Each meter proving report shall be filed with the authorized officer no later than 10 working days following the meter proving.

Violation: Minor.

Corrective Action: Submit proper proving report to authorized officer.

Abatement Period: File with authorized officer no later than the 10th business day.

E. Oil Measurement by Other Methods or at Other Locations Acceptable to the Authorized Officer

Any method of oil measurement other than tank gauging or positive displacement metering system, requires prior approval, based on applicable API standards, by the authorized officer. Other measurement methods include, but are not limited to: Turbine metering systems, Measurement by calibrated tank truck, Measurement by weight, Net oil computer.

The requirements and minimum standards for oil measurement on the lease, unit, unit participating area, or communitized area by an alternate method, or at a location off the lease, unit, unit participating area, or communitized area by either an authorized or an alternate method of measurement, are as follows:

1. *Measurement on the Lease, Unit, Unit Participating Area, or Communitized Area.*

An application for approval of an alternate oil measurement method shall be submitted to the authorized officer and written approval obtained before any such alternate oil measurement method is operated. Any lessee/operator requesting approval of any alternate oil sales measurement system shall submit performance data, actual field test results, or any other supporting data or evidence acceptable to the authorized officer, that will demonstrate that the proposed alternate oil sales measurement system will meet or exceed the objectives of the applicable minimum standard or does not adversely affect royalty income or production accountability.

Violation: Major.

Corrective Action: Shut in operations. Submit application for approval of desired method of oil measurement.

Abatement Period: Prior to sales or removal.

2. *Measurement at a Location Off the Lease, Unit, Unit Participating Area, or Communitized Area.*

a. An application for off-lease measurement shall be submitted to the authorized officer and written approval obtained before any such off-lease oil measurement facilities are installed or operated. The application for written approval of off-lease measurement shall justify location of the measurement facilities at the off-lease location desired before approval will be granted, but no additional approval as to the oil measurement method is required, provided measurement is to be accomplished by tank gauging or positive displacement metering system, pursuant to the requirements and minimum standards of this Order.

Violation: Minor.

Corrective Action: Submit application for written approval of off-lease measurement.

Abatement Period: 20 days.

b. If oil measurement is to be accomplished at a location off the lease, unit, unit participating area, or communitized area by any alternate measurement method (any method other than tank gauging or positive displacement metering system), then the application, in addition to justifying the location of the measurement facilities, shall also demonstrate the acceptability of the alternate measurement method, pursuant to section III.E.1.

Violation: Major.

Corrective Action: Submit application for approval of off-lease measurement and approval of desired method of measurement.

Abatement Period: Prior to sales or removal.

F. Determination of Oil Volumes by Methods Other Than Measurement

Pursuant to 43 CFR 3162.7–2, when production cannot be measured due to spillage or leakage, the amount of production shall be determined in accordance with the methods approved or prescribed by the authorized officer. This category of production includes, but is not limited to, oil which is classified as slop oil or waste oil.

The minimum standards for determining the volume of oil that cannot be measured are as follows:

1. No oil located in an open pit or sump, in a stock tank, in a production vessel or elsewhere, may be classified or disposed of as waste oil unless it can be shown, to the satisfaction of the authorized officer, that it is not economically feasible to put the oil into marketable condition.

Violation: Major.

Corrective Action: Put oil into marketable condition.

Abatement Period: 10 working days.

2. No slop oil may be sold or otherwise disposed of without prior approval from the authorized officer. Following the sale or disposal, the authorized officer shall be notified as to the volume sold or disposed, and the method used to compute the volume.

Violation: Major.

Corrective Action: Submit complete report of sale.

Abatement Period: 24 hours.

IV. Variances From Minimum Standards

An operator may request that the authorized officer approve a variance from any of the minimum standards prescribed in section III. All such requests shall be submitted in writing to the appropriate authorized officer and shall provide information as to the circumstances that warrant approval of the variance(s) requested and the proposed alternative means by which the related minimum standard(s) will be satisfied. The authorized officer, after considering all relevant factors, shall approve the requested variance(s) on making a determination that the proposed alternative(s) meet or exceed the objectives of the applicable minimum standard(s), or does not adversely affect royalty income or production accountability. In addition, approval may be given orally by the authorized officer before the lessee/operator initiates actions that require a variance from minimum standards. The oral request, if granted, shall be followed by a written request not later than the fifth business day following oral approval, and written approval will then be appropriate.

The authorized officer may also on his/her motion issue NTLs that establish modified standards or variances for specific geographic areas of operations.

After notice to the operator the authorized officer may also require compliance with standards that exceed those contained in this Order whenever such additional requirements are necessary to achieve protection of royalty income or production accountability. The rationale for any such additional requirements shall be documented in writing to the lessee/operator.

Attachment

I. Sections from 43 CFR Subparts 3163 and 3165 (not included with Federal Register publication).

[FR Doc. 89–3885 Filed 2–23–89; 8:45 am]

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federal register

Friday
February 24, 1989

Part IV

Department of the Interior

Bureau of Land Management

43 CFR Part 3160

Onshore Oil and Gas Operations, Federal and Indian Oil and Gas Leases; Onshore Oil and Gas Order No. 5, Measurement of Gas; Final Rulemaking

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

43 CFR Part 3160

[Circular No. 2618; AA-610-88-4111-02]

Onshore Oil and Gas Operations, Federal and Indian Oil and Gas Leases; Onshore Oil and Gas Order No. 5, Measurement of Gas

AGENCY: Bureau of Land Management, Interior.

ACTION: Final rulemaking.

SUMMARY: This final rulemaking issues Onshore Oil and Gas Order No. 5 under 43 CFR 3164.1. This Order implements and supplements requirements found in 43 CFR Part 3160 relating to the measurement of gas produced under the terms of Federal and Indian (except Osage) oil and gas leases, as well as gas produced from State or privately owned when Federal and/or Indian leases receive a share of such production under the terms of an approved agreement. The Order addresses gas measurement by orifice meter and gas measurement by other methods acceptable to the authorized officer of the Bureau of Land Management. Gas measurement by electronic flow computers, utilizing an orifice, which calculate volume using the equations specified by the American Gas Association (AGA) Committee Report No. 3, may be approved by the Bureau of Land Management (BLM) State Office having jurisdiction over the producing area. The Bureau of Land Management's existing internal guidelines on the subject of gas measurement were never formalized in a Notice to Lessees and Operators. Thus, this Order has no direct predecessor.

EFFECTIVE DATE: March 27, 1989; this order is applicable March 27, 1989 for new facilities, August 23, 1989 for existing facilities measuring 200 MCF or more per day of gas, and February 26, 1990 for existing facilities producing less than 200 MCF per day of gas.

ADDRESS: Suggestions or inquiries may be submitted to: Director (610), Bureau of Land Management, Room 601, Premier Building, 1800 C Street, NW., Washington, DC 20240.

FOR FURTHER INFORMATION CONTACT: Richard T. Hunter, (303) 236-1750, or Sie Ling Chiang (202) 653-2127.

SUPPLEMENTARY INFORMATION: The Bureau of Land Management published the rulemaking proposing Onshore Oil and Gas Order No. 5 in the Federal Register on February 3, 1988 (53 FR 3158), asking for comments on the proposed rulemaking by April 4, 1988. At the request of several respondents, BLM published a Federal Register Notice on April 6, 1988 (53 FR 11318), which extended the comment period through April 19, 1988.

During the comment period, written comments were received from 44 sources: 32 from business interests related to the oil and gas industry, 6 from offices of Federal agencies, 5 from associations, and 1 from a State agency. The time and effort spent in reviewing the proposed rulemaking and the highly detailed responses offering constructive and skillful suggestions for improvement are appreciated. Many of the comments, both technical and editorial, were adopted and are reflected in the final rulemaking.

Discussion of General Comments

A number of comments supported formalizing measurement requirements and stated that promulgating rules will facilitate a better understanding of the requirements. Three comments objected to the entire concept of the proposed rulemaking, arguing that it is unnecessary. One comment stated that the proposed rulemaking in its present form was not authorized by the statutes. The necessary authority for the rulemaking exists at 30 U.S.C. 1711 and 30 U.S.C. 189. The Order will benefit overall both the oil and gas companies and the various government agencies by providing the minimum standards critical to accurate measurement and reporting of production nationwide.

Custody Transfer/Allocation Meters

A number of comments stated that the proposed rule should apply only to custody transfer measurements and not allocation measurements. They argued that the proposed rules are for application to single phase, homogeneous oil, gas, or condensate flows that have been cleaned up and stabilized for commercial pipeline transport. The comments also argued that allocation meters may involve the two-phase flow of vapor and liquids and, therefore, the allocation meter should not be held to the same tolerances as the custody transfer or sales meter. A custody transfer or sales meter is one from whose measurements royalty is determined directly. An allocation meter is a meter whereby production is measured and credited to a lease(s) or well(s). BLM has the responsibility to designate or accept measurement points (meters) from whose measurements royalties will be determined. All such designated measurement points are required to meet the minimum standards of this Order. The designated or accepted measurement point may be a custody transfer meter, a sales meter or an allocation meter. In any case, the meters are required to be measuring single phase flow. BLM requires that all production removed or sold from the lease be placed into marketable condition using appropriately sized and maintained production equipment, and that the oil, water, and gas be separated prior to measurement or that a variance be approved. To make it clear that the proposed standards apply to allocation as well as sales meters, the phrase "and allocation" has been added to paragraph 2 of section III-B.

Responsibility for Proper Measurement

Several comments were received expressing concern that the proposed Order would hold the lessee/operator responsible for the handling and proper measurement of lease production, when in some cases the sales meters are owned and operated by the purchaser/transporter. In such cases, the operator may not have control over the measurement equipment. Most comments urged that the responsibility for proper sales measurement be placed on the owner of the sales meter and that only the responsibility for allocation measurement should be placed on the lessee/operator. It is recognized that the purchaser often owns and maintains the custody transfer/sales meter. However, requirements for proper measurement are normally included in the purchase contract. Existing regulations hold the lessee/operator responsible for assuring that all lease oil and gas production operations, including proper measurement, comply with Department of the Interior regulations, whether conducted by the lessee or by parties having contractual agreements with the lessee. This Order does not change the responsibility of the lessee. The rationale is that (1) the standards in this Order are generally AGI standards, (2) normal sales contracts require the purchaser to maintain the sales meter properly, and (3) historically, holding the lessee/operator responsible for proper measurement has not created significant problems for the operators or purchasers. It is recognized that the operator is often personally unable to correct violations resulting from meter problems, and this has been taken into account in setting abatement periods. In addition, 43 CFR 3163.2(f)(1) provides civil penalties up to $25,000 for any person who knowingly or willfully prepares, maintains or submits false, inaccurate or misleading reports. This regulation applies to the purchaser as well as the lessee/operator.

Electronic Flow Computers

A few comments stated that electronic flow computers were widely used and accepted by both the purchaser and seller, and recommended that the use of this type of secondary element be authorized without case-by-case approval. It is recognized that electronic flow computers are accurate and when properly installed and used with an orifice will measure gas volumes correctly. However, because this type of secondary element is still not proven over long periods of time, the capabilities of each instrument type, including all limitations, will be subject to a review by appropriate BLM personnel and approval by the State Director.

AGA Standards

Many comments referred to AGA Committee Report No. 3, most of them calling attention to the desirability of using the American National Standards Institute (ANSI) and API designation (ANSI/API 2530) in conjunction with AGA or in place of AGA. One comment suggested that, in order to ensure that no confusion exists as to the standard to be used, Section III should state the full title as follows: ANSI/API 2530–1985 hereafter referred to as AGA Committee Report No. 3, Second Edition. This comment was adopted as a useful clarification. Other comments suggested adding several additional references and stated that AGA Report No. 3 was insufficient for gas measurement. It is recognized that AGA Report No. 3 includes the required method for computing gas volumes, and that other data required are included in numerous other publications by the Gas Processors Association (GPA). However, it is not appropriate to expand the order to include all of the references.

Phase-in Period

Specific comments were requested regarding a phase-in period of time after which this Order will become effective. Seventeen comments were received stating that a phase-in period is necessary to avoid shut-in of production and in some cases premature abandonment of some wells, and to allow time to train field personnel. The recommended time for the phase-in ranged from six months to five years. It is agreed that a phase-in period is appropriate where the installation of new equipment or the modification of existing equipment, and the training of field personnel, is required. The phase-in period will also allow those companies desiring to obtain justifiable variances to do so and be in full compliance on the effective date of this Order. Accordingly, all sales and allocation facilities measuring 200 MCF per day or more are required to be in full compliance within six months; and all other sales and allocation metering facilities are required to be in compliance within 12 months or to be in possession of a valid variance issued by the authorized officer. The phase-in periods will commence on the date this Order is published as a final rulemaking in the **Federal Register**.

During the phase-in period until the effective date of the Order, BLM will continue to inspect and enforce all current measurement standards. The phase-in period is intended to allow time for the operator to bring all operations, including all existing equipment, specified procedures, and reporting practices into full compliance, and does not in any way relieve the operator from complying with the orders of the authorized officer, or from being subject to the existing laws, regulations, and practices under which BLM has carried out the inspection and enforcement functions in the past.

Exemptions for Low Volume Production

Some wells producing gas may not be able to support compliance with some of the minimum standards for gas measurement. Numerous comments requested exemptions for wells producing low volumes of gas, fields with declining production and a projected production life of five years or less, and wells drilled into and producing from certain shallow producing horizons. The suggestions ranged from case-by-case exemptions based on economic hardship to a broad exemption for all wells or any field sharing a common meter measuring 1000 MCF per day or less. Some comments suggested that wells qualifying for exemption should be exempt from the entire Order rather than selected standards. Other comments stated that standards B–1, 2, 4, and 7 were the ones most restrictive to low volume production, and with which it would be difficult or impossible to comply. It is recognized that some wells producing gas may not be able to support compliance with some of the minimum standards. Specific language exempting low volume production and the standards involved has been added in Part III.C. Low volume wells requiring artificial means to draw gas to the surface, and fields with a remaining production life of five years where production rates are declining, may also qualify for a variance from some standards on a case-by-case basis. BLM will, however, be working with lessees/operators to designate consolidated gas sales and allocation meters which may be required to meet all the standards even though individual well production may be 100 MCF per day or less.

Abatement Periods

The proposed rulemaking specifically requested comments as to whether a specific time period or firm deadline should be added to the abatement period "prior to sales or removal". One comment recommended that specific deadlines should not be set. Another comment stated that many of the abatement periods are entirely too short to provide adequate time to correct violations, and made specific recommendations for several standards recommending increases of 5 to 30 days for abatement. Specific deadlines were not added where the abatement period is "prior to sales or removal," but clarification of that phrase has been added to Section III.C.3. A number of abatement periods for specific violations were lengthened as recommended in the comments, where such extensions could be justified. Whenever the abatement period is prior to sales or removal, the potential for permanent loss of royalty exists and no oil or gas may pass the measurement point. It is assumed that any irregularities in calibration of the gas meter will be corrected during the calibration of the meter as prescribed in the Order. Accordingly, the abatement period in the appropriate section of the Order is stated as prior to completion of the calibration. Irregularities, (improper or inaccurate calibration of the gas meter) discovered after the calibration will be treated as a violation. An incidence of noncompliance will be issued stating the appropriate corrective action required and abatement period.

Purpose

One comment supported the stated intent to provide regulations pertaining to the rights of the operator to administrative and/or judicial review and appeal. The regulations pertaining to the rights to administrative review and hearing on the record, as well as the right to appeal, are contained in 43 CFR Subpart 3165, and language of assurance from that regulation has been added to the Order in this section, and a provision allowing extensions of abatement periods for any violation under certain conditions, as well.

Scope

One comment suggested that the description of the applicable lands subject to this Order, in addition to all Federal and Indian (except Osage) oil

and gas leases, be changed to the wording contained in 43 CFR Subpart 3161.1 Jurisdiction. The suggestion was adopted and the wording in Section I–C, Scope, was changed to correspond with Subpart 3161.1. Another comment stated that the scope is too broad, and that it was arbitrary for the Order to be applicable to State or privately-owned lands, when Federal and/or Indian leases are entitled to share the revenues, no matter how small, from non-jurisdictional wells. BLM will maintain the wording in 43 CFR 3161.1 as authorized by the Federal Oil and Gas Royalty Management Act of 1982.

Definitions

Numerous comments offered specific language for amending the proposed definitions or suggesting the addition of new ones.

The term "authorized representative" was removed to clarify the intent and "authorized officer" was added as recommended in several comments.

A definition for "business day" was added and the term "working day" was changed to "business day" throughout the Order.

One comment observed that most of the major violations listed will not result in a substantial adverse impact on royalty income. All of the violations identified as "major" in the proposed Order were re-examined to determine their effect on royalty income, and several were changed to minor violations. Violations designated as major involve improperly designed and/or installed equipment incapable of correct measurement, or other circumstances that directly and adversely affect Federal or Indian royalty calculations.

One comment requested clarification of the term "minor violation" because it could be construed to ripen ultimately into a major violation. This Order uses the definitions of major and minor violations used in the regulations. They are separate offenses with separate penalties. However, a minor violation remaining uncorrected for as little as a few hours could indeed attain the status of a major violation and the Incident of Noncompliance be reissued as major. The civil penalties for failure to comply with written orders to correct major and minor violations are contained in 43 CFR 3163.2(g)(2).

One comment suggested the addition of definitions for "operator" and "operating rights owner". These definitions were added in order to explain the distinction between the terms. One comment suggested that the definition of "Production Unit Measure" be changed from (Mcf) to (Mscf). This suggestion was not adopted. The definition of standard cubic foot should suffice with the change of 520°, Rankine to 519.67° Rankine, made in the interest of accuracy as recommended in several comments.

Several comments addressed the definition of "by-pass", offering varying language. All references to "by-pass" were removed from this Order. This term is adequately covered in Onshore Oil and Gas Order No. 3.

One comment observed that the definition of "Incident of Noncompliance" (INC) was not consistent with Onshore Oil and Gas Order No. 4 on Oil Measurement and suggested that it be changed. The definition was rewritten to maintain consistency between the measurement orders.

Several comments offered various changes to the definition of gas. These suggestions were not adopted, because the definition used is taken directly from the regulations. Several comments submitted additional terms they thought out to be defined, such as "custody transfer", "purchaser/transporter", "BTU content", "point of delivery", "allocation measurement", and "primary and secondary elements". The suggestions were reviewed and the terms found not sufficiently useful to be defined in this Order.

Requirements

Minimum standard no. 30 on recordkeeping was removed and relocated as an introductory paragraph III.A. notifying the public of this requirement, because recording and reporting are a procedural requirement of the Federal Oil and Gas Royalty Management Act rather than being an enforceable minimum standard. To accommodate this insertion, section III.A. General was changed to III.B. General. Also, the words "and allocation" were inserted in III.B.2. to clarify the intent of the Order.

Numerous comments asked questions as to the intent of the Order in general terms and as to how the Government would respond in certain situations, such as whether equipment failure would result in a violation citation for an operator. In response to such questions, section III.B. of the Order was greatly expanded to provide this information.

C. Gas Measurement by Orifice Meter

In response to many comments, the language in section III.C. was changed to exclude the requirement that metering stations in compliance with this Order be retrofitted, as a result of revisions to AGA Report No. 3. The term "prior to sales" was further defined, appropriate language for the exemption of certain low volume production was inserted, and a paragraph notifying the lessee/operator that the authorized officer may require consolidated metering stations was added.

Standards No. C.1 and C.2

Numerous comments addressed the requirements for maintaining beta ratios within the AGA prescribed range. Most comments were concerned with exemptions for low volume wells. Other comments stated that the standards were too lengthy and needed clarification. Both standards were condensed and amended to clarify the intent and to be consistent with AGA.

Standard No. C.3

One comment stated that the term "normal" when applied to flow conditions was nebulous and suggested that substituting "optimum" would make the meaning clearer. The suggestion was adopted. Several comments were received calling for clarification of the minimum length of pipe preceding and following an orifice and suggesting the insertion of the word "straight" as a better description of the length of (straight) pipe. The suggestion improves the meaning and was adopted. Two comments stated that the phrase "shut-in gas meter" in the corrective action was inappropriate and should be removed. The term has been removed from all the standards in this Order. One comment stated that a violation of this standard should not be classed as major. However, there is a potential for reductions in royalties collected that may not be recoupable, and the suggestion to change the violation to minor was not adopted.

Standard No. C.4

Two comments stated that low volume producers (100 to 200 MCF/D) should be exempted from this standard. It is agreed that production of 100 MCF/D measured on a monthly basis should be exempt from this standard as stated in the Order. Several comments argued that maintaining recordings in the middle one-third of the chart range was too restrictive. Some stated the outer two-thirds of the chart range was more acceptable, while others suggested that the middle one-third of the chart range be required where practical or possible. It is agreed that the middle one-third is too restrictive. In the final Order the range has been expanded to include the outer third of the chart range to accommodate improved chart recordings for various production rates.

Standard No. C.5

Numerous comments recommended that the standard be amended to require the static element to be sized so that it records in the 50 to 70 percent of the chart range. This is agreed to in part for the same reason discussed in the previous paragraph, and the standard is changed to read "outer two-thirds of the chart range".

Standard No. C.6

Several comments recommended the removal of the sentence, "Sample probes may be installed upstream of the straightening vanes," because it serves no purpose and is confusing. The sentence has been removed.

Standard No. C.7

Numerous comments included recommendations ranging from exemption of wells producing 500 MCF/D from the requirement of a continuous temperature recorder to the use of indicating thermometers only, especially where the flowing gas temperatures did not vary more than 5 to 10 °F. Following an intensive review, the standard has been removed and a new standard substituted exempting a broad class of sales and allocation meters measuring 200 MCF/D or less from the necessity of employing a continuous temperature recorder, and providing for possible issuance of a variance for sales and allocation meters measuring between 200 and 500 MCF/D. It is not intended to exempt any sales or allocation meters from temperature measurements of the flowing as which are required by AGA for computing volumes. The relaxation of the standard does allow for the use of indicating thermometers to measure the temperature within the limitation of the new standard. Even small temperature changes will result in significant variations in royalty revenues where large volumes of gas are measured and sold and in these cases strict adherence to the standard is required.

Standard No. C.8

Several comments were received, one of which offered rewording for and another suggested removal of the standard, arguing that the standard is restrictive and not in accordance with AGA Report No. 3. The intent of the standard is to require compliance with AGA standards and avoid any recess of the orifice plate as measured parallel to the axis of the meter tube. If the inside diameter of the meter tube pipe differs from the orifice fitting the difference in sizes shall be within AGA specified tolerances. One comment stated that meter tube inspections are time consuming and require shut-in, and recommended inspections at reasonable intervals not to exceed four years. It is agreed that the inspection is time consuming and requires shut-in, and that short intervals between inspections are not appropriate. Predetermined intervals are not intended to be set for meter tube inspections. The normal inspection for other minimum standards may reveal the need for inspection of the meter tube as well. However, the inspections will not be regularly scheduled. It is recognized that some orifice fittings and pipe connections are of different sizes, but in some cases have been machined or modified to consistent internal diameters. In these cases, the operators should stamp notice of such modifications on the fitting where appropriate. An inspection may still be conducted to confirm the modification.

Standards No. C.9 and C.10

Several comments stated that the standards were more restrictive than the AGA requirements and suggested removal of the phrase "Shut-in gas meter and". Recommendations for the abatement period were to change to 60 days. This is agreed to in part and the provision rewritten to combine the 2 standards as number 9 and to refer to the recommended AGA requirements. Field experience has shown that shutting in the gas meter is not always necessary and could result in damage to the resource. The abatement period recommendation was not adopted because of a potential for nonrecoupable loss of royalty revenue.

Standard No. C.11

Numerous comments suggested different wording and clarification. After review, it was decided to remove the standard from this order, because it is adequately covered in Onshore Oil and Gas Order No. 3.

Standard No. C.12 (now no. 10)

All the comments on this standard addressed the frequency of inspection of the orifice plate. Two comments recommended changing the frequency of removal and inspection to every 6 months. This is agreed to in part and the standard has been changed to read "at least semiannually".

Standard No. C.13 (now no. 11)

Several comments addressed this provision. One recommended changing the abatement period to 24 hours while another recommended 30 days or prior to sales whichever occurs first. Two comments agreed with the requirement and abatement period. Two comments suggested minor changes to the corrective action. No changes were made to the standard or abatement period. Minor changes in wording were made to the corrective action, but did not change the intent. The violation remains major because of the potential for nonrecoupable loss of royalty revenue.

Standard No. C.14 (now no. 12)

A few comments addressed the standard, suggesting only minor rewording of the corrective action to include recording of the "as found" and "as left" readings. This recommendation has been adopted.

Standard No. C.15 (now no. 13)

Several comments were received and some agreed with the standard. One comment suggested changing the term "meter pen" to "meter differential pen" and one observed that the zero position of the recording devices should be checked every time data is collected from the recording device. The former suggestion has been adopted in part, to clarify the term "meter pen", and the words "the static and differential" inserted. The corrective action was also changed to require the recording of the "as found" and "as left" readings as suggested by a comment.

Standard No. C.16 (now no. 14)

One comment recommended that the corrective action be changed to include the "as found" and "as left" readings. This recommendation was adopted.

Standard No. C.17 (now no. 15)

Several comments were received addressing this standard. One comment recommended changes to the corrective action to include the word "calibration." The recommendation was not adopted. However, the corrective action was rewritten and clarified. Several comments asked for clarification of the standard regarding the number of points in the chart range where accuracy of the differential pen should be tested. One comment observed that the differential pen should be the most accurate within the recording range. The suggestion was adopted in part and the standard was rewritten to include tests for accuracy of the differential and static pens at only 3 points, one of which must be within the normal range of the differential recording.

Standard No. C.18 (now no. 16)

Two comments addressed this standard. One comment suggested that the corrective action and abatement period should be altered to include the words "after the as found calibration is

performed," while the other comment suggested clarification of the standard. The former suggestion was not adopted, but the standard was rewritten to clarify the intent and parts of the corrective action were merged into the standard.

Standard No. C.19 (now no. 17)

Numerous comments objected to the requirement that meters be tested monthly for the first 3 months following installation and repair. Most comments suggested that if initial calibration of the meter is found to be adequate, the meter testing frequency should then be semi-annual. This was agreed to in part and the requirement for the monthly tests following installation or repair has been removed. However, the suggestion that meters be calibrated on a semi-annual basis rather than quarterly as prescribed was not adopted. The corrective action was simplified to read "Test meter for accuracy." The abatement period of prior to sales was removed and a two-part abatement provision inserted to cover both abatement following installation and repairs and failure to calibrate the meter quarterly.

Standard No. C.20 (now no. 18)

Numerous comments objected to the requirement that the authorized officer be given at least 24 hours notice when meter calibrations are conducted. Several comments urged that the abatement period should be changed to prior to next calibration. The suggestions to remove or change the requirement were not adopted. The intent of this requirement is to permit the authorized officer to schedule visits to witness some of the meter calibrations. The calibration schedule may be submitted in advance for the current year if desired. It is recognized that schedules determined far in advance may not be followed exactly. However, a schedule from each operator will permit the BLM to arrange visits to witness calibrations and work with the operator regarding later changes to the planned schedule. The abatement period was changed as recommended.

Standard No. C.21 (now no. 19)

Several comments suggested that the abatement period should be lengthened for the submission of corrected volumes when meter inaccuracies exceed 2 percent. Recommendations were to delete the current "prior to completion of calibration" and change to a time period ranging from 10 to 120 days. One comment recommended a dual corrective action and abatement period that would apply to (a) situations where the meter was being calibrated, and (b) the submission of a corrected volume report. This suggestion was adopted. Also, in response to requests to allow a more reasonable time to submit a corrected volume report, the abatement period was changed to 60 days in the final rulemaking.

Standard No. C.22 (now no. 20)

Several comments were submitted regarding estimating volumes when measuring equipment is discovered to be out of service. Most of the comments were concerned with the abatement period and recommended a longer period ranging from 30 to 120 days. A longer abatement period is justified because the violation is minor and more time may be needed to obtain information from other parties: The period has been extended to 60 days in the final rulemaking. No changes were made in the standard and the corrective action received minor word changes.

Standard No. C.23 (now no. 21)

Several comments recommended the deletion of the reference to paragraph 6.3 of AGA Committee Report No. 3, stating that the reference would be too restrictive in computing volumes of gas. One comment suggested that volumes of gas delivered should be calculated in accordance with the flow equations specified in AGA Committee Report No. 3. This suggestion was adopted and the reference to paragraph 6.3 was removed. The abatement period was changed to 60 days because the violation is minor and 60 days may be necessary to obtain chart recordings from the purchaser and make recalculations.

Standard No. C.25 (now no. 23)

Several comments addressed the determination of the weighted average BTU content. Several stated that the term "weighted average" needs clarification and that BTU content is not appropriate for noncombustible gases. Other comments recommended the abatement period be changed to 30 days. After due consideration the decision was made to remove the term "weighted average" and the monthly reporting requirements, because it is more appropriate for the authorized officer to prescribe or approve the variables used in the BTU value determination on a case-by-case basis. The abatement period was changed to 30 days.

Standard No. C.26

After a review of the comments this requirement was removed as unnecessary and imposing too large a routine paperwork burden.

Standard No. C.27 (now no. 24)

Several comments objected to filing calibration reports with the authorized officer on a routine basis, preferring to file them only upon request. In addition, the abatement period was stated to be too short. The comment was adopted and the Order includes the requirement to submit the meter calibration reports to the authorized officer "upon request". Also, the abatement period was changed to 15 days to allow sufficient time for mailing the reports, considering that the calibration report may not be available to the operator as the oil meter proving report is available to the operator under Order No. 4.

Standard No. C.28 (now no. 25)

Several comments addressed the method for determining the atmospheric pressure at the metering station for purposes of measurement and meter calibration. Three comments recommended extending the abatement period to 30 days, and one recommended that the atmospheric pressure be established by actual measurement at the elevation of the measurement station. The recommendations have been adopted in the final rulemaking, because it was not the intent of the proposed Order to restrict the determination of the elevation of the measurement station, and because potential losses are recoupable by recalculation after determination of the elevation.

Standard No. C.29 (now no. 26)

Several comments suggested that the term "specific gravity" should be changed to "relative density". The 2 terms are related. Because of common usage, "specific gravity" can be used synonymously and is a useful term. The abatement period has been changed to 30 days as suggested, because laboratory analysis may be necessary to determine specific gravity.

Standard No. C.30

This standard was removed and made a notification at the beginning of Section III of the Order.

D. Gas Measurement by Other Methods or at Other Locations Acceptable to the Authorized Officer

Several comments stated that any method of measurement approved by the AGA should be acceptable to the BLM, and that other methods as listed should not be included without referring to the standards governing their use. 43 CFR 3162.7–3 specifically approves gas measurement by orifice meter or other methods that may be acceptable to the

authorized officer. Since the vast majority of metering stations employ an orifice for measurement, it has been determined that applications for the use of other methods of measurement should be accompanied by the specific standards for the method proposed on a case-by-case basis rather than make the Order more lengthy and complex. The suggestion to add the words "participating area" wherever units are involved, and the recommendation of one comment to add "positive-displacement meter" to the list of other measurements, were adopted.

1. Measurement on the Lease, Unit, Unit Participating Area, or Communitized Area

Two comments were submitted. One comment stated that, because both working interest gas and royalty gas are involved, the classification of a major violation for unapproved alternate gas measurement methods was too severe. This comment was not agreed to because it has been determined that there is a possible potential for nonrecoupable loss of royalty gas. Another comment recommended rewording of the conditions of approval wherein the alternate method could be approved if it did not adversely affect royalty income. The recommendation was adopted.

2. Measurement at a Location Off the Lease, Unit, Unit Participating Area, or Communitized Area

A number of comments were received on this provision. To clarify the intent of this requirement, the BLM will continue to require prior approval for off-lease measurement and emphasize that the application is required to be complete and to justify the need and type of measurement method to be used. The violation is classed as major because there is the potential for adverse effects on royalty income. The phase-in time period is sufficient to obtain needed approvals.

IV. Variances from Minimum Standards

Two comments recommended that both oral requests and approvals be allowed so long as the oral request is followed by a written request not later than the fifth business day following oral approval. This recommendation is reasonable and has been adopted. In addition, the standard was expanded to include language allowing the authorized officer to issue a Notice to Lessees (NTL) and establish modified standards or variances for specific geographic areas of operation. A provision for the authorized officer to protect royalty income and provide for proper product verification by requiring additional standards was also included. While situations requiring additional standards should be infrequent, it should be remembered that the Order consists of minimum standards rather than optimum standards applicable to every situation on a nationwide basis. When additional standards are required, the operator/lessee will be notified in writing. All additional requirements will be reasonable and the rationale for imposing the standards will be fully explained.

The principal authors of this final rulemaking are Richard T. Hunter, Lakewood, Colorado; Terry Messerli, Billings, Montana; and Upendra Parikh, Jackson, Mississippi, of the Bureau of Land Management Orders Committee responsible for the development and issuance of this Order, assisted by the Orders Task Group, the staff of the Division of Legislation and Regulatory Management, Bureau of Land Management, the Office of the Solicitor, Department of the Interior, and Jim Fisher, retired from the Bureau of Land Management. Scott Ellis, Minerals Management Service, was also a part of the Orders Committee and assisted on royalty accounting issues.

It is hereby determined that this final rulemaking does not constitute a major Federal action significantly affecting the quality of the human environment, and that no detailed statement pursuant to section 102(2)(C) of the National Environmental Policy Act of 1969 (42 U.S.C. 4332(2)(C)) is required.

The final Order will have minimal adverse economic effects, because its requirements reflect the operating practices currently followed by prudent operators when gas production is measured in accordance with the standards and specifications published by the American Gas Association (AGA), officially designated as American National Standard ANSI/API 2530, 1985, and AGA Committee Report No. 3, second edition. The final Order may provide a beneficial economic effect. Industry is less likely to be subjected to assessments or penalties resulting from violations and/or the requirement to undertake costly remedial actions, if it has a better understanding of the requirements of the Bureau of Land Management that relate to the measurement of gas production. The State Governments that share in the royalties collected and Indian mineral owners will also benefit from assurance of more accurate gas measurement. The minimum standards established by this Order essentially are those that have been required but not officially promulgated by this Department and impose the same burden on all lessees and operators, regardless of the size of the entity, on lands where the measurement of gas production is under the jurisdiction of the Bureau of Land Management. Therefore, the Department of the Interior has determined that this document is not a major rule under Executive Order 12291 and will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*).

The information collection requirements contained in the Order have been approved by the Office of Management and Budget under 44 U.S.C. 3501, *et seq.*, and assigned clearance numbers 1004–0134, 1004–0135, and 1004–0136.

List of Subjects in 43 CFR Part 3160

Government contracts, Indian lands—mineral resources, Mineral royalties, Oil and gas exploration, Oil and gas production, Public lands—mineral resources, Reporting requirements.

Under the authorities cited below, Part 3160, Group 3100, Subchapter C, Chapter II of Title 43 of the Code of Federal Regulations is amended as set forth below:

James E. Cason,

Acting Assistant Secretary of the Interior.

January 3, 1989.

PART 3160—[AMENDED]

1. The authority citation for Part 3160 continues to read:

Authority: The Mineral Leasing Act of 1920, as amended and supplemented (30 U.S.C. 181 *et seq.*), the Mineral Leasing Act for Acquired Lands of 1947, as amended (30 U.S.C. 351–359), the Act of May 31, 1930 (30 U.S.C. 301–306), the Act of March 3, 1909, as amended (25 U.S.C. 396), the Act of May 11, 1938, as amended (25 U.S.C. 396a–396q), the Act of February 28, 1891, as amended (25 U.S.C. 397), the Act of May 29, 1924 (25 U.S.C. 398), the Act of March 3, 1927 (25 U.S.C. 398a–398e), the Act of June 30, 1919, as amended (25 U.S.C. 399), R.S. 441 (43 U.S.C. 1457), See also Attorney General's Opinion of April 2, 1941 (40 Op. Atty. Gen. 41), the Federal Property and Administrative Services Act of 1949, as amended (40 U.S.C. 471 *et seq.*), the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 *et seq.*), the Act of December 12, 1980 (42 U.S.C. 6508), the Combined Hydrocarbon Leasing Act of 1981 (Pub. L. 97–78), the Federal Oil and Gas Royalty Management Act of 1982 (30 U.S.C. 1701 *et seq.*) and the Indian Mineral Development Act of 1982 (25 U.S.C. 2102 *et seq.*).

2. Section 3164.1(b) is amended by adding the following entry to the table:

§ 3164.1 Onshore oil and gas orders. (b) * * *

* * * * *

Order No.	Subject	Effective date	Federal Register reference	Supersedes
* * * * * * *				
5	Measurement of Gas			None

Appendix—Text of Oil and Gas Order No. 5

Note.—This appendix will not appear in the Code of Federal Regulations.

Onshore Oil and Gas Order No. 5

Measurement of Gas on Federal and Indian Oil and Gas Leases

I. Introduction.
- A. Authority.
- B. Purpose.
- C. Scope.

II. Definitions.

III. Requirements.
- A. Required Recordkeeping.
- B. General.
- C. Gas Measurement by Orifice Meter.
- D. Gas Measurement by Other Methods or at Other Locations Acceptable to the Authorized Officer.

IV. Variances from Minimum Standards.

Attachment.

I. Sections from 43 CFR Subparts 3163 and 3165.

Onshore Oil and Gas Order No. 5

Measurement of Gas on Federal and Indian Oil and Gas Leases

I. Introduction

A. Authority

This Order is established pursuant to the authority granted to the Secretary of the Interior pursuant to various Federal and Indian mineral leasing statutes and the Federal Oil and Gas Royalty Management Act of 1982. This authority has been delegated to the Bureau of Land Management and is implemented by the onshore oil and gas operating regulations contained in 43 CFR Part 3160. Section 3164.1 thereof specifically authorizes the director to issue Onshore Oil and Gas Orders when necessary to implement or supplement the operating regulations and provides that all such Orders shall be binding on the lessees and operators of Federal and restricted Indian oil and gas leases which have been, or may hereafter, be issued.

Specific authority for the provisions contained in this Order is found at: § 3162.7–1, *Disposition of production*; section 3162.7–3, *Measurement of gas*; and subpart 3163, Noncompliance and assessments.

B. Purpose

One purpose of this Order is to establish requirements and minimum standards for the measurement of gas by the methods authorized in 43 CFR 3162.7–3, i.e., measurement by orifice meter or other methods acceptable to the authorized officer. Proper gas measurement ensures that the Federal Government, the general public, State Governments which share in the proceeds, and Indian mineral owners receive the royalties due, as specified in the governing oil and gas leases.

Another purpose of this Order is to establish abatement periods for corrective action when noncompliance with the minimum standards is detected. The assessments and penalties that will be imposed as a result of noncompliance and/or a failure to correct the noncompliance within the specified abatement period.

This Order also serves as notice to any party cited for noncompliance that it may request from the authorized officer an extension of the abatement period for any violation, provided that the request for extension is applied for and granted prior to the expiration of the abatement period previously allowed.

C. Scope

This Order is applicable to all Federal and Indian (except Osage) oil and gas leases. In addition, this Order is also applicable to all wells and facilities on State or privately owned mineral lands committed to a unit or communitization agreement that affects Federal or Indian interests, notwithstanding any provision of a unit or communitization agreement to the contrary.

II. Definitions

A. Authorized Officer means any employee of the Bureau of Land Management authorized to perform the duties described in 43 CFR Groups 3000 and 3100 (see 43 CFR 3000.0–5).

B. Business Day means any day Monday through Friday excluding Federal holidays.

C. Gas means any fluid, either combustible or noncombustible, which is produced in a natural state from the earth and which maintains a gaseous or rarefied state at standard temperature and pressure conditions (see 43 CFR 3000.0–5(a)).

D. INC means incident of noncompliance, which serves as a Notice of Violation under 43 CFR Subpart 3163.

E. Lessee means a person or entity holding record title in a lease issued by the United States (see 43 CFR 3160.0–5).

F. Major violation means noncompliance which causes or threatens immediate, substantial, and adverse impacts on public health and safety, the environment, production accountability, or royalty income (see 43 CFR 3160.0–5).

G. Minor violation means noncompliance which does not rise to the level of a major violation (see 43 CFR 3160.0–5).

H. Operating Rights Owner means a person or entity holding operating rights in a lease issued by the United States. A lessee also may be an operating rights owner if the operating rights in a lease or portion thereof have not been severed from record title.

I. Operator means any person or entity including but not limited to the lessee or operating rights owner, who has stated in writing to the authorized officer that it is responsible under the terms and conditions of the lease for the operations conducted on the leased lands or portion thereof.

J. Production unit means, for purposes of reporting production, a measurement unit of 1000 standard cubic feet (Mcf).

K. Standard cubic foot means the volume of gas contained in one cubic foot at a base pressure of 14.73 pounds per square inch absolute (psia), at a base temperature of 60°F or 519.67° Rankine (43 CFR 3162.7–3).

III. Requirements

A. Required Recordkeeping

The operator shall keep all test data, meter reports, charts/recordings, or other similar records for 6 years from the date they were generated, or if

involved in an audit or investigation, the records shall be maintained until the record holder is released by the Secretary from the obligation to maintain them. The authorized officer may request these records any time within this period. Records submitted shall include all additional information used to compute volumes so that computations may be verified.

B. General

All gas production shall be measured in accordance with an authorized method of measurement. As set out in 43 CFR 3162.7–3, gas measurement authorized for gas produced from leases, units, and communitization agreements subject to the jurisdiction of the Bureau of Land Management, as such jurisdiction is defined in 43 CFR 3161.1, may be by orifice meter or other methods acceptable to the authorized officer. The requirements and minimum standards for gas measurement are set out below.

The requirements of this Order are based on the standards and specifications published by the American Gas Association (AGA) and officially designated as ANSI/API 2530 and AGA Committee Report No. 3, second edition, 1985, hereafter referred to AGA Committee Report No. 3. The AGA published standards and specifications are considered to be appropriate for proper gas measurement by both the Department of the Interior and the Oil and Gas Industry. The requirements set minimum standards necessary to promote conservation of natural resources and to ensure proper measurement of gas production for sales and allocation purposes, so that the Federal Government and Indian mineral owners will receive the royalties due under governing oil and gas leases.

All future sales and allocation facilities and sales or allocation facilities in existence on the effective date of this Order, unless covered by a valid variance, shall meet the minimum standards prescribed in this Order, provided, however, that all gas produced from or allocated to Federal and Indian (except Osage) oil and gas leases wherein the gas is measured through sales or allocation meters handling 100 MCF per day or less on a monthly basis are exempt from the standards in Section III.C.1, C.2, and C.4 of this Order. The authorized officer may, where apropriate and necessary for proper measurement, work with the operators in designating consolidated gas sales and/or allocation meter stations.

Meter installations constructed n accordance with the AGA Committee Report No. 3 standards in effect at that time shall not automatically be required to retrofit if the standards are revised. The Bureau will review any revised standards, and when it is deemed necessary will amend the Order accordingly through the rulemaking process.

The intent of these minimum standards is to ensure that when equipment malfunctions that could result in inaccurate measurement occur, proper corrective actions are taken, the authorized officer is notified, and an amended production report is submitted.

Failure to comply with these minimum standards will be considered as noncompliance and an incident of noncompliance (INC) will be issued. Operators who discover noncompliance with these minimum standards and take immediate corrective action will not be issued an INC. If the authorized officer or his representative is present when an operator discovers a malfunction or uses incorrect procedures as specified in this Order, an INC will be issued unless immediate corrective action is taken. Failure of equipment will not be considered a violation. However, the incidents of noncompliance which may result from equipment failure are considered violations and a partial list is as follows:

Failure to install equipment properly.

Failure to repair or correct equipment malfunction properly or in a timely manner.

Failure to submit report of alternate method of sales.

Failure to submit amended production reports in a timely manner.

Fail to adhere to the minimum standard procedures specified in this Order.

The use of improper equipment, when discovered, will be considered as a violation and a formal INC will be issued.

The use of improper procedures will be considered as a violation and when witnessed by the authorized officer or his representative, immediate corrective action will be required. In the event that proper procedures are then used as required by this Order, and prior to completing the operation, calibration, or proving, the violation will be considered as properly corrected. In this case, although the violation will be documented in the agency files, no INC will be issued.

A major violation as defined in this Order will generally require an immediate shut-in of the metering device. However, where the non-recoupable loss is not significant or where damage to the resource is likely to occur if a shut-in is required, an abatement period of 24 hours may be given.

Where abatement is required "prior to sales or removal", this means that necessary action is required to be taken so that no gas may be removed beyond the measurement point until properly measured.

C. Gas Measurement by Orifice Meter

The following are minimum standards for the measurement of natural gas using orifice meters.

1. The orifice to pipe diameter ratio (d/D), or the beta ratio, with meters using "flange taps," shall be between 0.15 and 0.70.

Violation: Major.

Correction Action: Install an orifice of such size that subsequent measurements will be within the appropriate beta ratio range. If changing the orifice causes the differential pressure to be recorded in the lower one-third of the chart, then either the meter tube or the differential element shall be changed, sizing the straight pipe sections in a manner that will provide subsequent measurement within the appropriate beta ratio range.

Abatement Period: Prior to sales.

2. The orifice to pipe diameter ratio (d/D), or the beta ratio, with meters using "pipe taps," shall be between 0.20 and 0.67.

Violation: Major.

Correction Action: Same as A.1. above.

Abatement Period: Prior to sales.

3. To obtain flow conditions as near optimum as possible and minimize the effects of turbulence in gas flow, the minimum length of straight pipe preceding and following an orifice and the use of straightening vanes, shall conform to those specifications detailed in Figures 4 through 9 of AGA Committee Report No. 3.

Violation: Major.

Corrective Action: Install proper length of pipe where appropriate or install straightening vanes in accordance with appropriate AGA Committee Report 3 specifications.

Abatement Period: Prior to sales.

4. The orifice shall be sized to make the pen that records differential pressure operate in the outer ⅔ of the chart range for the majority of the flowing period.

Violation: Minor.

Corrective Action: Size orifice to meter tube so that differential pen will deflect and record in the outer ⅔ of the chart range and so that the measurement will be within the prescribed beta ratio range.

Abatement Period: 20 days.

5. The static element shall be sized to make the pen that records the static

pressure operate in the outer ⅔ of the chart range for the majority of the flowing period.

Violation: Minor.

Corrective Action: Size static element so as to cause static pen to record in the outer ⅔ of the chart range.

Abatement Period: 20 days.

6. There shall be no pipe connections between the orifice and the nearest pipe fitting other than the pressure taps and/or thermometer wells as specified in AGA Committee Report No. 3.

Violation: Major.

Corrective Action: Replace entire length of pipe ahead of orifice meter with pipe of appropriate length and inside smoothness in accordance with AGA Committee Report No. 3.

Abatement Period: Prior to sales.

7. Continuous temperature recorders to measure the flowing gas temperature are required on all sales or allocation meters measuring 200 MCF per day or more on a monthly basis. All other sales or allocation meters shall have a continuous temperature recorder or an indicating thermometer to measure flowing gas temperature. Sales or allocation meters measuring between 200 and 500 MCF per day on a monthly basis may be considered for a variance by the authorized officer on a case-by-case basis.

Violation: Major.

Corrective Action: Install temperature measuring device as required.

Abatement Period: Prior to sales.

8. The internal diameters of the meter tube pipe and the orifice fittings shall be the same or, if not, within tolerance limits set by AGA.

Violation: Major.

Corrective Action: Install properly sized meter tube.

Abatement Period: Prior to sales.

9. Meter tubes using flange taps or pipe taps shall have the pressure tap holes located as specified in AGA Committee Report No. 3.

Violation: Major.

Corrective Action: Install pressure tap as specified.

Abatement Period: Prior to sales.

10. Orifice plates shall be removed from the flange or plate holder, and inspected for visual conformance with AGA standards and specifications, at least semi-annually, during testing of the accuracy of measuring equipment.

Violation: Minor.

Corrective Action: Remove and inspect orifice plate for visual conformance with AGA standards and specifications.

Abatement Period: No later than the next meter calibration.

11. Any plate or orifice that is determined not in conformance with AGA standards shall be replaced with one that is in conformance.

Violation: Major.

Corrective Action: Replace orifice plate.

Abatement Period: Prior to sales.

12. All connections and fittings of the secondary element (including meter pots and meter manifolds) shall be leak tested prior to conducting tests of the meter's accuracy.

Violation: Minor.

Corrective Action: Stop meter calibration and conduct leak test. When leaks are detected the meter setting shall be determined and recorded "as found", the meter calibrated, and readings recorded "as left".

Abatement Period: Prior to completion of calibration.

13. The appropriate "zero" position of the static and differential meter pens shall be checked during each test of meter accuracy, and adjustments made if necessary.

Violation: Minor.

Corrective Action: Stop meter calibration and record "as found" readings; calibrate meter and record readings "as left".

Abatement Period: Prior to completion of calibration.

14. The meter's differential pen arc, the ability of the differential pen to duplicate the test chart's time arc over the full range of the test chart, shall be checked during each testing of the meter's accuracy and adjustments made if necessary.

Violation: Minor.

Corrective Action: Stop meter calibration and record "as found" readings; adjust differential pen arc, and record "as left" readings.

Abatement Period: Prior to completion of calibration.

15. Differential and static pen accuracy shall be tested for linearity at zero and 100 percent and at 1 point within the normal range of the differential and static recordings to assure accuracy.

Violation: Minor.

Corrective Action: Adjust pens to assure accuracy.

Abatement Period: Prior to completion of calibration.

16. During testing of the meter accuracy, the static pen time lag shall be adjusted to ensure independent movement of the static pen in relation to the differential pen.

Violation: Minor.

Corrective Action: Make appropriate adjustments.

Abatement Period: Prior to completion of calibration.

17. For all sales and allocation meters, the accuracy of the measuring equipment at the point of delivery or allocation shall be tested following initial meter installation or following repair and, if proven adequate, at least quarterly thereafter unless a longer period is approved by the authorized officer. All extensions of intervals between tests of meters shall be approved in writing by the authorized officer.

Violation: Minor.

Corrective Action: Test meter for accuracy.

Abatement Period:

a. 24 hours for initial meter installation or following repairs.

b. 30 days for failure to calibrate meter quarterly.

18. At least a 24-hour notice shall be given to the authorized officer prior to conducting the tests and calibrations required by this order.

Violation: Minor.

Corrective Action: Notify authorized officer of scheduled meter tests and calibrations at least 24 hours prior to next tests and calibrations.

Abatement Period: Prior to next calibration.

19. If the inaccuracy in the measuring equipment results in a volume calculation more than 2 percent in error, the volume measured since the last calibration shall be corected in addition to adjusting the meter to zero error. Also, the operator shall submit a corrected report adjusting the volumes of gas measured, and showing or discussing all calculations made in correcting the volumes. The volumes shall be corrected back to the time the inaccuracy occurred, if known. If this time is unknown, volumes shall be corrected for the last half of the period elapsed since the date of last calibration.

Violation: Minor.

Corrective Action:

a. Adjust meter to zero error.

b. Submit corrected report.

Abatement Period:

a. Prior to completion of calibration.

b. 60 days.

20. If, for any reason, the measuring equipment is out of service or malfunctioning so that the quantity of gas delivered is not known, the volume delivered during this period shall be estimated using one of the following methods, in this order of priority:

a. Record data on check metering equipment if used in lieu of main meter recordings. If check meters are not installed or are found to be recording inaccurately; then,

b. Base corrections on the percentage error found during the instrument test. If that is not feasible; then,

c. Estimate the quantity of gas run, based on deliveries made under similar conditions when the metering equipment was registering accurately.

Violation: Minor.

Corrective Action: Estimate volumes delivered during those periods cited using one or more of the approved methods identified in the order of priority and, where necessary, submit an amended report showing corrected volumes.

Abatement Period: 60 days.

21. Volumes of gas delivered shall be determined according to the flow equations specified in AGA Committee Report No. 3.

Violation: Minor.

Corrective Action: Recalculate all gas volumes not determined in accordance with flow equations specified in § 6.3 of the AGA Committee Report No. 3 and submit an amended Form 3160 report.

Abatement Period: 60 days.

22. Unless otherwise established, the point of sales delivery and appropriate measurement shall be on the leasehold (or within the boundaries of the communitized area (CA) or unit participating area). Sales measurement off the leasehold (or outside the CA or unit participating area) may be approved by the authorized officer.

Violation: Minor.

Corrective Action: Submit application to authorized officer for approval of off lease (CA or Unit participating area) measurement.

Abatement Period: 30 days.

23. The BTU content shall be determiend at least annually, unless otherwise required by the authorized officer, by means of (1) a recording calorimeter, (2) calculations based on a complete compositional analysis of the gas and the heating value of each constituent, in accordance with AGA Committee Report No. 3, or (3) any other method acceptable to the authorized officer. The authorized officer shall be apprised of the method used for each determination and be furnished with all needed analytical data or other documentation upon request. The BTU content most recently determined and used for royalty purposes shall be reported.

Violation: Minor.

Corrective Action: Determine BTU values and submit an amended report.

Abatement Period: 30 days.

24. All meter calibration report forms shall include the following information, if applicable, and shall be submitted to authorized officer upon request.

a. Name of producer or seller.

b. Name of purchaser.

c. Federal or Indian lease number, communitization agreement number, or unit name or number, and participating area identification.

d. Station or meter number.

e. Meter data (make, differential and static range, recording period).

f. Type of connections (flange or pipe, upstream, or downstream static connections).

g. Orifice data (plate size and ID of meter tube).

h. Base of data used on each chart or record (temperature, specific gravity, atmospheric pressure).

i. Time and date of test.

j. Instrument error(s) found and certification of corrections, and "found" and "left" data for all instruments.

k. Signatures and affiliations of tester and witness.

l. Remarks.

Violation: Minor.

Corrective Action: Submit amended meter calibration report(s) to authorized officer, including all required information.

Abatement Period: 15 days.

25. For purposes of measurement and meter calibration, atmospheric pressure is that value defined in the buy/sell contract (normally assumed to be a constant value). In the absence of such a definition in the buy/sell contract, the atmospheric pressure shall be established through an actual measurement or assumed to be a constant value based on the elevation at the metering station.

Violation: Minor.

Corrective Action: Recalibrate gas meter and submit amended report indicating corrected volumes using the adjusted absolute zero or properly calculated pressure extensions.

Abatement Period: 30 days.

26. The method and frequency of determining specific gravity are normally defined in the buy/sell contract. Except when a continuous recording gravitometer is used, specific gravity may be determined at the time of an instrument check using a spot or cumulative gas sample, and is usually effective the first of the following month. The continuous recorder may be of a gravity balance or kinematic type. Also, specific gravity may be determined from a laboratory analysis of a spot or cumulative gas sample.

Violation: Minor.

Corrective Action: Determine specific gravity of gas by approved method and submit an amended report with a corrected volume.

Abatement Period: 30 days.

D. Gas Measurement by Other Methods or at Other Locations Acceptable to the Authorized Officer

Using any method of gas measurement other than by orifice meter at a location on the lease, unit, unit participating area, or communitized area, requires prior approval from the authorized officer pursuant to 43 CFR 3162.7–3. Other measurement methods include, but are not limited to:

Turbine metering systems
Positive displacement meter
Pitot tube
Orifice well tester
Critical flow prover
Gas-oil ratio

The requirements and minimum standards for gas measurements on the lease, unit, unit participating area, or communitized area by an alternate method of measurement, or at a location off the lease, unit, unit participating area, or communitized area by either an authorized or an alternate method of measurement, are as follows:

1. Measurement of the Lease, Unit, Unit Participating Area, or Communitized Area

a. A written application for approval of an alternate gas measurement method shall be submitted to the authorized officer and written approval obtained before any such alternate gas measurement method is installed or operated. Any lessee/operator requesting approval of any alternate gas sales measurement system shall submit performance data, actual field tests results, or any other supporting data or evidence acceptable to the authorized officer, that will demonstrate that the proposed alternate gas sales measurement system will meet or exceed the objectives of the applicable minimum standard or does not adversely affect royalty income or production accountability.

Violation: Major.

Corrective Action: Submit application and obtain approval.

Abatement Period: Prior to sales.

2. Measurement at a Location Off the Lease, Unit, Unit Participating Area, or Communitized Area

a. A written application for off-lease measurement shall be submitted to the authorized officer and written approval obtained before any such off-lease gas measurement shall justify location of the measurement facilities are installed or operated. The application for approval of off-lease measurement facilities at the desired off-lease location before approval will be granted, but no

additional approval as to the gas sales measurement method is required, provided measurement is to be accomplished by orifice meter pursuant to the requirements and minimum standards of this Order.

Violation: Minor.

Corrective Action: Submit application and obtain approval.

Abatement Period: 20 days.

b. If gas measurement is to be accomplished at a location off the lease, unit, unit participating area, or communitized area by any alternate measurement method (any method other than measurement by orifice meter), then the application, in addition to justifying the location of the measurement facilities, shall also demonstrate the acceptability of the alternate measurement method pursuant to Sec. III.D.1. of this Order.

Violation: Major.

Corrective Action: Submit application and obtain approval.

Abatement Period: Prior to sales.

IV. Variances From Minimum Standards

An operator may request that the authorized officer approve a variance from any of the minimum standards prescribed in Section III. All such requests shall be submitted in writing to the appropriate authorized officer and shall provide information as to the circumstances warranting approval of the variance(s) requested and the proposed alternative means by which the related minimum standard(s) will be satisfied. The authorized officer, after considering all relevant factors, shall approve the requested variance(s) if it is determined that the proposed alternative(s) meets or exceeds the objectives of the applicable minimum standard(s), or does not adversely affect royalty income or production accountability.

In addition, approval may be given orally by the authorized officer before the lessee/operator initiates actions which require a variance from minimum standards. The oral request, if granted, shall be followed by a written request not later than the fifth business day following oral approval, and written approval will then be appropriate.

The authorized officer may also issue NTLs that establish modified standards and requirements for specific geographic areas of operations.

After notice to the operator the authorized officer may also require compliance with standards that exceed those contained in this Order whenever such additional requirements are necessary to achieve protection of royalty income or production accountability. The rationale for any such additional requirements shall be documented in writing to the lessee/operator.

Attachment

I. Sections from 43 CFR Subparts 3163 and 3165 (not included with **Federal Register** publication).

[FR Doc. 89-3886 Filed 2-23-89; 8:45 am]

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federal register

Friday
February 24, 1989

Part V

Environmental Protection Agency

40 CFR Part 799

Testing Consent Order for Diisodecyl Phenyl Phosphite; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 799

[OPTS-42101A; FRL-3528-3]

Testing Consent Order for Diisodecyl Phenyl Phosphite

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This rule announces that EPA has signed an enforceable Testing Consent Order with three manufacturers of diisodecyl phenyl phosphite (PDDP; CAS No. 25550-98-5), who have agreed to perform certain neurotoxicity tests with PDDP. This action is in response to the Toxic Substances Control Act (TSCA) Interagency Testing Committee's (ITC) recommendation of PDDP for testing. PDDP is added to the list of Testing Consent Orders for which export notification requirements of 40 CFR Part 707 apply.

EFFECTIVE DATE: February 24, 1989.

FOR FURTHER INFORMATION CONTACT: Michael M. Stahl, Director, TSCA Assistance Office (TS-799), Office of Toxic Substances, Rm. EB-44, 401 M St., SW., Washington, DC 20460, (202) 554-1404, TDD (202) 554-0551.

SUPPLEMENTARY INFORMATION: Under procedures described in 40 CFR Part 790, three manufacturers have entered into a testing consent order with EPA in which they have agreed to perform certain neurotoxicity tests with PDDP. This rule amends 40 CFR 799.5000 by adding PDDP to the list of chemical substances and mixtures subject to testing consent orders.

I. ITC Recommendation

In its 17th report to EPA, published in the **Federal Register** of November 19, 1985 (50 FR 47603; Ref. 1), the ITC listed PDDP under Part C (chemicals recommended without designation for response within 12 months) of the section 4(e) priority list. PDDP was recommended for health effects testing, specifically toxicokinetics and subchronic toxicity, including neurotoxicity. The ITC's rationale for the listing was: limited health effects data; the structural relationship between PDDP and a known neurotoxicant, triphenyl phosphite (TPP); high production volume (1-10 million pounds per year); National Institute for Occupational Safety and Health survey data reporting 900 potential workplace exposures; and a dispersive use pattern.

II. Testing Consent Order Negotiations

Prior to the issuance of the Interim Rule establishing the Testing Consent Order Process (51 FR 23706), EPA made findings under TSCA section 4 as the basis for rulemaking in response to the ITC's designation of chemical substances for priority testing. Part 790 now provides for a consent order process to expedite the development of data for risk assessment.

On December 16, 1985, EPA held a public meeting with the manufacturers of PDDP and other interested parties to discuss the ITC listing of PDDP, related health data, and manufacturing and use information (Ref. 1). On February 11, 1988, in accordance with the procedures in 40 CFR 790.22, EPA issued a notice (53 FR 4072) that asked interested parties to participate in consent order negotiations concerning PDDP and announced a public meeting to be held on February 22, 1988 (Ref. 2). At that meeting, EPA presented its tentative testing decisions concerning PDDP and initiated negotiations which led to the adoption of a testing consent order. The identified manufacturers of PDDP, Borg-Warner Chemicals, Inc., Witco Chemicals, and Dover Chemical Corporation, presented their analysis of the existing manufacturing, use, and health data relating to PDDP. Subsequently, negotiation meetings were held on March 10, 1988, and April 6, 1988, to discuss testing options and TSCA testing guidelines. On April 21, 1988, the Phenyl Diisodecyl Phosphite Industry Group, composed of the aforementioned three companies, submitted a letter of intent to perform a testing program for PDDP utilizing specific test standards (Ref. 3). On November 9 and 11, 1988, Borg-Warner Chemicals, Inc., Witco Corporation, and Dover Chemical Corporation signed the Testing Consent Order for PDDP.

Under the Order, the test sponsors agree to conduct or provide for the conduct of the following two health effects tests: a subchronic delayed neurotoxicity test designed for organophosphorus substances and a neurotoxic esterase assay. The specific test standards to be followed and the testing schedule for each test are included in the Order. EPA has concluded that this testing battery is adequate to evaluate PDDP for the concerns identified by the ITC. Procedures for submitting study plans, modifying the Order, monitoring the testing, and other provisions are also included in the Order.

III. Use and Exposure

The phosphite chemicals market may be categorized by two major end-uses; insecticide intermediates and plastic stabilizers/antioxidants (Ref. 4). The stabilizer/ antioxidant market consists of the aryl phosphites, aryl alkyl phosphites, and the higher molecular weight alkyl phosphites.

Phosphite stabilizers inhibit the tendency of high-density polyethylene polymers to degrade and discolor during processing. These phosphites are termed secondary antioxidants; they are peroxide decomposing or preventative antioxidants since they reduce hydroperoxides to alcohols, to inhibit the further reaction of free radicals in polymers (Ref. 4). They are also color stabilizers and inhibit the formation of colored quinoid structures by primary phenolic antioxidants (Ref. 4).

PDDP is a dialkyl monophenyl phosphite (aryl-alkyl) and its primary use is as a low cost heat/light stabilizer and secondary antioxidant for polymeric materials, including vinyl polymers and polyurethanes, poly (ether ester) rubbers, and epoxy resins. Its predominant use is in polyvinyl chloride (PVC) as a secondary heat stabilizer, but it is also used in other polymers and elastomers such as polypropylene, polystyrene, high density polyethylene, and ABS rubber as an antioxidant (Ref. 5).

PDDP is a clear liquid that is essentially insoluble in water, with an estimated water solubility of 0.01 to 20 ppb (Refs. 5 and 6). PDDP is soluble in most common aprotic organic solvents, has a vapor pressure of less than 1 mm Hg at 20°C (Ref. 6), and has a calculated log P of greater than 12. (Ref. 7).

The National Occupational Hazard Survey reports 900 potential workplace exposures yearly (Ref. 8). Based on the physical properties of PDDP, EPA believes that dermal exposure to PDDP may occur during manufacture and processing. The potential also exists for inhalation of PDDP by workers during the processing of PDDP. Sampling, cleaning, or replacing of filters and packaging operations are the activities most likely to produce exposures during manufacturing operations. Exposures resulting from PDDP's use as a stabilizer/antioxidant are expected to occur during the milling and bagging of powdered products, from the blending of stabilizers, and from the extrusion of PVC resins.

IV. Testing Program

The only existing neurotoxicity data concerning PDDP is a neurotoxicity

screening study where single doses of 5 g/kg of PDDP were administered by gavage to hens (Ref. 9). Although no signs of ataxia were noted during the 21-day observation period, the study has a major limitation in that the dose, administered only once, may not have been sufficient to elicit an effect. This characteristic is typical of other organophosphorous substances.

EPA is concerned that human exposure to PDDP may result in delayed neurotoxic effects. These concerns are based on test data in cats, rats, and chickens where triphenyl and tricresyl phosphites produced delayed neurotoxic effects including spinal cord and brainstem lesions accompanied by ataxia and paralysis (Ref. 10) in animals exposed by several routes, either acutely or subacutely. The dermal exposure of hens with as little as a single dose of 50 mg/kg of triphenyl phosphite produced severe neurological damage to the central nervous system (Ref. 11). After comparing the chemical structures and expected activities of triphenyl phosphite and PDDP, EPA believes that the potential delayed neurotoxicity of PDDP may be similar to the type observed with triphenyl phosphite (Ref. 7).

In signing the PDDP Consent Order, the manufacturers have agreed to conduct a testing program that EPA believes will identify PDDP's potential to produce delayed neurotoxic effects. The testing program consists of two studies that will be conducted concurrently. The first study is a subchronic delayed neurotoxicity study normally conducted with organophosphorus substances. This study will be conducted according to a modified version of 40 CFR 798.6560, and will use hens as test animals, repeated oral exposures by gavage for 28 days, observations for behavioral effects, and histopathologic examination of tissues (neuropathology). Although the exposure period for this type of test is normally 90 days, EPA expects that any neurologic effect that PDDP may produce will be manifested in 28 days.

The second test is the Neurotoxic Target Esterase Assay, 40 CFR 798.6450, as modified in the Consent Order for PDDP. This test, used in evaluating organophosphorus compounds, measures the inhibition of the esterase activity of a protein called neurotoxic esterase (NTE) in the brain or spinal cord of animals. Animals are sacrificed at regular intervals during repeated exposures and tissues are prepared and chemical activity is measured. NTE measurements provide quantitative data on the first step in the initiation of delayed neurotoxicity.

The Consent Order provides one year for completion and final reporting of the study results to EPA.

Normally, EPA requires that chemical substances to be tested under section 4 of TSCA be 99 percent pure or closely approaching that level of purity. This helps to ensure that any toxic effect produced in a test can be attributed to the activity of the test substance and not a contaminant or confounding factor. However, in the case of PDDP, EPA is accepting a purity level of 92 percent. The PDDP test substance is prepared from an impure intermediate and, after reviewing several attempts by the manufacturers to further purify the compound, EPA believes that the compound is thermally unstable. This instability interferes with the purification of the intermediate and therefore limits the attainable purity of the test substance.

V. Export Notification

The issuance of the Consent Order subjects any person who exports or intends to export PDDP to the export notification requirements of section 12(b) of TSCA. The specific requirements are listed in 40 CFR Part 707. In the Interim Rule of June 23, 1987, (52 FR 23548), EPA added and reserved Subpart C of Part 799 for a listing of chemical substances subject to testing consent orders issued by EPA. This listing serves as notification to persons who export or who intend to export chemical substances or mixtures which are the subject of testing consent orders that 40 CFR Part 707 applies.

VI. Rulemaking Record

EPA has established a record for this rule (docket number OPTS-42101A). This record contains the information EPA considered in developing this rule and the Consent Order and includes the following information.

A. Supporting Documentation

(1) Testing Consent Order for PDDP.

(2) Federal Register notices pertaining to this rule and the Consent Order consisting of:

(a) Notice containing the ITC designation of PDDP to the Priority List (50 FR 47603; November 19, 1985).

(b) Notice soliciting interested parties for developing a Testing Consent Order for PDDP (53 FR 4072; February 11, 1988).

(3) Communications consisting of:

(a) Written letters.

(b) Contact reports of telephone conversations.

(c) Meeting summaries.

(4) Reports—published and unpublished materials.

B. References

(1) USEPA. Seventeenth Report of the Interagency Testing Committee to the Administrator; Receipt of Report and Request for Comments Regarding Priority List of Chemicals (50 FR 47603; November 16, 1985).

(2) USEPA. Testing Consent Agreement; Development for Diisodecyl Phenyl Phosphite (PDDP); Solicitation for Interested Parties (53 FR 4072, February 11, 1988).

(3) Borg-Warner Chemicals. Letter to David Price, Test Rules Development Branch, Office of Toxic Substances, USEPA, from Richard Brooke, Borg Warner Chemicals, advising EPA of manufacturer's intent to agree with testing via Consent Order (April 21, 1988).

(4) Mathtech Inc. Memorandum from J.K. Orrell of Mathtech to Mark Dreyfus, Regulatory Impacts Branch, Office of Toxic Substances, USEPA. Phosphites Market Study (September 30, 1986).

(5) Syracuse Research Corporation. Technical Support Document, Diisodecylphenyl Phosphite. Contract No. 68-02-4209, Task 14 (July 1, 1986).

(6) CRCS Inc. Information Review, Diisodecyl Phenyl Phosphite, IR-377 (April 16, 1984).

(7) USEPA. Memorandum from Pauline Wagner, Toxic Effects Branch, Office of Toxic Substances, USEPA, to Charles Auer, Chemical Risk Evaluation Branch, Office of Toxic Substances, USEPA. SAR Report on Phenyl Diisodecyl Phosphite (PDDP) (August 18, 1987).

(8) NIOSH. National Occupational Hazard Survey (1972-74) [data base]. Department of Health and Human Services, National Institute for Occupational Safety and Health, Cincinnati, OH (1976).

(9) Borg-Warner Chemicals. TSCA section 8(d) Submission 878216267 received January 15, 1986. Study report: Screening Report for Neurotoxicity of Phenyldiisodecyl Phosphite (PDDP) in the Chicken, March 1981. Washington D.C. U.S. Environmental Protection Agency.

(10) Smith et al. The pharmacologic action of the phosphorus acid esters of the phenols. *Journal of Pharmacology and Experimental Therapeutics* 49:78-99, 1933.

(11) Borg-Warner Chemicals. TSCA section 8(e) submission 8EHQ-1282-0451. Follow-up. 88-8300447. Screening test for neurotoxicity of triphenyl phosphite in the chicken following dermal application to the comb. 1982. Washington, DC: Office of Toxic Substances, U.S. Environmental Protection Agency.

List of Subjects in 40 CFR Part 799

Testing procedures, Environmental protection, Hazardous substances, Chemicals, Chemical export, Recordkeeping and reporting requirements.

Dated: February 17, 1989.

Susan F. Vogt,

Acting Assistant Administrator for Pesticides and Toxic Substances.

Therefore, 40 CFR Part 799 is amended as follows:

PART 799—[AMENDED]

1. The authority citation for Part 799 continues to read as follows:

Authority: 15 U.S.C. 2603, 2611, 2625.

2. Section 799.5000 is amended by adding diisodecyl phenyl phosphite to the table in CAS Number order, to read as follows:

§ 799.5000 Testing consent orders.

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CAS number	Substance or mixture name	Testing	Federal Register citation
*	*	*	*
25550-98-5	Diisodecyl phenyl phosphite	Neurotoxic effects	February 24, 1989
*	*	*	*

[FR Doc. 89-4304 Filed 2-23-89; 8:45 am]

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