I can share if you want to use my copy.

A. Maybe the court reporter can let me look at her copy, so I don't have to waste your-all's time. I know it was one of Phillip's drawings. I don't have it committed to memory.

Okay. I've got Exhibit 4.

Q. Okay. In looking at that diagram, the completed interval looks to be the same as the last take

point and the first take point.

A. I believe that is correct.

Q. But if you look at the setbacks for those, they're different. And so I was just wondering why that would be. So page 15, under "Setbacks."

A. Page 15 in 19.15.16?

Q. Yes. So it would be B(1)(a) and (b). "The distance in the horizontal plane from any point in the completed interval to any outer boundary of the horizontal spacing unit, measured along a line perpendicular to the completed interval or to the tangent thereof, shall be a minimum of 330 feet for an oil well or 660 feet for a gas well." So I read that as a setback from the completed interval, essentially, if I had to pare that down.

A. Well, there is an explanation for that, and I think that will come from the testimony of one of NMOGA's witnesses.

Q. Okay.

A. It's fairly complicated. But, you know, if you're going to run a line perpendicular -- this definition was written with having in mind a well that is parallel to the spacing unit boundaries, and, therefore, it's parallel to one boundary and perpendicular to the other. And it's got to be set back

330 feet from the boundary -- if you run a perpendicular -- a line perpendicular to the completed interval to the nearest boundary, then that is going to be 330 feet.

If the completed -- if the completed interval is parallel to a boundary of the spacing unit, then you cannot run a line perpendicular to it, to the spacing unit boundary that's beyond the end because it's parallel to that boundary, and, therefore, they'll never meet.

And somebody has worked out a formula for this, but it wasn't me, and it was in the presentation that was made to the committee, something about a 16-degree angle. But somebody else would have to explain that.

Q. So am I to understand that this is going to come out in later testimony, and we don't need to take time now?

MR. FELDEWERT: (Indicating.)

CHAIRWOMAN RILEY: Okay. Thank you.

Do we have anything else on Mr. Brooks?

This might be a great time for a nature break, 3:20. Can we make it back in here -- the goal would be 3:25. Okay? Is that a good goal, understanding we might be a little later.

THE WITNESS: Well, I'm thinking 3:30 might be more realistic.

CHAIRWOMAN RILEY: I know, but I'm trying to keep this thing going.

THE WITNESS: Okay. I'm through.

(Recess, 3:20 p.m. to 3:33 p.m.)

CHAIRWOMAN RILEY: So I have the list from the back of the sign-in sheets of those of you who have signed in. Who would like to -- we're going to take public comments now, nontechnical public comments. Can I have a show of hands of who wants to be -- who wants to give comment?

MR. BRANCARD: More chances other days.

CHAIRWOMAN RILEY: That was easy. I was going to put limitations and all that because this is a long list, but if you guys aren't going to speak, that's good.

I think we're ready to move on now.

Mr. Feldewert?

MR. FELDEWERT: Yes, ma'am. Call our first witness.

RICK FOPPIANO,

after having been first duly sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. FELDEWERT:

Q. Could you please state your name, identify by whom you're employed and in what capacity?

A. My name is Rick Foppiano. Currently, I'm self-employed. I'm doing consulting work for Occidental right now.

Q. And prior to your consultant work for Occidental, were you employed with that company for a few years?

A. A few years, yes, about -- about 33 years.

Q. If I turn to what's been marked as NMOGA Exhibit 1 --

Let me stop for one minute here.

MR. FELDEWERT: Madam Chair, members of the Commission, we have within our notebook our pre-hearing statement. We provided various slides, as well as resumes, and they're under Tabs A, B, C, D, E and F.

As we move through here, Mr. Foppiano is going to deal with the material of Tab A. And so periodically we will refer to these examples from the pages as Exhibit A1, A2, A3, et cetera. Okay?

Q. (BY MR. FELDEWERT) If you turn to what's been marked as NMOGA Exhibit A and go to the first page of that exhibit, Mr. Foppiano, does this accurately

summarize your educational background and work experience?

A. Yes, it does.

Q. Would you briefly explain each one of these entries?

A. Yes. As I mentioned, I'm currently self-employed and consulting for Occidental, Occidental Petroleum, Occidental Permian Limited. They operate under a variety of names in New Mexico. I'm also a registered professional engineer in the state of Texas and have been for 10, 15 years. I don't know exactly. I spent 33 years with Occidental and approximately five years with Halliburton, so that totals up to about 37, 38 years of oil-and-gas-related experience. And that breaks down to about half of that in production and drilling engineering and the other half doing regulatory work and managing regulatory projects and people in a variety of states for Occidental.

Q. During the time that you were with Halliburton, were you involved in completion technologies?

A. Yes. I was an engineer in training and then a field engineer and then a customer contact. And in that capacity, I designed and executed acid jobs, cement jobs, frac jobs, drill-stem testing jobs, a variety of field work.

Q. Okay. And you mentioned 20-plus years of regulatory experience in various states that includes New Mexico?

A. New Mexico, Texas, most of the 48 -- lower 48 states, even Alaska, where there is active oil and gas activity and the company had operations.

Q. In your 37 years of experience, have you become familiar with the horizontal well completion process?

A. Yes.

Q. And it indicates further on here that you were a director of regulatory affairs at OXY. What regulatory affairs?

A. State regulatory affairs, oil and gas regulation as it pertains to drilling wells, completing wells, oil and gas wells, injection wells, that sort of thing, in these states that I mentioned, primarily Texas, New Mexico. And that was the position I had when I retired in 2013.

Q. As part of those job duties, did that include regulations addressing horizontal well development?

A. Yes, it did.

Q. "Former Chair of NMOGA." That would be the New Mexico Oil and Gas Association, correct?

A. Yes. I was -- for about five years, I was --

Q. Let me stop you. "Former Chair of NMOGA RPC."

A. I was going to correct you (laughter).

Yes. For about five years in the latter part of my career, I was the chairman of NMOGA's Regulatory Practices Committee, and I'll talk a little bit more later on. That was the time in which, in 1996, the OCD and industry got together and wrote the first horizontal well rules by forming a work group, and that's where this project area, issues around "developed" -- the phrase "developed" was initiated in 1996.

Q. Okay. And it indicates you were involved in changes in Texas?

A. Yes. Right about the time I retired in 2013, there was a very strong effort that was initiated in Texas to modernize their horizontal rules. And, of course, they already had horizontal rules, but they recognized that they were outdated and unduly restricting industry. And at that time, the Texas Railroad Commission actually approached Industry and said, "Can we" -- "can we make some serious changes to the area of density and allowables and that sort of stuff. And I worked with the industry group that started looking at some concepts and how the rules could be changed, and then I retired and stayed involved a little bit in that. And then after those rules were

finally adopted, I analyzed them and taught seminars internally at OXY to explain those rule changes to them. So I'm very familiar with the Texas horizontal rules as they exist today.

Q. So you were involved in the Texas version of what we're doing today, right, updating the horizontal well rules?

A. Only we're doing it better here.

(Laughter.)

Q. Now, when did you become involved with the effort here in New Mexico to update the horizontal well rules?

A. Well, in late 2016, early 2017, OXY became aware that this Horizontal Well Rule Committee had been formed, and we met with the director and others and requested to be able to join the committee. And they -- the committee agreed to let us come on board, and so we joined and actively participated all the way to the end.

Q. And since Texas and New Mexico share a common geologic basin, was there extensive consideration, in the development of these rules, of what updates had been done in Texas where applicable?

A. Yes. Because as you'll see in later slides, the activity in the Permian Basin is -- it's just a hot area for horizontal drilling. And since Texas revised

their rules, some of the concepts that they codified in statewide rules, we thought there was a lot of value in trying to utilize common concepts across the Permian Basin. So several members of the committee brought that desire to the committee and said, "Let's try to use the same terms in the same way, so we can, you know -- we can understand horizontal drilling regulation in the Permian Basin a lot better." So there was attempt to do that as much as possible.

Q. Now, your last point here is you testified many times before the Oil Conservation Division and the Oil Conservation Commission.

A. Yes.

Q. My question to you is: In what areas?

A. A variety of areas on specific well cases. My last most recent case was on our Hobbs EOR project, testifying about CO2 injection and safety regulation around that and our compliance with that.

I also testified in numerous rulemakings before the Commission, and then before Examiners, I testified as an expert in regulations and other types of areas within my knowledge.

Q. Did you also testify as an expert in petroleum engineering?

A. I did.

MR. FELDEWERT: Madam Chair, members of the Commission, I would retender Mr. Foppiano as an expert witness in petroleum engineering, well completions and stimulation and state regulation of horizontal wells.

CHAIRWOMAN RILEY: I agree.

MR. BRANCARD: Do you want him to be qualified as an expert?

MR. FELDEWERT: Yes.

MR. BRANCARD: We don't have experts in rulemaking hearings. Everybody is an expert in a rulemaking hearing.

MR. FELDEWERT: Oh, you're kidding.

(Laughter.)

MR. BRANCARD: Everybody can give their opinions in rulemaking. You don't need to be an expert.

MR. FELDEWERT: Anybody can come in here without any qualifications and just give their own opinion?

COMMISSIONER BALCH: Well, we can -- their qualifications.

(Laughter.)

THE WITNESS: Well, then never mind.

(Laughter.)

Q. (BY MR. FELDEWERT) Mr. Foppiano, if I then move on to what's been marked as NMOGA Exhibit A2, does this

help how you have organized your presentation here to the Commission?

A. Yes. This is a lengthy presentation, and I have organized it as I've explained here. First, we're starting with explaining the changes that are sponsored by NMOGA to 19.15.2. And we originally tried to follow the filing that was made in January, and that was Exhibit A of the NMOCD application there. But it's 19.15.2, what we're going to talk about first, and then move on to 19.15.4 and talk about NMOGA's recommended changes there, and then 19.15.15, and then finish up the body of the presentation on the horizontal rules, which are 19.15.16.

And along the way, as we're discussing NMOGA's changes, this presentation also involves explaining what we believe the proposed rules accomplish, and so there are lots of pictures. As we discovered in the work group meeting, virtually every time we had to talk about something, we needed to draw pictures. And so there are lots of pictures in here to help explain some of those concepts.

MR. FELDEWERT: And before, then, we move into our first topic, Madam Chair, members of the Commission, I would offer a couple of things. One is I'm going to be going through NMOGA's Attachment 1,

talking about our recommended modifications. In some cases, as I indicated earlier, we're going to need to take a look at the Division's Number 2, which is the full text of the rules. I was trying to save trees when I put this together. That's the first thing.

And the second thing is, you know, I think we can cut it down somewhat because Mr. Brooks did a great job of giving a higher-level overview of the changes. I think it's important that we kind of walk through the rule and get to specific language. So that's what we will be doing, pointing you to specific language with these concepts that have been embodied. Okay?

And with that in mind, since it may be lengthy, I invite you, if you've got a question about a particular section, particular slide, particular language, to ask that question at that time. I don't think we need to wait for the Commission to wait until the end and then try and remember what you wanted to ask a question about. So that's just an invitation. On our part, we're prepared to address whatever question you have at any time. Okay?

Q. (BY MR. FELDEWERT) All right. Mr. Foppiano, let's turn to what's been our first topic here, which deals with the definitions of that section.

A. Yes.

Q. Okay. And if I, for example, turn to Attachment 1 -- NMOGA's Attachment 1 and I go to the first page, we get to the definition of "affected persons." And Mr. Brooks has covered this. The one thing that was not covered is the addition that we see in yellow on that page. Would you explain that for us, please?

A. Yes. NMOGA recommends the addition of the highlighted phrase there, "or federal," to basically just clarify that this definition would apply to federally approved units. And that change was suggested to us by the OCD, and NMOGA's happy to make it.

Q. Okay. Then we have -- if we continue on with Attachment 1, we go to the next area, which is 19.15.4. And there's been some discussions with Mr. Brooks about this proposed NMOGA change that's shown to 19.15.4.12A(1). Can you please explain to us the purpose of these highlighted changes?

A. Yes. The first change where we're replacing the word "an" with "each" highlighted there is just another suggestion to further clarify that the notice requirements are to each owner, not just an owner. And we're happy to -- we agree with the OCD, so we're happy to make that suggestion there.

And then at the end of this subsection, there is a recommendation to add that sentence, "An applicant seeking compulsory pooling of a standard horizontal spacing unit need not give notice to affected persons in adjoining spacing units or tracts unless the division specifically so directs." And I believe Mr. Brooks already covered that because of the changes that we're making to these rules that that phrase -- that clarifies that since these will be standard units, there wouldn't be a requirement for notice to offset tracts when we have standard horizontal spacing units.

Q. Then we have a modification in Subparagraph B?

A. Yes. That's another -- another clarification. The language there -- there is some language proposed to be deleted because it's -- if it's left in, we're concerned it would create a conflict with the proposed horizontal rules, and also we want to make sure, as does the OCD, that the affidavit process can be used for force pooling and horizontal units. So removal of that language, we believe, would accomplish that.

Q. Mr. Foppiano, isn't it true that that was a request of the Division?

A. Yes. Yes.

Q. Okay. Then the next -- go to the next page of Attachment 1, and we get to unorthodox well locations,

and there are couple of suggested changes here. Would you walk us through those?

A. Yes. These were also -- these were clarifying changes that -- or language to clarify what we believe the intent was there in the notice requirements, that we're defining "affected persons." The first highlighted change there, when we talk about adjoining spacing units, we feel it's important to qualify that it's the adjoining spacing unit that's in the same pool or formation, to make it clear that we're not talking about spacing units in completely different pools than where the unorthodox well will be completed.

And the next change, deleting the word "pools" and adding "formation," it makes that consistent with what we've seen in other places. So when there is not a pool and an unorthodox well is just going to be completed in a formation, then that would cover that instance there.

And then the third change on page 2 there, "in the same pool or formation," we recommend the addition of that language for the same reason as the first change there.

Q. Okay. Now, at this point we have anticipated the need to talk about the -- I would say one of the substantive changes to the unorthodox location that

would be applicable to vertical or horizontal wells. Was that covered by Mr. Brooks?

A. Yes.

Q. The elimination of -- as the Chair noted -- I'm trying to remember -- the Pythagorean -- we got rid of that Pythagorean, right?

CHAIRWOMAN RILEY: I'm so thankful.

Q. (BY MR. FELDEWERT) Okay. Then I think we may move on to the next slide, unless there is something we need to cover, Mr. Foppiano.

A. Yes. But I'm not sure what slide we're on now. Is this it?

Q. We didn't need to cover anything more about the change in the distance, did we?

A. Other than do we need to mention that the language that's proposed also addresses the situation where there is not an offsetting spacing unit? There was a need for some clarity around that. So the language that is being proposed in the OCD's proposal, where it says if it's 40 acres, then you notify the people in the offset quarter-quarter; if it's more than 40 acre, you notify the people in the offset quarter section. And we felt like this was -- this was a good change to just address a situation that has arisen, and there is nothing that really spoke to that. So we felt

like detail in there would help clarify ambiguities.

Q. Okay. I think we had some -- if I look at NMOGA's Attachment 1 on page 3, dealing with Subsection 3, I think we had some changes there.

A. Yes. This was another change in Subsection 3 where we would add the following sentence: "This requirement shall not apply to applications for nonstandard horizontal spacing units pursuant to Paragraph (6) of Subsection A of 19.15.16.15." And that, again, just confirms that the notice requirements for nonstandard horizontal spacing units are really explained and described in the proposed horizontal wells. So that would eliminate any kind of conflict.

Q. And Mr. Brooks talked about one of the goals here by the committee was to put all the rules dealing with horizontal wells in one location.

A. Yes. There was a strong desire of the committee to put all the horizontal wells in one place and call it "Horizontal Rules."

Q. And this is -- and the addition of this will point people in the right direction?

A. We hope so, yes.

Q. Okay. All right. In your opinion, Mr. Foppiano, will the addition of the language that NMOGA has proposed here in these provisions eliminate

ambiguities with respect to the notice requirements?

A. We think so, yes.

Q. Okay. And the next topic would be -- moving on with Attachment 1, we get to Section 19.15.15, and there's just one suggested change by NMOGA here. Would you explain that?

A. Yes. It was discovered, in reviewing the proposed rules, that there was a potential conflict between existing rules and some changes that were made last year.

To give a little background, the committee, in their discussions, identified a significant problem for operators, that being that it took longer, I believe, the 20-day requirement to gather all the information. It often took longer than 20 days to gather all the information needed to file the completion paperwork for a horizontal well and particularly to do the potential test and to get a stabilized test from the well. So there was a desire to change the requirements for filing -- or changing the deadline for the filing of completion reports for horizontal wells. And that change -- the OCD was so moved by the discussion that they took that change off line and pursued it last year. That change was made by the Commission. And reviewing these rules, it was observed that this particular

language might conflict with that change that was made last year. So the suggestion here is to change the ten days to the 45 days to make it consistent with the changes that were made last year. So for gas wells, you wouldn't have to hurry up and file a gas well test earlier than what was intended.

Q. Okay. All right. Now, then at this point, I believe, Mr. Foppiano, we can get on to what Mr. Brooks called the heart of the presentation, and that's the horizontal rules themselves, right?

A. Yes.

Should we ask to see if there are any questions about any of this?

MR. FELDEWERT: Does anybody have any questions on what we covered so far?

CROSS-EXAMINATION

BY COMMISSIONER BALCH:

Q. I have a question. I should have asked Mr. Brooks.

Is there any prorating going on right now in New Mexico?

A. If there was, we couldn't find it.

You're talking prorating of oil?

Q. Uh-huh.

A. Yes. In the discussion about allowables, that

question came up, and really there was no one who could offer up an example of where production was being curtailed due to an allowable from either vertical wells or horizontal.

Q. What about for the case of preventing formation damage or casinghead gas or --

A. I think -- and you'll hear this testimony from one of the NMOGA witnesses, about allowables and any concerns about formation damage. But particularly from the standpoint of vertical wells, I think it really relates to the fact that the vertical wells just aren't that good anymore, and not so much having to do with formation damage. It just that wells have depleted over time, and there are just not that many top allowable oil wells that are drilled vertically anymore. If there are, I'm unaware of any.

And for horizontal, as you'll hear, the testimony will be that we see no reason to curtail the production arbitrarily from a horizontal well. In fact, we see potential adverse impacts to horizontal development by curtailing production. And there's going to be an extensive amount of testimony about that.

Q. Thank you.

A. Uh-huh.

CROSS-EXAMINATION

BY MR. BRANCARD:

Q. Going back to your purposed changes on Rule 4, first page, 4.12A, the sentence you're adding there --

A. I'm sorry. Let me catch up with you. What exhibit would that be?

MR. FELDEWERT: To Attachment 1.

THE WITNESS: Oh, Attachment 1.

MR. FELDEWERT: Second page in.

THE WITNESS: Okay.

MR. FELDEWERT: Second page.

THE WITNESS: Oh, second page.

Q. (BY MR. BRANCARD) So 4.12A(1)(a) --

A. Yes.

Q. -- the sentence at the end that you're adding. I mean, the sentence before says nothing about giving notice to the persons in the adjoining spacing unit. So why do you have to add a sentence saying that you're not going to give notice to the adjoining spacing units?

A. As I mentioned, that was a change that was suggested to us by the OCD. They felt like it was necessary. And as I understand it, the way it's done today, because of project areas, they're being treated as nonstandard spacing units, and that triggers the notice requirements to everyone offsetting that. And

this language just clarifies that that no longer will be necessary because they're going to be standard horizontal units.

It seemed to me to be kind of stating the obvious, but we're okay putting that language in there if it helps clarify that that notice wouldn't be required anymore.

Q. Okay. And so then moving two pages, to page 3, you have a provision for notice for nonstandard proration unit, and you've added a section -- you've added a sentence that discusses nonstandard spacing units.

A. Yes.

Q. I mean, this is notice for a proration unit, not for a spacing unit. Why do you have a sentence for a spacing unit in a proration unit provision?

A. Particularly when we proposed to eliminate the language that says spacing units are not proration units (laughter). That's a very good observation.

CONTINUED DIRECT EXAMINATION

BY MR. FELDEWERT:

Q. Mr. Foppiano, was this a request by the Division?

A. Yes, it was.

CONTINUED CROSS-EXAMINATION

BY MR. BRANCARD:

Q. Okay. On this Rule 15, it refers to this other rule, 19.15.19.8. Was that rule --

A. I'm sorry.

Q. I'm looking at Rule 15 on page 1. Go another two pages.

A. Rule 15. You're looking at 11A?

Q. Yes.

A. Yes.

Q. It's referring to filing a test report within ten days, and then it refers to this other rule, which I read also has a requirement for filing within ten days. But maybe I have an old set of rules, and that date was changed.

This is just about filing a report on tests. It's not about completion. I'm not sure why --

A. I thought the changes also applied to the filing of completion reports.

COMMISSIONER MARTIN: It's all about -- both of them.

THE WITNESS: It gave us more time on the filing of completion reports, so we could spend more time getting the adequate test on the well.

MR. BRANCARD: Okay. That's all I have.

COMMISSIONER MARTIN: I've got something.

CROSS-EXAMINATION

BY COMMISSIONER MARTIN:

Q. Any other changes that you didn't specify that were suggested by the Division? In other words, of the ones we've gone through so far, how do we tell which ones of those are Division changes that's your proposal through your testimony?

A. I believe almost all of them but not all of them were suggested to us by the Division. The ones for unorthodox well location, which is on page 2 of Attachment 1, the suggestions there are to add "in the same pool or formation" or change "pools" to "formation." And some of those other changes on the next page, those were all NMOGA recommendations.

Q. Okay.

CONTINUED DIRECT EXAMINATION

BY MR. FELDEWERT:

Q. Okay. We'll move on to 19.15.16. I believe, Mr. Foppiano, we would be on NMOGA's Exhibit A13.

A. Yes.

Q. Does this provide an outline of what you intend to cover with the Commission with respect to the heart of the matter here?

A. Yes. Since these horizontal rules, as

Mr. Brooks observed, can get rather complicated, my presentation here starts at a very high level and then talks about organization of the rules and then drills down into it section by section. And as we mentioned, Mr. Brooks covered quite a bit of this, so we might be able to speed through some of it. But in other areas, it might be useful, since we have a lot of pictures, to help clear any ambiguity that might exist about what these proposed rules are attempting to accomplish.

So with this section of the presentation, I'm going to start with a little bit of background about the work group, about horizontal drilling in New Mexico and kind of get you up to speed with where we are today, and talk a little bit about the reasons for change, the reason why a lot of people, particularly on the industry side, felt there was a need to modernize the rules, and then drill down into the different parts of the horizontal rules, the definitions, the proposed changes for vertical, deviated and directional wells, and then spacing, setbacks and allowables and other matters related to the horizontal wells.

Q. Okay. And can you proceed on through the background to NMOGA's slide A15?

A. Yes. This is trying to just set the stage a little bit for why we feel like it's just real important

to get these rules as right as we probably can. This is a slide from the Energy Information Institute -- or agency. It's the latest information. And I captured it and put it up here for a couple of reasons, because it shows how horizontal drilling has really changed and become the dominant activity in the oil and gas industry.

As we can see, this red line here is the drilling footage that is related to horizontal oil and gas wells in the United States. And in the early 2000s, you can see it just barely registered above zero. But at the last count for the Energy Information -- the EIA's data, it comprised about 83 percent of the total footage drilled in the United States. And so it is -- it went from being an exception activity to being almost "that's what we do now."

Q. Has that percentage continued to increase over -- to 2017?

A. I believe it's somewhere close to 90 percent now.

Q. Move on to A16.

A. Yes. This is a picture from Baker Hughes' Web site, and it's attempting to show you the horizontal drilling activity in the United States. Shown in blue are the rigs drilling horizontal oil wells, and shown in

orange are wells drilling horizontal gas wells. And you can see it's quite a bit spread out throughout the U.S. Gas well drilling going on in the northeast, a lot of horizontal drilling activity in the Texas area, Oklahoma, Louisiana and some additional activity up in the Rockies.

And an interesting statistic, this is as of March 30th, 2018. There were 993 total rigs drilling wells in the United States -- that's vertical and horizontal -- and 88 percent of them were drilling horizontal wells. So that just further validates that this is primarily what we do now in the oil and gas industry.

Q. And if we focus specifically in on the Permian Basin, we see that it's oil, right?

A. Yes. And we're going to have a few slides that show that.

Q. Okay.

A. So looking at the data a little differently, where are the horizontal wells being drilled? This is a bar chart. It shows the states that have active horizontal drilling going on and the number of rigs drilling horizontal wells in that particular state. And what you can see, obviously, is it's going gangbusters in Texas, 450 rigs running, drilling horizontal wells in

Texas. And then you see Oklahoma is the second most active, and New Mexico is coming up fast, at about 78, there thereabouts, rigs running in the state drilling horizontal wells. And you can see the activity in the other states is somewhere in the range of 50 rigs running or less.

Q. And if we move on to NMOGA slide A18, that focuses on New Mexico?

A. Yes. Let's look at the New Mexico activity now, and this is the most recent data I could provide, at the end of March 2018. And like I said, it's all from Baker Hughes. This shows where the rigs, you know, are running in New Mexico. You can see there is a horizontal gas well being drilled just to the north and east of Farmington, and the rest of it is all going on down there in and around Carlsbad. There are 78 rigs running at the end of March and 78 rigs drilling horizontal wells. And as I mentioned, one was drilling for gas and the rest of them, 77, were all drilling oil wells. And those oil wells are being drilled all in the Permian Basin.

Q. Mr. Foppiano, let me ask you about that. Are they being drilled in the low-permeability environments?

A. That's my understanding. What we have commonly called unconventional resources, which are characterized

by very, very, very low permeability and very discontinuous, you know, pay sections throughout that rock.

Q. And these are areas, I think as Commissioner Balch pointed out, where you create the reservoir by stimulating the well?

A. Yes. That's -- from what I remember talking to experts, we actually are creating the area that we're draining these resources from by hydraulic fracturing.

Q. Okay. Move on then to NMOGA's Exhibit A19. What does that show us?

A. Yes. As I said, it's going gangbusters in Texas, and this is a picture of where the wells are being drilled in Texas. As I mentioned, the rig count in Texas for horizontal drilling is 448. It's interesting to note that 317 of those horizontal wells are being drilled in the Permian Basin, right across the state line, and you can see right where all that activity is going on. And those are all oil wells. It's extremely active. And I think one of the things that contributed to that activity was their revision of their horizontal regulations in early 2016.

Q. Okay. What do we see on A20?

A. Well, A20 -- drilling is great, but what we're looking for is oil. And so this is the impact on oil

production, and I thought it was just dramatic and wanted to show it to you. This is the U.S. oil production in millions of barrels per day since 1950.

As all of you know, it peaked and then was on a fairly predictable decline until the late 2000s. And that's really, as you saw from the previous charts, when horizontal drilling started to take off, and the impact on production has been nothing short of incredible. In fact, EIA is forecasting that the total U.S. oil production to average over 10 million barrels a day in 2018, which is a 10 percent increase from 2017. And if that forecast is achieved, that would be the highest annual average of U.S. oil production on record. And as you can see, it's because of horizontal drilling.

The interesting thing they note in their report is that this increased production from the Permian region in Texas and New Mexico accounts for most of this projected increase in the U.S. total.

Q. Okay. Now, we're talking here about the Permian Basin, right?

A. Yes.

Q. And the Permian Basin in Texas and the Permian Basin in New Mexico, do they have similar geologic environments?

A. Yes.

Q. And in your opinion, is it helpful to have, where you can, similar rules across this Basin from Texas to New Mexico for operators?

A. I think there is a lot of advantage in having as much similarity as possible. Yes.

Q. And did the committee have those opportunities in mind when they sat down and put together and developed these rules, to try to take some of the concepts utilized from Texas and bring them here?

A. Yes, and also to compete for capital that was -- that was available to either the Texas or New Mexico Permian Basin.

Q. Okay. Let's move on to slide A21. What do you show here?

A. Just some additional conclusions that I've already shown, that the drilling of horizontal wells is clearly the trend in the U.S. and that out of 993 total rigs that are drilling in the United States, 40 percent of them are drilling horizontal wells in the Permian Basin. And so clearly what's going on in the Permian Basin is significant in the United States.

Q. Okay. Let's move on to slide 22 and explain the evolution of our horizontal well rules.

A. Yes. As I mentioned, I have a little history with horizontal rules in New Mexico. I was a part of a

work group in 1996 that was appointed by the NMOCD. And there was myself, Mike Stogner and a couple of other industry people, and we looked at horizontal drilling. It was really the exception at the time, and there were no rules at all that spoke to it. So the group actually came up with a set of recommendations about how to handle horizontal drilling. We decided it was a type of directional well, and so the rules were set up to really capture that concept and build on it.

I'm understanding changes were made again in 2008 and 2012, and I was not involved in those changes. And then has already been stated, in 2016, the OCD created the Horizontal Well Committee to update the horizontal rules.

Q. If we look at slide A23, is that an indication of what was involved in this committee?

A. Yes. In my experience, this was a -- this was a broad group of stakeholders that were involved on this committee, and I'd have to say that they were very actively engaged. And recalling the conversations and the ideas that were presented, it wasn't just a bunch of people sitting around a table. There was a lot of discussion, a lot of engagement by everybody, starting with the agencies. We had the State Land Office represented. We had the Bureau of Land Management

represented, as well as, of course, the OCD had a number of people involved from the district offices, from Santa Fe and everyone contributing in trying to make these rules better than they were.

We also had, obviously, associations. NMOGA, IPANM were actively engaged, and then a number of companies, as you might expect. And you can see them up here, very large companies, medium-size companies, and then we even had some smaller companies involved, Matador. And so this was a large, diverse group of interests represented in the development of these rules.

Q. In your opinion, Mr. Foppiano, did this committee possess the technical expertise and knowledge necessary to update our rules?

A. Yes, it did.

Q. And the recommendations and the rules put together by the committee, do they reflect an application of that technical expertise and knowledge --

A. I believe so, yes.

Q. And let's talk more about the reasons for the changes on slide A25.

A. Yes. I would like to start with why are we doing something and are those reasons -- do they justify the work that goes into it. So I've listed here what I captured from my recollections of the work group

efforts, why they were there, what was the problem that we were trying to solve so we could test that against the final product.

The first was a desire to clean up and streamline the existing rules, and I'll show you a little bit more why that was important. There was a desire to facilitate these horizontal drilling projects and really update the rules to reflect that longer horizontal laterals were being drilled. Wells were becoming much more productive. We were learning and getting better at making better and better wells. So the wells needed to be updated to reflect that.

As Mr. Brooks mentioned, there was a lot of discussion, a lot of interest in trying to resolve this "develop" versus "penetrated" issue. And as we also mentioned, this concept of reduced setbacks for what is sometimes called toe and heel or first and last take point, those concepts were brought to the table and adopted in these proposed rules and the committee's final work product.

And then there was also a lot of discussion about allowables and were they necessary to prevent damage to the reservoir or protect correlative rights, or were they really necessary at all. And the result of that is what you see today, that we've recommended that

allowables be eliminated for horizontal wells and also, finally, to increase the flexibility to allow for longer laterals.

And finally, as I mentioned, the committee had a desire to make some changes to allow changes to deadlines on filing potential tests and completion forms, but those things were made last year. And on behalf of the industry, we thank you very much. They were very helpful.

Q. Mr. Foppiano, in your opinion, were these goals accomplished with the proposed rule?

A. Yes, I think so.

Q. Why don't we move on to --

MR. FELDEWERT: Questions?

COMMISSIONER BALCH: Yes.

CHAIRWOMAN RILEY: Yes.

CONTINUED CROSS-EXAMINATION

BY COMMISSIONER BALCH:

Q. I know we talked a little bit about proration earlier. But allowables, is this really an issue with horizontal wells right now in New Mexico?

A. Absolutely. We have one witness who will speak solely to that issue and provide several examples of where allowables are an issue for horizontal drilling. I don't want to preempt his testimony, but there was --

is -- and I think my recollection is correct. There was almost -- there was unanimous agreement of the industry people that allowables should be removed for horizontal wells.

And I'd have to point out, too, that in Texas, essentially that's what we did. In Texas, there is still an allowable, but the allowable was intentionally set so high as to not be a restricting factor for any horizontal development at all.

Q. Even in a Wolfcamp well that pays off in three months?

A. Absolutely. In fact, there was recognition that if that limit wasn't high enough, there were other provisions that were added in other rules to allow for longer balancing periods or cancellation of overproduction. There was universal desire to eliminate restrictions for producing horizontal oil wells. And so that's the current situation. And it has really -- as I mentioned, I think it's really promoted horizontal development in Texas.

Q. I'll wait for that witness, I guess.

CONTINUED DIRECT EXAMINATION

BY MR. FELDEWERT:

Q. Now, we want to talk about the beginning of slide A26, about the organizational changes.

A. Yes. As Mr. Brooks mentioned, there was a strong desire to -- let's put all the requirements for horizontal rules in a rule and call it "Horizontal Well Rules," something like that, and I'll talk about that.

But as it exists today, we find horizontal rules in both the directional rules and in the special rules for horizontal wells, and we even find some horizontal rules in the definitions. And so it's really ambiguous and in need of clarification, and I think everyone is real proud of what we came up with as far as how it is organized.

And so this required deleting rules that were applicable only to horizontal rules. We deleted that out of the rules that are applicable to deviated, directional and horizontal wells, and when we did that, we were able to make that section only applicable to vertical, directional and deviated drilling projects.

And then requirements and descriptions of standard and nonstandard project areas that were in the definition, we moved those to the horizontal rules and made those changes.

And then we also eliminated some redundant and confusing language. There were some places where there were terms being used that had already -- the definitions had disappeared, and so that created some

confusion. And I guess an example of this redundant and confusing language situation were the multiple references to what we call the 50-foot tolerance. So the committee listened to all of the issues associated with tolerance, and we came up with what you have seen and what you'll see later on, which is the existing tolerance but clarified and put in both rules so it applies for both directional wells and horizontal wells.

Q. So just to confirm, the committee and the Division retained the existing 50-foot drilling tolerance, right?

A. Absolutely. Yes.

There was actually a discussion of providing no tolerance. In other words, you couldn't get 1 foot closer to the boundary of the spacing unit. And everyone finally agreed that, you know, the 50-foot tolerance, there are reasons for it. And we have a witness that we're going to put on that's going to explain drilling -- drilling issues and the need for that tolerance. And this, of course, also makes it -- or keeps it consistent with how Texas regulates it. They provide a similar type tolerance for horizontal wells.

Q. Okay. Let's move on to A26 -- or A27.

A. Yes. This is just a little more background.

As everyone knows, New Mexico horizontal rules are really in three places in the rule book. There are the definitions, 19.15.16.7, and then there are the rules for deviation tests related to deviated, directional and horizontal wells, and then there are the special rules for horizontal wells.

The proposed rules that you have before you today are much better organized. We still have the definitions, but all the requirements related to deviation tests and wellbore surveys for vertical, deviated and directional wells are now in one rule, 19.15.16.14. And then all the requirements related to horizontal wells, which relates to spacing, allowables, setbacks and other miscellaneous matters, are all contained within 19.15.16.15, horizontal wells. And I believe that's a much better situation because it allows operators to go to one place, read those rules, understand those rules and comply with those rules.

Q. Okay. Then I'd like to walk through these rules starting with the definitions in 19.15.16.7. If you turn to NMOGA's slide 30, does that commence our discussion?

A. Yes. This is just another visual depiction, a like picture. So this is a picture of the organization of the rules just like I just showed. This is the

section where we're working, drilling and production, and then we have the three rules I just mentioned before.

So the changes that were made to definitions, as Mr. Brooks mentioned, I'll go through these rather quickly. We deleted a bunch of terms. We added some new terms, as he mentioned, and then we revised some terms for directional well, horizontal well. And I'll explain a little bit more about why those were revised.

Okay. Now, I'm going to put some more language to this. So, for example, if we look at the Division's and the committee's proposed rule -- or, actually, I think we can most likely do this with Attachment 1 -- NMOGA's Attachment 1, the section dealing with 19.15.16, the first page of that, if we get into the definition of section. And we see, Mr. Foppiano, we've got definitions of "azimuth," "completed interval," "deviated well." Is it correct -- it correctly reflects that there are no changes proposed to those rules -- or those definitions, correct?

A. That's correct.

Q. All right. And that the first real change occurs with respect to directional well and first take point and last take point?

A. Yes.

Q. What can you tell us about that?

A. I just wanted to throw this up. And I think Mr. Brooks had a similar slide. "Completed interval." There were no changes made to that definition of completed interval. And in our -- in my belief, based on everything I heard from a lot of operators, the most important part of that definition is the part that says, "The completed interval is the cased, cemented and perforated portion," because, as I am understanding it, very few horizontal wells are drilled in an open-hole format anymore. Whereas, in 1996 and even years after that, that was the common way horizontal wells were drilled, was open hole. So the first take point and the last take point, in terms of being defined with perforations, is something that is, you know, very easily understood by industry.

And here's the definition of "first take point": "The shallowest measured depth of the wellbore where the completed interval ends."

In listening to the discussion about some potential confusion about those definitions, I suggested that confusion may be because a comma got inserted in there. To me the completed interval is -- every horizontal well has a completed interval based on where

the perforations are. And so there are -- there are perforations that are in the shallowest part of the measured depth of that well, and there are perforations in the deepest part. And so it really relates to where the completed interval starts. That's the shallowest measured depth of the wellbore. That's the first take point.

This is a definition, as I mentioned, that industry is very familiar with in Texas, and similar for last take point. And here's a picture of that. So we can see that where the first perforation is defines the first take point. And measured depth being along where the well is drilled, this would be the shallowest and this would be the deepest (indicating). And that's where the last take point is.

So it perhaps would make it more clear to actually delete that comma that is in those definitions.

Q. Mr. Foppiano, if you delete the comma in those definitions of first take point and last take point, in your opinion, are those definitions that will be understood by engineers and geologists and landmen that deal with horizontal wells?

A. Yes.

Q. Okay. And is it consistent with definitions in other states, particularly Texas?

A. Yes. Particularly Texas, yes, in the Permian Basin.

Q. Before we leave this particular page of NMOGA's Attachment 1, there is a change made of "directional well." The committee and the Division added a line with the language "but it's not a horizontal well."

A. Yes.

Q. Is that part of the process of differentiating between those types of wells?

A. Yes. And I'm going to speak a little bit more about that.

Q. Okay. Let's move on to the next slide.

A. Yes. The next slide shows the definition of "kick-off point." And I just wanted to point out that this is the existing definition, that it means the point at which a directional well is intentionally deviated from the vertical. As has been discussed, since a horizontal well is no longer a directional well, we needed to add some language in this definition to account for that because horizontal wells have kickoff points, too.

So what the OCD proposed, though -- there was additional language added, and we reviewed that. And what we would recommend is that we pretty much keep what the committee recommended, which was the definition

means "the point in which a directional or a horizontal well is intentionally deviated from the vertical." That definition is commonly understood in industry, the one that NMOGA has proposed, and it even tracks really well with the Schlumberger Oilfield Glossary definition for kickoff point.

And I understood the desire to define kickoff point in relation to a well that is a multilateral well, but it is our opinion that defining it as NMOGA has recommended there allows it still to have a different kickoff point for each lateral. So it's the point at which the well is intentionally deviated from the vertical, even though that may be multiple places in a horizontal well. We think that's a multilateral well.

Q. So let me clarify that. So first off, the kickoff point definition has been around for a little while, right?

A. Yes.

Q. And the committee's recommendation was just only at the language for horizontal?

A. Correct.

Q. Okay. And that latter clause was inserted by the Division after the committee completed its process?

A. Yes.

Q. And is it your opinion that that, while well intended, brings some confusion?

A. Yes. We have a drilling engineer who will testify that yes, that could be potentially confusing. So we're recommending that that language not be inserted in there.

Q. Okay. And then do we have a similar concern, looking again at NMOGA's Attachment 1, page 2, about the definition of "lateral"?

A. Yes. For "lateral," same situation. The existing definition is very well, very good, except there needed to be the phrase "or horizontal" stuck in there to account for the fact that horizontal is no longer a directional. But the OCD proposed to add some additional language in the case of multilateral wells, which we believe was potentially confusing, so we recommend that it be taken out.

Q. Okay. Now, before we leave this page, there was some discussion about the definition of "multilateral well" itself. Is that the definition that the committee came up with?

A. The definition of "multilateral well"?

Q. "Multilateral well," that we see here on page 2, Attachment 1.

A. I think so. I'm not 100 percent certain.

Q. Okay. Have you reviewed it?

A. Yes.

Q. All right. Are you comfortable, Mr. Foppiano, with that definition?

A. Yes.

Q. And will that be understood by engineers, geologists and landmen that deal with these types of techniques?

A. Yes.

CONTINUED CROSS-EXAMINATION

BY COMMISSIONER BALCH:

Q. Why not just use the definition of "kickoff" that you already defined right before that?

A. Well, there were two definitions that we felt like were worthwhile to keep. One was kickoff point. The other one was lateral. And in both cases, there was an attempt to define those in the context of a multilateral well, but in both cases, we think that led to some confusions. So by keeping kickoff point pretty much like it was and lateral, we think that lateral -- it'll be clear to people that we mean lateral is the part of the wellbore beyond the kickoff point, whether it is a single lateral well or multilateral well.

Q. I'm wondering why in the proposed language for lateral you don't use kickoff point as part of the

definition instead of --

A. Oh, I see. I see. It probably could have been done like that. We were just trying to disturb the least amount of existing language as possible in the interest of not making as many changes, making as few changes as possible. And "lateral" was an existing definition.

Q. We're repealing and replacing. So --

A. The committee didn't know that at the time.

Q. Okay. So, I mean, it's possible that you can just work that definition in there?

A. It could be. But I think the way it is stated, it's fairly well understood of what it means in the context of a multilateral well.

CHAIRWOMAN RILEY: I have one point I want to make.

CONTINUED CROSS-EXAMINATION

BY CHAIRWOMAN RILEY:

Q. This depiction that I'm looking at on Exhibit Number 4 of OCD's exhibit is a nice, new, clean drawing of a horizontal well, but they don't always look like that, right? I mean, you might have where you come from the vertical and you take a negative curve to then come back around, and so you would be intentionally deviating from the vertical to do that. So under this definition,

that point up above would become the kickoff --

A. Right. Yes.

Q. -- rather than down below, where you get into your targeted interval. So won't that create a problem?

A. No. That definition of "kickoff point" is well understood by the drilling engineers. It's when they start to kick it off from the vertical and steer it in a certain direction; that's where the kickoff is, even though it may go this way and come back that way. It is -- there was no discussion about the need to tweak that definition other than what was proposed. And it is consistent with what the Schlumberger Oilfield Glossary has for kickoff point. In fact, I think it's almost identical.

Q. Well, I would just say that if there are a number of directional plans or directional reports in the OCD's Web site right now, that it would actually be looking for a place much lower where it gets into -- right before the lateral, you know, when you start to see that turn there, that curve there. I don't know that it's been consistently used that way, is my point.

A. There was a definition in 1996 that was created for something called "penetration point." And that was where the wellbore intersected the top of the defined pool or whatever. And wellbore used to be defined -- or

the completed interval used to be defined from the penetration point to the terminus, but that since got changed in 2008, 2012 to be where the perforated interval was, which was a good change. But I don't know if that may be where some of that confusion could be coming from. Because "penetration point" is no longer used, so it was deleted from the definition.

Q. Okay. Thank you.

CONTINUED DIRECT EXAMINATION

BY MR. FELDEWERT:

Q. Mr. Foppiano, we're on NMOGA's Attachment 1, page -- page 2 of this particular definitional section. And before we leave this page, I'd like to talk about the "infill well" definition. I think you have a slide on that --

A. I do, yes.

Q. -- A39. One more.

There you go.

If we look at this definition, first off, this defines an infill horizontal well, right?

A. Yes.

Q. Okay. You're aware, are you not, that there's a definition of "infill well" in another part of the Division's rules dealing with compulsory pooling, correct?

A. Yes.

Q. Okay. But what you're talking about here and what's been defined here for purposes of the horizontal well rules is an infill horizontal well?

A. Correct.

Q. What are the two aspects of this definition that are important?

A. Well, the two aspects of this that are important are, one, that the well's completed interval must be located wholly within a horizontal spacing unit that was dedicated to a previously drilled horizontal well completed in the same pool. And the other is that the operator designates this as an infill horizontal well on Form C-102 when it files its APD.

Q. Okay. Now, why is it important that the operator designate it as an infill well?

A. Well, because it was recognized that infill well are drilled, yes, pursuant to force pooling orders, but infill wells are also drilled pursuant to private agreements, joint operating agreements and such, and so we felt like that the best we way to handle this was to require the operator to designate a certain well as an infill well, be it an infill well drilled pursuant to a forced pooling order or an infill horizontal well drilled pursuant to a JOA.

Q. What happens if an operator doesn't designate a --

A. Then it does not enjoy its benefit to being an infill horizontal well.

Q. Will it have its own spacing unit?

A. It will have its own spacing unit. And my understanding is that if force pooling is required, it would have to be force pooled because it's a different spacing unit.

Q. Okay. So is that one of the changes -- major changes, as Mr. Brooks talked about, where each horizontal well will have its own spacing unit and must designate; otherwise, it will --

A. Yes. That's a concept that is somewhat in existence today, that recognition that every horizontal well really should have its own spacing unit based on tracts that it penetrates, tracts that are within a certain proximity, basically tracts that are developed by that horizontal unit. And since there is no density limitations or whatever, these spacing units can overlap. And so that was a -- that was a concept we actually had in the rules here, about every well having its own spacing unit, but there needed to be exceptions. And so the infill horizontal well is an exception to the every well has a spacing unit because it would share a

spacing unit with another well.

Q. Okay. Then if we move on --

MR. FELDEWERT: And I apologize to members of the Commission.

Q. (BY MR. FELDEWERT) Again, if we move on to page 3 of the definitional section, because NMOGA didn't have any changes, it's not in our Attachment 1. But if you look at the Division's exhibit and you move on to page 3 of their definitional section, there's been some discussion in here about the term "tract," and the effort that was undertaken here by the committee and the Division was to define tract. What can you tell us about that?

A. I'm trying to catch up.

Q. It's just in the definitional section.

A. Of the OCD exhibit?

Q. Yes.

A. Yes. "Tract" was a word that was used commonly, I believe, in the existing rule, and as the committee worked through various versions of its work product, the use of the word "tract" was quite common. And there was a desire towards the end to define that, that it should be defined, And so the definition was created as shown here. And it was really meant to capture the existing requirements around tracts, that it

be a legal subdivision of a public land survey and also that it be in the form of a square or rectangle. So that was meant to codify existing understanding of the word "tract."

Q. And then Mr. Brooks talked about -- "tract" came up with a unitized area because -- first off, it's not been previously defined in the Division rules, correct?

A. Actually, the concept was in previous Division rules, and it was a -- a project area could be a unitized area, and there were several things that explained what a unitized area could be. And the committee felt like it was advantageous and in the interest of clarity to create a definition for unitized area and actually expand it a little bit and add some more things of what could be considered a unitized area.

Q. If I go back to your prior slide, does that discuss -- is this what was taken into account?

A. Yes. So this, as I mentioned, builds on the existing concept that horizontal wells are occasionally drilled in unitized areas, and so there was a recognition that there should be special treatment for that or at least it should be treated a little bit differently than drilling on a spacing unit. So the existing definitions for unitized area were incorporated

in this definition, and then some additional ones were added like communitized area and federal unit, for which didn't provide for participating areas and so forth.

Q. Okay. All right. Then if we move on to your slide A40 --

A. Yes. As I mentioned, the well-type definitions underwent a little change, too, in these proposed rules, and that was for good and valid reasons. There are four types of wells that are described and defined in the existing language, and I've shown these here on the left, deviated, directional, horizontal well and vertical.

Q. Hold on a minute. So these are all in pages 1 through 4 of the definitional section, right?

A. Yes.

Q. Okay.

A. And what is proposed for the deviated well definition is absolutely no change. And what's proposed for the directional well is the same thing that was there before, with a phrase that it is not a horizontal well any longer. And the same was true for the definition of horizontal well, that as shown, a little small tweaking to that definition. And then the vertical well definition didn't change at all.

So this was -- we talked about cleaning up

and streamlining the rules. This was necessary and is necessary in order to reorganize the rules because horizontal wells can now be considered a different type of well from a directional well. So that allows us to put all the requirements for directional wells in one place and horizontal wells in another.

Q. Now, more specifically, if we look at the definition of "horizontal well," you have struck the term "directional well."

A. Yes. Correct.

Q. So directional wells are treated in one section like you showed earlier --

A. Yes.

Q. -- and horizontal wells are treated in a different section of the rules?

A. Yes.

Q. All right.

A. And I've shown this graphically a little bit more because, as I mentioned, I like pictures, the four existing well types: Deviated, directional, horizontal and vertical. These existing rules basically look like this. 19.15.16.14 has rules that cover all four of these well types, and 19.15.16.15 has special rules for horizontal wells that apply only to horizontal wells. And that's the existing rule organization. And we

believe these proposed rules greatly improve the clarity by reorganizing it a little bit. We still have the same four types of wells, but we have new categories of horizontal wells called infill horizontal and multilateral. And now 19.15.16.14, deviation tests and so forth, only applies to deviated, direction and vertical wells, and the horizontal well rules apply to these three types of horizontal wells.

So you can see the overlap is eliminated and confusion is -- potential confusion is eliminated, and we think it's a lot more clear now.

Q. And you have this reorganization reflected in slide A42, as well as slide A43, the next slide?

A. Yes. Yes. The three proposed rules now are organized like that. That's a vast improvement over where it is today.

CHAIRWOMAN RILEY: Hold up for just a moment.

CONTINUED CROSS-EXAMINATION

BY MR. BRANCARD:

Q. In looking at what got deleted from the "directional," what requirements -- what things were required for directional and horizontal wells currently --

A. Okay.

Q. -- and are now just required for directional wells --

A. Yes, sir.

Q. -- but not required for horizontal wells? And that would be including the requirement that each well provide a directional survey?

A. Yes.

Q. That was previously required for both directional and horizontal. Now it's only going to be required for directional. Can you explain?

A. Yes. There was -- first off, there was an attempt to leave the requirements for directional wells as undisturbed as possible in making some few changes, but because that requirement to run directional surveys and file the directional surveys and the quality requirements around directional surveys was all in one place in the directional survey rules and it applied, as you said, to horizontal and directional, we kept that provision in these directional rules, but we duplicated it in the horizontal rules. And I believe it's duplicated in other matters, the directional survey requirements. That would be D(1) of the horizontal rules, 19.15.16.15.

Q. Okay.

A. It says, "The operator of each horizontal well

shall run a directional survey and file a directional survey."

Q. Thank you.

A. You're welcome.

CONTINUED DIRECT EXAMINATION

BY MR. FELDEWERT:

Q. So I guess on this next point, we'll go to your -- your next slide, Mr. Foppiano. If we start at -- let's probably look at the Division's Exhibit 2, starting with 19.15.16.14, dealing with vertical, deviated and directional wells --

A. Yes.

Q. -- again leaving horizontal wells for its own section?

A. Yes.

Q. When you look beginning at page 4 of this proposed rule in this section, you look at 4, you look at 5, you look at 6, there are a lot of strikeouts there, right --

A. Yes.

Q. -- a lot of changes, looks like things that were deleted. Is that true?

A. No. They were -- they were -- the requirements were just restated or moved to a different section. As I mentioned, horizontal requirements were removed from

here and put in horizontal rules, and then the directional survey requirements were just restated or tweaked because certain definitions were removed, and they had to be adjusted.

Q. And so a lot of times, you just had -- like, directional surveys were duplicated both for the vertical in this section --

A. Yes.

Q. -- and also for the horizontal wells?

A. Yes.

Q. That was the intent?

A. That was the intent. So there was really not much substantive change at all made to this section for vertical, deviated and directional wells.

Q. Then why did you mess around with it?

A. That's a good question. I think I have a slide on it.

(Laughter.)

Q. Do you? So A45?

A. Yeah. It was just discussed. Even though it's a repeal and replace, there is very little substantive change. The terms of like "project area" and "producing area" were deleted and replaced with "spacing unit" so the language for the directional wells had to be updated. And since these rules will only address

vertical, deviated and directional wells, anything for horizontal had to moved out, and it was appropriate to change the title to reflect that.

And there was some conflicting language in here about the 50-foot tolerance. In one place, it said you had a 50-foot tolerance, and in another place, it said you didn't. And so that was all discussed, and it was decided 50-foot tolerance was a good thing; let's keep it. So it is stated here for directional wells, and it's stated once.

Q. So now we are moving on to --

Let me ask you something. There were two things I wanted to cover on 19.15.16.14, since we're there, Mr. Foppiano. So I'm on slide -- go back to slide 47. Okay?

A. Okay.

Q. So we changed the title, right, to give it a horizontal reference?

A. Yes, to more accurately reflect what that rule contains.

Q. And if we flip through this and get to page 6 and the next changes were to make it clear that you have vertical and deviated wells addressed there in Part A?

A. Correct. Part A relates only to vertical and deviated wellbores, and the deviation test requirements

and directional survey requirements include deviation and so forth.

Q. Okay. One of the things that came out of the effort here was -- if I go on to page 7 of the proposed rule, Section B is dealing with directional wellbores, which is your next slide. There is a Section B dealing with tolerance, right?

A. Yes.

Q. Okay. Let's talk about that a little bit.

A. Okay.

Q. First off, if I look at page 7 of the proposed rule, Section B(3), you have a first sentence, do you not, in this rule that we change that 50-foot tolerance?

A. It's not the first sentence.

Q. I'm sorry. B(3) would be -- I'm sorry -- would be the fourth -- third sentence?

A. Yes.

Q. Retains it?

A. Yes.

Q. And that's consistent, as you said, with what you see in Texas?

A. Yes. It's consistent with the tolerance that Texas provides.

Q. And if I look at the last sentence of that particular provision -- and I don't think this has been

discussed yet -- there was a decision to adjust that 50-foot tolerance to previously include unorthodox well locations, right?

A. Yes, there was. Someone -- I can't remember; it may have been Mr. Brooks -- brought to the committee a desire to codify how the tolerance would work for previously approved unorthodox locations. So the committee discussed it and came up with the language that you see here, which is basically to derate it and shift it over to a percentage of that distance from the boundary line such that a well drilled 100 feet from the boundary line didn't get a 50-foot tolerance. It got 25 percent, which is a 25-foot tolerance.

Q. In your opinion, was it reasonable for the Division and the committee to codify an existing 50-foot tolerance when you have an approved nonstandard location?

A. It sounded like a reasonable thing to do.

Q. And in your opinion, was the result -- this language in the last sentence, does that balance the need for the tolerance with protecting correlative rights?

A. I believe so, yes.

Q. Okay. And was this -- this is now directional wellbores, right?

A. Correct.

Q. Was this same approach with the 50-foot tolerance then also brought into the horizontal well rules?

A. Yes, it was.

Q. Okay. All right. If I look then -- as I move through these rules, one of the things that I want to make clear -- as we get now to the provision dealing with horizontal wells, beginning on page 8 of the proposed rule, there were, again, a number of provisions that looked like they had been struck from the prior rules dealing with horizontal wells. Now, is that true?

A. No. They were -- language was adjusted, and they were maintained in the existing -- in the proposed rules.

Q. So, for example, if I look at page 8 of the proposed rule, it looks like Subsection A dealing with what an operator must do before they can file an APD --

A. Yes.

Q. -- it looks like that's been struck. But isn't it true that that's actually been moved to another section?

A. Yes.

Q. And is it found now in Subsection A(5), which would be on page 12?

A. Yes. I think there might be slightly different language to adjust for the fact that there are horizontal spacing units now.

Q. The requirements for the operator to do certain things before it can file an APD or drill a well were retained?

A. Yes.

Q. It looks like the first topic you address as we move into -- the rules address as you move into the horizontal wells is well spacing, right?

A. Yes.

Q. Okay.

MR. FELDEWERT: But before we get to that, does the Commission have questions about what we've covered so far?

CHAIRWOMAN RILEY: I'm good.

COMMISSIONER MARTIN: I'm good.

Q. (BY MR. FELDEWERT) All right. So we're now on page 10 of the proposed rules. And what did the committee do here with respect to spacing for horizontal wells?

A. Well, with respect to this rule, the committee once again saw the benefits of some organization to the variety of requirements for horizontal wells and spacing units, and so this rule is divided into four sections.

And the committee felt like it was very -- very advantageous to put all spacing requirements, all things related to spacing for horizontal wells in one place, and that's in Part A of these horizontal rules.

Similarly, everything related to setbacks was put in Part B. Things related to allowable, in Part C, and other matters, things that didn't fit but needed to be addressed, in Part D, other matters. So that's how my presentation is organized.

When we talk about spacing, we can just really focus in on what the requirements are that are described in Part A, and then we'll talk about setbacks, which are reflected in Part B, so we can move through that. We think this organization, once again, helps people comprehend this somewhat complex subject a little easier.

Q. Okay. I think your slide A53 begins the discussion about spacing, right?

A. Yes.

Q. I guess you're on A52 right now?

A. 52, yes.

So Part A of 19.15.16.15 covers all things related to spacing for horizontal wells, including standard spacing units for horizontal oil and gas wells, nonstandard -- I call it HSUs just to abbreviate it --

horizontal spacing units. It covers spacing issues associated with infill wells, multilateral wells, unitized areas and so forth.

Q. Okay. And if you move to slide A53, walk us through those basic concepts.

A. Okay. So rather than just read the rule and try to understand what we were getting at with these proposed rules, I'd like to talk about these conceptually. And these basic concepts for the horizontal spacing units that we believe are codified in Part A here. And as I mentioned, every horizontal well, it's intended that it would have its own spacing unit. And that spacing unit would be described on the C-102 when the operator files his APD. Here's my wellbore. Here's my completed interval, first and last take point. Here's my spacing unit.

Q. Okay. So first off, are you confident that the way that a spacing unit is identified and approved is under the C-102? They file the C-102 with their filing?

A. Yes.

Q. Okay. Go ahead.

A. And once we established this basic concept of every well having its own spacing unit, we recognized that we needed to make some exceptions for particular, unique scenarios, one being that infill horizontal wells

are going to be drilled pursuant to force pooling orders or joint operating agreements and also certain multilateral situations, which almost look like infill drilling.

It's also recognized, much like it is today, that these horizontal spacing units can and often do overlap other horizontal spacing units or even vertical well spacing units.

Q. And that's nothing new, right? That's --

A. That's my understanding. Yes. That's just the way it goes on today with project areas. They can overlap, and, you know, so that's been maintained here.

Q. Okay.

A. Also, recognition that there is still no density restrictions applicable to horizontal wells.

Q. And I think Mr. Brooks discussed a NMOGA modification that confirmed that point, right?

A. Yes. Seems to be no opposition to that.

Q. Okay.

A. So in Part A, what we do -- or what is done with these proposed rules are two things really. We start off describing the criteria for standard spacing units, and that criteria is in two parts. One is criteria related to the tracts that make up the horizontal spacing unit. There are numerous

requirements in here that an operator must comply with when they're building their standard spacing unit in order for it to be standard.

The other set of criteria relate to what does this spacing unit look like, its shape, size and so forth, and an operator must meet all of these objective criteria in order for that spacing unit to qualify as a standard spacing unit. So by doing this, we didn't worry about defining nonstandard spacing units. We worried about defining standard spacing units, and then if it wasn't a standard spacing unit, it's automatically a nonstandard spacing unit.

So that's how this is set up. The criteria are all outlined for either the tracts that make up the standard spacing unit or the resulting size and shape of that spacing unit in order for it to be standard.

Q. Okay. And if it doesn't meet those, it's a nonstandard?

A. Correct.

Q. Let me stop you right here. So if I look at the proposed rule, there are pages -- 10 begins with well spacing, pages 11 and page 12, all of which in part contains this what you call objective criteria for a nonstandard -- for a standard spacing unit, right?

A. Yes, A(1) through A(4).

Q. So this rule has criteria and has standards to create horizontal well spacing units. You just can't go out and do it on an ad hoc basis, right?

A. If you did, it's going to be a nonstandard unit.

Q. Okay. Then I'm confused and I'm concerned about a few things, because I took a look at some comments that are filed by our good friends at Jalapeno. Okay? And I want to talk about those a little bit. I saw a comment on this very section, this well spacing section, in their pre-hearing statement. And it was on page 5. And for the record, it was their comment two. And they state in their comment two on page 5 specifically referencing this 15(a) section. It says, "While this proposed rule allows the well operator to establish a standard horizontal spacing unit...." But then they go on to say or suggest to the Commission: "However, there is no standard spacing unit for horizontal wells reflected in these rules." Is that correct, Mr. Foppiano?

A. No, it's not.

Q. You have criteria; you have standards, right?

A. Very clear criteria about what qualifies as a standard spacing unit.

Q. They go on. They have another comment in here

on page 7 of their filing. Its' comment six, and I find this very interesting. They suggest to this Commission that "an operator is authorized under these proposed rules to establish a standard spacing unit without reference to any objective standard." Is that correct?

A. No.

Q. Then I see another comment that I really didn't understand, and that is -- if I go to page 9 of what they filed and their comment 11, and, again, they're talking about this standard spacing. They make the representation to the Commission that "the definition of a horizontal spacing unit in these proposed rules does not tie to traditional section or survey subsection boundaries." Is that true, Mr. Foppiano?

A. No.

Q. In fact, you don't have to go very far, do you, to see that -- if you look, for example, at Section A(1)(a) of the proposed rules --

A. Yes.

Q. -- doesn't it, in fact, identify as one of the criteria that it has to be consistent with governmental quarter sections or the equivalent?

A. Yes.

Q. It's stated very early on in the rule?

A. Yeah. Absolutely. And it also describes

that -- spacing units are built with tracts, and tracts, if we look at the tract definition, is a legal subdivision of the U.S. Public Land Survey.

Q. Okay. So since there seems to be some confusion at least with respect to some members of the industry of what this means, I want you to go through these objective standards. Okay?

A. Okay.

Q. Let's go to your next slide.

A. Okay. So these are the objective standards that are described in A(1) through A(4), and as I mentioned, they describe the standard horizontal spacing unit. So this is the criteria that attach or that are required for the tracts that one uses, that an operator uses, to build the standard spacing unit.

First off, it must be comprised of one or more contiguous tracts of a certain size. And if we're drilling oil wells, it's 40 acres. If we're drilling horizontal gas wells, it's 160 acres. But there is an option, though, provided to the operator that instead of using these default 40s or 160s, they could use the size and configurations that are required by the applicable pool rules.

And then there is an additional requirement that, I believe, codifies the existing practice at the

OCD, which is if the well is planned to be drilled from one pool to another pool and those pools are spaced under different spacing requirements and that operator wants to build his standard spacing unit using tracts that are defined by pool rules, then they must use the maximum tract size that is required by either of those pool rules. And that's just codifying the existing practice. As these laterals get longer and longer, that may become more and more of an issue, and so it was felt like let's address it in these rules.

And the tracts -- more criteria here. Tracts included in the horizontal spacing unit must be penetrated by the well's completed interval or at the operator's option within 330 feet perpendicular to the well's completed interval, what we call proximity tracts. And you've already seen some pictures, and I have a lot more to show you how that works.

And then finally, these 40-, 160-acre tracts must be substantially in the form of a square or a rectangle, a legal subdivision of the U.S. Public Land Survey, and a quarter-quarter section or equivalent if we're talking about 40-acre tracts, or 160-acre tracts, that'd have to be a full [sic] section that are equivalent.

Q. So they are tied to traditional section or

subsection boundaries?

A. Yes, they are.

Q. And just for the record and just for purposes of clarification for the Commission, this criteria -- this first set of criteria, the way it is set up, is it not, Mr. Foppiano, that this criteria for oil wells is found in Subsection A(1)?

A. A(1) and possibly A(2).

Q. And then this criteria for gas wells is found in Subsection A(3)?

A. A(3) and A(4).

Q. Then we have another slide with some additional criteria?

A. Yes. I mentioned the criteria that are required for the tracts the operator uses to build the standard spacing unit.

Now we're going to talk about the criteria attached to the final size and shape of this spacing unit in order for it to be considered standard. So the resulting horizontal spacing unit, in order to be standard, must contain at least the minimum acreage required by the applicable pool rules. It must, as Mr. Brooks mentioned, have all tracts oriented in the same direction if 80- or 320-acre tracts are being used. It can't strand the fourth 40-acre tract, and it must be

rectangular after inclusion of proximity tracts if the shape was rectangular based on the penetrating tracts.

So these are the objective criteria for a standard horizontal spacing unit, and they all must be complied with in order for it to be standard. If one is not complied with, then it is a nonstandard horizontal spacing unit. And, of course, there are provisions in here for how -- for notice and opportunity to protest and approval of nonstandard horizontal spacing units.

Q. Okay. So now at this point, we have a number of examples, of pictures of standard, nonstandard spacing?

MR. BRANCARD: I wonder if I could ask questions.

MR. FELDEWERT: Yes.

CONTINUED CROSS-EXAMINATION

BY MR. BRANCARD:

Q. I really like your concepts.

A. The committee's concepts.

Q. Well, but I mean these are basic concepts here, you know, that every horizontal well gets a horizontal spacing unit unless X or Y.

A. Yes, sir.

Q. It is not a standard horizontal unit that must be approved as a nonstandard. Why don't the rules say

this?

COMMISSIONER BALCH: I was trying to find that, too.

Q. (BY MR. BRANCARD) I mean, you know, I'm looking at it like a bureaucrat. I have to enforce this. It's good to sort of start with the basic concepts and then how do you meet those concepts. So that kind of would be my preference.

My second question is sort of the question I asked Mr. Brooks. That's great you have all these standards. How do we, the bureaucracy, know you've met those standards? There's nothing in the rule that says how you do that.

There is a form. Okay? But there is nothing in the rule about the form.

So I'm talking very basic: How do you comply with this rule? What are the basic concepts?

And I think sometimes there is a tendency to dive into details before starting with the concepts. So I guess that's my criticism of the rule at this point, that perhaps it would be preferable to sort of the start with the concepts. We have a standard horizontal well, spacing unit, nonstandard. You're either one or the other. Okay? Nothing here says that. It's just sort of understood. Okay? It might be better

to just say that.

COMMISSIONER BALCH: Like the definition of "standard unit" might refer to the listing in A but then also say something more about them such as "these can be formed by the operator without seeking a special permit." I mean, I have to agree a little bit with Mr. Brancard, the forest and the trees.

THE WITNESS: I'm all for clarity. To your first point, though, there are requirements, maybe not clear in this rule but certainly in other rules, at least to my understanding, that we file -- have to file an APD and get approval before we could go drill a well. As part of that APD, there is a filing that this is where my wellbore is planned to be, and this is the spacing unit for that well.

I don't see where the information that would be required on the C-102 would not allow the OCD to test it against this criteria to determine if it is, in fact, standard or nonstandard, because the shape is shown, the completed interval is located. And I guess I would suggest that the information is filed with the APD in a manner that should allow the district office to determine is this, in fact, in compliance with the requirements for a standard horizontal spacing unit.

Q. (BY MR. BRANCARD) First of all, never assume

there's something else in the oil and gas regs that will cover the situation. Okay? And it would be so simple to add to the end of (A)(1), "The operator shall demonstrate compliance with this subsection on Form A102," or whatever we call it, C-102.

MR. FELDEWERT: Mr. Brancard, right now the forms require operators to certify to certain things when they file their APD. It's a requirement on the form. I agree with you. There is no reason why that could not be carried over here.

MR. BRANCARD: And remember, while we are very religious about our forms here, our forms are not rules. Our forms are documents that are constantly changing. Okay? The rules can only be changed through this process. So don't assume that a form covers a situation because the form is changing all the time.

COMMISSIONER BALCH: And can be changed.

THE WITNESS: Yes.

CONTINUED DIRECT EXAMINATION

BY MR. FELDEWERT:

Q. Now, with respect to your other comment -- And, Mr. Foppiano, you can make a statement -- I would like to point out a couple of things. If I go to page 10 of the proposed rule, okay, it says at the top, (A)(1), "Standard horizontal spacing units for

horizontal oil wells." It says it must meet the following criteria. It lays out the criteria. So in my mind, it makes very clear what is meant by a standard horizontal oil well spacing unit.

Same thing with A(3), entitled and in bold type, "Standard horizontal spacing units for horizontal gas wells," bolded type. I have to meet those requirements. Then it talks about, in Subparagraph 6, what you do if you have nonstandard horizontal spacing units.

So maybe some tweaking can go on, but I would submit that someone reading through this rule doesn't have to look very far and can follow the bolded headings to make it very clear what a standard horizontal oil spacing unit is and what a standard horizontal gas spacing unit is.

MR. BRANCARD: I have no disagreement with you. I'm sort of stepping back, taking one step back and sort of saying, "Operator, you want a horizontal well? It's either got to be in a standard spacing unit or a nonstandard spacing unit." Nothing in here says that. Okay? You sort of start with these basic concepts, then you get into the details about what those things mean. So it's a clear direction both to the operators and to the regulators who have to review all

this.

THE WITNESS: Well, perhaps NMOGA could consider that and look at how to add some more language to further accomplish that.

MR. BRANCARD: You have nice sentences right there.

(Laughter.)

COMMISSIONER BALCH: I think you want to capture in the rule really the intent so that future commissions and future versions of the Oil Conservation Division are going to be able to interpret it the same way every time --

THE WITNESS: Yes.

COMMISSIONER BALCH: -- where this little latitude is "they should have or should not have."

THE WITNESS: They need some latitude.

COMMISSIONER BALCH: Yes.

THE WITNESS: Thank you for those comments.

CHAIRWOMAN RILEY: Any more comments or questions from up here?

If not, Mr. Feldewert, do you have a good breaking point because we're past 5:00. Do you have a good stopping point within this?

MR. FELDEWERT: Well, that's why I was mentioning -- I think we have a number of slides that we

can probably run through fairly quickly, but it is going to take maybe a half hour. And then that gets us finished with spacing on the standard, nonstandard concept. But that may take another, you know, half hour or so to run through the examples. So it's whatever you think is appropriate.

CHAIRWOMAN RILEY: I don't have any conflicts, but I'm going to check with the rest of my team up here.

COMMISSIONER MARTIN: I'm good for another half hour.

CHAIRWOMAN RILEY: Are you good, Mr. Brancard?

(Discussion off the record.)

CHAIRWOMAN RILEY: I'm not opposed to break now and starting in the morning, but I'm looking to the group as a whole.

MR. FELDEWERT: It's entirely up to you.

CHAIRWOMAN RILEY: If you guys can make arrangements, then we would finish this section and break until tomorrow.

MR. FELDEWERT: Okay.

CHAIRWOMAN RILEY: Give us a couple of moments up here.

(Recess, 5:12 p.m. to 5:13 p.m.)

Q. (BY MR. FELDEWERT) All right. Let's start with slide A46, Mr. Foppiano. You're on the right slide. Please explain what we have here.

A. Okay. I have a number of examples to help illustrate what -- our standard horizontal spacing units that comply with the criteria that I just described. And most of these I show for just one section, and you can see 40-acre tracts are shown here. And then I'll also show you the outline of the horizontal spacing unit in a red dashed form, as I animate through this. And then yellow denotes the penetrated tracts, tracts that are penetrated by the horizontal well. And shown here -- I don't show the surface location. All I'm really showing, which is the most important part for regulatory purposes, it seems, is the completed interval. And I show the first take point and the last take point, and that's denoted by FTP And LTP, respectively.

So the tract sizes here are 40 acres, and the completed interval penetrates four 40-acre tracts. So a very simple example of a standard spacing unit is 160 acres.

Q. Let me stop you right here. I don't know if this has been brought out. As in the existing rules, does it -- it does not matter what the surface-hole

location is, correct?

A. Correct.

Q. And I guess it doesn't matter what they call the bottom hole, the rathole, is?

A. Correct. As far as the spacing unit and setbacks and everything, it's all about the completed interval.

Q. Okay. All right?

A. Now, we'll look at another example. This is a target oil pool under special pool rules, 80-acre spacing. And here the operator makes the election to construct his standard horizontal spacing unit using pool rules. So he's stacked up four 80-acre tracts here, and then the completed interval penetrates four stand-up 80s as shown. All these 80-acre tracts are oriented in the same direction, so the standard horizontal spacing unit here is 320 acres as shown.

Q. Okay. Let me stop you right there. Put in the context of this rule, this standard spacing unit example is reflected on page 11 under Subsection A(2), correct?

A. Yes.

Q. Okay. And in this provision, it gives the operator the option, does it not, to elect to construct the horizontal spacing unit using pool rules?

A. Yes.

Q. Why did the committee think it was important to give that option to the operator? Why not mandatory?

A. Well, there was a lot of discussion about -- about how to build the standard spacing unit using either pool rules or fixed-sized tracts. And it was decided that there would be situations where the operator, because of either existing wells or land agreements or whatever, that it would be advantageous to be able to maintain that 80 -- in this case 80-acre, sort of, development and build the standard spacing unit using 80-acre tracts instead of the default 40-acre tracts if you were, in my example, in a pool with 80-acre rules. So in that example, providing the operator the election allows them to honor those agreements, maintain equities with existing vertical wells, and so it felt like that was the best thing to provide as much flexibility as possible to allow these reserves to be more fully developed.

Q. Okay. And be able to provide flexibility to operators to deal with existing agreements and existing wells?

A. Yes.

Q. Okay. If we move on to the next slide, A58.

A. Yes, another example here. The completed interval is located within the boundary of two pools in

the same formation. And this would be reflected in A(3). So here's the situation where we have the first take point starting in pool one, which is an oilfield under statewide rules of 40-acre spacing. And it goes over to pool two, adjacent, but it's in the same formation. And pool two is an oil pool under special rules with 80-acre spacing, and the operator elects to construct his standard horizontal spacing unit using pool rules.

And when that happens, that triggers the requirement to use the 80 acres, you know, to build the standard spacing unit here. And all 80-acre tracts are oriented in the same direction, so this complies with all the requirements and is a standard horizontal spacing unit of 320 acres.

Q. And I think you mentioned that this is codified in Subsection A(3), but it's actually, is it not, in the last sentence of A(2)?

A. Oh, yes. I'm sorry. Yes. It's the last sentence of A(2).

Q. Okay. So there is a restriction. You make that election -- you choose to make that election, and then there is a requirement in here that you use the maximum tract size if you've got two pools involved, right?

A. Yes.

Q. And why is that important?

A. It was discovered this situation has occurred already. And people sought guidance from the Division, and the Division's guidance was: Use the maximum-size tract. And so everyone thought, yeah, that looks like that'll work; let's put that in the rules. So that's why it's in the proposed rules.

Q. All right. If we go on to slide 59, what are you showing here?

A. Oh, just a further comment here that's already been discussed. Since this goes from one pool to another pool and, arguably, would be -- you would be commingling two pools in the same wellbore, we wanted to make sure that did not trigger a downhole commingling requirement. So there is language in other matters, Part D, to deal with that, to basically state that it does not trigger downhole commingling requirements.

Okay. So another standard spacing unit example: Here is a target oil pool under statewide rules, again, 40-acre tract size, and the completed interval in this case penetrates six 40-acre tracts. Our laterals are getting longer. And that's a standard horizontal spacing unit of 240 acres.

Q. Now, let me ask you, Mr. Foppiano. There was

some discussion about stranded acreage, right?

A. Yes.

Q. Okay. And I believe your next slide talks about what Mr. Brooks referenced earlier about you can create your spacing unit with these types of tracts, but you can't leave just a 40-acre tract.

A. Yes. If you use three, you have to use the fourth in the same section, in the same line.

Q. Did the committee also discuss the scenario where you're using two of four?

A. Yes.

Q. Okay. And what was that discussion -- was that discussed extensively?

A. Stranding was discussed extensively.

Q. And was it discussed with the technical experts that have to deal with these configurations and circumstances in New Mexico?

A. Yes.

Q. Okay. And was the consensus of the committee that this was not any type of stranded-acreage scenario?

A. Yes. The consensus of the committee was, for a long time, there was no stranding of acreage because -- and that really related to, as I mentioned, the concepts that spacing units now can overlap and there is no density restriction for horizontal wells. And what we

have already seen, these wells, some laterals went, in this case, six 40s, and there may be another horizontal lateral -- or horizontal well that would be drilled in that same area that would go all the way over for eight 40s.

And so with the way that development is occurring, trying to -- trying to avoid, quote, unquote, "stranding" seemed to be an exercise in futility because of the fact that, as I mentioned, really you can overlap these spacing units. Nothing really precludes this, quote, unquote, "stranded" tract from being included in another spacing unit for horizontal wells.

Q. In being developed?

A. In being developed.

Q. Then the one provision that was retained with respect to stranded acreage was the next slide, right?

A. Yes. This is an example. I'll show others. Because it, quote, unquote, "strands" the fourth 40, it is a nonstandard spacing unit example. And here we have target oil pool under statewide rules, tract size, 40 acres. Completed interval here penetrates seven 40-acre tracts. And because the proposed horizontal spacing unit is rectangular and includes three 40-acre tracts in the same section, but it excludes the fourth, as we show here, and that fourth 40-acre tract is not dedicated to

a horizontal spacing unit for an existing or permitted horizontal well in the same pool, then this situation would be considered a nonstandard horizontal spacing unit, which, of course, would trigger notice to --

CONTINUED CROSS-EXAMINATION

BY COMMISSIONER BALCH:

Q. How is this substantially different in the case of two? If you just -- if you make the same argument, that there are no stranded resources because you can make another pool or another horizontal spacing unit that would include that one quarter-quarter section, then you can't strand -- I mean, why would you have this exception?

A. This was a compromise. The OCD wanted this "stranding" provision and industry relented (laughter).

Q. I would make an argument and other people have made that argument in front of this Commission that if you have a half-mile and two quarters-quarters, nobody's going to drill a half-mile horizontal and access that. The only way you're going to access it is the way you describe, where you're going to include it as another horizontal spacing unit and make a longer tract --

A. Yes.

Q. -- that includes that, those two stranded units -- or those two potentially stranded units.

A. I think the problem is that -- a number of issues were brought up in trying to deal with stranded -- and this is more my personal opinion -- that the well has to stop somewhere. We would love to keep drilling these wells, but the practical matter is they end somewhere. And so there is always going to be acreage on the other side that may or may not be dedicated to another spacing unit for a horizontal well. Whether we're in the same section or not really doesn't matter anymore with the way our horizontal laterals are being drilled and overlapping spacing units because it doesn't restrict our ability to be --

Q. Or from pool to pool.

A. Or from pool to pool even.

And so the more we thought about this issue, is this truly stranded, the more we realized that it's just very difficult to argue that it is. It's almost like you have to look at it, when all the development is done, then you can tell, oh, something got stranded; oh, there was a window here that didn't get developed. Because, unfortunately, we can't file our entire development plan for a whole area all at once and say, This is what we're going to do, because conditions change, and it just doesn't work that way. We do this well by well. And we're trying to do this

more as a project. That's actually the way the industry is moving.

Q. Well, the factory mining in North Dakota gets pretty close to that.

A. Yes. And we're getting -- we're getting as close as we can in New Mexico to multiwell development. That's the way we look at it, is these are more projects. And so what might be stranded, looking at one particular well permit, may not be stranded a year from now, six months from now because of this project development that goes on in the area.

The other thing that, in my personal opinion -- and I was in the camp of "We don't want to strand the four 40." I was actually on the side of supporting this, and I came all the way around to the other side when I realized -- thinking about correlative rights and, in particular, the solution that is available to the Division to deal with this stranded tract.

I asked the question, "Has there ever been an order issued by the Division or even the Commission that forced this tract into a spacing unit for a well like this? And no one could recall that situation. I'm not saying that that didn't happen. But when we thought about that, we thought, well, wait a minute. If we

think there is a correlative rights issue with this stranded tract, the owners of that stranded tract, is this development going to put them in a situation where they are not being afforded a reasonable opportunity to recover their fair share of the reserves under their tract? What about the correlative rights of all these owners over here where the horizontal well is? If this tract is forced into a spacing unit in this particular situation and the well doesn't even penetrate that tract, what about the correlative rights of the owners in the horizontal -- in the tracts where the horizontal well penetrates.

Q. And remember, we've got to balance waste, too.

A. But as you'll see in testimony, this is a huge waste-prevention scenario, the fact that there are wells being drilled.

Q. You argue you would waste seven instead of one?

A. Exactly.

Q. Right.

A. Yeah. And so -- so it seemed like a problem with not a practical solution, that is the OCD going to deny the operator's permit to drill this well because they are, quote, unquote, "stranding" this tract? Is the OCD going to direct the operator to drill the well over to this tract? There may be actually good and

valid reasons why the operator proposes this (indicating) and wants to exclude this tract. It may be because there's actually no reservoir over there.

Q. Even if you include that tract, you may end up still drilling the well as it's depicted in the seven quarter-quarters.

A. True.

Q. So that brings up another issue or concept that's been forming in my mind throughout today's testimony and that is underutilized. There is a -- defined horizontal spacing unit, particularly if you go back a couple of slides to your 80-acre section examples and you've got one well in it. There is nobody telling you you have to drill the next three wells to fill out that -- that unit, those three infills, to do that. The potential is there. So I think there is not waste, and the correlative rights is probably addressed because you do have the -- have them involved within that horizontal spacing unit. But there is a potential to leave oil behind.

A. There is. But as I mentioned, the way this horizontal drilling is progressing in New Mexico, there is a strong desire to drill more and more wells inside existing units like I just showed with the four 80 acres. That actually looks advantageous to operators

because that provides the ability to drill infill wells in that part of the 80-acre section and removes boundary lines.

So from what I have seen in other states, the way they're moving to larger and larger units to promote multiwell horizontal development, in some way these rules provide that flexibility with these proximity tract inclusions and with the way we use pool rules to build spacing units. It allows operators to build a large enough tract to justify infill drilling opportunities, and that has tremendous advantages from the standpoint of eliminating unnecessary surface facilities.

For example, when we looked at the four 80 acres put together, the infill wells drilled in that four 80-acre spacing unit would all be in the same ownership and can all be produced in the same battery.

Q. And inside the unit, you don't have to worry about offsets and things like that as well.

A. Exactly.

Q. So you don't have the waste from that, which has also been brought up to us. So it seems to me the ability to kind of overlap these horizontal spacing units is a concept that's important to minimizing the waste.

A. Very important. It provides the flexibility to allow operators to essentially get to where we're almost mining this stuff, not only in the same pool but in multiple benches within the same pool. It allows them to go ahead and go after those reserves, which is becoming more and more attractive.

Q. So is it your position that there is no such thing as stranded acreage?

A. I was afraid you were going to ask me that (laughter).

MR. FELDEWERT: Are you talking about his personal opinion?

Q. (BY COMMISSIONER BALCH) I'll take your personal opinion.

A. My personal opinion is yes. I think the "stranding provision is an unnecessary restriction, and it is -- it is an issue that does not lend itself to a good solution even if we thought it was a problem.

Q. So fast-forward five or ten years, the inclusion of the "stranding" provision, is that going -- is it going to have an impact at all on development?

A. Well, like in this particular case, if an operator proposes this (indicating) and gives notice to this tract over here, and they protest -- there's a certain need for speed with horizontal drilling. And

having to go through a notice process, having to deal with a protestant, particularly now with having to go to a hearing, all that does is delay the horizontal drilling project, and that -- that in itself causes reserves to be either -- in some cases, the operator may decide to go drill another project that's easier. I don't have the time and the energy to go have a hearing, and so I have other projects in Texas or New Mexico, and I'll go drill those because they're easier to drill.

So to answer your question, I think it's possible that this provision could, in some cases, discourage operators from drilling wells like this, particularly if the notice process yielded a protest.

Q. I guess kind of on that same theme, I have one more question, if that's all right. You're going to pay me --

(Laughter.)

CHAIRWOMAN RILEY: That's all right.

Q. (BY COMMISSIONER BALCH) You know, the standard spacing units are built on substantially rectangles, whatever substantially means. Do you think the ability for operators to create these standard units more or less by themselves is going to encourage people to stick with just stand-up and lay-down wells and not look at the geology and figure out the correct orientation to

operate these from?

Now, your 80-acre example, where you have the oversized spacing unit, probably you can put them at whatever angle you want. But if you're building a long, narrow one like this, you have an unlimited amount of angle change you can make from a lay-down in this case.

A. Uh-huh.

Q. Do you think it's going to encourage that kind of a practice?

A. That's a very good question, because the committee considered a lot of issues associated with oblique, transverse and how to facilitate or at least remove any artificial barriers from drilling at the most optimum angle, because we can't change the stress profile downhole. And as you will hear from subsequent testimony, that, in many cases, is the optimum way to drill, at 90-degree angle, to the fractures that you're going to create when you complete the well.

However, in the Permian Basin, they're by and large -- at least for the near future, I think even if that opportunity is provided operators, you're still going to see mostly north-south, east-west drilling because the advantage of drilling at an angle that you might get from increased production is outweighed by the difficulties that are created with putting tracts

together in a joint operating agreement or getting it force pooled. It's the land situation.

Q. As you said, a big enough piece of real estate, then you can do that to optimize development.

A. Exactly.

And you brought up this concern of drilling at angles. Is there some part of that area that you're going to develop that all of a sudden gets so small that it doesn't justify the drilling of a horizontal well and gets, quote, unquote, "left behind" and --

Q. You can just overlap another horizontal spacing unit on it.

A. Oh, well, the -- I mean -- but it would be because of where horizontal wells already are.

Q. Right.

A. But I think what these proposed rules do is they have removed artificial barriers to drilling at angles from the regulatory context. And those existed -- from what I learned in the committee, there were -- there were restrictions about being able to drill at an angle and such that those were nonstandard units or not even being able to be approved as nonstandard units. So those operators were very adamant about let's have rules that allow that.

In fact, Secretary McQueen was in there and

he pushed for: Let's have rules that facilitate drilling at angles just as easily as you could north-south, so the operator can make the best decision to be able to recover the maximum amount of reserves from this particular area. And I believe these rules do that. I have some subsequent slides to show you.

Q. Well, the option is to build a big enough unit that you can do whatever you want.

A. Actually, that makes it easier, too, if we're able to build bigger units, which some states do. They just provide very large-size units, and we can easily drill at angles inside that unit.

Q. So what about your official opinion?

A. Oh, it's the same as what I just said.

(Laughter.)

CONTINUED DIRECT EXAMINATION

BY MR. FELDEWERT:

Q. Well, on that point, to bring it back to the issue that's shown up here, Mr. Foppiano, the position that was set upon by the Division and the committee on this particular issue is actually reflected in A(1)(d), correct, D, as in dog?

A. Yes.

Q. Okay. But, again, as you pointed out, that was not a unanimous --

A. It was a unanimous concession.

(Laughter.)

Q. Concession.

All right. Now, would you go back one slide for me real quick? As was pointed out, there was not a similar concern here, correct?

A. No.

Q. Okay. Now, let me ask you something about this. If you had and I had been here three or four years ago, would we have been talking about horizontal development being more or less one mile?

A. Probably.

Q. Is it true, Mr. Foppiano, as we look at things today and we look at most operators today -- and I think Mr. Brooks made reference to this -- that a lot of operators today are drilling what are known as one-and-a-half-mile wells?

A. And more, yes.

Q. Okay. So this would be an example of a one-and-a-half-mile well?

A. That's correct.

Q. And if an operator was looking to develop the acreage with a one-and-a-half-mile well, that additional -- those additional two tracts would be included in the spacing unit next door, right?

A. Could be, yes.

Q. In fact, didn't Mr. Brooks testify that even in the Purple Sage Pool, where there are 320-acre spacing units, that operators are drilling mile-and-a-half wells even in that pool?

A. That's my recollection, yes.

Q. Which then take a quarter section?

A. Yes.

Q. Okay. All right.

COMMISSIONER BALCH: So the same thing applies to the next slide, where you have the one-quarter stranded. You just have to draw more of the grid out in that direction, and then you have the same problem solved, because all the horizontal spacing units, the way they're proposed, can overlap.

MR. FELDEWERT: Agree.

COMMISSIONER BALCH: So it seems really artificial. I mean, you're basically forcing the geology to that land grid system, which is a leftover.

Q. (BY MR. FELDEWERT) Indeed, isn't this -- A(1)(d), isn't it a leftover provision from the existing rule?

A. Yes.

And I think you hit upon the point. It's the overlapping nature of these spacing units and the

fact that we are intending to drill more wells than just one in a spacing unit. And trying to drill longer and longer laterals is going -- it really diminishes this stranded issue.

CONTINUED CROSS-EXAMINATION

BY COMMISSIONER BALCH:

Q. And you worked for OXY for a lot of years, and the main goal is to develop all your acreage to its full potential?

A. Absolutely. Yes. That's a requirement under the lease.

CONTINUED DIRECT EXAMINATION

BY MR. FELDEWERT:

Q. Mr. Foppiano, speaking of creating a larger spacing unit, that it's possible, okay, go to your next slide, A61. What are you going to show here, Mr. Foppiano?

A. The next couple of slides I want to show are another example that the committee reviewed, and this is a really good example of how the current rules are, in some ways, promoting waste. All right? It's preventing drilling from -- in this area, this setback area. And so this is how the committee solved that issue.

Here's an example. We have target oil pool under statewide rules. Tract size is 40 acres. Here

the completed interval penetrates six 40-acre tracts, but it is located 75 feet from that nearest -- those nearest lines there. So it's at an unorthodox location, and as such, notice and opportunity for protest. NMOCD approval is required. So a notice would go to all these owners down here (indicating) in these adjoining tracts. But it would, under these proposed rules, be a standard horizontal spacing unit of 480 acres. It would just be a nonstandard location in a standard horizontal spacing unit.

Q. Did the committee then come up with another solution to accommodate this type of initial development that would avoid the requirement of having come to the Division and file for a nonstandard location?

A. Yes. And one that we feel is much more protective of correlative rights than this situation.

So here, the same situation. The target oil pool is under statewide rules. The tract size is 40 acres. The completed interval still penetrates the same six 40-acre tracts, located 75 feet from those offsetting tracts.

And now the operator has made the election to include those offset tracts that are within 330 feet of the completed interval, shown in green here. And we call those proximity tracts. And then he has a standard

horizontal spacing unit of 480 acres.

And the reason why this was much more attractive solution to the operators than the NSL approach was a number of things. One, we felt like that horizontal well, in some cases, the best location to drill the horizontal well between the two orthodox areas of these 40-acre tracts is as close to that line as possible, yet to get close to that line, the closer one gets, the more likely there is going to be a protest from the adjoining tracts to the south. And as the well is completed, it's arguably going to be fracked and producing reserves that underlie those offsetting tracts.

So the preferred solution would be to allow a unit to be formed of proximity tracts and allow those offsetting owners to participate in the production and share and protect their correlative rights in that manner. And this solution actually might reduce the need to drill an additional well. Whereas, the previous one might actually -- if I can flip back here. The other solution here might be to drill another NSL well on these other 40-acre tracts down here to protect those tracts from drainage and also to access those reserves and prevent waste. So this was -- the proximity tract rule allows what we believe a more equitable solution,

one that is more protective of correlative rights, and one that allows wells to be drilled in a way that is going to recover -- going to reduce waste.

Q. Now, this particular tool, the proximity tract option here, is codified as A(1)(b), correct?

A. Yes.

Q. And then there is a similar provision for gas wells also?

A. Yes.

Q. Let me ask you about this in particular. One, is there a regulatory benefit here if you were able to develop like this?

A. Oh, yes. I think -- well, the agency is allowing a solution that is more protective of correlative rights, I believe. And, additionally, there's less need to process -- there is no need to process a request for an NSL location for this particular proposal. So --

Q. And if the operator would then continue to develop this particular spacing unit, they could develop it then without having to get commingling approval, right?

A. Absolutely. Yeah. Infill wells can be placed here and here (indicating), and then all of that production from that entire 480 acres can be produced

from a single pad.

Q. So we're at nonstandard locations and then work with the Division with respect to those, and then all the work is done with commingling?

A. Yes.

Q. And that will put Mike McMillan out of business, right?

A. I hope not (laughter). I like him.

Q. Now, also, do you see a benefit here that avoids -- in your opinion, does it avoid waste because now you're developing that area that would not normally be developed due to the offset?

A. To me it avoids waste in two ways. One, it allows the wells to be drilled in a manner that is going to recover reserves that wouldn't otherwise be recovered by wells in standard locations because of the nature of these reservoirs that were developing horizontal wells.

And, secondly, because in some situations the solution, as I mentioned, may require the drilling of another well, this solution allows one well to be drilled, where the other solution might require two. So it reduces the need for unnecessary wells.

Q. Now, for this option to be available -- and it's just an option, right, Mr. Foppiano?

A. That's correct.

Q. For this option to be available, the well has to be within 330 feet of those other tracts, correct?

A. That's correct.

Q. And is there some consistency there with the existing 330-foot setbacks?

A. I believe there is, yes.

Q. And then finally -- and I think you mentioned this -- in your opinion, is this a fair option to give to operators to deal with neighbors?

A. I think so.

Q. Because now --

A. By providing that opportunity to include those tracts.

Q. Now I have two options to deal with my neighbor. I can go get an NSL, or I can say, "Hey, do you want to -- let's get together and include your tracts into this spacing unit"?

A. That's right.

COMMISSIONER BALCH: Well, there are three options. You can force pool them.

Q. (BY MR. FELDEWERT) Well, at least from a regulatory perspective, we wouldn't have to get an NSL, and we can -- or if we didn't want to get an NSL, we could reach an agreement, pool the acreage and thereby form a larger unit, correct?

A. Yes.

Q. But, again -- now, all it does is -- it's not mandatory for the operator to do this?

A. No, it's not.

Q. It just gives them another tool to deal with their neighbors?

A. That's correct.

Q. Okay. Now, is there also another benefit with this idea of including proximity tracts when you want to try to orient your well perhaps in a certain circumstance where it's indicated by geology rather than rectangles?

A. Yes. What we refer to more is a northwest type of concern, and this is the oblique well or transverse well situation here. And so I'll show you a couple of examples about how that is treated. And as I mentioned, there was a lot of interest in getting rules that facilitate or at least remove artificial barriers to operators doing this, if this was the best thing to do to recover the most reserves.

So here we have a target oil pool under statewide rules. Tract size is 40 acres. And the completed interval penetrates eight 40-acre tracts, and those eight 40-acre tracts do not form a rectangle, which is an important criteria that must be met. Since

the completed interval is located at an unorthodox location, as shown by the blue circles there, it's too close to those two tracts, that that is an NSL and notice opportunity to protest and NMOCD approval is required.

And so I think when we look at these transverse wells extensively, it tells me that there are very few places that you could locate a well at almost 45 degrees and not be encroaching on another tract. It's just the way the geometry works out. But this particular situation, at least, the option is providing the operator to get it approved as a standard horizontal spacing unit, as shown in the red outline, but it would be required to get approved as a nonstandard location.

Q. All right. Let's talk about that, the ability here now to approve this as a standard horizontal spacing unit.

A. Yes.

Q. Put aside the nonstandard locations for a minute.

A. Okay.

Q. Is this codified in Subsection A(1)(a)?

A. Yes.

Q. And how is it codified?

A. Well, A(1)(a) requires that the spacing unit be

comprised of one or more contiguous tracts that are penetrated by the horizontal wells in the completed interval, and they have to be governmental quarter-quarter sections.

Q. But they no longer have to be in the shape of a square or a rectangle, correct?

A. Correct.

Q. And that was the language that was eliminated by the Division and the committee to allow this to be a standard horizontal spacing unit?

A. Yes. My understanding is today, particularly up in the northwest, this is a nonstandard -- or nonstandard unit because it is not rectangular, and it is difficult to be approved, is what I understood.

Q. Okay. So in other words, one of the changes the committee made was eliminate the language in the existing rule that required these spacing units to be square or rectangle so that this could be accommodated?

A. Yes. The particular language that the committee came up with, which is reflected in A(1)(d) -- is that right?

Q. Well, I think that's a limitation on the inclusion --

A. Oh, I'm sorry. A(1)(c). A(1)(c) is the rectangular requirement that applies to, basically,

east-west orientations. So it doesn't apply here. So that's how these rules facilitate this, by providing a standard spacing unit for a well drilled at an angle like this.

Q. Okay. But as you point out, standard spacing unit -- nonstandard location for a couple of points, right?

A. Yes, if this is how you permit your well.

Q. But now, with the inclusion of proximity tracts, you have another option?

A. Yes. We'll look at that here, same example. Target oil pool under statewide rules. Tract size is 40 acres. The completed interval penetrates eight 40-acre tracts. They do not form a rectangle, so the rectangular requirement doesn't attach.

And then our two tracts shown in green here that we call proximity tracts, and those are located within 330 feet of the well's completed interval. And the operator elects to include those proximity tracts in their standard spacing unit, so this would be a standard horizontal spacing unit as shown in the red outline there.

Q. And it would be -- have a -- will be at a standard location, right?

A. Correct.

Q. So there would no additional regulatory approval required for this type of development?

A. That's correct.

Q. Okay. And do we have another witness that's going to discuss this in more detail?

A. Yes.

Q. Okay. Then if we move on to slide 65, there are some restrictions about being able to include proximity tracts --

A. Yes.

Q. -- in addition to whether they're within 330 feet?

A. Correct.

Q. Okay. Go ahead.

A. Well, this is an example of the rectangular requirement. It does attach to these north-south, east-west wells. Target oil pools under statewide rules. Tract size is 40 acres. The completed interval penetrates six 40-acre tracts. And because of the way the well is oriented, an additional 40-acre tract is located within 330 feet of the completed interval, and it's shown in green there.

And in this particular case, the rectangular requirement that is codified in these proposed rules is related to the perimeter of the area

that includes all the tracts that the proposed horizontal well penetrates, and it must define a rectangle. In this case it does define a rectangle, so it must stay a rectangle. But if you include the proximity tract, it's no longer a rectangle. That makes this a nonstandard horizontal spacing unit of 320 acres.

Q. Okay. So this is an example of what you were referencing earlier and codified in A(1)(c)?

A. Yes.

Q. So one could view this as it's a restriction on when you can bring in a proximity tract --

A. Right.

Q. -- right?

A. Yes.

Q. You cannot bring in a proximity tract when the penetrated tracts form a rectangle?

A. Correct.

Q. But because, in the prior slide, the penetrated tracts didn't form a rectangle, you were able to bring in proximity tracts?

A. Correct. That's how the committee came up with a solution that does not restrict or adversely impact the ability to drill wells at transverse or oblique angles, and yet does provide some restriction to these types of situations.

Q. Mr. Foppiano, I know we have another witness that is going to testify further about, you know, the drainage associated with horizontal wells and why it makes sense to bring in these proximity tracts, but in your opinion and in your experience, is the inclusion of proximity tracts consistent with the drainage patterns that you normally see with horizontal wells in these -- in most circumstances?

A. Yes. I think it is.

Q. And is that why the committee and the Division determined that it made sense to include the option of bringing in proximity tracts in this rule?

A. Yes.

Q. So long as they were within 330 feet of the wellbore?

A. Yes, recognition of how horizontal wells are drilled and completed and what they're probably draining these days.

Q. In your opinion, does this provide operators in New Mexico with another tool to deal with correlative rights issues?

A. Yes.

Q. And in your opinion, will the inclusion of these proximity tracts also prevent waste?

A. Yes.

MR. FELDEWERT: We're prepared to move on to another subject or wait until tomorrow or if you have questions.

COMMISSIONER BALCH: I have questions.

(Laughter.)

CONTINUED CROSS-EXAMINATION

BY COMMISSIONER BALCH:

Q. In this particular example, would the operator have the flexibility to identify quarter-quarters and just make a larger rectangular unit even though they don't have a connection except in the one corner?

A. In my opinion, the rules do not prevent exactly what you're talking about from being available to an operator. It would clearly be a nonstandard unit --

Q. It would nonstandard.

A. -- and notice would be required. And because of the requirement to consolidate interests within that entire area, you would have to have agreement or go force pool those people. It seems like to me there are enough protections to allow that as an option provided it went through the nonstandard horizontal spacing unit process of notice and opportunity to protest.

And if there was no protest and everyone agreed and wanted to have it like that, I don't see any reason why that should be prohibited. But nothing says

that can happen.

Q. So if an operator wants to build up a large contiguous unit for horizontal development, they have to do it by patching together standard or nonstandard units --

A. Well, under these --

Q. -- horizontal spacing units?

A. Pardon me?

Q. They would have to build it up as a combination of horizontal spacing units? They couldn't just go buy 10,000 acres and do whatever they wanted within that?

A. Actually, it's interesting that you mention that because there are some provisions for what we call areas of uniform interest that do allow more flexible development when the development is occurring in an area of common interest much like unitized areas. And there was recognition that if we're going to do horizontal development on a large single lease, then we should provide as much flexibility as possible. And so there are some later discussions related to spacing and setbacks for drilling in these areas, what we call areas of ownership or area of common ownership.

Q. I look forward to that testimony.

CHAIRWOMAN RILEY: All right. Do you have a question?

CONTINUED CROSS-EXAMINATION

BY MR. BRANCARD:

Q. I'm just curious. In this example, if that wellbore actually managed to cut into that green tract, you'd have a standard spacing unit, wouldn't you?

A. I believe you're right, because it would be like the oblique situation.

COMMISSIONER BALCH: Yeah, oblique.

THE WITNESS: The tracts that make up the spacing unit that define by what the well penetrates don't form a rectangle, so the rectangular requirement wouldn't attach.

COMMISSIONER BALCH: Just change a little bit.

THE WITNESS: To me this is an extremely is rare type of situation. An operator is going to either drill that well such that it doesn't get closer than 330 to that green tract or that happens by accident.

COMMISSIONER BALCH: Or they're going to want to infill at the same angle in adjacent locations.

THE WITNESS: Yeah. I don't see this as a very common occurrence.

CHAIRWOMAN RILEY: Any more questions, Mr. Brancard?

MR. BRANCARD: No.

COMMISSIONER MARTIN: I'm good.

CHAIRWOMAN RILEY: I don't have any on this right now.

So I guess we'll conclude for the evening and then start back morning right here.

MR. FELDEWERT: 9:00?

CHAIRWOMAN RILEY: 9:00. Hopefully 9:00 tomorrow.

(Recess, 5:57 p.m.)

STATE OF NEW MEXICO

COUNTY OF BERNALILLO

CERTIFICATE OF COURT REPORTER

I, MARY C. HANKINS, Certified Court Reporter, New Mexico Certified Court Reporter No. 20, and Registered Professional Reporter, do hereby certify that I reported the foregoing proceedings in stenographic shorthand and that the foregoing pages are a true and correct transcript of those proceedings that were reduced to printed form by me to the best of my ability.

I FURTHER CERTIFY that the Reporter's Record of the proceedings truly and accurately reflects the exhibits, if any, offered by the respective parties.

I FURTHER CERTIFY that I am neither employed by nor related to any of the parties or attorneys in this case and that I have no interest in the final disposition of this case.

DATED THIS 13th day of May 2018.

MARY C. HANKINS, CCR, RPR
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