Professional landmen are often called upon to play roles that go beyond their customary duties of buying, selling, leasing and curative, especially when working for a small independent operator or a startup with a lean budget. One responsibility that landmen often acquire is that of a regulatory analyst. Overcoming regulatory barriers to operations and production — like obtaining permits and seeking rule exceptions — requires not only expertise in regulatory matters, but also a detailed knowledge of the features of your land. When the time comes to wade into the regulatory waters, a healthy working knowledge of the laws and rules governing such matters can save unnecessary delay and frustration in drilling and completing a well.

This article summarizes some of the Texas Railroad Commission rules, guidelines and procedures most frequently encountered by land professionals, and it provides some practical advice for working through common regulatory problems. Specifically, this article discusses the regulatory systems pertaining to spacing, density and proration rules, with special attention to recent developments in the regulation of horizontal drilling. Additionally, this article addresses the regulatory process of permitting and completing a well, including the basics of permit exceptions and protested permits.

### Spacing Rules

Among other goals, the commission is charged to prevent waste of natural resources and protect correlative rights of owners over common oil and gas reservoirs. The commission does this in part by regulating the proximity of wells to
Spacing rules set the minimum distance between your well and (a) the boundary lines of adjacent tracts and (b) other wells on your lease. “Lease line” spacing under Statewide Rule 37 prohibits the location of a well nearer than 467 feet from “any property line, lease line or subdivision line.”

“A property line” for lease-line spacing purposes is any tract boundary over which the ownership of mineral or working interest differs from that of your lease or pooled unit, even in the smallest degree. Pooling erases property lines between unit tracts, but nonjoinder of any mineral or working interest owner in any pooled unit tract will create a property line. Although a difference in ownership of royalty or overriding royalty will technically create a subdivision, the commission follows a policy that owners of such interests, being nonpossessory revenue-only interests, are not entitled to notice of Rule 37 spacing exceptions. This commission policy has been upheld in Texas courts based in part on the rationale that such owners’ interests are aligned with and represented by their respective operators or lessees, who are entitled to notice under Rule 37.

Rule 11 requires that “[a]ll wells shall be drilled as nearly vertical as possible by normal, prudent, practical drilling operations.” In issuing drilling permits, the commission generally assumes vertical wells will be drilled vertically, i.e., the surface location will be the same as the bottomhole location. However, as any engineer will tell you, vertical wells are never truly vertical. If not carefully monitored, sidetracking or unintentional deviations
may cause your well to bottom at an irregular location, or even off-lease. To control for deviations, the commission requires an “inclination” survey for most new vertical wells, which reports downhole locations at regular intervals along the wellbore (Form W-12). If the incline of the wellbore is so large as to be potentially off-lease, the commission requires a “directional” survey, which is a more detailed (and expensive) downhole survey that will determine whether the bottomhole location actually violates spacing rules. If so, the well will require a spacing exception.

Of course, some wellbores are intentionally deviated for various reasons, such as directional wells. Rule 11 provides additional permitting rules for intentionally deviated wells, which generally require more preliminary filings. Directional wells require a directional survey to ensure that they reach their target bottomhole location.

Density and Proration Rules

In addition to spacing, the commission controls well locations using density and proration rules, which are designed to prevent clustering of wells and overproduction of the common reservoir. Density and proration are related concepts under commission rules but should be carefully distinguished. Density regulates the minimum amount of acreage to be assigned to a well for issuance of a drilling permit, known as a “drilling unit.” Proration regulates the volume of oil or gas that may be produced from a completed well, known as an “allowable.” A “proration unit” is the productive acreage assigned to a well to obtain an allowable and is typically the same size and shape as the well’s drilling unit.

Acreage that is committed to a drilling and/or proration unit for an existing well may not also be assigned to a new well completed in the same field or reservoir. A landman should be familiar with the density and proration rules applicable to his lease in order to maximize developable acreage.

Under Statewide Rule 38, the drilling unit size for wells subject to statewide rules is 40 acres, though special field rules may set different density requirements. For vertical wells, proration units are purely a creation of special field rules; although they are subject to production volume limits under statewide rules, they are technically not assigned proration units. A drilling or proration unit generally must be composed of contiguous acreage. Otherwise, a drilling unit may be most any shape, provided it contains the minimum acreage and does not violate spacing rules. However, special field rules for some vertical wells prescribe a “diagonal” rule, which usually requires that the length of the unit not exceed twice the width in order to prevent formation of long, awkwardly shaped units.
After a lease is drilled to density, there often remains unassigned "surplus" acreage that is not big enough to support a regular drilling unit. Rule 38 allows surplus acreage to be drilled if it is at least half the size of a regular drilling unit, among other requirements; field rules often contain similar provisions. Also note that some special field rules prescribe a "standard" unit size with the option to form larger units, often with the benefit of an increased allowable; however, an operator may not drill on substandard acreage in exchange for a reduced allowable, as allowed in some other jurisdictions. But, as with spacing, density compliance is often achieved by pooling to obtain sufficient acreage. Density rules become especially important when applied to the terms of an oil and gas lease. Pooling authority in a lease is often limited by the size of the well unit prescribed or permitted for the field by applicable "governmental authority." Similarly, a lease may contain a retained acreage provision, Pugh clause or continuous development program that can effect a partial lease severance based on the acreage minimums required by the commission. If so, density rules will be a crucial factor in the development plans for the lease.

The commission's actual methods and criteria for assigning allowables are highly technical and beyond the scope of this article, but a brief summary is helpful. The top allowable for a statewide field is governed by a "yardstick" formula under Rule 45, which is then allocated among the wells in that field. Allowables may be further limited by market demand for the sake of price stability; however, the commission has not done this since 1973. The top allowable for a field may be increased by proving at hearing that the maximum efficiency rate or "MER" for the field is higher than the yardstick, meaning it can be produced at a higher rate without causing waste.

Proration for gas wells is more complex than for oil due in part to the challenges of transportation and marketing, but it generally follows the same principles. Allowables for horizontal wells are controlled by formula under Statewide Rule 86, unless preempted by special field rules. Note that not all wells are subject to proration; some fields are exempt or classified "open-flow," meaning they have effectively no restriction on production volume. The commission enforces spacing, density and proration regulations in part by issuing drilling permits designed to ensure that oil and gas wells are drilled at regular locations in compliance with applicable rules. Commission rules state that "[o]perations of drilling, deepening, plugging back, or reentering shall not be commenced until the permit has been granted" by the commission.

The commission maintains an online filing system for permitting wells and also publishes guidance to walk you through the steps of obtaining a permit. You can find a general checklist for the permitting and compliance process on the commission's website. The process begins by submitting a drilling permit application (Form W-1) accompanied by a well location plat, as well as a certificate of pooling authority (Form P-12) if the well is in a pooled unit. Guidance for submitting data and forms for the drilling permit application can also be found online. The commission's online application system will walk you through entry of the required data, including survey and acreage information, measured distances from adjacent tracts and nearby wells and target producing zones. It will also help identify any necessary rule exceptions; however, note that if you are drilling a horizontal well under special field rules, you may have to identify such exceptions due to system limitations, which requires careful review of the field rules for your well. Most active fields today use special field rules, though statewide rules may still apply in wildcat areas. Highly productive areas often have several sets of field rules, each tailored to a particular productive zone, geological feature or development technique. You can research the applicable rules for your field on the commission's website.

Upon completion of the new well, the commission requires submission of completion report forms to gather data such as producing depths and formations, wellhead pressure, production potential test results and the attributes of the produced hydrocarbons. This data is used to classify the well as oil or gas and make determinations about safety and environmental requirements, among other uses.
create a very small drilling target such that even a minor location error or unintentional wellbore deviation can result in a spacing exception. For example, imagine a vertical well drilled in the center of a 40-acre square tract under statewide rules: A spacing violation would occur if that well location were moved only 244 feet toward a property line. Even more alarming, a spacing violation would also occur if that well location were moved off-center a mere 120 feet, or 1/50 of a mile, toward a well centered on an adjacent 40-acre drilling unit. With such a slim margin for error, knowing how to identify and resolve a spacing exception is crucial to the process of completing the well.

If a spacing or density violation cannot be avoided, the drilling permit will require an exception. This process begins by submitting a “service list” with names and addresses of affected parties in adjacent tracts known as “offsets,” which include: (a) the designated operator under all existing oil and gas

The completion data also determines the allowable for your well, if applicable (Form P-15). Also, an inclination report is required for all new wells, which reflects wellbore deviations that may require a downhole directional well survey (Form W-12). Note that this is merely a brief summary of some of the permit and reporting requirements applicable to most wells. The commission requires a host of other forms and reports that are beyond the scope of this article, some of which require multiple submissions or regular reporting throughout the life of a well. Even after the well is online and in compliance, failure to submit required filings or otherwise comply with the terms of the permit may result in a violation letter from the commission, which if ignored may lead to heavy fines and possibly a plugging order.

Also keep in mind that every well is different than the last. Permitting and compliance for some wells can be relatively easy, especially if you have already completed similar wells in the same field; others are a nightmare from beginning to end. The landman responsible for a well’s regulatory compliance should proactively research the commission rules and guidance materials and contact the commission regularly to ensure all bases are covered for the new well.

Rule Exceptions

A variety of circumstances may arise that prevent you from drilling at a regular location. Factors such as geology, surface conditions or the size and features of the lease may force you to drill too close to a property line or even off-lease. Regulatory problems are often unanticipated, such as when title examination reveals an unexpected mineral strip or subdivision or an old survey error results in noncompliance.

Even when you have found a regular location, spacing and density rules can create a very small drilling target such that even a minor location error or unintentional wellbore deviation can result in a spacing exception. For example, imagine a vertical well drilled in the center of a 40-acre square tract under statewide rules: A spacing violation would occur if that well location were moved only 244 feet toward a property line. Even more alarming, a spacing violation would also occur if that well location were moved off-center a mere 120 feet, or 1/50 of a mile, toward a well centered on an adjacent 40-acre drilling unit. With such a slim margin for error, knowing how to identify and resolve a spacing exception is crucial to the process of completing the well.

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leases or all working interest owners of record for leases with no designated operator and (b) all unleased mineral owners. 30 For lease-line spacing exceptions, the applicant must submit offsets for all tracts closer than the greater of the lease-line spacing and one-half of the between-well spacing. For between-well spacing exceptions, offsets must be submitted for all tracts adjacent to your well tract, regardless of distance. The commission’s online Public GIS Map Viewer is a useful tool for identifying offsets and researching well data generally. 31

A spacing exception may be granted administratively, meaning without a formal hearing before the commission, if the applicant submits written waivers of objection to the permit from all offsets or if all offsets fail to object within 10 days of receipt of notice of the exception application. 32 For offsets that cannot be located or identified, the commission allows notice by publication. 33 Attention to detail is paramount in the notification process because failure to give proper notice to all applicable offsets per the strict terms of Rule 37 will result in voidance of the permit and a plugging order for the well, even if the offset you failed to notify had actual knowledge of the irregular location. 34

Protested Permits

Of course, securing an administrative exception is the best-case scenario. If any offset timely objects to the permit, the commission will schedule a hearing in which the applicant must demonstrate that granting its exception is necessary to either: (a) prevent waste of oil and gas or (b) prevent confiscation of oil and gas. 35 For example, waste may occur when a reservoir can be effectively drained only with denser well spacing. Likewise, confiscation may occur when the commission denies a permit on a substandard-size tract because no regular drilling location exists. The specific criteria for satisfying these narrow standards are beyond the scope of this article, but other publications discuss them in detail. 36 Needless to say, however, you should be represented by legal counsel if your case is protested.

The “voluntary subdivision rule” is an obstacle frequently encountered in seeking a confiscation exception to Rule 37. 37 The rule essentially bars the commission from granting a spacing exception on small tracts created by a voluntary subdivision by deed occurring prior to the date of first discovery in the field and on small tracts created by an oil and gas lease. This description is oversimplified, but the rule is designed to prevent applicants from circumventing spacing and density rules by deliberately subdividing their land into substandard-size lots and then seeking a “small tract” confiscation exception.

Exception permits are often protested due to title-related disputes. The commission issues permits based on the applicant’s demonstration of a
“good faith” claim to an interest in the drillsite; likewise, it may deny a permit if the applicant’s claim is rebutted by protesting parties. The commission lacks jurisdiction to resolve genuine title disputes; such matters must be resolved privately or in the Texas civil court system before the commission will consider whether to issue or deny a permit.

Statewide Rule 86 governs spacing, density and proration for horizontal wells, to the extent they are not pre-empted by special field rules. A horizontal drainhole well, as distinguished from vertical and directional wells, is any well “developed with one or more horizontal drainholes having a horizontal drainhole displacement of at least 100 feet.” Like Rule 37, Rule 86 requires 467-foot lease line spacing and 1,200-foot between-well spacing, though the rule language is slightly modified to apply to horizontal development. However, Rule 86 prescribes density and proration rules using specific formulae for allocating acreage and allowables, which differ significantly from those applicable to vertical wells. Essentially, Rule 86 allows for a horizontal drilling and proration unit of the applicable acreage for a vertical well in the same field, plus additional acreage in 20-acre intervals based on the length of the drainhole “displacement,” which is the portion of the wellbore lying within the producing formation or “correlative interval.” Essentially, the size of the unit is proportional to the length of the drainhole.

Rule 86 also prescribes a diagonal rule, which limits the diagonal length of a horizontal proration unit to the length of the drainhole displacement plus 2,100 feet. This not only puts limits on the shape of the unit, but also acts as a secondary restriction on unit size. Also, unlike most vertical wells, all horizontal wells must have directional surveys to verify that the well was actually

30 - Id. at §3.37(a)(2)(A).
31 - Online Research Queries, http://www.rrc.state.tx.us/data/online/index.php#.
33 - Id. at §1.46.
37 - 16 Tex. Admin. Code §3.37(g).
38 - Magnolia Petroleum Co. v. R.R. Comm’n, 141 Tex. 96, 170 S.W.2d 189 (1943).
40 - Id. at §3.86(a)(4).
41 - Id. at §3.86(b)(1-3).
42 - Id. at §3.86(d).
43 - Id. at §3.86(d)(1).
44 - Id. at §3.86(d)(6).
drilled in conformity with the permit. Most horizontally developed fields are operated under special field rules, many of which share common regulatory concepts developed in recent years. They typically have 330-foot lease line spacing and often no between-well spacing or diagonal requirements at all. The “box” rule has been adopted in several fields, which allows a drainhole to deviate a certain distance, usually 33 feet, from either side of the permitted drainhole location without the necessity of a spacing exception. This gives operators some leeway when they must make minor unplanned deviations, which is helpful when spacing rules create an especially narrow drilling path.

Rule 86 specifically allows drilling of multiple drainholes from a single surface location, known as “multilateral” wells, and treats them as a single well for permitting purposes. However, many special field rules also allow “stacked laterals,” which are multiple drainholes located on top of one another and drilled from different surface locations but still treated as a single well. The stacked lateral rule takes advantage of the lack of between-well spacing, allowing the operator to manage the distances between his own drainholes.

Surface location is generally irrelevant to the permitting process for horizontal wells, and off-lease surface locations are common. However, many special field rules have gone a step further to allow off-lease penetration of the producing formation itself. This allows the operator to locate the first take point as close as permitted to the lease line and thereby drain more valuable lease acreage. Off-lease penetration requires a notice and objection process similar to that required for an administratively granted exception to spacing or density rules. Of course, a landman must secure appropriate surface and subsurface rights from the owners of the penetration point tract, unless he is his own offset.
In 2011, the commission attempted to formally adopt the box rule and stacked laterals on a statewide basis by amending Rules 79 and 86, as well as the concepts of PSAs and NPZs, though the proposed rulemaking has since been withdrawn. For now, these regulatory concepts will continue to be utilized solely in the context of special field rules.

**The “Take Point” Rule and NPZs**

Due to their lateral length, horizontal wells usually transect multiple tracts. All tracts transected by the productive portion of a horizontal wellbore are considered drillsite tracts, which means the owners of interests therein are entitled to their share of oil and gas actually produced from their tract. A critical step in the process of drilling a horizontal well is determining the basis for distributing the proceeds of production among the owners in the various tracts, which is usually accomplished by pooling. A landman must often lease and pool adjacent nondrillsite tracts in order to comply with applicable spacing rules, even though the drainhole will not transect such tracts.

However, questions arise when an interest owner in any tract necessary to permit the horizontal well cannot be leased and/or pooled. A common problem in horizontal development is a mineral owner in an adjacent nondrillsite tract who refuses to lease or otherwise participate, which results in a spacing violation that would normally require a spacing exception. However, under special field rules for most new horizontal fields, the commission adopted a “take point” rule, which applies the spacing distance minimum only to the points along the drainhole casing that are perforated for draining the formation and not to the entire length of the drainhole.53

The “take point” rule allows operators to avoid a spacing exception simply by not perforating that portion of the wellbore that is located too close to the offset tract, known as the “no-perf zone” or NPZ, provided the well meets certain casing and cementing criteria. This procedure may result in a slightly less productive well but is certainly better than forfeiting it entirely. Note that the “take point” rule has not been adopted on a statewide basis, so spacing restrictions apply to the entire length of the drainhole in areas still governed by Rule 86.

**PSA Permits and Allocation Wells**

Another problem encountered in horizontal development is lack of power to pool leases. As noted, pooling is regularly used to combine separate adjacent leases into a single unit big enough to accommodate a long lateral drainhole, and the commission requires the operator thereof to verify its pooling authority as part of the permitting process. However, in Texas, a lessee’s power to pool is derived solely from the terms of his lease, and not all leases authorize pooling. Perhaps a lease authorizes pooling for gas but not oil. Or perhaps the pooling power under a lease was exhausted when it was pooled into a pre-existing unit. Texas allows forced pooling only in certain uncommon circumstances, and all attempts to enact broad forced pooling legislation have failed. An operator may have a clear right to drill each of his adjacent leases, but how can he develop them together horizontally if he cannot pool them?

To address this issue, landmen who could not secure pooling authority began using production sharing agreements (or PSAs) in lieu of formal pooling. A PSA is essentially a contractual stipulation among the royalty and working interest owners in a horizontal well as to how the proceeds of production shall be allocated among the tracts composing the well unit. The commission informally adopted a policy of issuing drilling permits based on the operator’s representation that it has secured a PSA joined by at least 65 percent of the royalty interest and 65 percent of the working interest for each lease involved (Form PSA-12).54

The commission form (Form PSA-12) is based on net acreage contributed to the well, like a typical pooling agreement. However, the form may be accompanied by a more sophisticated agreement also based on acreage contribution or sometimes on the proportion of productive lateral transecting each drillsite tract or the location of

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47 - See Order Nunc Pro Tunc Adopting Field Rules for the Atlee (Olmos) Field, LaSalle County, Texas (May 7, 2012) (Railroad Commission Oil & Gas Docket No. 01-0280555); see Final Order Amending Field Rules for the Dowdy Ranch (Cotton Valley) Field, Freestone and Leon Counties, Texas (June 22, 2010) (Railroad Commission Oil & Gas Docket No. 05-0265406).

48 - 16 Tex. Admin. Code §3.86(e).

49 - See supra note 47.

50 - See Final Order Adopting Field Rule Nos. 5 and 6 for the Phantom (Wolfcamp) Field, Loving, Reeves, Ward and Winkler Counties, Texas (June 12, 2012) (Railroad Commission Oil & Gas Docket No. 08-0275212); see Final Order Adopting Field Rules for the Pearsall (Buda, S.) Field, Frio and Zavala Counties, Texas (Nov. 6, 2012) (Railroad Commission Oil & Gas Docket No. 01-0278062).


53 - See supra note 50.

well permits, which are based solely on the operator’s good faith assertion of its right to drill laterally through multiple tracts without a pooling agreement or PSA in place. However, the legality and advisability of allocation wells is currently in dispute at the commission, and their future use is uncertain.66

Penalties for Noncompliance

Failure to comply with commission rules results in steep fines and penalties, even for seemingly minor reporting violations. Drilling without an approved permit can cost upwards of $10,000 in penalty fees.57 More worrying than fines, however, is the risk of incurring the “death penalty” for the well: a plugging order from the commission. Keep in mind that any well drilled without a proper permit or in violation of spacing or density rules or in noncompliance with a commission order “shall be plugged.”58

Generally, the commission will work with you to resolve regulatory problems in good faith, to the extent allowed under the law; but remember that its rules and orders have the power of the state behind them, which is no small matter. The commission has power to enter an operator’s lease premises, test wells and inspect facilities at any time and for any reason.59 During hearings, the commission has essentially the same power as a court to compel testimony and disclosure of evidence by order or subpoena, such as well logs, geological data, service contracts and environmental reports.60 Also, commission enforcement is not subject to a statute of limitations, so permit problems will not be cured by passage of time. In sum, potential regulatory violations should be taken seriously as a genuine threat to the value of your wells and leases.

Conclusion

A good landman should be familiar with the rules and regulations of the Railroad Commission of Texas, both for the field he is working in and on a
statewide basis. Even if not directly involved in the formal well permitting process, a landman can avoid many regulatory pitfalls by ensuring that his land has the spacing and density features necessary to carry out his operator’s development plans. Keeping up with new regulatory schemes in field rules for horizontal drilling is especially important given the broad range of recent developments in this area.

Furthermore, given the high level of risk presented by drilling permit violations, compliance with commission rules should not be seen as a mere formality, but an essential component of the right to drill, which deserves a landman's careful attention. The process of permitting and completing a well can often be overwhelmingly complex, though the commission provides a wealth of online guidance materials to aid in the process. Permit exceptions can arise in any number of ways, and a good landman should be familiar with the steps to secure an exception, especially when called upon to notify and obtain waivers from affected landowners. A potential permit violation is a major financial risk to an operator, and such compliance matters should be given due attention.

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