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## Oklahoma's Production Revenue Standards Act Post FERC Order 636--Measurement, Delivery and Quantity Issues

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**OKLAHOMA'S PRODUCTION REVENUE  
STANDARDS ACT POST FERC ORDER 636  
— MEASUREMENT, DELIVERY AND  
QUANTITY ISSUES\***

Stephen R. McNamara†  
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### I. INTRODUCTION

Changes in economic forces, federal regulatory policies and interstate pipelines have affected Oklahoma particularly. In 1981, for example, Oklahoma enjoyed an average of 25.688<sup>1</sup> drilling rigs per day working within its boundaries and had total severance tax income attributable to natural gas production of \$ 281,958,490.98<sup>2</sup> on 2.0 Tcf of produced gas.<sup>3</sup> By 1991, however, an average of only 3.741 rigs were in operation on a daily basis.<sup>4</sup> Moreover, during the same ten year period, the average price per Mcf at the wellhead fell from \$1.87 to \$1.47<sup>5</sup> while the average cost of natural gas sold at the burner tip to residential consumers increased from \$2.94 to \$4.72.<sup>6</sup> The fall of wellhead prices precipitated a large number of bankruptcies, bank failures and regulatory problems. Most industry participants dealt with these problems on a daily basis. Additionally, contract abrogations, take or pay claims, market out clauses, split stream sale arrangements, spot sales, gas balancing claims and royalty and excess burden calculations

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1. Telephone Interview with Mr. Larry Claxton, Statistical Analysis Manager of the Oklahoma Corporation Commission, Oil and Gas Division (Feb. 4, 1994) (The record high occurred in 1981 for the number of rigs operating in the state of Oklahoma. By 1984, this number had dropped off to a daily average of 11.258 rigs in operation and by 1991, only 3.471 rigs were in operation on a daily basis) (citing statistics from Oklahoma Corporation Commission internally compiled unpublished report).

2. Telephone Interview with Mr. Steve Martin, Oklahoma Tax Commission (Feb. 4, 1994) (By 1991, tax revenues from natural gas had fallen to \$223,851,769.00) (statistics compiled from producer/purchaser monthly return tax payers 300 form).

3. Telephone Interview with Larry Claxton, *supra* note 1. The total production within the ten year span did not change dramatically. In fact, Oklahoma produced 2.1 Tcf in 1991, 0.1 Tcf more than the 1981 figure.

4. *Id.*

5. *Id.*

6. Telephone Interview with Mr. Ken Zimmerman, Oklahoma Corporation Commission, Public Utility Division (Feb. 4, 1994) (statistics from the Energy Administration Natural Gas Annual Report).

all besiege the industry. As a consequence of the foregoing problems, both federal and state lawmakers have been active in regulating the natural gas industry in recent years. The Federal Energy Regulatory Commission ("FERC") has enacted six major policy initiatives since 1980.<sup>7</sup> The most recent of these is FERC Order 636.<sup>8</sup> Oklahoma has responded with the Production Revenue Standards Act ("PRSA")<sup>9</sup> and the Natural Gas Market Sharing Act ("NGMSA").<sup>10</sup> These statutes represent the present culmination of a continuing effort by the natural gas community to grapple with the myriad of issues facing them.<sup>11</sup>

This paper will first attempt to summarize the various approaches which Oklahoma has adopted to deal with this turmoil. The Oklahoma efforts culminated in the enactment of Senate Bill 168 on May 8, 1992.<sup>12</sup> Additionally, the paper will focus on the PRSA's impact on day to day operations of the natural gas industry in Oklahoma, especially when viewed in light of FERC Order 636. Hence, a summary of the relevant current law in Oklahoma incorporating express statutory language and the Uniform Commercial Code will be examined. Finally, the paper will attempt to review the long overlooked issues of reliable and accurate gas measurement systems as used in today's natural gas industry and the PRSA's expected impact on the measurement of natural gas and natural gas liquids.

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7. These enactments include Order No. 380, Elimination of Variable Costs from Certain Natural Gas Pipeline Minimum Commodity Bill Provisions, F.E.R.C. Reg. Preambles 1982-1985 ¶ 30,571 (1984); Order No. 436, Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, III F.E.R.C. Stats. & Regs. ¶ 30,665 (1985); Order No. 451, Ceiling Prices: Old Gas Pricing Structure, III F.E.R.C. Stats. & Regs. ¶ 30,701 (1986); Order No. 500, Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, III F.E.R.C. Stats. & Regs. ¶ 30,761 (1987); Order No. 490, Abandonment of Sales and Purchases of Natural Gas Under Expired, Terminated, or Modified Contracts, III F.E.R.C. Stats. & Regs. ¶ 30,797 (1988); Order No. 636, Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation; and Regulation of Natural Gas Pipelines After Wellhead Decontrol, III F.E.R.C. Stats. & Regs. ¶ 30,939 (1992).

8. Order No. 636, III F.E.R.C. Stats. and Regs. ¶ 30,939, 57 Fed. Reg. 13,267 (Apr. 16, 1992); Order No. 636-A, III F.E.R.C. Stats. and Regs. ¶ 30,950, 57 Fed. Reg. 36,128 (Aug. 12, 1992); Order No. 636-B, 61 F.E.R.C. 61,272, 57 Fed. Reg. 57,911 (Dec. 8, 1992).

9. 1992 Okla. Sess. Laws 190, §§ 1-15, amended by 1993 Okla. Sess. Laws 340 § 8 (codified at OKLA. STAT. ANN. tit. 52, §§ 570.1-570.15 (West Supp. 1993)).

10. 1992 Okla. Sess. Laws 190, §§ 18-26 (codified at OKLA. STAT. ANN. tit. 52 §§ 581.1-581.10 (West Supp. 1993)).

11. The PRSA and NGMSA are together commonly referred to as Senate Bill 168. Senate Bill 168, amended by S.B. 294, 1993 Okla. Sess. Laws 340; OKLA. STAT. ANN. tit 52, § 540 renumbered as § 570.10, § 540.1 repealed, §§ 541-47 renumbered as §§ 581.2, 581.5-581.10.

12. 1992 Okla. Sess. Laws 190 §§ 30-31 (Sections 1 through 3, 8, 11 through 15, and 18 through 27 became effective September 1, 1992; sections 4 through 7, 9, 10, 16, and 17 became effective July 1, 1993).

### A. Historical Background

With the passage of the Natural Gas Policy Act of 1978,<sup>13</sup> the Federal Energy Regulatory Commission ("FERC"), an administrative entity vested with broad regulatory powers, replaced the old Federal Power Commission.<sup>14</sup> Almost immediately, the FERC set out to deregulate the natural gas industry. Commencing in 1984, with Order No. 380,<sup>15</sup> the FERC allowed local distribution companies to abrogate "minimum bill" provisions in their contracts with interstate pipelines.<sup>16</sup> One year later the FERC issued Order No. 436<sup>17</sup> transforming interstate pipeline companies from merchants to transporters of gas by allowing all firm sale<sup>18</sup> customers the right to abrogate their contracts. In effect, the pipelines now had no market in which to sell in spite of huge contract liabilities to producers to purchase gas. Consequently, producers with long term contracts to sell gas to interstate pipelines found themselves "shut in."<sup>19</sup> Despite express and implied contractual commitments from pipelines, little or no gas was moving pursuant to long term or "base contracts." Producers without base

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13. 15 U.S.C. §§ 3301-3432 (1988 & Supp. III 1991); 42 U.S.C. § 7255 (1988); *see also* AMERICAN GAS ASSOCIATION, 1 REGULATION OF THE GAS INDUSTRY § 5.08[5] (1993).

14. 42 U.S.C. §§ 7171-7178 (1988 & Supp. IV 1992); *see generally* 1 ENERGY L. SERV. (Calaghan) § 2.05 (1980).

15. Order No. 380, 49 Fed. Reg. 22,778 (May 25, 1984), F.E.R.C. Reg. Preambles 1982-1985 ¶ 30,571 (1984), *reh'g denied*, Order No. 380-A, F.E.R.C. Reg. Preambles 1982-1985 ¶ 30,584 (1984), *reh'g denied*, Order No. 380-B, 29 F.E.R.C. ¶ 61,076 (1984), *modified*, Order No. 380-C, F.E.R.C. Reg. Preambles 1982-1985 ¶ 30,607, *reh'g denied*, Order No. 380-D 29 F.E.R.C. ¶ 61,332 (1984), *modified*, Order No. 380-E, 35 F.E.R.C. ¶ 61,384 (1986), *reh'g denied*, Order No. 380-F, 40 F.E.R.C. ¶ 61,190 (1987).

16. "A minimum commodity bill ensures a pipeline recovery of a certain percentage of the fixed costs that are in the commodity component of its rates. But at the same time, it also ensures a pipeline recovery of a certain percentage of the variable costs as well." Thus, a minimum commodity bill (1) operates to recover variable costs that are not actually incurred by the pipeline and (2) serves as a barrier to competition because a customer is not likely to purchase gas from an alternative supplier if it is required to pay for gas it does not take from the original supplier. 49 Fed. Reg. 22,779 (May 25, 1984). *See also* 8 WILLIAMS & MEYERS, OIL AND GAS LAW 718 (1993).

17. Order No. 436, 50 Fed. Reg. 42,408 (Oct. 18, 1985), F.E.R.C. Stats. & Regs. ¶ 30,665 (1985), *modified*, Order No. 436-A, F.E.R.C. Stats. & Regs. ¶ 30,675 (1985), *modified further*, Order No. 436-B, F.E.R.C. Reg. Preambles 1982-1985 ¶ 30,668 (1985), *reh'g denied*, Order No. 436-C, 34 F.E.R.C. ¶ 61,404 (1986), *reh'g denied*, Order No. 436-D, 34 F.E.R.C. ¶ 61,405 (1986), *reconsideration denied*, Order No. 436-E, 34 F.E.R.C. ¶ 61,403 (1986).

18. A firm sales contract is a contract for the sale of gas that gives the customer the right to demand and obligates the pipeline at all times to stand ready to deliver, a certain quantity of gas per day, generally known in the industry as *Contract Demand* (q.v.) or CD. WILLIAMS & MEYERS, *supra* note 16, at 457. *See also* AMERICAN GAS ASSOCIATION, *supra* note 13, § 5.08[5].

19. "Shut in" is an industry term meaning to close down a producing well temporarily for repair, cleaning out, building up reservoir pressure, lack of market, etc. 8 WILLIAMS & MEYERS, *supra* note 16, at 1151. *See generally* Philip M. Marston, *Pipeline Restructuring: The Future Of Open-Access Transportation*, 12 ENERGY L.J. 53, 60-62 (1991).

contracts and producers with non-performing base contracts consequently found themselves with a pressing need for cash flow.

The smaller and financially weaker producers, some of whom were already in bankruptcy, began to seek markets for their production at ever lower prices in a desperate attempt to increase cash flow. This situation resulted in a whole new alternative marketing arrangement, the so called "spot market."<sup>20</sup> In this market, producers sold for short periods, usually one month, at low prices to brokers or end users instead of the traditional purchasers of gas, the pipelines.<sup>21</sup>

Sophisticated producers orchestrated these sales by arranging transportation services on pipelines for their own account. Less sophisticated producers used an altogether new entity in the industry, the gas marketing company. Marketers quickly interposed themselves between producers and end users and became adept at arranging transportation, swap arrangements and other exchange rights on the pipeline systems so as to move gas from the wellhead to the factory gate.<sup>22</sup>

Producers not desiring to sell on the spot market, whether because of ongoing "take or pay"<sup>23</sup> litigation or simply through unwillingness to sell at low prices, were fighting a losing battle. Under Oklahoma law, producers could sell the entire well stream of natural gas from a well bore even if they owned only a small fraction of the working interest in the well.<sup>24</sup> Producers not desiring to sell were deemed to be maintaining their gas in the ground.

Subsequently, the FERC promulgated Order No. 451<sup>25</sup> designed

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20. See 8 WILLIAMS & MEYERS, *supra* note 16, at 1180.

21. See 1 AMERICAN GAS ASSOCIATION, *supra* note 13, § 8A.01.

22. In the early years of this phenomena, marketers operated in an environment of little competition. Incredibly, they also operated in an environment where neither the producer/seller nor the end user/buyer knew of the price difference or profit margin the marketer was making. Not until the advent of publicized price reports were producers given an independent source of information regarding prices.

23. 8 WILLIAMS & MEYERS, *supra* note 16, at 1232-1246. See generally J. Michael Medina, *The Take-or-Pay Wars: A Cautionary Analysis for the Future*, 27 TULSA L.J. 283 (1991) (discussing producer-pipeline litigation and making recommendations for future gas purchase contracts).

24. OKLA. STAT. ANN. tit. 52, §§ 541-47 (Supp. 1988); see also Wade A. Hoefling, *Gas Balancing Problems In A Deregulated Market: Changes And Possible Solutions Under Oklahoma Law*, 25 TULSA L.J. 63, 79-86 (1989).

25. Ceiling Prices; Old Gas Pricing Structure, Order No. 451, F.E.R.C. Reg. Preambles 1986-1990 ¶ 30,701 (1986), 51 Fed. Reg. 22,168 (June 18, 1986), *modified*, Order No. 451-A, F.E.R.C. Reg. Preambles ¶ 30,720 (1986), 51 Fed. Reg. 46,762 (Dec. 24, 1986), *modified further*, Order No. 451-B, F.E.R.C. Reg. Preambles ¶ 30,748 (1987), 52 Fed. Reg. 21,669 (June 9, 1987). See also 1 AMERICAN GAS ASSOCIATION, *supra* note 13, § 8A.01[4]; ROBERT A. LUETTGEN, DRAFTING NATURAL GAS CONTRACTS AFTER ORDER 436: THE PRODUCER'S PERSPECTIVE 14, 68 (Natural Resources, Energy & Environmental Law Section Monograph Series No. 11, 1989).

to blend "old gas"<sup>26</sup> contract prices with high cost "new gas."<sup>27</sup> This order was further designed to reduce the pipeline take or pay exposure. Prior to this order, "old" regulated gas was priced considerably lower than deregulated new gas. Thus, there were very few buyers willing to purchase the higher priced new gas when there was cheaper old gas available.<sup>28</sup> However, some buyers were locked into take or pay contracts with sellers of regulated new gas. These buyers were not able to compete with the lower priced old gas. The enactment of Order No. 451 permitted the price of old, regulated gas to rise to a comparable price in relation to new gas.<sup>29</sup> In theory, this order eliminated the take or pay dilemma because pipelines could offer higher prices for old gas in trade for contract concessions on new gas.

In 1987, FERC Order No. 500<sup>30</sup> was issued requiring producers to offer take or pay "credits" in exchange for access to pipeline transportation.<sup>31</sup> "In general, this rule provides that, for each unit of gas transported, the pipelines may obtain a credit for the volumes transported as though they were volumes purchased under pre-June 23, 1987<sup>[32]</sup> take or pay contracts."<sup>33</sup> Order No. 500 had the further effect of allowing pipelines to pass take or pay litigation costs and settlement expenses through to their tariffs.

## B. *Sweetheart Gas Bill*

Oklahoma's first legislative attempt to deal with the phenomena of disparate markets was the passage of the Sweetheart Gas Bill in

26. "Old gas" or "old flowing gas" is generally natural gas that was committed or dedicated to interstate commerce on the day before the enactment of the Natural Gas Policy Act (NGPA) [Nov. 9, 1978], as well as intrastate flowing gas subject to the price ceilings for intrastate rollover contracts under section 106(b) of the NGPA. Pub. L. No. 95-621, 92 Stat. 3350, 3356-3369 (1978) (codified at 15 U.S.C. §§ 3301, 3311-20 (1978)); 51 Fed. Reg. 22169 (June 18, 1986).

27. "New gas" under Order No. 451 and the NGPA is gas priced under NGPA sections 102, 103, 105, and 108. *Id.*

28. See Thomas G. Johnson, *Order No. 451 - Market-Based Pricing For "Old" Gas*, 24 TULSA L.J. 627, 638 (1989).

29. 1A AMERICAN GAS ASSOCIATION, *supra* note 13, § 12.11[3][g].

30. Regulation Of Natural Gas Pipelines After Partial Wellhead Decontrol, Order No. 500, F.E.R.C. Reg. Preambles ¶ 30,761 (1987); 52 Fed. Reg. 30,334 (Aug. 14, 1987). See also AMERICAN GAS ASSOCIATION, *supra* note 13, § 8A.03; LUETTGEN, *supra* note 25, at 10-13.

31. This order stated:

In order to permit pipelines to minimize the incurrence of take-or-pay liability because of open-access transportation under these regulations, a producer must offer to credit gas transported by a pipeline against that pipeline's take-or-pay liability to the producer accruing under certain pre-June 23, 1987 gas purchase contracts.

52 Fed. Reg. 30335 (Aug. 7, 1987).

32. Associated Gas Distributors v. F.E.R.C., 824 F.2d 981 (D.C. Cir. 1987) (upholding the substance of F.E.R.C. Order No. 436). The judgment was entered on June 23, 1987.

33. 52 Fed. Reg. 30338 (Aug. 14, 1987).

1983.<sup>34</sup> That bill was specifically designed to force those producers, generally perceived as the major oil companies, who could obtain long term base contract arrangements in the early days of the gas bubble,<sup>35</sup> to share those contract rights with smaller producers who did not have the leverage or marketing clout to obtain such contracts.

The Sweetheart Gas Bill did little to change the reality faced by producers. Those desiring not to sell at low prices saw their financially weaker cousins sell ever increasing volumes of reserves out of the well bore. Regardless whether the non-selling producers had a gas balancing agreement or simply fell under the *Beren*<sup>36</sup> and *United*<sup>37</sup> decisions, the results were generally the same. Under-produced producers (non-sellers) were not balanced with over-produced producers (sellers) until the end of the productive life of the well. Further, the balancing was accomplished at the net realized sales price, generally without interest. Non-sellers could, therefore, sell at low market prices for immediate cash or wait years to receive the same amount without interest if, of course, the over-produced owners were then still solvent. The Sweetheart Gas Bill proved to be insufficient for the growing needs of the industry. The Oklahoma legislature, thus, continued to address new natural gas law in an effort to resolve the problem associated with equitable balancing.

### C. Senate Bill 160

As a result of split stream connections and spot market sales, the customary and prescribed methods of distributing royalty proceeds in Oklahoma became less effective. Traditionally, 8/8ths of production

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34. OKLA. STAT. ANN. tit. 52, §§ 541-47, 581.2-581.10 (West 1983 & Supp. 1993).

35. "The term applied to the release to the market, following partial deregulation of gas sales, and the authorized increase in the price of regulated gas, of substantial quantities of gas previously withheld from the market by owners anticipating deregulation. As a result, the supply of gas exceeded demand under the then existing price structure in the early 1980's [cir. 1981-1982]." 8 WILLIAMS & MEYERS, *supra* note 16, at 504-505.

36. *Beren v. Harper Oil Co.*, 546 P.2d 1356 (Okla. Ct. App. 1975) (holding that co-owners of oil and gas drilling and spacing unit, who were underproduced as result of "split connection" were entitled to immediate accounting and cash balancing between owners of interests in well, where cause of imbalance, that is, split connection, had been eliminated and there was no immediately foreseeable continued imbalancing in production because there was but one purchaser of gas from the well).

37. *United Petroleum Exploration, Inc. v. Premier Resources Ltd.*, 511 F. Supp. 127 (W.D. Okla. 1980) (holding that the facilities necessary to receive such production in kind must actually exist and be available before a participant in a unitized production well elects to receive its fair share of the well's production in the form of production in kind). *Id.* at 131. *See also* Hoefling, *supra* note 24, at 72-77. "*Beren* is more consistent with Oklahoma oil and gas law and should be read alone as the clearest statement of Oklahoma's law on balancing problems; *United Petroleum* should be largely ignored." *Id.*



was distributed on revenue disbursement decks controlled by the first purchaser or operator. This practice insured knowledge of both the volume of production for the relevant time and the realized sales price. It thus enabled the first purchaser or operator to comply easily with Oklahoma's "Blanchardizing" of the basic 1/8th royalty.<sup>38</sup> Spot sales by non-operating working interest owners, however, increased during the time that FERC orders were removing incentives for pipelines to provide division orders and revenue disbursement departments. The inevitable result was the demise of the traditional revenue distribution system.

During 1983 and subsequent years, non-operating working interest owners selling gas for their own account often did not recognize an obligation to pay royalty and excess royalty burdens which attached to their working interests. Others recognized the obligations but were unable or unwilling to invest the accounting and division order resources necessary to adequately address the problems. Even well funded and sophisticated operators had difficulty dealing with their obligations to royalty owners having the right to receive more than the traditional or "Blanchardized" 1/8th royalty. While accounting departments could easily determine the weighted average price for all 1/8th royalty shares, the determination of a 3/16th or 1/4th royalty obligation involved calculating both the weighted average price for the base 1/8th plus the actual net realized price of each working interest owner burdened by the excess royalty.

Working interest owners began to separately dispose of whatever share of production was available on the spot market and to receive proceeds directly from marketers and end-users. The centralized control traditionally enjoyed by the operator or first purchaser was lost. The resulting confusion and frustration culminated in the enactment

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38. In large measure, the provisions of the PRSA requiring a "pooling" of royalty proceeds by all working interest owners in the producing unit has received most of the attention directed to this legislation. The Oklahoma legislature addressed, for the third time, in the PRSA, the vexatious problems created by royalty shares exceeding 1/8th of production and the *Blanchard* decision. To date the industry appears to be complying.

Although commonly referred to as the "*Blanchard Case*," the case is cited as *Shell Oil Co. v. Corporation Commission*, 389 P.2d 951 (Okla. 1964) ("[T]he owners of the one-eighth royalty in the unitized area were entitled to share in one-eighth production from a well drilled thereon in the proportion that their acreage bore to the entire acreage in the unit. . . and it was the responsibility of each lessee taking production from the well to account to all royalty owners in the unit for one-eighth of the production taken by him, or one-eighth of the proceeds from the sale of such production as the lease contracts would direct, and in the ratio that the acreage of each royalty owner bore to the total acreage as a unit.").

of Senate Bill 160<sup>39</sup> on June 7, 1985. However, Senate Bill 160 was immediately attacked because it focused on making the first purchaser (or pipeline) liable for enormous royalty payments.<sup>40</sup> The bill also contained serious flaws which rendered its directives impossible to implement by the industry. Thus, the industry continued to labor under an inadequate legislative framework.

#### D. FERC Order 636

In 1992, FERC Order No. 636<sup>41</sup> was issued requiring pipelines to initiate open access programs. Unlike past FERC initiatives that utilized incentive programs<sup>42</sup> to induce pipelines to unbundle their services, Order No. 636 required separate rates for sales, transportation and storage.<sup>43</sup> Additionally, Order No. 636 required "Straight Fixed Variable"<sup>44</sup> rates to take away pipeline risks and make gas sales and transportation services more uniform for all shippers.

Effective January 1, 1993, by virtue of the Natural Gas Wellhead Decontrol Act of 1989,<sup>45</sup> pricing controls at the wellhead were deleted from the Natural Gas Act and the Natural Gas Policy Act of 1978. As a consequence, the landscape of the natural gas business changed in the period of January 1, 1983 to January 1, 1993, from wellhead price

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39. 1985 Okla. Sess. Laws 141 (amending OKLA. STAT. ANN. tit. 52, § 87.1 and § 540 (West 1991)).

40. See *Panhandle Eastern Pipeline v. State of Oklahoma ex. rel. Commissioners of the Land Office No. 85-2659-P* (W.D. Okla. 1985) (unpublished opinion).

41. Order No. 636, III F.E.R.C. Stats. and Regs. ¶ 30,939 (1992), 57 Fed. Reg. 13,267 (Apr. 16, 1992); Order No. 636-A, III F.E.R.C. Stats. and Regs. ¶ 30,950 (1992), 67 Fed. Reg. 36,128 (Aug. 12, 1992); Order No. 636-B, 61 F.E.R.C. 61,272 (1992), 57 Fed. Reg. 57,911 (Dec. 8, 1992). See generally AMERICAN GAS ASSOCIATION, *supra* note 13, at § 8B.

42. F.E.R.C. Order Nos. 436 and 500 both involved incentive programs to induce pipelines to go "open-access." The F.E.R.C. allowed a streamlined certificate program if the pipelines agreed to follow the initiative set forth within F.E.R.C. Order No. 436 and 500. The most important of these initiatives was the prevention of pipelines to refuse service to third-party gas purchased from a producer other than the pipeline. Before these F.E.R.C. Orders, pipelines would rather sell their own gas. Such discrimination allowed pipelines to charge a higher price for natural gas. By inducing pipelines to go "open-access," the price of natural gas, in theory, would decrease.

43. There are ten major provisions within Order No. 636: 1) unbundling, 2) blanket sales certificates, 3) no-notice transportation service, 4) equality of service, 5) open-access storage, 6) capacity release, 7) Straight Fixed Variable (SFV) rate design, 8) pre-granted abandonment, 9) industry costs, 10) implementation process. For a brief overview of these areas, see Thomas F. Berg, *Stop The presses! Order 636 Finally Issued*, 129 PUB. UTIL. FORT. 93, 93-95 (1992).

44. There are two charges: 1) fixed charges are recovered from the reservation charge, the price paid to assure producers they will have space on the pipeline; these rates reflect the pipelines cost of basic personnel, maintenance and rate of return; and 2) usage charges are recovered from each unit of gas transported through the pipeline, this price reflects the variable costs. Thus, if all fixed costs are to be recovered in the reservation charge, the pipeline will be at less financial risk.

45. 15 U.S.C. § 3301 (Supp. IV 1992).

regulation and pipelines-as-merchants to no wellhead price constraints and pipelines as mere transporters-of-gas.<sup>46</sup> During this same period, Oklahoma adopted the Sweetheart Gas Bill<sup>47</sup> and Senate Bill 160<sup>48</sup> in an attempt to maintain some degree of control over production reporting and royalty payments. By the enactment of Senate Bill 168, Oklahoma adopted for the first time a regulatory scheme consistent with the evolving natural gas industry which exists today.

## II. SENATE BILL 168

In May of 1992, Oklahoma enacted the Production Revenue Standards Act ("PRSA") and the Natural Gas Market Sharing Act ("NGMSA").<sup>49</sup> This paper does not deal directly with the NGMSA, which supersedes the Sweetheart Gas Bill and "allows a producer without a gas purchase contract covering its interest in a well to 'elect' to have the 'designated marketer' of the well market its share of the gas."<sup>50</sup>

### A. *Production Revenue Standards Act*

Senate Bill 168 represents the first attempt the Oklahoma legislature has made to address some of the newer problems associated with the natural gas industry. Prior to its enactment, little statutory authority existed addressing multiple working interest owners marketing, or attempting to market, natural gas from the same wellbore. The only previous attempt, the Sweetheart Gas Bill, proved ineffective and did not address the logistics of how owners coordinate their taking of gas.

Working interest owners who had marketing arrangements with marketers having unique transportation rights, or interstate pipelines, could sell (or move) large quantities of natural gas from the wellbore. This ability had the corresponding effect of temporarily delaying the

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46. *Id.* See also MICHAEL D. PALMER, *NEW DEVELOPMENTS IN NATURAL GAS GATHERING* 2-3 (Apr. 14, 1993) (on file with the ABA Natural Gas Marketing And Transportation Committee, Section Of Natural Resources, Energy and Environmental Law And The Mineral Law Section Of The Tulsa County Bar Association).

47. OKLA. STAT. ANN. tit. 52, §§ 541-547, 570.1-570.15 (West 1988 & Supp. 1993).

48. See *supra* note 39.

49. OKLA. STAT. ANN. tit. 52, §§ 581.1-581.10. (West Supp. 1993). The provisions of the NGMSA became effective on January 1, 1993, and those of the PRSA on September 1, 1992. OKLA. STAT. ANN. tit. 52, §§ 581.1-581.10 (West Supp. 1993); OKLA. STAT. ANN. tit. 52, § 570 (West Supp. 1992).

50. Wade A. Hoefling, *Oklahoma's New Natural Gas Market Sharing Act*, 63 OKLA. B.J. 2245 (1992) (quoting Section 22 of the new act, amending OKLA. STAT. ANN. tit. 52, § 543A (West 1981)).

other working interest owners' gas sales.<sup>51</sup> Relatedly, these marketing arrangements lessened the operator's control over the flow of gas from the well. In most cases, the pipelines timely informed the operator of the timing and quantity of takes for each working interest owner. Occasionally, however, gas was taken without the knowledge of the operator, or contrary to the operators intentions.

These situations have caused confusion amongst operators and pipelines as to reporting requirements of gas takes from the well. They have also caused friction amongst working interest owners whose marketers do not all enjoy firm non-interruptable sales arrangements.<sup>52</sup> In some cases, producers have not had all their nominated volumes actually delivered. Problems have also been encountered when operators failed to recognize nominations from working interest owners for available gas, or where the pipelines discovered that more gas was delivered than anticipated. These imbalances<sup>53</sup> occur for numerous reasons, including "errant communications regarding nominations, production limitations, transportation capacity constraints, differences in allocation methodology as well as differences between timely communicated and confirmed nominations and the physical flow of gas that actually occurs."<sup>54</sup>

Following FERC Order 436, and largely on its own initiative, the

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51. The resulting gas balancing problems between working interest owners have been the subject of numerous articles. See Hoeffling, *supra* note 24, at 79-86; Edel F. Blanks, et al., *A Primer On Gas Balancing*, 37 LOY L. REV. 831 (1992).

52. These firm non-interruptable arrangements provide continuous service without curtailment, except under occasional, extraordinary circumstances. See 8 WILLIAMS & MEYERS, *supra* note 16, at 457.

53. "For purposes of the Production Revenue Standards Act, a well is out of balance when cumulative gas sales on a volumetric basis for the account of all owners in a well have not been in proportion to the respective net revenue of each owner." OKLA. STAT. ANN. tit. 52., § 570.7A (West Supp. 1993).

In a well wherein the cumulative gas production accounts of royalty interests owners are out of balance, producing owners in that well may agree to have the distribution of gas royalty proceeds among the royalty interest owners made in a manner other than according to their proportionate royalty shares. [However, this allowance to so agree is only true if] 1) such variance shall only be permitted to the extent required to balance the cumulative gas production accounts of the royalty interest owners; and 2) prior notice thereof is given to the royalty interest owners affected thereby, and to the operator along with any ongoing information necessary for the operator to discharge its duties.

OKLA. STAT. ANN. tit. 52, § 570.7B (West Supp. 1993).

54. COUNCIL OF PETROLEUM ACCOUNTANTS SOCIETIES (COPAS), JOINT TASK FORCE GUIDELINES ON NATURAL GAS ADMINISTRATIVE ISSUES, Bulletin No. 28, p. 54 (1990). [hereinafter COPAS]

Imbalances evolve under three types of scenarios:

(1) (producer/producer) when one or more producers sell or utilize a quantity of natural gas in excess of their gross working interest;

industry developed a system of nominating, confirming and reporting natural gas sales from wells. These procedures attempt to minimize imbalance problems by structuring the communication which surrounds the gas sales transaction.<sup>55</sup> The PRSA represents Oklahoma's first legislative attempt at codifying these practices.<sup>56</sup>

### B. *The Mechanics Of Information Flow*

Section Eight Part B<sup>57</sup> of the PRSA identifies the required information to be exchanged prior to the actual month of production (hereafter referred to as the flow month). Each working interest owner desiring to sell gas for the ensuing month nominates gas for the flow month by giving the operator no less than five days notice of (1) his first purchaser or shipper and (2) the volumes of gas desired to be sold that month.<sup>58</sup> Thereafter, "the owner of the gas meter shall confirm all nominations with the operator of the well no later than the last business day prior to the month in which production occurs."<sup>59</sup>

Implicit in section 570.8B is the concept of operator allocation of nominated volumes on the basis of a party's working interest ownership in the subject well and the subject well's producing capabilities.<sup>60</sup> Generally, the operator must control the nomination process for the common good. Prior to section 570.8B, it was not necessarily the practice in Oklahoma for the operator to disallow nominations of gas from working interest owners who were overproduced vis-a-vis their co-owners. Operators refrained from disallowing especially when the

(2) (transporter/transporter) when a transporter receives a quantity of natural gas and redelivers a larger or smaller quantity of natural gas under the terms of the transportation agreement; and

(3) (producer/transporter) when a producer delivers a quantity of natural gas that is larger or smaller than the quantity of natural gas that the transporter redelivers for the producer's account to another party. This article is only concerned with the last two scenarios. *Id.* at 105. *See also id.* at 58-68. This article is not concerned with imbalances between competing interest owners of a commonly held well. For an excellent discussion of such imbalances, see Hoefling, *supra* note 24.

55. *See* COPAS, *supra* note 54.

56. OKLA. STAT. ANN. tit. 52, §§ 570.1-570.15 (West Supp. 1992).

57. OKLA. STAT. ANN. tit. 52, § 570.8 (West Supp. 1992), as amended, 1993 Okla. Sess. Laws 340, § 2B (codified at OKLA. STAT. ANN. tit. 52, § 570.8B (West Supp. 1993)).

58. *Id.* § 570.8B.

59. *Id.*

60. Ideally, the sum of all nominations would not be more or less than the well's total capable production as limited by proration allowables for the flow month. For example, if the well is owned 25 percent each by four working interest owners and the well's allowable productive capability is 40,000 Mcf/month, each owner could, and should, nominate and receive 10,000 Mcf for the production (or flow) month.

parties had subjected themselves to a written gas balancing agreement.<sup>61</sup> In most cases gas balancing agreements provide contractual rights to underproduced parties to make up volumes to the detriment of overproduced parties, thus relieving the operator of the responsibility for overproduction by a particular owner. This practice has sometimes spilled over to situations where no written gas balancing agreement exists. In these cases, the operator attempts to exercise its implied powers to regulate production.<sup>62</sup>

Unfortunately, various operational problems may develop notwithstanding the operator's good intentions at matching nominated volumes with expected and probable production. One example is where a well is not producing as expected due to mechanical problems, pipeline pressure fluctuations or operator miscalculations.<sup>63</sup> The PRSA does not spell out the remedies available in any of these scenarios.<sup>64</sup> Consequently, if four owners nominated and confirmed 40,000 Mcf in a given month and the subject well only produces 30,000 Mcf for that month, each working interest owner may have to ratably take a reduced payment (7,500 vs. 10,000 Mcf). Alternatively, the first three working interest owners could be deemed to have sold all their nominated volumes leaving the unfortunate fourth owner underproduced.

Conversely, the well could in actuality produce 50,000 Mcf for the subject month. Here the extra 10,000 Mcf is commonly referred to as U-Gas or unauthorized gas.<sup>65</sup> Pipelines are entitled under their tariff by FERC to impose penalties for the delivery of unauthorized gas into their systems.<sup>66</sup> The operator's duty to contest these penalties, allocate them among the working interest owners, or to bear them itself is far from clear.

The *owner of the gas meter* has twenty days after the end of the production month to provide, in writing, to the operator of the well,

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61. COPAS, *supra* note 54, at 54 (sample of a gas balancing agreement generally attached as an exhibit to the joint operating agreement).

62. The operator's duty to police the conduct of unit operators appears to be implied in both *Beren v. Harper Oil Co.*, 546 P.2d 1356 (Okla. Ct. App. 1975) and *Teel v. Public Service Company of Oklahoma*, 767 P.2d 391 (Okla. 1985) (as amended on grant of rehearing on July 14, 1987).

63. COPAS, *supra* note 54, at 54.

64. See discussion *infra* section V.

65. The amount of gas transported in excess of the previously confirmed nominations for a particular month. See also 8 WILLIAMS & MEYERS, *supra* note 16, at 858 (defining the similar concept of "overproduction").

66. See *El Paso Natural Gas Co.*, 65 F.E.R.C. ¶ 61,392 (1993); *Northern Gas Co.*, 50 F.E.R.C. ¶ 61,256 (1990); *Transwestern Pipeline Co.*, 58 F.E.R.C. ¶ 61,067 (1992).

the gross volume of gas measured by the meter both in Mcf and Btu equivalent and value allocations between first purchaser (shippers) and contracted producing owners.<sup>67</sup> The first purchaser or shipper of gas has thirty-five days following the month of production to issue a volume allocation statement showing the volume of gas purchased from a shipper for each contracted producing owner.<sup>68</sup> The owner of the meter must allocate actual production within twenty days following the production month. Fifteen days later the purchaser makes essentially the same exercise.<sup>69</sup> Differences between the two measurements reveal measurement errors or miscalculations occurring in the nomination process.<sup>70</sup> Unfortunately, the resolution of these issues is not addressed by the PRSA.

However, it is possible that retroactive adjustments may relate back months and possibly even years.<sup>71</sup> Retroactive gas volume adjustments must be reported to the operator within 30 days after receiving notice of same.<sup>72</sup> Many existing sales contracts provide for audit rights of meter records for as long as three years. UCC principles<sup>73</sup> have been extended to natural gas sales for at least five year periods<sup>74</sup> and new title 52, § 547(A) provides for a five year statute of limitations under S.B. 168.<sup>75</sup>

The operator may impose a specified zero nomination penalty upon any producer whose gas meter owner, first purchaser or gas shipper fails to provide the information required under subsection D or E.<sup>76</sup> This penalty sanctions a non-reporting producer by permitting the operator of the well to confirm zero volume of gas sales for that noncomplying producing owner.<sup>77</sup> The rights of producing non-operators are less clear in the event it is the operator who fails to provide

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67. OKLA. STAT. ANN. tit. 52, § 570.8D (West Supp. 1992), amended by, 1993 Okla. Sess. Laws 340 (codified at OKLA. STAT. ANN. tit. 52, § 570.8D (West Supp. 1993)).

68. *Id.* § 570.8E.

69. *Id.* §§ 570.8D, E.

70. COPAS, *supra* note 54, at 54.

71. OKLA. STAT. ANN. tit. 52, § 570.8D (West Supp. 1993).

72. *Id.*

73. See discussion *infra* section V(A).

74. See *United Crude Marketing & Transportation Co. v. Robert Gordon Oil Co.*, 831 P.2d 659, 661-62 (Okla. Ct. App. 1992) (holding five year statute of limitations applied to an oil contract governed under U.C.C.).

75. 1992 Okla. Sess. Laws 190, § 26 (codified at OKLA. STAT. ANN. tit. 52, § 581.10 (West Supp. 1993)).

76. 1993 Okla. Sess. Laws 340 (codified at OKLA. STAT. ANN. tit. 52, § 570.8F, H (West Supp. 1993)).

77. See discussion *infra* section V(B).

the information or, more importantly, provides inaccurate or incomplete information. Also left silent are the remedies available to the operator and other working interest owners in the event of negligence or willful misconduct on the part of the owner of the gas meter, first purchaser or shipper. Subsection J, as recently amended, simply states that “[t]he remedies provided for in this section shall not preclude any party from pursuing the remedies available to it through the district courts, as provided by existing law, including the right to offset.”<sup>78</sup>

### C. OCC Rulemaking Proceedings

In 1993, the Oklahoma legislature passed Senate Bill 294,<sup>79</sup> amending section 570.8 of Title 52. Also contained in that legislation was a directive compelling the Oklahoma Corporation Commission to promulgate rules and regulations to implement the PRSA. The Commission issued a Notice of Proposed Rulemaking on August 16, 1993.<sup>80</sup> After a comment period and public hearings, the Commission issued Order No. 381632 on March 30, 1994, adopting certain of the proposed rules subject to legislative and gubernatorial approval.<sup>81</sup> As of the time of this publication, the proposed rules have not been fully implemented.<sup>82</sup>

## III. GAS MEASUREMENT

Perhaps the most overlooked aspect of the PRSA is its incorporation of a standard measurement reference.<sup>83</sup> Prior to this enactment, Oklahoma law directed the reporting of volumes and MMBtu's without reference to any statutory authority.<sup>84</sup> Natural gas measurement, however, is perhaps one of the most complicated areas in the industry due to its combination of a multitude of scientific disciplines, legal concepts and accounting practices. Clearly, compliance with the PRSA cannot be accomplished without accurate and reliable measurement data.

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78. OKLA. STAT. ANN. tit. 52, § 570.8J.

79. *See supra* note 76.

80. Cause No. RM-930-0000085.

81. *See* OKLA. STAT. ANN. tit. 75, § 251-56 (West 1987).

82. *E.g.*, Proposed Rule 165: 10-27-5 relates to pre-sale nominations.

83. OKLA. STAT. ANN. tit. 52, § 474 (West 1992) (as cited in OKLA. STAT. ANN. tit. 52, § 570.12(b)(2) (West Supp. 1993)).

84. OKLA. STAT. ANN. tit. 52, § 540 (West 1991) (enacted July 1, 1989; repealed effective Sept. 1, 1992).



### A. *Oklahoma Gas Measurement Law*

The Oklahoma Gas Measurement Law<sup>85</sup> directs the Oklahoma Corporation Commission to "determine the average temperature of gas, as produced in each oil and gas field in Oklahoma. . . ."<sup>86</sup> To date, however, no reported cases have dealt with this statute, and its directives have not, to the authors' knowledge, been followed. Sadly, the current Oklahoma Gas Measurement Law is silent with respect to measuring the heating value of natural gas. As almost all contracts are now expressed in MMBtu's, this silence is a significant flaw in the PRSA.

Also troubling is section 472's directive to look to the "methods and tables generally recognized by and commonly used in the natural gas industry." In this regard, what is commonly referred to as AGA Report No. 3<sup>87</sup> describes proper engineering technique for correct gas

85. OKLA. STAT. ANN. tit. 52, §§ 471-77 (West 1991).

Section 474 states as follows:

Each and every sale, and each and every purchase, delivery and receipt of gas by volume hereafter made in this state by, for or on behalf of an oil and gas lease owner, royalty owner thereunder, or other mineral interest owner, shall be made and such gas shall be measured, calculated, purchased, delivered and accounted for on the basis of "a standard cubic foot of gas" as defined in [Section 472], and as determined under this act [Section 471-74]. Whenever the provisions of this act operate to change the basis of measurement provided for in existing contracts, then the price for gas, including royalty gas, provided for in such contracts shall, if either the purchaser or seller so desires, be adjusted to compensate for the change in the method of measuring the volume of gas delivered thereunder. This provision is intended to protect parties to contracts now in existence, so that after this act becomes effective the total amount of money paid for a volume of gas purchased, or required to be accounted for, under existing contracts shall remain unaffected by this act. Nothing in this section shall affect or apply to purchases or sales made on any basis other than volume basis.

OKLA. STAT. ANN. tit. 52, § 474 (West 1991). Section 472 further states as follows:

The term "cubic foot of gas" or "standard cubic foot of gas" means the volume of gas, including both natural gas and casinghead gas, contained in one (1) cubic foot of space at a standard pressure base and at standard temperature base. The standard pressure base shall be fourteen and sixty-five hundredths (14.65) pounds per square inch absolute and the standard temperature base shall be sixty degrees Fahrenheit (60F). Whenever the conditions of pressure and temperature differ from the above standard, conversion of the volume from these conditions to the standard conditions shall be made in accordance with the Ideal Gas Laws corrected for deviation from Boyle's Law, which correction must be made unless the pressure at the point of measurement is two hundred (200) pounds per square inch gauge or less; all in accordance with methods and tables generally recognized by and commonly used in the natural gas industry.

OKLA. STAT. ANN. tit. 52, § 472 (West 1991).

86. *Id.* § 473.

87. ORIFICE METERING OF NATURAL GAS AND OTHER RELATED HYDROCARBON FLUIDS, Report No. 3 (AMERICAN GAS ASSOCIATION, et al. eds., 3d ed., Nov. 1992). The report describes proper engineering techniques for correct gas measurement.

measurement. Although this report should be of some use, it is questionable whether the industry is in strict compliance with its provisions.<sup>88</sup> Daily readings of gas are required to be made;<sup>89</sup> however, electronic flow measurement devices may not comply.

Complicating this picture is the fact that the FERC has authorized and sanctioned measurement standards for pipelines falling under its jurisdiction. Further, many contracts for the purchase and sale of natural gas contain specific contractual language regarding measurement. Certain transportation and exchange agreements between pipelines and their shippers also contain measurement provisions. As a consequence, measurement standards may vary and be governed by contract, state law, pipeline tariffs, or a combination of all three. Thus, a careful review of jurisdictional and contractual rights is necessary before embarking on mismeasurement claims. In some cases, the contractual language, and thus measurement standards, may conflict between the wellhead meter, the pipeline interconnect meter and the ultimate sales meter of the end-user.

## B. Gas Measurement Technology

Mechanical and human errors are common due to the imprecise nature of volume calculating equipment.<sup>90</sup> As the following chart

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88. In addition, the Oklahoma Corporation Commission has adopted certain rules governing the measurement of natural gas, including the Oklahoma Gas Measurement Law in its entirety. See OKLA. STAT. ANN. tit. 52, §§ 471-474 (West 1991); OKLAHOMA ADMINISTRATIVE CODE (OAC), 165:10-17-4 (1992). OAC 165:10-17-5(a)(1) requires a gas meter and a recorder for every producing gas well in Oklahoma. Ironically, electronic flow measurement meters, now utilized by most pipelines, do not have a recorder. *Id.*

89. OKLA. STAT. ANN. tit. 52, § 30 (West 1991); see discussion *infra* section III(B).

90. Dean C. Maschoff & Terry G. Palmberg, *Gas Imbalances: A Growing Problem*, 124 PUB. UTIL. FORT. 24, 25 (1989). Some of the factors contributing to physical gas imbalances are:

1. *Measurement error.* Measurement errors are caused by either instrument error or human error. Some common errors are:
  - a. Wrong coefficient actual inside diameter (AID) for orifice meter
  - b. Wrong plate size
  - c. Plate backward
  - d. Plate not centered or not down all the way
  - e. Meter not in calibration
  - f. Incorrect spring range on record
  - g. Chart not inked
  - h. Painted chart causing square root error
  - i. Type of connection (flange/pipe) error
  - j. Charts late and closing with estimates
  - k. Charts dated wrong
  - l. Clock slow or fast
  - m. Buckled plate
  - n. Chart left in service on a meter run with blind plate
  - o. Meter left out of service
  - p. Wrong specific gravity applied

shows, the results of errors in the gas measurement process by orifice meters can be significant.<sup>91</sup>

Gremlin	Cause	Effect on Measurement Accuracy
6-in plate bowed downstream 1/4 in	Upstream freeze-up bowed by gas pressure or ice slug	Up to 6%
Upstream solids or liquids resting against plate (same condition with wrong-schedule donut seal in orifice fitting)	Accumulation of mud, water hydrates, pipe junk, welding gloves	Up to 16%
Beveled-edge plate deinstalled with bevel facing upstream	Carelessness	Up to 15%, pending on orifice size
Dull plate-looks sharp but won't pare finger nail	Sand, solids, time	Up to 4.5%
Nicks	Dropped, mechanical damage	Hard to classify but 1 to 2% is common
Leaky seal ring around plate, but ring continuous	Deteriorated rubber, O ring, or cut edges	Up to 2%
Discontinuous or cut out seal ring	Damaged on installation or removal	3% +
An orifice plate stamped 4 × 1.000 in but actually bored 1/32 in oversize	Accidentally (or intentionally) misbored	6.7%

2. *Line Pack*: Line pack is the amount of gas contained within the pipeline at anytime that is physically needed to allow the pipeline to operate. . . .

3. *Unknown leaks*: Unmeasured gas leaks through the distribution company's line, gas lines run by small towns, old valves, etc.

4. *Gas vented by instrument*: Certain instruments (especially pneumatic controllers) vent gas continually. This [venting] may be necessary in order for the instrument to operate.

5. *Blowdown*: Sometimes incidental amounts of gas are blown down (and not estimated), as necessitated by daily operation. Changing of the orifice plate may require blowing down the upper chamber of a fitting or a meter tube without a dual-chamber fitting. Compliance-type inspection of a regulator may require blowdown. A major blowdown of a section of pipeline for construction or caused by third party damage is usually estimated.

6. *Liquid fallout*: Some hydrocarbons and water vapor may drop out under certain conditions or temperature and pressure. This liquid is equivalent to the gaseous volume that is not accounted for. Water, carbon dioxide, and hydrocarbon knockout at a conditioning, treating, or processing plant should be properly accounted for.

7. Measuring the same gas more than once can contribute to accounting error.

8. Wrong factors or dimensions on record (schedule 40 vs. schedule 80).

9. Wrong cycle on record for a positive displacement or turbine meter [1000 (1M) instead of 10,000 (10M)].

10. Index read and recorded wrong on positive displacement or turbine meter.

LOHIT DATTA-BARUA, NATURAL GAS MEASUREMENT & CONTROL 62-63 (1992).

91. *Id.* at 54.

As a result, most sales and purchase contracts at the producer level and most pipeline tariffs contain 1 percent to 2 percent margins where mismeasurement is tolerated. It can thus be said that gas mismeasurement is, to a degree, an accepted reality within the industry.

The most important physical devices necessary to measure gas with an orifice meter<sup>92</sup> are the meter tube, orifice plate, measure taps and the differential pressure gauge.<sup>93</sup> The meter tube and the orifice plate are the segments most likely to cause measurement difficulties.<sup>94</sup> As gas flows through the meter tube, the orifice plate causes a flow restriction which is subsequently recorded as a drop in line pressure.<sup>95</sup> The recording of the orifice plate's dimensions is crucial for a reliable restriction calculation. If the wrong plate size is recorded the amount of gas measured will be inaccurate.<sup>96</sup>

This precise situation occurred in *Woods Petroleum v. Delhi Gas Pipeline*.<sup>97</sup> The contract between the two parties in *Woods Petroleum* stipulated that the pipeline was responsible for accounting the gas volume transferred through the line.<sup>98</sup> According to their records, a 1.25 inch orifice plate was used to measure the differential gas pressure.<sup>99</sup> However, Woods Petroleum identified a sudden jump in production that differed greatly from the previously recorded data.<sup>100</sup> Delhi Gas Pipeline explained the difference from one day to the next by concluding that "something must have happened in the well to cause an actual increase."<sup>101</sup> Alternatively, Woods Petroleum concluded that the differential in line pressure was a result of using the wrong orifice plate.<sup>102</sup> Woods Petroleum so concluded after conducting a series of

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92. T. Dean Graves, *Natural Gas Measurement*, 38 OIL & GAS TAX Q. 418 (1989). The other three types of devices used to measure gas are: 1) positive displacement meters - typical of the household meter, 2) turbine meters, and 3) rotary meters. For the purposes of this article, only the orifice meter needs to be addressed due to the fact that it is the most widely used in the industry. *Id.* at 419.

93. LOHIT DATTA-BARUA, *NATURAL GAS MEASUREMENT & CONTROL* 5 (1992).

94. Graves, *supra* note 92, at 418-19.

95. *Id.*

96. See *Woods Petroleum v. Delhi Gas Pipeline*, 700 P.2d 1023 (Okla. Ct. App. 1083); Graves, *supra* note 92, at 419.

97. *Woods Petroleum*, 700 P.2d at 1023. Plaintiff was able to recover for defendant pipeline's negligence in measuring gas pursuant to a contract where the evidence demonstrated that defendant's actions in putting wrong size orifice plate in gas line, in neglecting to check size of device, and in suppressing the fact that the wrong plate had been in place were of such a nature as to give rise to an inference that those actions had been taken recklessly and in wanton disregard of plaintiff's rights.

98. *Id.* at 1025.

99. *Id.*

100. *Id.* at 1025-26.

101. *Id.* at 1026.

102. *Id.* at 1025.

calculations using different size orifice plates. While the pipeline claimed to use a 1.25 inch plate, Woods Petroleum's calculations coincided unequivocally with a 1.75 inch plate.<sup>103</sup> Utilizing the theory of *res ipsa loquitur*,<sup>104</sup> Woods Petroleum successfully pled their negligence action. The jury did not award punitive damages, but the court recognized that such a remedy was available.<sup>105</sup>

While calculating the differential pressure is a potential cause of error, it is merely one of many variables involved in gas mismeasurement.<sup>106</sup> Many other elements, such as the pipeline pressure and temperature, affect the final calculations.<sup>107</sup> In sum, "[t]he physical attributes of natural gas result in measurement that is not precise."<sup>108</sup>

Traditionally, the differential pressure during the production of natural gas is continuously recorded on a circular "chart."<sup>109</sup> However, there are numerous factors not recorded on the chart that also influence the final results. The meter tube must be of a certain length and quality so as to allow gas to flow properly, while the orifice plate must be very sharp and clean to enable a clear recording.<sup>110</sup> In all, there are at least twenty-four items that need to be integrated into the formula in order to calculate an accurate volumetric reading.<sup>111</sup> If

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103. *Id.* at 1025-26.

104. *Id.* at 1026.

105. *Id.* at 1028; see discussion *infra* section V(B) concerning consequences of filing in contract or in tort, and the possibility of punitive damages.

106. Graves, *supra* note 92, at 420-21.

Several steps must be followed before volumes can be available for accounting's use. The measuring equipment must be installed and maintained. Charts must be put on the meter on a regular basis, such as 24 hour, 7 day or 8 day charts. Once the charts are removed, they must be examined by field personnel to make sure proper information is listed and the recording is correct. The charts are then sent to the integration department to determine the average differential and pressure which are the two main information items needed for volume calculation. A machine called the integrator is used to determine the average differential and pressure. Once these charts are integrated, they are also analyzed to insure that the information provided is correct after verification of the information, the information from both the integrator and the field is entered in the computer and the volumes are calculated. Upon completion of the calculation, it needs to be verified to make sure mistakes did not occur.

*Id.* at 426.

107. According to Mr. Graves:

[A] problem of measurement which continues to prevent gas measurement from being an exact science, is that the factors used are not without tolerances or variances. If two meters are connected in a line measuring the same gas, they will not record exactly the same volume. The volumes may be close but they will very seldom be exactly the same. This difference is due to the factor limitations and the difficulty in obtaining the most accurate and complete information.

Graves, *supra* note 92, at 421-22.

108. COPAS, *supra* note 54, at 6.

109. Graves, *supra* note 92, at 420-21.

110. *Id.* at 419-21.

111. *Id.* at 421.

even one of the twenty-four items deviates or is not available, the entire volumetric calculation will be faulty.<sup>112</sup> While the deviation might only equal a percentage point, this error can amount to a significant economic loss due to the shear volume being transported through the pipeline.<sup>113</sup>

Periodically, charts are replaced by field personnel who forward the completed chart to the pipeline or operator for integration. At this time, the in-house measurement department of most pipelines read the chart by comparing the differential and static pressures and by the use of formulas set forth in AGA Report No. 3, which calculate the volume of gas produced.<sup>114</sup> The volumes are then multiplied by the MMBtu factor which normally has been separately calculated or estimated by chromatography equipment.<sup>115</sup> This data is then forwarded to the accounting department where the sales price, revenue distribution and severance tax is computed.

A draw back to this traditional method of calculating gas volumes is the timing issues presented by the PRSA and the modern natural gas industry. Often, charts cannot be delivered, integrated and the data reported to the accounting department within the 20 days following the end of the production month as required.<sup>116</sup> Further, the traditional orifice chart meter does not provide the operator, the purchaser or the seller with what has come to be called "real time data."<sup>117</sup> Production data is instead dependent upon physically retrieving and integrating the chart.<sup>118</sup> In most cases such data is derived too late for corrective action to be taken.<sup>119</sup>

In the modern gas industry, multiple co-owners in a single well may market and sell their proportionate share of gas through a single

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112. *Id.* at 420-21.

113. For example, there can be a \$4,000 loss if mismeasurement occurs where each Mcf is worth \$2.00 and 2 million Mcf are produced.

114. *Supra* note 87.

115. As noted earlier, *see* discussion *supra* section III(A), Oklahoma law does not currently address the measurement of the heating value of natural gas although its reporting to interest owners is mandated by OKLA. STAT. ANN. tit 52, § 570.12(A)(4) (West Supp. 1993).

116. *See* OKLA. STAT. ANN. tit. 52, § 570.8D (West Supp. 1993). Due to the many steps involved in calculating volume, there is a significant delay in providing volume statements. Graves, *supra* note 92, at 427.

117. "Real time data" is the ability to receive volume allocation statements contemporaneously with the actual flow of gas. Unfortunately, an orifice meter is not capable of instantaneous calculations because of the physical nature of natural gas.

118. Maschoff & Palmberg, *supra* note 90, at 25.

119. In accordance with section 570.8B, volume allocation statements must be received five days before the producing owner is required to nominate for the following month or else the calculations are rendered useless and the producing owner is subjected to approximating volumes.

meter.<sup>120</sup> The nomination process ideally will allocate between the co-owners all the available production of the gas well for the ensuing month. Sometimes this allocation is amongst more than one purchaser. Without real time data, however, the operator is temporarily ignorant of the difference between nominated volumes and volumes actually being produced.

Traditional mechanical orifice meters provide little control for the prudent operator striving to ensure that his wells' actual production equals its nominated volumes. The reality in Oklahoma, however, is that traditional orifice measurement remains the most financially viable method for measuring gas. As a consequence, the PRSA has and will continue to put great pressure on chart integrators and operators.

As noted previously, the purchaser or shipper must make a volume allocation statement within 35 days. Given the thousands of wells on any pipeline or gathering system, pipelines, who traditionally own the meter, were hard pressed to measure volumes and process data in such a short period of time.<sup>121</sup> Thus, in the mid 1980's, most pipelines began the conversion process from mechanical orifice meters to electronic flow meters.

Electronic flow meters provide "fully automated billing, allocation and nomination processes."<sup>122</sup> The data generated by the electronic flow meter can be transmitted by telephone lines, cellular phones or other modes directly into a host computer which can generate transportation invoices, settlement statements and supporting detail without the necessity of human input. Today's existing technology allows pipeline owners to have real time knowledge of the quantity of gas entering the system from thousands of receipt points and real time awareness of the amount of gas leaving the system at multiple delivery points. Without this technology, implementation of the PRSA would be impossible.

While electronic flow measurement is vastly faster than traditional flow measurement devices, it is not inherently more accurate. In fact, most, if not all electronic devices are essentially built around the standard orifice meter. These devices simply "convert the physical variables to electrical signals instead of chart recordings."<sup>123</sup>

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120. Section 570.9(A) incorporates this concept.

121. Maschoff & Palmberg, *supra* note 90, at 25.

122. DATTA-BARUA, *supra* note 93, at 122.

123. *Id.* at 72.

As with the traditional chart based meters, electronic flow measurement requires data to be imputed for the system to measure gas flow accurately. Differential pressure, static pressure and temperature are the most critical measurements.<sup>124</sup> Additionally, Btu content, specific gravity, H<sub>2</sub>O and nitrogen content need to be fed into the electronic computation. Perhaps most important to the producer/seller is the receiving pipelines' line pressure. Thus, while electronic flow measurement devices are an absolute necessity in today's natural gas environment, they cannot insure, as many assume, an error free measurement of natural gas.

Producers and marketers, both of whom are subject to penalties in the post-FERC Order 636 environment are heavily dependent on the electronic measurement system of the pipeline. For this reason, many operators continue to use a sales meter with a chart to enable the operator to compare volume statements and to have some physical evidence in the event of litigation or an audit. Also, many operators have engaged independent auditors to audit the electronic flow meter systems. Unfortunately, audits of electronic flow devices are inherently difficult because, without charts, there is no physical record of the actual "flow" transaction by day, week or month. While each system's program printout shows the *current* variable input data, no evidence is available to show the input data used by the meter owner at the time of production. Given Oklahoma's lone case of *Woods Petroleum v. Delhi Gas Pipeline*,<sup>125</sup> the future of gas measurement litigation in Oklahoma appears certain to be tested under the regulatory system which the PRSA has imposed.

#### IV. POST WELLHEAD ALLOCATION METHODOLOGY

While the majority of articles on natural gas imbalances focus on the issues which exist between working interest owners within the same gas well, other gas imbalance issues exist between shippers, transporters, marketers and pipelines after the gas has left the wellhead. To the extent a buyer (being a marketer or end-user) receives more gas than confirmed nominations indicated before the flow month, other buyers or transporters by necessity received less. The PRSA does not address these problems. Instead, these issues are left to the industry to resolve or are governed by the tariffs of individual pipelines.

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124. *Id.* at 125.

125. *See supra* note 96.



In the majority of cases, end-users are, in theory, delivered the volume of gas they contracted for by the pipeline. Thus, if the marketer who contracted with the end-user fails to aggregate the needed volumes, the pipeline informs the marketer that it was short. In essence, this system implies that the transporter "cover" for the marketer. In some cases, however, the pipeline must balance the total volume of gas confirmed into its system with the total volume of gas delivered off its system. The Council of Petroleum Accountants Societies (COPAS) has identified five (5) different types of allocation methods,<sup>126</sup> which address these balancing issues.

#### A. *Prorata Allocation Based on Confirmed Nominations*

Under this arrangement, all shippers<sup>127</sup> will receive a prorata share of any over or underproduced gas that has been transported through the system, regardless of imbalance causation.<sup>128</sup> The principal benefit of this method is that the risk is spread equally among all shippers privy to the transaction. Additionally, "[t]he operator and transporter involved here have the data necessary to perform simultaneous allocation as soon as measured quantities are available" because they possess the record of confirmations from the production month.<sup>129</sup> Such timely imbalance reporting creates a more efficient system.

Nonetheless, this allocation method is not without its disadvantages. While small imbalances produce negligible losses that shippers hardly notice, large imbalances could be highly inequitable, resulting in one party being penalized for the noncompliance of another.<sup>130</sup> A noncomplying party will not suffer any loss greater than that of any of the other participants in the transaction. Thus, there is little incentive for any party to ensure that their production is not over- or underbalanced. Consequently, such a method may tend to promote fraudulent and deceitful practices considering that all non-conformities will balance proportionately.

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126. COPAS, *supra* note 54, at 7.

127. As used herein, "shippers" shall mean those entities owning a contractual right to transport gas on a pipeline system, whether they are marketers, operators or end-users. The right to transport gas is normally granted by the pipeline in a transportation services agreement, pooling agreement or other contract.

128. COPAS, *supra* note 54, at 36.

129. *Id.*

130. *Id.*

## B. *Swing Based On Confirmed Nominations*

One party, or several parties, is/are designated to take the "swing"<sup>131</sup> at a predetermined meter so as to make up for any variance between the amount nominated and the volume of gas that was actually transported.<sup>132</sup> There are several advantages to this method of nomination, namely, only parties that agree to take the swing will have to endure the consequences.<sup>133</sup> All other parties involved are assured of receiving their nominated share of the gas flow.<sup>134</sup> Hence, participants not involved in the swing will have the necessary information to make accurate nominations prior to the fifth day of the production month.<sup>135</sup>

The ability to correctly nominate prior to the fifth of the month is the greatest asset of the swing method. Many pipelines build this approach into their system by offering firm non-interruptable transportation agreements to some shippers. These parties are generally afforded preferential treatment which insures the volumes nominated. By contrast, a shipper with an interruptable transportation agreement may become a "swing" shipper if operating conditions create imbalances.<sup>136</sup>

This method presents the potential difficulty of procuring at least one party to function as the swing.<sup>137</sup> This method is not possible without this key player.<sup>138</sup> Convincing a party to bear the entire risk

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131. The "swing" is commonly referred to as the amount, frequently stated as a percentage, above or below the average *Daily Take* (q.v.), which may be taken by a purchaser under the provisions of a *Gas Purchase Contract* (q.v.). 8 WILLIAMS & MEYERS, *supra* note 16, at 1229.

132. COPAS, *supra* note 54, at 37.

133. *Id.*

134. *Id.*

135. OKLA. STAT. ANN. tit. 52, § 570.8B (West Supp. 1994).

136. This possibility is implicit in the statute:

Within thirty-five (35) days after the end of the month of production each first purchaser or shipper of gas from a gas meter shall furnish or cause to be furnished to the operator of the well, a volume allocation statement showing the volume of gas purchased from or shipped for each contracted producing owner.

*Id.* § 570.8E. Nominations for each month are due five days prior to the commencement of production. However, a producer will not be aware of an imbalance until weeks after that nomination is already due. For example, a producer must nominate by January 26 in order to qualify for production in the month of February. Likewise, this same producer will have to nominate five days prior to the beginning of March in order to qualify for production. However, the producer will not have the February volume allocations until well after the new nominations for March were due because the February calculations are not due for thirty-five days following the month of production. *Id.* §§ 570.8D-E.

137. See COPAS, *supra* note 54, at 37.

138. In practical terms, the swing player(s) should neither lose nor gain in the long term. One month may be an over-imbalance in their favor, while the next month may be an under-balance against their interest. Eventually, these swings should balance out. However, there is

of the transaction is not simple, for this colossal burden may prove to be too immense for any party.<sup>139</sup> Given the well operator's role in Oklahoma production practices, it is foreseeable that non-operators will assert that the operator is by law the swing producer because of its ability to accept and confirm nominations.

### C. *Suspense Allocation Based On Confirmed Nominations*

Measured quantities in excess of confirmed nominations are held in a suspense account for future distribution, either for the purpose of curing an imbalance condition or to be divided upon completion of the transfer contract.<sup>140</sup> Similar to the swing arrangement, the suspense method also has the advantage of providing accurate nominations as long there is an excess supply within the suspense account. However, this method is only feasible with over-produced conditions. If the system is under-balanced, the entire method is useless and another allocation method must be implemented.<sup>141</sup>

### D. *Balancing Agreement Allocation Based On Confirmed Nominations*

This method is the basic balancing agreement used by a majority of buyers and sellers. "All shippers are guaranteed confirmed nominations at the meter and any variance between the aggregate confirmed nominations and measured quantities are held between the interconnecting parties."<sup>142</sup> Thus, individual agreements between each buyer, seller, shipper, and transporter will allocate the risk.<sup>143</sup> These parties have the freedom to negotiate the risk "in or out" of a particular contractual arrangement. Unlike the swing or suspense methods, a balancing agreement assures that each party will eventually receive the amount of gas that had been nominated.<sup>144</sup>

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no guarantee one way or the other. Additionally, market fluctuations and contractual penalties may play influential roles in determining whether a party would agree to the risk of acting as the swing.

139. Cf. COPAS, *supra* note 54, at 37.

140. *Id.* at 38.

141. *Id.*

142. *Id.* at 39.

143. *Id.*

144. *Id.*

### E. *Allocation Based On Entitlement*

"This method utilizes production ownership as the basis for allocation at production points with multiple ownership and/or property specific contract commitments."<sup>145</sup> The primary advantage of this method is that producers who perform accordingly will not suffer for the noncompliance of other producers.<sup>146</sup> However, this allocation method is not possible until actual volume nominations are calculated in proportion to ownership interest.<sup>147</sup> This necessity creates a delay in allocating proper quantities of gas to individual parties.

In general, the majority of natural gas producers in Oklahoma are not aware of allocation issues after the gas leaves the wellhead. As producers are generally paid for only the amounts actually produced, there are no penalties to the producer for nominating more than a well is capable of producing. Since pipelines maintain the traditional role of policing nominations and matching them with actual production, and marketers and transporters assume those risks, producers do not particularly care at this time about the unauthorized gas delivered into the pipeline system. Their indifference could change as pipeline imbalance risks become greater, more interstate pipelines divest themselves of gathering lines, and marketers attempt to minimize their risks.

### F. *Problematic Areas of Cumulative Balancing*

Under the PRSA, it is unclear what remedies are available in Oklahoma to a producer when a marketer ceases to participate further in a long running cumulative balancing agreement. It is not clear who is liable to "make up" the difference in damages in the case of an underproduced well. The issue also arises as to who is liable for penalties imposed by pipelines in the case of unauthorized gas deliveries, especially if the producer was not at fault.

## V. POTENTIAL ISSUES UNDER S.B. 168

### A. *Sales Under the UCC*

Oklahoma's codification of the Uniform Commercial Code

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145. *Id.* at 40.

146. *Id.*

147. This method "[c]reates the potential for delayed cash flow for all parties, since shippers may only be willing to purchase and pay transportation expense for actual allocated quantities. If the estimate to actual process is used, it increases administration by performing the billing and payment cycle at least twice." *Id.*

(UCC) controls a natural gas transaction because the commodity is regarded as a fungible good.<sup>148</sup> However, due to the limited amount of case law concerning natural gas measurement and imbalance issues, it is advantageous to analogize natural gas to similar commodities governed under the UCC.<sup>149</sup>

The general rule under the UCC is that acceptance of goods is final.<sup>150</sup> However, if acceptance was on the reasonable assumption that the non-conformity would be seasonably cured, the buyer still has an effective remedy.<sup>151</sup> This type of acceptance is usual in a natural gas sale since it is a well known custom in the pipeline industry for producers and operators to balance gas the following month(s) after the transfer.<sup>152</sup>

Nonetheless, a buyer may encounter a problem with the burden of proof in relation to the non-conformity. The burden of proof is on

148. The sale of natural gas reserves to be severed from the earth by the seller is governed by Oklahoma's codification of the UNIFORM COMMERCIAL CODE (U.C.C.). See *Manchester Pipeline Corp. v. Peoples Natural Gas Co.*, 862 F.2d 1439, 1444 (10th Cir. 1988). Additionally, Oklahoma has explicitly stated that take-or-pay contracts are governed under the U.C.C. See *Roye Realty & Developing, Inc. v. Arkla, Inc.*, 863 P.2d 1150 (Okla. 1993) (holding that U.C.C. §§ 2-706(1) and 2-708(1) were the measure of damages for repudiation of a take-or-pay gas purchase contract).

149. Oklahoma also has insufficient case law concerning commodities that have imbalance problems similar to natural gas. For this reason, other jurisdictions that have extensively dealt with this issue are being used for analytical purposes. Cases cited within this section of the article were selected because the commodities central to the imbalance issues all share the similar trait of volume transferability from seller to buyer.

150. See generally U.C.C. § 2-207.

151. U.C.C. § 2-607.

Effect of Acceptance; Notice of Breach; Burden of Establishing Breach After Acceptance; Notice of Claim or Litigation to Person Answerable Over.

(2) Acceptance of goods by the buyer precludes rejection of the goods accepted and if made with knowledge of a non-conformity cannot be revoked because of it *unless the acceptance was on the reasonable assumption that the non-conformity would be seasonably cured* but acceptance does not of itself impair any other remedy provided by this Article for non-conformity.

U.C.C. § 2-608. Revocation of Acceptance in Whole or in Part

(1) The buyer may revoke his acceptance of a lot or commercial unit whose non-conformity substantially impairs its value to him if he has accepted it

(a) on the reasonable assumption that its non-conformity would be cured and it has not been seasonably cured; or

(b) without discovery of such non-conformity if his acceptance was reasonably induced either by the *difficulty of discovery* before acceptance or by the seller's assurances.

(2) Revocation of acceptance must occur within a reasonable time after the buyer discovers or should have discovered the ground for it and before any substantial change in condition of the goods which is not caused by their own defects. It is not effective until the buyer notifies the seller of it.

(3) A buyer who so revokes has the same rights and duties with regard to the goods involved as if he had rejected them.

152. See generally U.C.C. § 1-205(2).

the buyer to establish any breach with respect to the goods accepted.<sup>153</sup> In *Wayne County Vinegar & Cider Corp. v. Schorr's Famous Pickled Products, Inc.*, the plaintiff was in the business of selling and delivering vinegar to various businesses.<sup>154</sup> The plaintiff used trucks equipped with tanks to deliver vinegar to defendant's place of business where the vinegar would be pumped from the truck into a holding vat.<sup>155</sup> Seller claimed the defendant had not paid for allegedly delivered vinegar. On the contrary, defendant/buyer claimed that it never received the amount stated by the seller.<sup>156</sup> Buyer attempted to prove these calculations through the use of recorded business records, formulas, and summary sheets.<sup>157</sup> However, seller rebutted buyer's claims by proving defendant's calculations did not include leaks, overflows, and other transfer problems that would affect final calculations of the amount of vinegar actually delivered.<sup>158</sup> The court concluded that the buyer had lost his right to reject the goods pursuant to section 2-607 because the buyer had the opportunity to inspect and accept the goods with knowledge of what had been transferred.<sup>159</sup>

Likewise, in *Bowlin's, Inc. v. Ramsey Oil Co., Inc.*,<sup>160</sup> the court found a two-day notice provision in the contract to be applicable in preventing the buyer/plaintiff from succeeding in his suit based on non-conforming goods. In *Bowlin's*, both buyer and seller signed a contract that contained a notice clause requiring the buyer/plaintiff to notify seller/defendant of any shortages in quantity within two days after a delivery had been made.<sup>161</sup> If buyer failed to comply with the notice provision, the failure would operate as a waiver of any and all claims.<sup>162</sup> Buyer determined that there had been a shortage of gasoline deliveries amounting to \$70,005.97.<sup>163</sup> Seller argued that the shortage was not reported within the specified two-day contractual

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153. See *Wayne County Vinegar & Cider Corp. v. Schorr's Famous Pickled Products, Inc.*, 460 N.Y.S.2d. 209 (N.Y. City Civ. Ct. 1983).

154. *Id.* at 211.

155. *Id.* at 212.

156. *Id.*

157. *Id.* at 212-13.

158. *Wayne County Vinegar & Cider Corp. v. Schorr's Famous Pickled Products, Inc.*, 460 N.Y.S.2d. 209, 213 (N.Y. City Civ. Ct. 1983).

159. *Id.* at 215.

160. 662 P.2d 661 (N.M. Ct. App. 1983) (holding that contractual provision requiring retailer to notify gasoline supplier within two days after any allegedly short delivery, where the failure of timely notice imposed burden on any loss on retailer, was not unconscionable).

161. *Id.* at 663.

162. *Id.*

163. *Id.* at 662.

provision; thus, buyer had forfeited those claims.<sup>164</sup> Buyer countered that the clause was unconscionable, for the provision had no reasonable commercial purpose.<sup>165</sup>

The court ruled in favor of the seller, finding the clause to be reasonable since inspection for shortages was able to be accomplished within hours after gasoline deliveries were made.<sup>166</sup> Moreover, the court reasoned that the two-day time frame was reasonable when considering the official comment under the state counterpart of section 55-2-607, stating that "the time of notification is to be determined by applying commercial standards to a merchant buyer."<sup>167</sup> Furthermore, state law provided that "whenever. . . [this chapter] requires any action to be taken within a reasonable time, any time which is not manifestly unreasonable may be fixed by agreement."<sup>168</sup> Such was the case between the buyer and seller in *Bowlin's* since both parties agreed to the two-day provision.

On the other hand, end-users of natural gas rarely use the opportunity to inspect the gas being transferred due to complicated metering systems used by all producers and pipelines. Since end-users do not use the opportunity to inspect the gas, it could follow that their rights under section 2-607(2)<sup>169</sup> should not be forfeited. However, the outcome is far from certain.

Thus, a question arises as to what is a reasonable opportunity to inspect and, consequently, what is a reasonable time in relation to discovering the non-conformity. In resolving this controversy, four factors have been used to determine what a reasonable time is in relation to discovering a non-conformity. These factors are (1) difficulty of discovering the defect, (2) terms of the contract, (3) relative perishability of the goods, and (4) course of performance after the sale and before the formal rejection.<sup>170</sup>

### 1. Difficulty In Discovering The Defect

Courts have permitted buyers to delay inspection until they are ready to "resell or use" the goods if there is proof of custom or

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164. *Id.* at 668.

165. *Bowlin's, Inc. v. Ramsey Oil Co., Inc.*, 662 P.2d 661, 663 (N.M. Ct. App. 1983).

166. *Id.* at 670.

167. *Id.* at 670 (quoting N.M. STAT. ANN. § 55-2-607, cmt. 4 (Michie 1978)). New Mexico has adopted the UCC.

168. *Id.* § 55-1-204(1).

169. U.C.C. § 2-607(2), *see supra* note 152.

170. *See Bowlin's, Inc. v. Ramsey Oil Co., Inc.*, 662 P.2d 661, 670-71 (N.M. Ct. App. 1983).

trade.<sup>171</sup> Natural gas industry practice dictates subsequent adjustments due to the physical nature of gas and measurement difficulties.<sup>172</sup> Furthermore, this custom is implicit within the timing requirements of Senate Bill 168, authorizing final calculations weeks after the month of production.<sup>173</sup> Following this reasoning, it is appropriate that end-users have the opportunity to delay inspection and challenge for a reasonable time.<sup>174</sup>

The time delay in receiving final allocation statements prevents parties privy to a gas pipeline contract from discovering mismeasurement until these results are calculated.<sup>175</sup> Although it is feasible for a particular party to install their own meter on the pipeline adjacent to the operator's meter to function as a check on the system, this procedure is rarely practiced.<sup>176</sup> The failure to use this tool may present the Oklahoma courts with the opportunity to decide the reasonableness of attaching a second meter not operated by the pipeline. If the court determines that it is reasonable to expect parties to operate their own meters, then the most likely outcome will be a forfeiture of the remedies offered under section 2-607. On the contrary, if the court finds that inspection of the gas is not required to be reasonable, then end-users should still have section 2-607(2) available as a remedy.<sup>177</sup>

## 2. Terms Of The Contract

Section IV of this article strongly recommends agreement on a

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171. See *GNP Commodities, Inc. v. Walsh Heffernan Co.*, 420 N.E. 2d 659, 665 (Ill. App. Ct. 1981) (holding that commodity trader, due to trade usage, was permitted to delay inspection of frozen pork bellies bought from public meat broker until the buyer was prepared to resell the product).

172. See discussion *supra* section III(B).

173. The section provides:

Within fifteen (15) days after the end of the month of production, each owner of a gas meter taking gas solely from a gathering system shall provide upon first request by the owner of such gathering system and thereafter, the gross volume of gas measured by such meter both in MCF and British Thermal Unit equivalent.

Within twenty (20) days after the end of the month of production, each owner of gas meter shall provide or cause to be provided in writing to the operator of the well, the gross volume of gas measured by such meter, both in MCF and British Thermal Unit equivalent. \* \* \*

Within thirty-five (35) days after the end of the month of production each first purchaser or shipper of gas from a gas meter shall furnish or cause to be furnished to the operator of the well, a volume allocation statement showing the volume of gas purchased from or shipped for each contracted producing owner. \* \* \*

OKLA. STAT. ANN. tit. 52, §§ 570.8D-E (West Supp. 1994). See also Graves, *supra* note 92, at 427.

174. Cf. OKLA. STAT. ANN. tit. 52, § 570.8E (West Supp. 1994).

175. *Id.* § 570.8.

176. Buyers and sellers have chosen to rely solely on the meter operator's calculations.

177. See *supra* note 151.



measurement method prior to entering a gas contract. A majority of spot-market sales, however, are completed with the use of a short form contract, many of which do not contain a reference to measurement.<sup>178</sup> Without a contractual agreement on the allocation of risk, UCC principles should control the transaction.<sup>179</sup>

### 3. Perishability and Course of Performance

Gas that has been transferred through a pipeline cannot be rejected at the receiving end. It is automatically accepted into a storage facility where the transferred gas is co-mingled with other gas or it is immediately consumed by the burners of an end-user. Consequently, quality and quantity issues are bound to arise. In previous years, end-users of natural gas purchased gas directly from interstate pipelines regulated by federal authorities, or from local distribution companies regulated by the states' or municipalities' law. Since FERC Order No. 436, end-users have directly contracted with marketing companies or producers to purchase gas. While regulatory agencies formerly insured accurate measurement, end-users may now have to rely on specific contractual language and their own metering facilities. Consequently, a review of U.C.C. principles is recommended when contracting for the delivery of natural gas at an end-user facility.

#### B. *Zero Nomination*

Section H of the PRSA states that "[i]f the operator of the well is not provided with the information set forth in subsection A and C [of § 570.8] within the sixty-day period set forth in each said subsection, the operator of the well shall have the right, but not the obligation, to confirm zero volume of gas sales for such noncomplying producing owner. . . ."<sup>180</sup> Regardless what reason the operator bases the right to zero nominate a producing owner upon, a question will arise whether this practice is equitable in a situation where the producing owner is unable to comply with the information requirements of sections A and C through no fault of his own. There are many possible problems that exist in transmitting correct information within the meaning of the

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178. The common practice is for marketers to telephone different producers and end-users in an attempt to negotiate the best deal. These deals are orally agreed upon, only later to be confirmed in short-form contracts via a fax machine.

179. See generally *Manchester Pipeline Corp. v. Peoples Natural Gas Co.*, 862 F.2d 1439 (10th Cir. 1988); *Roye Realty & Developing, Inc. v. Arkla, Inc.*, 863 P.2d 1150 (Okla. 1993).

180. OKLA. STAT. ANN. tit. 52, § 570.8H (West Supp. 1994).

statute. For a producing owner to report in a timely fashion in accordance with the PRSA, he must first receive other statements from the operators of the system.<sup>181</sup> Although the statute is worded in a manner which gives broad discretion to the operator,<sup>182</sup> it is feasible that zero nominating a producing owner who was not at fault for non-compliance with sections A and C might be an abuse of discretion. Likewise, complying interest owners who are affected by the operator's generosity may view leniency as an abuse.

If the operator does zero nominate, one could argue that the non-complying producing owner should have the right to make up the lost volumes the following month. Alternatively, an argument can be made that the non-complying producer has to wait until the well is dry before balancing in accordance with the method prescribed in *Beren v. Harper Oil Co.*<sup>183</sup> The *Beren* interpretation seems the more likely intent of the Oklahoma Legislature because allowing the producing owner to balance the zero nomination the following month would give the statute no substantive meaning.

The purpose of the zero nomination clause is to penalize producers who do not comply with the information requirements of subsections A<sup>184</sup> and C.<sup>185</sup> If the producing owner can balance the previous month's zero nomination penalty in the following month, the penalty is, for all intents and purposes, nullified. Thus, it follows that the producing owner would have to wait until the well is dry before balancing via *Beren v. Harper Oil.*<sup>186</sup>

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181. See OKLA. STAT. ANN. tit. 52, § 570.8D (West Supp. 1994).

182. *Id.* § 570.8H (“[T]he operator of the well shall have the right, but not the obligation, to confirm zero volume of gas sales for such noncomplying producing owner. . . .”).

183. 546 P.2d 1356 (Okla. Ct. App. 1975).

184. OKLA. STAT. ANN. tit. 52, § 570.8A (West Supp. 1994) (“[E]ach working interest owner in a well producing gas shall furnish or cause to be furnished to the operator a written statement showing the name, address, royalty interest, taxpayer identification number and payment status of owners of royalty interest to which such working interest is subject.”).

185. *Id.* § 570.8C (“[E]ach producing owner shall report and account to the operator of the well, the identity of the first purchaser or shipper of the gas and the information specified in Section 570.12 of this title. Within thirty (30) days after receiving notice of any retroactive gas volume adjustment, each producing owner shall furnish, or cause to be furnished, notice of such retroactive adjustment to the operator of the well.”).

186. The court in *Beren* identified three preferred methods for balancing a well: (1) Balancing in kind — A balancing in volumes. In effect the under-produced party takes a certain percentage of the over-produced party's gas until the imbalance has been “made up.” (2) Periodic cash balancing. Here, the underproduced party receives cash, and the well is immediately brought into balance. (3) Cash balancing upon reservoir depletion. The parties endeavor to maintain a reservoir balance during the life of the well, and on depletion, the overproduced party accounts to the underproduced party in cash. *Beren*, 546 P.2d at 1359. See also Hoefling, *supra* note 24, at 73-74.

It is conceivable, however, that the Oklahoma Legislature intended to overrule the balancing right implicit in *Beren*. Thus, a producer that has been zero nominated would lose that nomination permanently. This reading is highly unlikely considering that such an act might border on an unconstitutional taking and a violation of the due process clause.

### C. *Retroactive Adjustment*

Implicit within the statutory scheme governing the natural gas industry is the ability to retroactively adjust for imbalances of preceding months. The producing owner is obligated to nominate five 5 days prior to the month of production.<sup>187</sup> However, the volume calculations of that month of production do not have to be calculated until thirty-five days following the month of production.<sup>188</sup> Nonetheless, the producing owner is still obligated to nominate for the next month five days before that production commences.<sup>189</sup> This obligation compels the producing owner to make an educated guess for the nomination of the ensuing production month. Such conjecture is bound to be inaccurate by some margin, thus causing an inevitable imbalance.

"Within thirty (30) days after receiving notice of any retroactive gas volume adjustment, each owner of a gas meter shall furnish notice of such retroactive adjustment to the operator of the well."<sup>190</sup> The statute of limitations in regard to receiving notice of the initial imbalance giving rise to the retroactive adjustment, however, is not expressed within the statute. Most contracts provide for audit rights of meters for as long as two years. Nonetheless, Oklahoma's Limitation of Actions and the U.C.C. both hold written contracts to a five year period.<sup>191</sup> Similarly, the PRSA requires copies of information furnished by the operator to be maintained for a period of not less than five years, presumably in the event of litigation.<sup>192</sup> A dilemma may arise, however, as to when the statute of limitations begins to run. Namely, does the cause of action accrue at contract formation or upon discovery of the imbalance? Case law indicates a cash balancing at

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187. OKLA. STAT. ANN., tit. 52, § 570.8B (West Supp. 1994).

188. *Id.* § 570.8E.

189. *Id.* § 570.8B.

190. *Id.* § 570.8D.

191. OKLA. STAT. ANN., tit. 12, § 95 (West 1988). *See also* United Crude Marketing and Transportation Co. v. Robert Gordon Oil Co., 831 P.2d 659 (Okla. Ct. App. 1992).

192. OKLA. STAT. ANN., tit. 52, § 570.8G (West Supp. 1994). This clause is consistent with both Oklahoma and UCC principles.

the end of the productive life of a well.<sup>193</sup> However, the PRSA may be read to preclude investigations of unknown imbalances which may have accrued more than five years prior to the enactment of the PRSA or more than five years prior to discovery of the imbalance. Clearly, an issue now exists in Oklahoma law as to the ability to challenge production figures relating back more than five years. This possibility may significantly affect an underproduced owner's rights to an accounting of all revenue attributable to the well during its productive life.

Rather than using a contractual theory, producers may deem a suit in negligence to be more appropriate, as in *Woods Petroleum*.<sup>194</sup> The greatest incentive for filing a negligence action, as opposed to a cause of action based on breach of contract, is the possibility of punitive damages.<sup>195</sup> Unlike contract actions, tort claims allow for the recovery of these exemplary claims.<sup>196</sup> While the jury in *Woods Petroleum* did not award punitive damages, the court would have been within its power to recognize these damages if the jury would have found them to be apparent.<sup>197</sup> While *Woods Petroleum* is the only case on point dealing with negligence for mismeasurement of gas, the court was quite sympathetic to the producer considering that a *res ipsa loquitur* argument was successful.<sup>198</sup> Similarly, it is feasible that the court would be equally receptive to a fraud action in the future.

## VI. CONCLUSION

The passage of the Production Revenue Standards Act by the

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193. See *supra* note 36.

194. *Woods Petroleum Corp. v. Delhi Gas Pipeline Corp.*, 700 P.2d 1023 (Okla. Ct. App. 1983).

195. E. ALLEN FARNSWORTH, *CONTRACTS*, § 12.8 (1982) ("[N]o matter how reprehensible the breach, damages that are punitive, in the sense of being in excess of those required to compensate the injured party for his lost expectation, are not ordinarily awarded for breach of contract."). See *Z.D. Howard Co. v. Cartwright*, 537 P.2d 345 (Okla. 1975).

196. See *RESTATEMENT (SECOND) OF TORTS* § 908 (1977) ("Punitive damages are damages, other than compensatory or nominal damages, awarded against a person to punish him for his outrageous conduct and to deter him and others like him from similar conduct in the future.").

197. See *Woods Petroleum*, 700 P.2d at 1028. One adverse consequence of using a tort theory is that the statute of limitations in Oklahoma is only two years. OKLA. STAT. ANN. tit. 12, § 95 (West 1988). Alternatively, there is a five year statute of limitations for a breach of contract action. *Id.* Thus, parties are not afforded the liberty of the longer statute of limitations when attempting to take advantage of the possibility of punitive damages. It is important to note in this regard, however, that the statute of limitations for an action on the ground of fraud is not deemed to begin to run until the discovery of the fraud. *Id.* This friendly tolling of the statute of limitations will permit producers to file fraud actions many years after the contractual limitations have already accrued, while still preserving the right to claim punitive damages.

198. See *Woods Petroleum*, 700 P.2d at 1026.

Oklahoma legislature represents a significant step towards codifying the rights and duties of working interest owners in natural gas wells. Section 570.8 sets forth certain notice and reporting requirements for working interest owners, operators, and meter owners. The requirements are designed to insure that meaningful data is timely available to all interested parties so that effective decision making can occur. The Act confirms in the well operator the power to "zero nominate" a non-complying working interest owner, thus depriving that owner of its ability to sell its proportionate share of production. The inherent ability, and duty, of the well operator to police the production of a well previously recognized in Oklahoma case law has now been codified in Oklahoma.

The PRSA, however, leaves many questions unanswered. First, it is unclear how the operator is directed to allocate nominations for gas between working interest owners when production imbalances exist or are accruing. Second, in the event that actual production differs from nominated production, the statute is silent as to which working interest owner bears the loss, or enjoys the gain. Finally, the statute places a burden on the owner of the meter to confirm nominated volumes to the operator.

Many meter owners are also interstate or intrastate pipeline companies who have specific tariffs or operating procedures which may differ from the statutory time scheme envisioned by the PRSA. By allowing the operator to zero nominate working interest owners who are contracted to the owner of the meter, the legislature has circumvented direct legislation of interstate pipelines that are regulated by federal law. Whether the legislation proves effective in implementing a standard notice and reporting scheme where pipelines and gathering companies are involved remains an open question.

The PRSA also legislatively acknowledges that initial measurements of natural gas volumes almost always require subsequent adjustments. The accurate measurement of natural gas and its heating value, expressed in Btu's, is an area that has seen little recent legislation or regulatory attention. The nomination and confirmation of natural gas can only accrue in an environment where clear and unambiguous measurement standards are legislatively in place. With the advent of electronic flow meters and the concurrent regulations of state and federal law, it is unclear if all measurement of gas in Oklahoma is consistent.

The new framework created by the PRSA also raises interesting

questions concerning the remedies available to affected parties. Section 570.8J provides that remedies available under the PRSA do not preclude any party from pursuing relief in the district courts. The section specifically mentions the right to offset but does not elaborate on the issue.

As noted, methodologies do exist which deal with the allocation of risks amongst working interest owners, operators, marketers/shippers and pipelines concerning the nomination, confirmation and payment for natural gas volumes. The legislature has not adopted any particular methodology. Consequently, producers and operators would be well advised to address these issues by private contractual arrangements. With the advent of FERC-approved penalties for unauthorized gas, the industry must focus on accurate and reliable measurement of natural gas, the potential for litigation and the available remedies.

