DEPARTMENT OF THE INTERIOR

Bureau of Land Management

43 CFR Part 3170

[BLM_HQ_FRN_MO4500171611]

RIN 1004–AE90

Onshore Oil and Gas Operations; Federal and Indian Oil and Gas Leases; Codification of Onshore Orders 1, 2, 6, and 7

AGENCY: Bureau of Land Management, Interior.

ACTION: Final rule.

SUMMARY: This final rule codifies Onshore Order 1—Approval of Operations; Onshore Order 2—Drilling Operations on Federal and Indian Oil and Gas Leases; Onshore Order 6—Hydrogen Sulfide Operations; and Onshore Order 7—Disposal of Produced Water. This rule places the existing regulations, which were promulgated over the years through various notice and comment rulemakings but not codified in the Code of Federal Regulations (CFR), into the CFR in their entirety without making any substantive changes.

DATES: This final rule is effective on June 16, 2023.

The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register as of June 16, 2023.

ADDRESSES: You may send inquiries or suggestions to Director (630), Bureau of Land Management, 1849 C St. NW, Room 5646, Washington, DC 20240; Attention: RIN 1004–AE86.

FOR FURTHER INFORMATION CONTACT: Matthew Warren, Acting Chief, Division of Fluid Minerals, 505–216–8832, *mwarren@blm.gov;* or Faith Bremner, Regulatory Analyst, Division of Regulatory Affairs, *fbremner@blm.gov.* Individuals in the United States who are deaf, blind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services for contacting Mr. Warren. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

SUPPLEMENTARY INFORMATION:

I. Background

The Bureau of Land Management's (BLM) regulations at 43 CFR part 3160 authorize the agency to issue onshore oil and gas orders to ''implement and supplement'' the oil and gas operations regulations in part 3160. *See* 43 CFR 3164.1. The Onshore Orders apply nationwide to all Federal onshore and Indian (except the Osage Nation) oil and gas leases and are documents of general applicability and legal effect. All the Onshore Orders were published in the **Federal Register** and adopted through prior notice-and-comment rulemaking, but were never codified in the CFR.

Beginning in 1983, the BLM issued and revised a total of seven Onshore Orders. The four Orders that are the subject of this final rule were published and revised as follows:

Onshore Order 1—Approval of Operations, published October 21, 1983 (48 FR 48916); revised March 7, 2007 (72 FR 10308), and January 10, 2017 (82 FR 2906). This Onshore Order supplements regulations at 43 CFR 3162.3, Conduct of operations, and § 3162.5, Environment and safety.

Onshore Order 2—Drilling Operations on Federal and Indian Oil and Gas Leases, published November 18, 1988 (53 FR 46798); revised September 27, 1989 (54 FR 39528); and January 27, 1992 (57 FR 3023). This Onshore Order supplements regulations at: 43 CFR 3162.3–1, Drilling applications and plans; 3162.3–4, Well abandonment; 3162.4–1, Well records and reports; 3162.4–2, Samples, tests, and surveys; 3162.5–1, Environmental obligations; 3162.5–2, Control of wells; 3162.5–3, Safety precautions.

Onshore Order 6—Hydrogen Sulfide Operations, published November 23, 1990 (55 FR 48958); revised January 17, 1992 (57 FR 2039 and 57 FR 2136); and February 12, 1992 (57 FR 5211). This Onshore Order supplements regulations at: 43 CFR 3162.1, General requirements; 3162.5–1, Environmental obligations; 3162.5–2, Control of wells; and 3162.5–3, Safety precautions.

Onshore Order 7—Disposal of Produced Water, published September 8, 1993 (58 FR 47354); revised November 2, 1993 (58 FR 58505). This Onshore Order supplements the regulations at 43 CFR 3162.5–1, Environmental obligations.

Several years ago, the Office of the Federal Register (OFR) informed the BLM that it would no longer allow the BLM to revise the existing Onshore Orders unless the agency codified the Orders in the CFR. The OFR cited as its justification the Federal Register Act (44 U.S.C. 1510), which requires documents of general applicability and legal effect to be codified in the CFR.

As a result, when the BLM made major revisions to three of the Onshore Orders in 2016, it codified the Orders in the CFR after publishing proposed and final rules for each. Those three Onshore Orders were: Onshore Order 3—Site Security; Onshore Order 4—Measurement of Oil; and Onshore Order 5—Measurement of Gas.[1]

This final rule codifies the remaining four Onshore Orders without making any substantive changes to their content. The only changes made to the four Onshore Orders pertain to formatting, such as adding new section and paragraph designations, so that the Orders conform to the OFR's Document Drafting Handbook requirements. This final codification rule also includes a new section at 43 CFR 3176.11 to reflect the incorporation by reference (IBR) requirements of the Office of the Federal Register consistent with 5 U.S.C. 552(a) and 1 CFR part 51. The IBR section does not alter the substance of the Onshore Orders themselves.

All of the materials that the BLM is incorporating by reference are available for inspection at all BLM offices with jurisdiction over oil and gas activities. Contact the BLM at: Office of Energy, Minerals, and Realty Management, 1849 C Street Northwest, Washington, DC 20240; telephone 202–208–3801; email Ben Gruber at *begruber@blm.gov;* website *www.blm.gov/programs/energy-and-minerals/oil-and-gas.*

The American National Standards Institute (ANSI) materials should be available for inspection at ANSI, 25 West 43rd St, 4th floor, New York., NY 10036; telephone: 212–642–4980; email: *info@ansi.org;* website: *www.ansi.org.* If the ANSI material is not available from document resellers, contact the BLM to obtain a copy.

The American Petroleum Institute (API) materials are available for inspection and purchase at API, 200 Massachusetts Avenue NW, Suite 1100, Washington, DC 20001; telephone: 202–682–8000; email: *apipubs@api.org;* website: *www.api.org.* API also offers free, read-only access to some of the material at *http://publications.api.org.*

The material published by the Association for Materials Protection and Performance (AMPP), formerly known as NACE International, is available from AMPP, 15835 Park Ten Place, Houston, TX 77084; telephone: 1–800–797–6223; website: *www.ampp.org.*

[1] On November 17, 2016, the BLM published in the **Federal Register** three final rules: (1) ''Onshore Oil and Gas Operations; Federal and Indian Oil and Gas Leases; Site Security'' (81 FR 81365), codified at 43 CFR part 3170, subparts 3170 and 3173; (2) ''Onshore Oil and Gas Operations; Federal and Indian Oil and Gas Leases; Measurement of Oil'' (81 FR 81462), codified at 43 CFR part 3170, subpart 3174; and (3) ''Onshore Oil and Gas Operations; Federal and Indian Oil and Gas Leases; Measurement of Gas'' (81 FR 81516), codified at 43 CFR part 3170, subpart 3175.

The following describes the ANSI, API, and AMPP standards that the BLM is incorporating by reference into this rule.

- ANSI Standard Z88.2–1992 for Respiratory Protection, Approved August 6, 1992 (''ANSI Z88.2–1992''). This standard sets forth accepted practices for respirator users. It provides information and guidance on the proper selection, use, and care of respirators, and contains requirements for establishing and regulating respirator programs.
- API Recommended Practice 49—Recommended Practice for Drilling and Well Servicing Operations Involving Hydrogen Sulfide; Third Edition, May 2001; Reaffirmed, January 2013 (''API RP 49''). These recommendations apply to oil and gas well drilling and servicing operations that involve hydrogen sulfide, including well drilling, completion, servicing, workover, downhole maintenance, and plug and abandonment procedures conducted with hydrogen sulfide present in the fluids being handled.
- ANSI/NACE MR0175–2021/ISO 15156–1:2020; Petroleum and natural gas industries—Materials for use in H_2S-containing environments in oil and gas production; Part 1: General principles for selection of cracking-resistant materials; Fourth Edition, Approved September 21, 2022 (''NACE MR 0175–2021''). This standard provides requirements and recommendations for the selection and qualification of metallic minerals for service in equipment used in oil and gas production and in natural-gas sweetening plants in H_2S-containing environments.

The BLM may consider making substantive changes to the four Onshore Orders in the future but would do so through notice and comment rulemakings. This final rule to codify the remaining Onshore Orders is a proactive measure to facilitate future amendments. Because these four Onshore Orders were duly promulgated through prior notice-and-comment rulemakings, and this final rule does not change them, it is appropriate that the BLM codify the orders in the CFR as a final rule without any further public comment.

II. Discussion of Final Rule

This final rule codifies existing Onshore Orders 1, 2, 6, and 7 in their entirety. Oil and gas operators have been following these regulations for many years. They are not new. Only the section and paragraph designations have been changed to conform with CFR style requirements. Technical diagrams and figures that are a part of the four existing Onshore Orders are included in this final rule as appendices.

The four Onshore Orders will now be located in 43 CFR part 3170—Onshore Oil and Gas Production. The Onshore Order 1 regulations will appear under subpart 3171—Approval of Operations; Onshore Order 2 under subpart 3172—Drilling Operations on Federal and Indian Oil and Gas Leases; Onshore Order 6 under subpart 3176—Hydrogen Sulfide Operations; and Onshore Order 7 under subpart 3177—Disposal of Produced Water.

Subpart 3171 describes the procedure for filing Applications for Permit to Drill and required approvals of subsequent well operations and other lease operations. Subpart 3172 provides the requirements and standards for drilling and abandonment operations. Subpart 3176 provides the requirements and standards for conducting oil and gas operations in an environment known or expected to contain hydrogen sulfide gas (H_2S). Subpart 3177 provides the methods and approvals necessary to dispose of produced water associated with oil and gas operations.

Subparts 3172, 3176, and 3177 identify violations, corrective actions, normal abatement periods, and enforcement actions that may result if violations of the associated requirements are not abated in a timely manner.

This rule removes the table located in 43 CFR 3164.1 that lists the four Onshore Orders that are being codified in this regulation. Since the Onshore Orders will now be contained in title 43 of the CFR, this table is no longer valid.

III. Procedural Matters

Regulatory Planning and Review (Executive Order 12866)

This document is not a significant rule, and the Office of Management and Budget has not reviewed this final rule under Executive Order 12866.

The BLM has determined that this final rule will not have an annual effect on the economy of $100 million or more. It will not adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities. The final rule merely codifies into the CFR regulations that are already in effect.

This final rule will not create inconsistencies or otherwise interfere with an action taken or planned by another agency. This rule does not change the relationships of the onshore minerals programs with other agencies' actions. These relationships are included in agreements and memoranda of understanding that will not change with this rule.

In addition, this final rule does not materially affect the budgetary impact of entitlements, grants, or loan programs, or the rights and obligations of their recipients.

Finally, this final rule will not raise novel legal or policy issues. As explained earlier, this final rule simply places into the CFR regulations that have been in effect for many years, some dating back to 1983.

The Regulatory Flexibility Act

This final rule will not have a significant economic effect on a substantial number of small entities as defined under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). As a result, a Regulatory Flexibility Analysis is not required. The Small Business Administration defines small entities as individual, limited partnerships, or small companies considered to be at arm's length from the control of any parent companies if they meet the following size requirements as established for each North American Industry Classification System (NAICS) code:

- Crude Petroleum Extraction (NAICS code 211120): 1,250 or fewer employees
- Natural Gas Extraction (NAICS code 211130): 1,250 or fewer employees

The Small Business Administration (SBA) would consider many, if not most, of the operators with whom the BLM works in the onshore minerals programs to be small entities. The BLM notes that this final rule does not affect service industries, for which the SBA has a different definition of ''small entity.''

The final rule will not affect a large number of small entities because these entities are already subject to, and should be complying with, the regulations. This rule merely codifies regulations that have been in effect for many years.

The Small Business Regulatory Enforcement Fairness Act

This final rule is not a ''major rule'' as defined at 5 U.S.C. 804(2). The final rule will not have an annual effect on the economy greater than $100 million; it will not result in major cost or price increases for consumers, industries, government agencies, or regions; and it will not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises.

Accordingly, a Small Entity Compliance Guide is not required.

Executive Order 13132, Federalism

This final rule will not have a substantial direct effect on the States, on the relationship between the National Government and the States, or on the distribution of power and responsibilities among the various levels of government. In accordance with Executive Order 13132, the BLM therefore finds that the final rule does not have federalism implications, and a federalism assessment is not required.

The Paperwork Reduction Act of 1995

The Paperwork Reduction Act (PRA) (44 U.S.C. 3501–3521) generally provides that an agency may not conduct or sponsor, and not withstanding any other provision of law, a person is not required to respond to a collection of information, unless it displays a currently valid Office of Management and Budget (OMB) control number. Collections of information include any request or requirement that persons obtain, maintain, retain, or report information to an agency, or disclose information to a third party or to the public (44 U.S.C. 3502(3) and 5 CFR 1320.3(c)). OMB has generally approved the information collection requirements contained in this final rule; including the required forms 3160–3, *Application for Permit to Drill or Re-enter,* 3160–4, *Well Completion or Recompletion Report and Log,* and 3160–5, *Sundry Notices and Reports on Wells,* under OMB control number 1004–0137.

The information collection requirements contained in final 43 CFR parts 3171, 3172, 3176, and 3177 are consistent with those also currently contained in the BLM's regulations at 43 CFR parts 3160 and 3170 and the existing Onshore Order Nos. 1, 2, 6, and 7. This final rule does not change any of these approved information collection requirements nor the public burdens associated with those information collection requirements; therefore, no information collection request has been submitted to OMB in association with this final rule.

Takings Implication Assessment (Executive Order 12630)

As required by Executive Order 12630, the BLM has determined that this final rule will not cause a taking of private property. The BLM therefore certifies that this final rule does not represent a governmental action capable of interference with constitutionally protected property rights.

Civil Justice Reform (Executive Order 12988)

In accordance with Executive Order 12988, the BLM finds that this final rule will not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Executive order.

The National Environmental Policy Act (NEPA)

The BLM has determined that this final rule qualifies as an administrative, housekeeping action that is categorically excluded from environmental review under NEPA pursuant to 43 CFR 46.205 and 46.210(i). The final rule does not meet any of the 12 criteria for exceptions to categorical exclusions listed at 43 CFR 46.215. Therefore, neither an environmental assessment nor an environmental impact statement is required in connection with the rule (40 CFR 1501.3).

The Unfunded Mandates Reform Act of 1995

The BLM has determined that this final rule is not significant under the Unfunded Mandates Reform Act of 1995, 2 U.S.C. 1501 *et seq.,* because it will not result in State, local, private sector, or tribal government expenditures of $100 million or more in any one year, 2 U.S.C. 1532. This rule will not significantly or uniquely affect small governments. Therefore, the BLM is not required to prepare a statement containing the information required by the Unfunded Mandates Reform Act.

Consultation and Coordination With Indian Tribal Governments (Executive Order 13175)

In accordance with Executive Order 13175, the BLM has determined that this final rule does not include policies that have tribal implications. Specifically, the rule would not have substantial direct effects on one or more Indian Tribes. Consequently, the BLM did not use the consultation process set forth in section 5 of the Executive order.

Information Quality Act

In developing this final rule, the BLM did not conduct or use a study, experiment, or survey requiring peer review under the Information Quality Act (Pub. L. 106–554).

Effects on the Nation's Energy Supply (Executive Order 13211)

In accordance with Executive Order 13211, the BLM has determined that this final rule will not have a significant adverse effect on the supply, distribution, or use of energy. It merely codifies regulations that have been in effect for many years.

Delegation of Signing Authority

The action taken herein is pursuant to an existing delegation of authority.

List of Subjects in 43 CFR Part 3170

Administrative practice and procedure, Disposal of produced water, Drilling operations, Flaring, Government contracts, Hydrogen sulfide operations, Incorporation by reference, Indians-lands, Immediate assessments, Mineral royalties, Oil and gas exploration, Oil and gas measurement, Public lands—mineral resources, Reporting and record keeping requirements, Royalty-free use, Venting.

Laura Daniel-Davis,

Principal Deputy Assistant Secretary, Land and Minerals Management.

43 CFR Chapter II

For the reasons set out in the preamble, the Bureau of Land Management is amending 43 CFR part 3170 as follows:

PART 3170—ONSHORE OIL AND GAS PRODUCTION

■ 1. The authority citation for part 3170 continues to read as follows:

Authority: 25 U.S.C. 396d and 2107; 30 U.S.C. 189, 306, 359, and 1751; and 43 U.S.C. 1732(b), 1733, and 1740.

■ 2. Add subparts 3171 and 3172 to read as follows:

Subpart 3171—Approval of Operations

Sec.

§ 3171.1 Authority.

(a) The Secretaries of the Interior and Agriculture have authority under various Federal and Indian mineral leasing laws, as defined in 30 U.S.C. 1702, to manage oil and gas operations. The Secretary of the Interior has delegated this authority to the Bureau of Land Management (BLM), which has issued onshore oil and gas operating regulations codified at 43 CFR part 3160. For leases on Indian lands, the delegation to the BLM appears at 25 CFR parts 211, 212, 213, 225, and 227.

(b) The Secretary of Agriculture has authority under the Federal Onshore Oil and Gas Leasing Reform Act of 1987 (Pub. L. 100–203) (Reform Act) to regulate surface disturbing activities conducted pursuant to a Federal oil and gas lease on National Forest Service (NFS) lands. This authority has been delegated to the Forest Service (FS). Its regulatory authority is at 36 CFR chapter II, including, but not limited to, part 228, subpart E, part 251, subpart B, and part 261. The FS is responsible only for approving and regulating surface disturbing activities on NFS lands and appeals related to FS decisions or approvals.

§ 3171.2 Purpose.

The purpose of this subpart is to state the application requirements for the approval of all proposed oil and gas and service wells, certain subsequent well operations, and abandonment.

§ 3171.3 Scope.

This subpart applies to all onshore leases of Federal and Indian oil and gas (other than those of the Osage Tribe). It also applies to Indian Mineral Development Act agreements. For proposed operations on a committed State or fee tract in a federally supervised unit or communitized tract, the operator must furnish a copy of the approved State permit to the authorized officer of the BLM which will be accepted for record purposes.

§ 3171.4 Definitions.

As used in this subpart, the following definitions apply:

Best Management Practices (BMP) means practices that provide for state-of-the-art mitigation of specific impacts that result from surface operations. Best Management Practices are voluntary unless they have been analyzed as a mitigation measure in the environmental review for a Master Development Plan, Application for Permit to Drill (APD), Right-of-Way, or other related facility and included as a Condition of Approval.

Blooie line means a discharge line used in conjunction with a rotating head in drilling operations when air or gas is used as the circulating medium.

Casual use means activities involving practices that do not ordinarily lead to any appreciable disturbance or damage to lands, resources, or improvements. This term does not apply to private surface. Casual use includes surveying activities.

Complete APD means that the information in the APD package is accurate and addresses all of the requirements of this subpart. The onsite inspection verifies important information that is part of the APD package and is a critical step in determining if the package is complete. Therefore, the onsite inspection must be conducted, and any deficiencies identified at the onsite corrected, before the APD package can be considered to be complete. While cultural, biological, or other inventories and environmental assessments (EA) or environmental impact statements (EIS) may be required to approve the APD, they are not required before an APD package is considered to be complete.

(1) The APD package must contain:

(i) A completed Form 3160–3 (Application for Permit to Drill or Reenter) (see 43 CFR 3162.3–1(d));

(ii) A well plat certified by a registered surveyor with a surveyor's original stamp (see § 3171.6(b));

(iii) A drilling plan (see 43 CFR 3162.3–1(d) and 3171.7);

(iv) A Surface Use Plan of Operations (see 43 CFR 3162.3–1(d) and 3171.8);

(v) Evidence of bond coverage (see 43 CFR 3162.3–1(d) and 3171.9);

(vi) Operator certification with original signature (see § 3171.10); and

(vii) Other information that may be required by order or notice (see 43 CFR 3162.3–1(d)(4)).

(2) The BLM and the surface managing agency, as appropriate, will review the APD package and determine that the drilling plan, the Surface Use Plan of Operations, and other information that the BLM may require (43 CFR 3162.3–1(d)(4)), including the well location plat and geospatial databases, completely describe the proposed action.

Condition of Approval (COA) means a site-specific requirement included in an approved APD or Sundry Notice that may limit or amend the specific actions proposed by the operator. Conditions of Approval minimize, mitigate, or prevent impacts to public lands or other resources. Best Management Practices may be incorporated as a Condition of Approval.

Days means all calendar days including holidays.

Emergency repairs means actions necessary to correct an unforeseen problem that could cause or threaten immediate substantial adverse impact on public health and safety or the environment.

Geospatial database means a set of georeferenced computer data that contains both spatial and attribute data. The spatial data defines the geometry of the object and the attribute data defines all other characteristics.

Indian lands means any lands or interest in lands of an Indian tribe or an Indian allottee held in trust by the United States or which is subject to a Federal restriction against alienation.

Indian oil and gas means any oil and gas interest of an Indian tribe or on allotted lands where the interest is held in trust by the United States or is subject to Federal restrictions against alienation. It does not include minerals subject to the provisions of section 3 of the Act of June 28, 1906 (34 Stat. 539), but does include oil and gas on lands administered by the United States under section 14(g) of Public Law 92–203, as amended.

Master Development Plan means information common to multiple planned wells, including drilling plans, Surface Use Plans of Operations, and plans for future production.

National Forest System lands means those Federal lands administered by the U.S. Forest Service, such as the National Forests and the National Grasslands.

Onsite inspection means an inspection of the proposed drill pad, access road, flowline route, and any associated Right-of-Way or Special Use Authorization needed for support facilities, conducted before the approval of the APD or Surface Use Plan of Operations and construction activities.

Private surface owner means a non-Federal or non-State owner of the surface estate and includes any Indian owner of surface estate not held in trust by the United States.

Reclamation means returning disturbed land as near to its predisturbed condition as is reasonably practical.

Split estate means lands where the surface is owned by an entity or person other than the owner of the Federal or Indian oil and gas.

Surface managing agency means any Federal or State agency having

jurisdiction over the surface overlying Federal or Indian oil and gas.

Variance means an approved alternative to a provision or standard of an order or Notice to Lessee.

§ 3171.5 Application for Permit to Drill (APD).

An Application for Permit to Drill or Reenter, on Form 3160–3, is required for each proposed well, and for reentry of existing wells (including disposal and service wells), to develop an onshore lease for Federal or Indian oil and gas.

(a) *Where to file.* On or after March 13, 2017, the operator must file an APD and associated documents using the BLM's electronic commerce application for oil and gas permitting and reporting. The operator may contact the local BLM Field Office for information on how to gain access to the electronic commerce application. Prior to March 13, 2017, an operator may file an APD and associated documents in the BLM Field Office having jurisdiction over the application.

(b) *Early notification.* The operator may wish to contact the BLM and any applicable surface managing agency, as well as all private surface owners, to request an initial planning conference as soon as the operator has identified a potential area of development. Early notification is voluntary and would precede the Notice of Staking option or filing of an APD. It allows the involved surface managing agency or private surface owner to apprise the prospective operator of any unusual conditions on the lease area. Early notification also provides both the surface managing agency or private surface owner and the prospective operator with the earliest possible identification of seasonal restrictions and determination of potential areas of conflict. The prospective operator should have a map of the proposed project available for surface managing agency review to determine if a cultural or biological inventory or other information may be required. Inventories are not the responsibility of the operator.

(c) *Notice of Staking option.* (1) Before filing an APD or Master Development Plan, the operator may file a Notice of Staking with the BLM. The purpose of the Notice of Staking is to provide the operator with an opportunity to gather information to better address site-specific resource concerns while preparing the APD package. This may expedite approval of the APD. On or after March 13, 2017, if an operator chooses to file a Notice of Staking (NOS), the operator must file the NOS using the BLM's electronic commerce application for oil and gas permitting and reporting. Attachment I, Sample Format for Notice of Staking, provides the information required for the Notice of Staking option. Prior to March 13, 2017, an operator may file a Notice of Staking in the BLM Field Office having jurisdiction.

(2) For Federal lands managed by other surface managing agencies, the BLM will provide a copy of the Notice of Staking to the appropriate surface managing agency office. In Alaska, when a subsistence stipulation is part of the lease, the operator must also send a copy of the Notice of Staking to the appropriate Borough and/or Native Regional or Village Corporation.

(3) Within 10 days of receiving the Notice of Staking, the BLM or the FS will review it for required information and schedule a date for the onsite inspection. The onsite inspection will be conducted as soon as weather and other conditions permit. The operator must stake the proposed drill pad and ancillary facilities, and flag new or reconstructed access routes, before the onsite inspection. The staking must include a center stake for the proposed well, two reference stakes, and a flagged access road centerline. Staking activities are considered casual use unless the particular activity is likely to cause more than negligible disturbance or damage. Offroad vehicular use for the purposes of staking is casual use unless, in a particular case, it is likely to cause more than negligible disturbance or damage, or otherwise prohibited.

(4) On non-NFS lands, the BLM will invite the surface managing agency and private surface owner, if applicable, to participate in the onsite inspection. If the surface is privately owned, the operator must furnish to the BLM the name, address, and telephone number of the surface owner if known. All parties who attend the onsite inspection will jointly develop a list of resource concerns that the operator must address in the APD. The operator will be provided a list of these concerns either during the onsite inspection or within 7 days of the onsite inspection. Surface owner concerns will be considered to the extent practical within the law. Failure to submit an APD within 60 days of the onsite inspection will result in the Notice of Staking being returned to the operator.

§ 3171.6 Components of a complete APD package.

Operators are encouraged to consider and incorporate Best Management Practices into their APDs because Best Management Practices can result in reduced processing times and reduced number of Conditions of Approval. An APD package must include the following information that will be reviewed by technical specialists of the appropriate agencies to determine the technical adequacy of the package:

(a) A completed Form 3160–3; and

(b) Operators must include in the APD package a well plat and geospatial database prepared by a registered surveyor depicting the proposed location of the well and identifying the points of control and datum used to establish the section lines or metes and bounds. The purpose of this plat is to ensure that operations are within the boundaries of the lease or agreement and that the depiction of these operations is accurately recorded both as to location (latitude and longitude) and in relation to the surrounding lease or agreement boundaries (public land survey corner and boundary ties). The registered surveyor should coordinate with the cadastral survey division of the appropriate BLM State Office, particularly where the lands have not been surveyed under the Public Land Survey System.

(1) The plat and geospatial database must describe the location of operations in:

(i) Geographical coordinates referenced to the National Spatial Reference System, North American Datum 1983 or latest edition; and

(ii) In feet and direction from the nearest two adjacent section lines, or, if not within the Rectangular Survey System, the nearest two adjacent property lines, generated from the BLM's current Geographic Coordinate Data Base.

(2) The surveyor who prepared the plat must sign it, certifying that the location has been staked on the ground as shown on the plat.

(3) Surveying and staking are necessary casual uses, typically involving negligible surface disturbance. The operator is responsible for making access arrangements with the appropriate surface managing agency (other than the BLM and the FS) or private surface owner. On tribal or allotted lands, the operator must contact the appropriate office of the Bureau of Indian Affairs (BIA) to make access arrangements with the Indian surface owners. In the event that not all of the Indian owners consent or may be located, but a majority of those who can be located consent, or the owners of interests are so numerous that it would be impracticable to obtain their consent and the BIA finds that the issuance of the APD will cause no substantive injury to the land or any owner thereof, the BIA may approve access. Typical off-road vehicular use, when conducted in conjunction with these activities, is a

necessary action for obtaining a permit and may be done without advance approval from the surface managing agency, except for:

(i) Lands administered by the Department of Defense;

(ii) Other lands used for military purposes;

(iii) Indian lands; or

(iv) Where more than negligible surface disturbance is likely to occur or is otherwise prohibited.

(4) No entry on split estate lands for surveying and staking should occur without the operator first making a good faith effort to notify the surface owner. Also, operators are encouraged to notify the BLM or the FS, as appropriate, before entering private lands to stake for Federal mineral estate locations.

§ 3171.7 Drilling plan.

With each copy of Form 3160–3, the operator must submit to the BLM either a drilling plan or reference a previously submitted field-wide drilling plan (a drilling plan that can be used for all the wells in a field, any differences for specific wells will be described in the APD specific to that well). The drilling plans must be in sufficient detail to permit a complete appraisal of the technical adequacy of, and environmental effects associated with, the proposed project. The drilling plan must adhere to the provisions and standards of subpart 3172 of this part and, if applicable, subpart 3176 of this part and must include the following information:

(a) Names and estimated tops of all geologic groups, formations, members, or zones.

(b) Estimated depth and thickness of formations, members, or zones potentially containing usable water, oil, gas, or prospectively valuable deposits of other minerals that the operator expects to encounter, and the operator's plans for protecting such resources.

(c) The operator's minimum specifications for blowout prevention equipment and diverter systems to be used, including size, pressure rating, configuration, and the testing procedure and frequency. Blowout prevention equipment must meet the minimum standards outlined in subpart 3172 of this part.

(d) The operator's proposed casing program, including size, grade, weight, type of thread and coupling, the setting depth of each string, and its condition. The operator must include the minimum design criteria, including casing loading assumptions and corresponding safety factors for burst, collapse, and tensions (body yield and joint strength). The operator must also include the lengths and setting depth of each casing when a tapered casing string is proposed. The hole size for each well bore section of hole drilled must be included. Special casing designs such as the use of coiled tubing or expandable casing may necessitate additional information.

(e) The estimated amount and type(s) of cement expected to be used in the setting of each casing string. If stage cementing will be used, provide the setting depth of the stage tool(s) and amount and type of cement, including additives, to be used for each stage. Provide the yield of each cement slurry and the expected top of cement, with excess, for each cemented string or stage.

(f) Type and characteristics of the proposed circulating medium or mediums proposed for the drilling of each well bore section, the quantities and types of mud and weighting material to be maintained, and the monitoring equipment to be used on the circulating system. The operator must submit the following information when air or gas drilling is proposed:

(1) Length, size, and location of the blooie line, including the gas ignition and dust suppression systems;

(2) Location and capacity of the compressor equipment, including safety devices, describe the distance from the well bore, and location within the drill site; and

(3) Anticipated amounts, types, and other characteristics as defined in this section, of the stand by mud or kill fluid and associated circulating equipment.

(g) The testing, logging, and coring procedures proposed, including drill stem testing procedures, equipment, and safety measures.

(h) The expected bottom-hole pressure and any anticipated abnormal pressures, temperatures, or potential hazards that the operator expects to encounter, such as lost circulation and hydrogen sulfide (see subpart 3176 of this part). A description of the operator's plans for mitigating such hazards must be included.

(i) Any other facets of the proposed operation that the operator would like the BLM to consider in reviewing the application. Examples include, but are not limited to:

(1) For directional wells, proposed directional design, plan view, and vertical section in true vertical and measured depths;

(2) Horizontal drilling; and

(3) Coil tubing operations.

§ 3171.8 Surface Use Plan of Operations.

(a) The Surface Use Plan of Operations must:

(1) Describe the access road(s) and drill pad, the construction methods that the operator plans to use, and the proposed means for containment and disposal of all waste materials;

(2) Provide for safe operations, adequate protection of surface resources, groundwater, and other environmental components;

(3) Include adequate measures for stabilization and reclamation of disturbed lands:

(4) Describe any Best Management Practices the operator plans to use; and

(5) Where the surface is privately owned, include a certification of Surface Access Agreement or an adequate bond, as described in § 3171.19.

(b) All maps that are included in the Surface Use Plan of Operations must be of a scale no smaller than 1:24,000, unless otherwise stated in paragraph (e) of this section. Geospatial vector and raster data must include appropriate attributes and metadata. Georeferenced raster images must be from the same source as hardcopy plats and maps submitted in the APD package. All proposed on-lease surface disturbance must be surveyed and staked as described in paragraphs (e)(1) through (12) of this section, including:

(1) The well location;

(2) Two 200-foot (61-meter) directional reference stakes;

(3) The exterior pad dimensions;

(4) The reserve pit;

(5) Cuts and fills;

(6) Outer limits of the area to be disturbed (catch points); and

(7) Any off-location facilities.

(c) Proposed new roads require centerline flagging with stakes clearly visible from one to the next. In rugged terrain, cut and fill staking and/or slope staking of proposed new access roads and locations for ancillary facilities that may be necessary, as determined by the BLM or the FS.

(d) The onsite inspection will not occur until the required surveying and staking is complete, and any new access road(s) have been flagged, unless a variance is first granted under § 3171.23.

(e) Information required by the Surface Use Plan of Operations may be shown on the same map if it is appropriately labeled or on separate diagrams or maps and must include the following:

(1) *Existing roads.* The operator must submit a legible map such as a highway or county road, United States Geological Survey (USGS) topographic, Alaska Borough, or other such map that shows the proposed well site and access route to the proposed well in relation to a town, village, or other locatable public access point.

(i) The operator must improve or maintain existing roads in a condition the same as or better than before operations began. The operator must provide any plans for improvement and/or maintenance of existing roads. The information provided by the operator for construction and use of roads will be used by the BLM for any Right-of-Way application, as described in § 3171.18. The operator may use existing terrain and two-track trails, where appropriate, to assure environmental protection. The operator should consider using Best Management Practices in improving or maintaining existing roads.

(ii) The operator may use existing roads under the jurisdiction of the FS for access if they meet the transportation objectives of the FS. When access involves the use of existing roads, the FS may require that the operator contribute to road maintenance. This is usually authorized by a Road Use Permit or a joint road use agreement. The FS will charge the operator a pro rata share of the costs of road maintenance and improvement, based upon the anticipated use of the road.

(2) *New or reconstructed access roads.* The operator must identify on a map all permanent and temporary access roads that it plans to construct or reconstruct in connection with the drilling of the proposed well. Locations of all existing and proposed road structures (culverts, bridges, low water crossings, etc.) must be shown. The proposed route to the proposed drill site must be shown, including distances from the point where the access route exits established roads. All permanent and temporary access roads must be located and designed to meet the applicable standards of the appropriate surface managing agency, and be consistent with the needs of the operator. The operator should consider using Best Management Practices in designing and constructing roads. The operator must design roads based upon the class or type of road, the safety requirements, traffic characteristics, environmental conditions, and the vehicles the road is expected to carry. The operator must describe for all road construction or reconstruction:

(i) Road width;

(ii) Maximum grade;

(iii) Crown design;

(iv) Turnouts;

(v) Drainage and ditch design;

(vi) On-site and off-site erosion control;

(vii) Revegetation of disturbed areas;

(viii) Location and size of culverts and/or bridges;

(ix) Fence cuts and/or cattleguards;

(x) Major cuts and fills;

(xi) Source and storage of topsoil; and

(xii) Type of surfacing materials, if any, that will be used.

(3) *Location of existing wells.* The operator must include a map and may include a geospatial database that includes all known wells, regardless of the well status (producing, abandoned, etc.), within a one-mile radius of the proposed location.

(4) *Location of existing and/or proposed production facilities.* The operator must include a map or diagram of facilities planned either on or off the well pad that shows, to the extent known or anticipated, the location of all production facilities and lines likely to be installed if the well is successfully completed for production.

(i) The map or diagram and optional geospatial database must show and differentiate between proposed and existing flow lines, overhead and buried power lines, and water lines. If facilities will be located on the well pad, the information should be consistent with the layout provided in paragraph (e)(9) of this section.

(ii) The operator must show the dimensions of the facility layouts for all new construction. This information may be used by the BLM or the FS for Right-of-Way or Special Use Authorization application information, as specified in § 3171.18.

(iii) If the operator has not developed information regarding production facilities, it may defer submission of that information until a production well is completed, in which case the operator will follow the procedures in § 3171.21. However, for purposes of the National Environmental Policy Act (NEPA) analysis, the BLM or the FS will need a reasonable estimate of the facilities to be employed.

(5) *Location and types of water supply.* Information concerning water supply, such as rivers, creeks, springs, lakes, ponds, and wells, may be shown by quarter-quarter section on a map or plat, or may be described in writing. The operator must identify the source, access route, and transportation method for all water anticipated for use in drilling the proposed well. The operator must describe any newly constructed or reconstructed access roads crossing Federal or Indian lands that are needed to haul the water as provided in paragraph (e)(2) of this section. The operator must indicate if it plans to drill a water supply well on the lease and, if so, the operator must describe the location, construction details, and expected production requirements, including a description of how water will be transported and procedures for well abandonment.

(6) *Construction materials.* The operator must state the character and intended use of all construction materials, such as sand, gravel, stone, and soil material. The proposed source must be shown on a quarter-quarter section of a map or plat or in a written description.

(7) *Methods for handling waste.* The Surface Use Plan of Operations must contain a written description of the methods and locations proposed for safe containment and disposal of each type of waste material (*e.g.,* cuttings, garbage, salts, chemicals, sewage, etc.) that results from drilling the proposed well. The narrative must include plans for the eventual disposal of drilling fluids and any produced oil or water recovered during testing operations. The operator must describe plans for the construction and lining, if necessary, of the reserve pit.

(8) *Ancillary facilities.* The operator must identify on a map the location and construction methods and materials for all anticipated ancillary facilities such as camps, airstrips, and staging areas. The operator must stake on the ground the approximate center of proposed camps and the centerline of airstrips. If the ancillary facilities are located off-lease, depending on surface managing agency policy, the BLM or the FS may require the operator to obtain an additional authorization, such as a Right-of-Way or Special Use Authorization.

(9) *Well site layout.* A diagram of the well site layout must have an arrow indicating the north direction. Diagrams with cuts and fills must be surveyed, designed, drawn, digitized, and certified by licensed professional surveyors or engineers.

(i) The operator must submit a plat of a scale of not less than 1 inch = 50 feet showing the location and orientation of:

(A) The proposed drill pad;

(B) Reserve pit/blooie line/flare pit location;

(C) Access road entry points and their approximate location with respect to topographic features and with cross section diagrams of the drill pad; and

(D) The reserve pit showing all cuts; and fills and the relation to topography.

(ii) The plat must also include the approximate proposed location and orientation of the:

(A) Drilling rig;

(B) Dikes and ditches to be constructed; and

(C) Topsoil and/or spoil material stockpiles.

(10) *Plans for surface reclamation.* The operator must submit a plan for the surface reclamation or stabilization of all disturbed areas. This plan must

address interim (during production) reclamation for the area of the well pad not needed for production, as well as final abandonment of the well location.

(i) Such plans must include, as appropriate:

(A) Configuration of the reshaped topography;

(B) Drainage systems;

(C) Segregation of spoil materials (stockpiles);

(D) Surface disturbances;

(E) Backfill requirements;

(F) Proposals for pit/sump closures;

(G) Redistribution of topsoil;

(H) Soil treatments;

(I) Seeding or other steps to reestablish vegetation;

(J) Weed control; and

(K) Practices necessary to reclaim all disturbed areas, including any access roads and pipelines.

(ii) The operator may amend this reclamation plan at the time of abandonment. Further details for reclamation are contained in § 3171.25.

(11) *Surface ownership.* The operator must indicate (in a narrative) the surface ownership at the well location, and of all lands crossed by roads that the operator plans to construct or upgrade, including, if known, the name of the agency or owner, phone number, and address. The operator must certify that they have provided a copy of the Surface Use Plan of Operations required in this section to the private surface owner of the well site location, if applicable, or that they made a good faith effort if unable to provide the document to the surface owner.

(12) *Other information.* The operator must include other information required by applicable orders and notices (43 CFR 3162.3–1(d)(4)). When an integrated pest management program is needed for weed or insect control, the operator must coordinate plans with State or local management agencies and include the pest management program in the Surface Use Plan of Operations. The BLM also encourages the operator to submit any additional information that may be helpful in processing the application.

§ 3171.9 Bonding.

(a) Most bonding needs for oil and gas operations on Federal leases are discussed in 43 CFR part 3100, subpart 3104. The operator must obtain a bond in its own name as principal, or a bond in the name of the lessee or sublessee. If the operator uses the lessee or sublessee's bond, the operator must furnish a rider (consent of surety and principal) that includes the operator under the coverage of the bond. The operator must specify on the APD, Form 3160–3, the type of bond and bond number under which the operations will be conducted.

(1) For Indian oil and gas, the appropriate provisions at 25 CFR chapter I, subchapter I, govern bonding.

(2) Under the regulations at 43 CFR 3104.5 and 36 CFR 228.109, the BLM or the FS may require additional bond coverage for specific APDs. Other factors that the BLM or the FS may consider include:

(i) History of previous violations;

(ii) Location and depth of wells;

(iii) The total number of wells involved;

(iv) The age and production capability of the field; and

(v) Unique environmental issues.

(3) These bonds may be in addition to any statewide, nationwide, or separate lease bond already applicable to the lease. In determining the bond amount, the BLM may consider impacts of activities on both Federal and non-Federal lands required to develop the lease that impact lands, waters, and other resources off the lease.

(4) Separate bonds may be required for associated Rights-of-Way and/or Special Use Authorizations that authorize activities not covered by the approved APD.

(b) On Federal leases, operators may request a phased release of an individual lease bond. The BLM will grant this reduction after reclamation of some portion of the lease only if the operator:

(1) Has satisfied the terms and conditions in the plan for surface reclamation for that particular operation; and

(2) No longer has any down-hole liability.

(c) If appropriate, the BLM may reduce the bond in the amount requested by the operator or appropriate surface managing agency. The FS also may reduce bonds it requires (but not the BLM-required bonds). The BLM and the FS will base the amount of the bond reduction on a calculation of the sum that is sufficient to cover the remaining operations (including royalty payments) and abandonment (including reclamation) as authorized by the Surface Use Plan of Operations.

§ 3171.10 Operator certification.

(a) The operator must include its name, address, and telephone number, and the same information for its field representative, in the APD package.

(b) The following certification must carry the operator's original signature or be submitted to the BLM using the BLM's electronic reporting system:

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this __ day of _____, 20____.

Name _____

Position _____

Title _____

Address _____

Telephone _____

Field representative (if not above signatory)

Address (if different from above) _____

Telephone (if different from above) _____

Email (optional) _____

(c) Agents not directly employed by the operator must submit a letter from the operator authorizing that agent to act or file this application on their behalf.

§ 3171.11 Onsite inspection.

The onsite inspection must be conducted before the APD will be considered complete.

§ 3171.12 APD posting and processing.

(a) *Posting.* The BLM and the Federal surface managing agency, if other than the BLM, must provide at least 30 days public notice before the BLM may approve an APD or Master Development Plan on a Federal oil and gas lease. Posting is not required for an APD for an Indian oil and gas lease or agreement.

(1) The BLM will post information about the APD or Notice of Staking for Federal oil and gas leases to the internet and in an area of the BLM Field Office having jurisdiction that is readily accessible to the public. Posting to the internet under this provision will not be required until after March 13, 2017. If the surface is managed by a Federal agency other than the BLM, that agency also is required to post the notice for at least 30 days. This would include the BIA where the surface is held in trust but the mineral estate is federally owned. The posting is for informational purposes only and is not an appealable decision. The purpose of the posting is to give any interested party notification that a Federal approval of mineral operations has been requested. The BLM or the FS will not post confidential information.

(2) Reposting of the proposal may be necessary if the posted location of the proposed well is:

(i) Moved to a different quarter-quarter section;

(ii) Moved more than 660 feet for lands that are not covered by a Public Land Survey; or

(iii) If the BLM or the FS determine that the move is substantial.

(b) *Processing.* The timeframes established in this paragraph apply to both individual APDs and to the multiple APDs included in Master Development Plans and to leases of Indian minerals as well as leases of Federal minerals. If there is enough information to begin processing the application, the BLM (and the FS if applicable) will process it up to the point that missing information or uncorrected deficiencies render further processing impractical or impossible.

(1) Within 10 days of receiving an application, the BLM (in consultation with the FS if the application concerns NFS lands) will notify the operator as to whether or not the application is complete. The BLM will request additional information and correction of any material submitted, if necessary, in the 10-day notification. If an onsite inspection has not been performed, the applicant will be notified that the application is not complete. Within 10 days of receiving the application, the BLM, in coordination with the operator and surface managing agency, including the private surface owner in the case of split estate minerals, will schedule a date for the onsite inspection (unless the onsite inspection has already been conducted as part of a Notice of Staking). The onsite inspection will be held as soon as practicable based on participants' schedules and weather conditions. The operator will be notified at the onsite inspection of any additional deficiencies that are discovered during the inspection. The operator has 45 days after receiving notice from the BLM to provide any additional information necessary to complete the APD, or the APD may be returned to the operator.

(2) Within 30 days after the operator has submitted a complete application, including incorporating any changes that resulted from the onsite inspection, the BLM will:

(i) Approve the application, subject to reasonable Conditions of Approval, if the appropriate requirements of the NEPA, National Historic Preservation Act, Endangered Species Act, and other applicable law have been met and, if on NFS lands, the FS has approved the Surface Use Plan of Operations;

(ii) Notify the operator that it is deferring action on the permit; or

(iii) Deny the permit if it cannot be approved and the BLM cannot identify any actions that the operator could take that would enable the BLM to issue the permit or the FS to approve the Surface Use Plan of Operations, if applicable.

(3) The notice of deferral in paragraph (b)(2)(ii) of this section must specify:

(i) Any action the operator could take that would enable the BLM (in consultation with the FS if applicable) to issue a final decision on the application. The FS will notify the applicant of any action the applicant could take that would enable the FS to issue a final decision on the Surface Use Plan of Operations on NFS lands. Actions may include, but are not limited to, assistance with:

(A) Data gathering; and

(B) Preparing analyses and documents.

(ii) If applicable, a list of actions that the BLM or the FS need to take before making a final decision on the application, including appropriate analysis under NEPA or other applicable law and a schedule for completing these actions.

(4) The operator has 2 years from the date of the notice under paragraph (b)(3)(i) of this section to take the action specified in the notice. If the appropriate analyses required by NEPA, National Historic Preservation Act, Endangered Species Act, and other applicable laws have been completed, the BLM (and the FS if applicable), will make a decision on the permit and the Surface Use Plan of Operations within 10 days of receiving a report from the operator addressing all of the issues or actions specified in the notice under paragraph (b)(3)(i) of this section and certifying that all required actions have been taken. If the operator has not completed the actions specified in the notice within 2 years from the operator's receipt of the notice under paragraph (b)(3)(i), the BLM will deny the permit.

(5) For APDs on NFS lands, the decision to approve a Surface Use Plan of Operations or Master Development Plan may be subject to FS appeal procedures. The BLM cannot approve an APD until the appeal of the Surface Use Plan of Operations is resolved.

§ 3171.13 Approval of APDs.

(a) The BLM has the lead responsibility for completing the environmental review process, except in the case of NFS lands.

(1) The BLM cannot approve an APD or Master Development Plan until the requirements of certain other laws and regulations including NEPA, the National Historic Preservation Act, and the Endangered Species Act have been met. The BLM must document that the needed reviews have been adequately conducted. In some cases, operators conduct these reviews, but the BLM remains responsible for their scope and content and makes its own evaluation of the environmental issues, as required by 40 CFR 1506.5(b).

(2) The approved APD will contain Conditions of Approval that reflect necessary mitigation measures. In accordance with 43 CFR 3101.1–2 and 36 CFR 228.107, the BLM or the FS may require reasonable mitigation measures to ensure that the proposed operations minimize adverse impacts to other resources, uses, and users, consistent with granted lease rights. The BLM will incorporate any mitigation requirements, including Best Management Practices, identified through the APD review and appropriate NEPA and related analyses, as Conditions of Approval to the APD.

(3) The BLM will establish the terms and Conditions of Approval for any associated Right-of-Way when the application is approved.

(b) For NFS lands, the FS will establish the terms and Conditions of Approval for both the Surface Use Plan of Operations and any associated Surface Use Authorization. On NFS lands the FS has principal responsibility for compliance with NEPA, the National Historic Preservation Act, and the Endangered Species Act, but the BLM should be a cooperating or co-lead agency for this purpose and adopt the analysis as the basis for its decision. After the FS notifies the BLM it has approved a Surface Use Plan of Operations on NFS lands, the BLM must approve the APD before the operator may begin any surface-disturbing activity.

(c) On Indian lands, BIA has responsibility for approving Rights-of-Way.

(d) In the case of Indian lands, the BLM may be a cooperating or co-lead agency for NEPA compliance or may adopt the NEPA analysis prepared by the BIA (516 Department of the Interior Manual (DM) 3).

§ 3171.14 Valid period of approved APD.

(a) An APD approval is valid for 2 years from the date that it is approved, or until lease expiration, whichever occurs first. If the operator submits a written request before the expiration of the original approval, the BLM, in coordination with the FS, as appropriate may extend the APD's validity for up to 2 additional years.

(b) The operator is responsible for reclaiming any surface disturbance that resulted from its actions, even if a well was not drilled.

§ 3171.15 Master Development Plans.

(a) An operator may elect to submit a Master Development Plan addressing two or more APDs that share a common drilling plan, Surface Use Plan of Operations, and plans for future development and production. Submitting a Master Development Plan facilitates early planning, orderly development, and the cumulative effects analysis for all the APDs expected to be drilled by an operator in a developing field. Approval of a Master Development Plan serves as approval of all of the APDs submitted with the Plan. Processing of a Master Development Plan follows the procedures in § 3171.12(b).

(b) After the Master Development Plan is approved, subsequent APDs can reference the Master Development Plan and be approved using the NEPA analysis for the Master Development Plan, absent substantial deviation from the Master Development Plan previously analyzed or significant new information relevant to environmental effects. Therefore, an approved Master Development Plan results in timelier processing of subsequent APDs. Each subsequent proposed well must have a survey plat and an APD (Form 3160–3) that references the Master Development Plan and any specific variations for that well.

§ 3171.16 Waiver from electronic submission requirements.

The operator may request a waiver from the electronic submission requirement for an APD or Notice of Staking if compliance would cause hardship or the operator is unable to file these documents electronically. In the request, the operator must explain the reason(s) that prevent its use of the electronic system, plans for complying with the electronic submission requirement, and a timeframe for compliance. If the request applies to a particular set of APDs or Notices of Staking, then the request must identify the APDs or Notices of Staking to which the waiver applies. The waiver request is subject to BLM approval. If the request does not specify a particular set of APDs or Notices of Staking, then the waiver will apply to all submissions made by the operator during the compliance timeframe included as part of the BLM's waiver approval. The BLM will not consider an APD or Notice of Staking that the operator did not submit through the electronic system, unless the BLM approves a waiver.

§ 3171.17 General operating requirements—operator responsibilities.

(a) In the APD package, the operator must describe or show, as set forth in this subpart, the procedures, equipment, and materials to be used in the proposed operations. The operator must conduct operations to minimize adverse effects to surface and subsurface resources, prevent unnecessary surface disturbance, and conform with currently available technology and practice. While appropriate compliance with certain statutes, such as NEPA, the National Historic Preservation Act, and the Endangered Species Act, are Federal responsibilities, the operator may choose to conduct inventories and provide documentation to assist the BLM or the surface managing agency to meet the requirements of this paragraph (a). The inventories and other work may require entering the lease and adjacent lands before approval of the APD. As in staking and surveying, the operator should make a good faith effort to contact the surface managing agency or surface owner before entry upon the lands for these purposes.

(b) The operator cannot commence either drilling operations or preliminary construction activities before the BLM's approval of the APD. A copy of the approved APD and any Conditions of Approval must be available for review at the drill site. Operators are responsible for their contractor and subcontractor's compliance with the requirements of the approved APD and/or Surface Use Plan of Operations. Drilling without approval or causing surface disturbance without approval is a violation of 43 CFR 3162.3–1(c) and is subject to a monetary assessment under 43 CFR 3163.1(b)(2).

(c) The operator must comply with the provisions of the approved APD and applicable laws, regulations, and Notices to Lessees, including, but not limited to, those that address the issues described in paragraphs (c)(1) through (5) of this section.

(1) *Cultural and historic resources.* If historic or archaeological materials are uncovered during construction, the operator must immediately stop work that might further disturb such materials, contact the BLM and if appropriate, the FS or other surface managing agency. The BLM or the FS will inform the operator within 7 days after the operator contacted the BLM as to whether the materials appear eligible for listing on the National Register of Historic Places.

(i) If the operator decides to relocate operations to avoid further costs to mitigate the site, the operator remains responsible for recording the location of any historic or archaeological resource that are discovered as a result of the operator's actions. The operator also is responsible for stabilizing the exposed cultural material if the operator created an unstable condition that must be addressed immediately. The BLM, the FS, or other appropriate surface managing agency will assume responsibility for evaluation and determination of significance related to the historic or archaeological site.

(ii) If the operator does not relocate operations, the operator is responsible for mitigation and stabilization costs and the BLM, the FS, or appropriate surface managing agency will provide technical and procedural guidelines for conducting mitigation. The operator may resume construction operations when the BLM or the FS verifies that the operator has completed the required mitigation.

(iii) Relocation of activities may subject the proposal to additional environmental review. Therefore, if the presence of such sites is suspected, the operator may want to submit alternate locations for advance approval before starting construction.

(2) *Endangered Species Act.* To comply with the Endangered Species Act, as amended (16 U.S.C. 1531 *et seq.*), and its implementing regulations in 50 CFR chapter I, the operator must conduct all operations such that all operations avoid a ''take'' of listed or proposed threatened or endangered species and their critical habitats.

(3) *Surface protection.* Except as otherwise provided in an approved Surface Use Plan of Operations, the operator must not conduct operations in areas subject to mass soil movement, riparian areas, floodplains, lakeshores, and/or wetlands. The operator also must take measures to minimize or prevent erosion and sediment production. Such measures may include, but are not limited to:

(i) Avoiding steep slopes and excessive land clearing when siting structures, facilities, and other improvements; and

(ii) Temporarily suspending operations when frozen ground, thawing, or other weather-related conditions would cause otherwise avoidable or excessive impacts.

(4) *Safety measures.* The operator must maintain structures, facilities, improvements, and equipment in a safe condition in accordance with the approved APD. The operator must also take appropriate measures as specified in Notices to Lessees to protect the

public from any hazardous conditions resulting from operations.

(i) In the event of an emergency, the operator may take immediate action without prior surface managing agency approval to safeguard life or to prevent significant environmental degradation. The BLM or the FS must receive notification of the emergency situation and the remedial action taken by the operator as soon as possible, but not later than 24 hours after the emergency occurred. If the emergency only affected drilling operations and had no surface impacts, only the BLM must be notified.

(ii) If the emergency involved surface resources on other surface managing agency lands, the operator should also notify the surface managing agency and private surface owner within 24 hours.

(iii) Upon conclusion of the emergency, the BLM or the FS, where appropriate, will review the incident and take appropriate action.

(5) *Completion reports.* Within 30 days after the well completion, the lessee or operator must submit to the BLM two copies of a completed Form 3160–4, Well Completion or Recompletion Report and Log. Well logs may be submitted to the BLM in an electronic format such as ''.LAS'' format. Surface and bottom-hole locations must be in latitude and longitude.

§ 3171.18 Rights-of-Way and Special Use Authorizations.

(a) The BLM or the FS will notify the operator of any additional Rights-of-Way, Special Use Authorizations, licenses, or other permits that are needed for roads and support facilities for drilling or off-lease access, as appropriate. This notification will normally occur at the time the operator submits the APD or Notice of Staking package, or Sundry Notice, or during the onsite inspection.

(b) The BLM or the FS, as appropriate, will approve or accept on-lease activities that are associated with actions proposed in the APD or Sundry Notice and that will occur on the lease as part of the APD or Sundry Notice. These actions do not require a Right-of-Way or Special Use Authorization. For pipeline Rights-of-Way crossing lands under the jurisdiction of two or more Federal surface managing agencies, except lands in the National Park Service or Indian lands, applications should be submitted to the BLM. Refer to 43 CFR parts 2800 and 2880 for guidance on BLM Rights-of-Way and 36 CFR part 251 for guidance on FS Special Use Authorizations.

(1) *Rights-of-Way (BLM).* (i) For BLM lands, the APD package may serve as the supporting document for the Right-of-Way application in lieu of a Right-of-Way plan of development.

(ii) Any additional information specified in 43 CFR parts 2800 and 2880 will be required in order to process the Right- of-Way. The BLM will notify the operator within 10 days of receipt of a Notice of Staking, APD, or other notification if any parts of the project require a Right- of-Way. If a Right-of-Way is needed, the information required from the operator to approve the Right-of-Way may be submitted by the operator with the APD package if the Notice of Staking option has been used.

(2) *Special Use Authorizations (FS) (36 CFR part 251, subpart B).* When a Special Use Authorization is required, the Surface Use Plan of Operations may serve as the application for the Special Use Authorization if the facility for which a Special Use Authorization is required is adequately described (see 36 CFR 251.54(d)(ii)). Conditions regulating the authorized use may be imposed to protect the public interest, to ensure compatibility with other NFS lands programs and activities consistent with the Forest Land and Resources Management Plan. A Special Use Authorization, when related to an APD, will include terms and conditions (36 CFR 251.56) and may require a specific reclamation plan or adopt applicable parts of the Surface Use Plan of Operations by reference.

§ 3171.19 Operating on lands with non-Federal surface and Federal oil and gas.

(a) The operator must submit the name, address, and phone number of the surface owner, if known, in its APD. The BLM will invite the surface owner to the onsite inspection to assure that their concerns are considered. As provided in the oil and gas lease, the BLM may request that the applicant conduct surveys or otherwise provide information needed for the BLM's National Historic Preservation Act consultation with the State Historic Preservation Officer or Indian tribe or its Endangered Species Act consultation with the relevant fisheries agency. The Federal mineral lessee has the right to enter the property for the purpose set out in the preceding sentence, since it is a necessary prerequisite to development of the dominant mineral estate. Nevertheless, the lessee or operator should seek to reach agreement with the surface owner about the time and method by which any survey would be conducted.

(b) Likewise, in the case of actual oil and gas operations, the operator must make a good faith effort to notify the private surface owner before entry and make a good faith effort to obtain a Surface Access Agreement from the surface owner. This section also applies to lands with Indian trust surface and Federal minerals. In these cases, the operator must make a good faith effort to obtain surface access agreement with the tribe in the case of tribally owned surface, otherwise with the majority of the Indian surface owners who can be located with the assistance and concurrence of the BIA. The Surface Access Agreement may include terms or conditions of use, be a waiver, or an agreement for compensation. The operator must certify to the BLM that:

(1) It made a good faith effort to notify the surface owner before entry; and

(2) That an agreement with the surface owner has been reached or that a good faith effort to reach an agreement failed. If no agreement was reached with the surface owner, the operator must submit an adequate bond (minimum of $1,000) to the BLM for the benefit of the surface owner sufficient to:

(i) Pay for loss or damages; or

(ii) As otherwise required by the specific statutory authority under which the surface was patented and the terms of the lease.

(c) Surface owners have the right to appeal the sufficiency of the bond. Before the approval of the APD, the BLM will make a good faith effort to contact the surface owner to assure that they understand their rights to appeal.

(d) The BLM must comply with NEPA, the National Historic Preservation Act, the Endangered Species Act, and related Federal statutes when authorizing lease operations on split estate lands where the surface is not federally owned and the oil and gas is Federal. For split estate lands within FS administrative boundaries, the BLM has the lead responsibility, unless there is a local BLM/FS agreement that gives the FS this responsibility.

(e) The operator must make a good faith effort to provide a copy of their Surface Use Plan of Operations to the surface owner. After the APD is approved the operator must make a good faith effort to provide a copy of the Conditions of Approval to the surface owner. The APD approval is not contingent upon delivery of a copy of the Conditions of Approval to the surface owner.

§ 3171.20 Leases for Indian oil and gas.

(a) *Approval of operations.* The BLM will process APDs, Master Development Plans, and Sundry Notices on Indian tribal and allotted oil and gas leases, and Indian Mineral Development Act mineral agreements in a manner similar to Federal leases. For processing such

applications, the BLM considers the BIA to be the surface managing agency. Operators are responsible for obtaining any special use or access permits from appropriate BIA and, where applicable, tribal offices. The BLM is not required to post for public inspection APDs for minerals subject to Indian oil and gas leases or agreements.

(b) *Surface use.* Where the wellsite and/or access road is proposed on Indian lands with a different beneficial owner than the minerals, the operator is responsible for entering into a surface use agreement with the Indian tribe or the individual Indian surface owner, subject to BIA approval. This agreement must specify the requirements for protection of surface resources, mitigation, and reclamation of disturbed areas. The BIA, the Indian surface owner, and the BLM, pursuant to 25 CFR 211.4, 212.4 and 225.4, will develop the Conditions of Approval. If the operator is unable to obtain a Surface Access Agreement, it may provide a bond for the benefit of the surface owner(s) (see § 3171.19).

§ 3171.21 Subsequent operations and Sundry Notices.

Subsequent operations must follow 43 CFR part 3160, applicable lease stipulations, and APD Conditions of Approval. The operator must file the Sundry Notice in the BLM Field Office having jurisdiction over the lands described in the notice or the operator may file it using the BLM's electronic commerce system.

(a) *Surface disturbing operations.* (1) Lessees and operators must submit for BLM or FS approval a request on Form 3160–5 before:

(i) Undertaking any subsequent new construction outside the approved area of operations; or

(ii) Reconstructing or altering existing facilities including, but not limited to, roads, emergency pits, firewalls, flowlines, or other production facilities on any lease that will result in additional surface disturbance.

(2) If, at the time the original APD was filed, the lessee or operator elected to defer submitting information under § 3171.8(e)(4)(iii), the lessee or operator must supply this information before construction and installation of the facilities. The BLM, in consultation with any other involved surface managing agency, may require a field inspection before approving the proposal. The lessee or operator may not begin construction until the BLM approves the proposed plan in writing.

(3) The operator must certify on Form 3160–5 that they have made a good faith effort to provide a copy of any proposal involving new surface disturbance to the private surface owner in the case of split estate.

(b) *Emergency repairs.* Lessees or operators may undertake emergency repairs without prior approval if they promptly notify the BLM. Lessees or operators must submit sufficient information to the BLM or the FS to permit a proper evaluation of any:

(1) Resulting surface disturbing activities; or

(2) Planned accommodations necessary to mitigate potential adverse environmental effects.

§ 3171.22 Well conversions.

(a) *Conversion to an injection well.* When subsequent operations will result in a well being converted to a Class II injection well (*i.e.,* for disposal of produced water, oil and gas production enhancement, or underground storage of hydrocarbons), the operator must file with the appropriate BLM office a Sundry Notice, Notice of Intent to Convert to Injection on Form 3160–5. The BLM and the surface managing agency, if applicable, will review the information to ensure its technical and administrative adequacy. Following the review, the BLM, in consultation with the surface managing agency, where applicable, will decide upon the approval or disapproval of the application based upon relevant laws and regulations and the circumstances (*e.g.,* the well used for lease or non-lease operations, surface ownership, and protection of subsurface mineral ownership). The BLM will determine if a Right-of-Way or Special Use Authorization and additional bonding are necessary and notify the operator.

(b) *Conversion to a water supply well.* In cases where the surface managing agency or private surface owner desires to acquire an oil and gas well and convert it to a water supply well or acquire a water supply well that was drilled by the operator to support lease operations, the surface managing agency or private surface owner must inform the appropriate BLM office of its intent before the approval of the APD in the case of a dry hole and no later than the time a Notice of Intent to Abandon is submitted for a depleted production well. The operator must abandon the well according to BLM instructions, and must complete the surface cleanup and reclamation, in conjunction with the approved APD, Surface Use Plan of Operations, or Notice of Intent to Abandon, if the BLM or the FS require it. The surface managing agency or private surface owner must reach agreement with the operator as to the satisfactory completion of reclamation operations before the BLM will approve any abandonment or reclamation. The BLM approval of the partial abandonment under this section, completion of any required reclamation operations, and the signed release agreement will relieve the operator of further obligation for the well. If the surface managing agency or private surface owner acquires the well for water use purposes, the party acquiring the well assumes liability for the well.

§ 3171.23 Variances.

The operator may make a written request to the agency with jurisdiction to request a variance from this subpart. A request for a variance must explain the reason the variance is needed and demonstrate how the operator will satisfy the intent of this subpart. The operator may include the request in the APD package. A variance from the requirements of this subpart does not constitute a variance to provisions of other regulations, laws, or orders. When the BLM is the decision maker on a request for a variance, the decision whether to grant or deny the variance request is entirely within the BLM's discretion. The decision on a variance request is not subject to administrative appeals either to the State Director or pursuant to 43 CFR part 4.

§ 3171.24 Waivers, exceptions, or modifications.

(a) An operator may also request that the BLM waive (permanently remove), except (case-by-case exemption), or modify (permanently change) a lease stipulation for a Federal lease. In the case of Federal leases, a request to waive, except, or modify a stipulation should also include information demonstrating that the factors leading to its inclusion in the lease have changed sufficiently to make the protection provided by the stipulation no longer justified or that the proposed operation would not cause unacceptable impacts.

(b) When the waiver, exception, or modification is substantial, the proposed waiver, exception, or modification is subject to public review for 30 days. Prior to such public review, the BLM, and when applicable the FS, will post it in their local Field Office and, when possible, electronically on the internet. When the request is included in the Notice of Staking or APD, the request will be included as part of the application posting under § 3171.5(c). Prior to granting a waiver, exception, or modification, the BLM will obtain the concurrence or approval of the FS or Federal surface managing agency. Decisions on such waivers,

exceptions, or modifications are subject to appeal pursuant to 43 CFR part 4.

(c) After drilling has commenced, the BLM and the FS may consider verbal requests for waivers, exceptions, or modifications. However, the operator must submit a written notice within 7 days after the verbal request. The BLM and the FS will confirm in writing any verbal approval. Decisions on waivers, exceptions, or modifications submitted after drilling has commenced are final for the Department of the Interior and not subject to administrative review by the State Director or appeal pursuant to 43 CFR part 4.

§ 3171.25 Abandonment.

In accordance with the requirements of 43 CFR 3162.3–4, before starting abandonment operations the operator must submit a Notice of Intent to Abandon on Sundry Notices and Reports on Wells, Form 3160–5. If the operator proposes to modify the plans for surface reclamation approved at the APD stage, the operator must attach these modifications to the Notice of Intent to Abandon.

(a) *Plugging.* The operator must obtain BLM approval for the plugging of the well by submitting a Notice of Intent to Abandon. In the case of dry holes, drilling failures, and in emergency situations, verbal approval for plugging may be obtained from the BLM, with the Notice of Intent to Abandon promptly submitted as written documentation. Within 30 days following completion of well plugging, the operator must file with the BLM a Subsequent Report of Plug and Abandon, using Sundry Notices and Reports on Wells, Form 3160–5. For depleted production wells, the operator must submit a Notice of Intent to Abandon and obtain the BLM's approval before plugging.

(b) *Reclamation.* Plans for surface reclamation are a part of the Surface Use Plan of Operations, as specified in § 3171.8(e)(10), and must be designed to return the disturbed area to productive use and to meet the objectives of the land and resource management plan. If the operator proposes to modify the plans for surface reclamation approved at the APD stage, the operator must attach these modifications to the Subsequent Report of Plug and Abandon using Sundry Notices and Reports on Wells, Form 3160–5.

(1) For wells not having an approved plan for surface reclamation, operators must submit to the BLM a proposal describing the procedures to be followed for complete abandonment, including a map showing the disturbed area and roads to be reclaimed. The BLM will forward the request to the FS or other surface managing agency. If applicable, the private surface owner will be notified and their views will be carefully considered.

(2) Earthwork for interim and final reclamation must be completed within 6 months of well completion or well plugging (weather permitting). All pads, pits, and roads must be reclaimed to a satisfactorily revegetated, safe, and stable condition, unless an agreement is made with the landowner or surface managing agency to keep the road or pad in place. Pits containing fluid must not be breached (cut) and pit fluids must be removed or solidified before backfilling. Pits may be allowed to air dry subject to BLM or FS approval, but the use of chemicals to aid in fluid evaporation, stabilization, or solidification must have prior BLM or FS approval. Seeding or other activities to reestablish vegetation must be completed within the time period approved by the BLM or the FS.

(3) Upon completion of reclamation operations, the lessee or operator must notify the BLM or the FS using Form 3160–5, Final Abandonment Notice, when the location is ready for inspection. Final abandonment will not be approved until the surface reclamation work required in the Surface Use Plan of Operations or Subsequent Report of Plug and Abandon has been completed to the satisfaction of the BLM or the FS and surface managing agency, if appropriate.

§ 3171.26 Appeal procedures.

(a) Complete information concerning the review and appeal processes for BLM actions is contained in 43 CFR parts 4 and 3160, subpart 3165. Incorporation of a FS approved Surface Use Plan of Operations into the approval of an APD or a Master Development Plan is not subject to protest to the BLM or appeal to the Interior Board of Land Appeals.

(b) The FS's decisions approving use of NFS lands may be subject to agency appeal procedures, in accordance with 36 CFR part 215 or 251.

(c) Decisions governing Surface Use Plan of Operations and Special Use Authorization approvals on NFS lands that involve analysis, documentation, and other requirements of the NEPA may be subject to agency appeal procedures, under 36 CFR part 215.

(d) The FS's regulations at 36 CFR part 251 govern appeals by an operator of written FS decisions related to Conditions of Approval or administration of Surface Use Plans of Operations or Special Use Authorizations to occupy and use NFS lands.

(e) The operator may appeal decisions of the BIA under 25 CFR part 2.

Appendix A to Subpart 3171—Sample Format for Notice of Staking

(Not to be used in place of Application for Permit to Drill or Reenter Form 3160–3)

1. Oil Well
   Gas Well
   Other (Specify)
2. Name, Address, and Telephone of Operator
3. Name and Telephone of Specific Contact Person
4. Surface Location of Well

Attach:

   (a) Sketch showing road entry onto pad, pad dimensions, and reserve pit
   (b) Topographical or other acceptable map (*e.g.,* a USGS 7–½″ Quadrangle) showing location, access road, and lease boundaries

5. Lease Number
6. If Indian, Allottee or Tribe Name
7. Unit Agreement Name
8. Well Name and Number
9. American Petroleum Institute (API) Well Number (if available)
10. Field Name or Wildcat
11. Section, Township, Range, Meridian; or Block and Survey; or Area
12. County, Parish, or Borough
13. State
14. Name and Depth of Formation Objective(s)
15. Estimated Well Depth
16. For directional or horizontal wells, anticipated bottom-hole location.
17. Additional Information (as appropriate; include surface owner's name, address and, if known, telephone).
18. Signed _____
    Title _____
    Date _____

Note: When the Bureau of Land Management or the Forest Service, as appropriate, receives this Notice, the agency will schedule the date of the onsite inspection. You must stake the location and flag the access road before the onsite inspection. Operators should consider the following before the onsite inspection and incorporate these considerations into the Notice of Staking Option, as appropriate:

   (a) H_2S Potential;
   (b) Cultural Resources (Archeology); and
   (c) Federal Right-of-Way or Special Use Permit.

Subpart 3172—Drilling Operations on Federal and Indian Oil and Gas Leases

Sec.

§ 3172.1 Authority.

(a) This subpart 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.

(b) Specific authority for the provisions contained in this subpart is found at: 43 CFR 3162.3–1, 3162.3–4, 3162.4–1, 3162.4–3, 3162.5–1, 3162.5–2 (see paragraph (a)), and 3162.5–3; and 43 CFR part 3160, subpart 3163.

§ 3172.2 Purpose.

This subpart details the Bureau's uniform national standards for the minimum levels of performance expected from lessees and operators when conducting drilling operations on Federal and Indian lands (except Osage Tribe) and for abandonment immediately following drilling. The purpose also is to identify the enforcement actions that will result when violations of the minimum standards are found, and when those violations are not abated in a timely manner.

§ 3172.3 Scope.

This subpart is applicable to all onshore Federal and Indian (except Osage Tribe) oil and gas leases.

§ 3172.4 General.

(a) If an operator chooses to use higher rated equipment than that authorized in the Application for Permit to Drill (APD), testing procedures shall apply to the approved working pressures, not the upgraded higher working pressures.

(b) Some situations may exist either on a well-by-well or field-wide basis whereby it is commonly accepted practice to vary a particular minimum standard(s) established in this subpart. This situation may be resolved by requesting a variance (see § 3172.13), by the inclusion of a stipulation to the APD, or by the issuance of a Notice to Lessees and Operators (NTL) by the appropriate BLM office.

(c) When a violation is discovered, and if it does not cause or threaten immediate substantial and adverse impact on public health and safety, the environment, production accountability or royalty income, it will be classified as minor. The violation may be reissued as a major violation if not corrected during the abatement period and continued drilling has changed the adverse impact of the violation so that it meets the specific definition of a major violation.

(d) This subpart is not intended to circumvent the reporting requirements or compliance aspects that may be stated elsewhere in existing NTLs, regulations, etc. A lessee's compliance with the requirements of the regulations in this subpart shall not relieve the lessee of the obligation to comply with other applicable laws and regulations in accordance with 43 CFR 3162.5–1(c). Lessees should give special attention to the automatic assessment provisions in 43 CFR 3163.1(b).

(e) This subpart is based upon the assumption that operations have been approved in accordance with 43 CFR part 3160 and subpart 3171 of this part. Failure to obtain approval prior to commencement of drilling or related operations shall subject the operator to immediate assessment under 43 CFR 3163.1(b)(2).

§ 3172.5 Definitions.

As used in this subpart, the term:

2M, 3M, 5M, 10M, and *15M* mean the pressure ratings used for equipment with a working pressure rating of the equivalent thousand pounds per square inch (psi) (2M=2,000 psi, 3M=3,000 psi, etc.).

Abnormal pressure zone means a zone that has either pressure above or below the normal gradient for an area and/or depth.

Bleed line means the vent line that bypasses the chokes in the choke manifold system; also referred to as panic line.

Blooie line means a discharge line used in conjunction with a rotating head.

Drilling spool means a connection component with both ends either flanged or hubbed, with an internal diameter at least equal to the bore of the casing, and with smaller side outlets for connecting auxiliary lines.

Exploratory well means any well drilled beyond the known producing limits of a pool.

Fill-up line means the line used to fill the hole when the drill pipe is being removed from the well. It is usually connected to a 2-inch collar that is welded into a drilling nipple.

Flare line means a line used to carry gas away from the rig to be burned at a safer location. The gas comes from the degasser, gas buster, separator, or when drill stem testing, directly from the drill pipe.

Functionally operated means activating equipment without subjecting it to well-bore pressure.

Isolating means using cement to protect, separate, or segregate usable water and mineral resources.

Lease means any contract, profit-share agreement, joint venture, or other agreement issued or approved by the United States under a mineral leasing law that authorizes exploration for, extraction of, or removal of oil or gas (see 43 CFR 3160.0–5).

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

Make-up water means water that is used in mixing slurry for cement jobs and plugging operations and is compatible with the cement constituents being used.

Manual locking device means any manually activated device, such as a hand wheel, etc., that is used for the purpose of locking the preventer in the closed position.

Mud for plugging purposes means a slurry of bentonite or similar flocculent/viscosifier, water, and additives needed to achieve the desired weight and consistency to stabilize the hole.

Mudding up means adding materials and chemicals to water to control the viscosity, weight, and filtrate loss of the circulating system.

Operating rights owner (or 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.

Operational means capable of functioning as designed and installed without undue force or further modification.

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 his/her responsibility for the operations conducted in the leased lands or a portion thereof.

Precharge pressure means the nitrogen pressure remaining in the accumulator after all the hydraulic fluid has been expelled from beneath the movable barrier.

Prompt correction means immediate correction of violations, with drilling suspended if required in the discretion of the authorized officer.

Prospectively valuable deposit of minerals means any deposit of minerals that the authorized officer determines to have characteristics of quantity and quality that warrant its protection.

Tagging the plug means running in the hole with a string of tubing or drill

pipe and placing sufficient weight on the plug to ensure its integrity. Other methods of tagging the plug may be approved by the authorized officer.

Targeted tee or turn means a fitting used in pressure piping in which a bull plug or blind flange of the same pressure rating as the rest of the approved system is installed at the end of a tee or cross, opposite the fluid entry arm, to change the direction of flow and to reduce erosion.

Usable water means generally those waters containing up to 10,000 parts per million (ppm) of total dissolved solids.

Weep hole means a small hole that allows pressure to bleed off through the metal plate used in covering well bores after abandonment operations.

§ 3172.6 Well control.

(a) *Requirements.* Blowout preventer (BOP) and related equipment (BOPE) shall be installed, used, maintained, and tested in a manner necessary to assure well control and shall be in place and operational prior to drilling the surface casing shoe unless otherwise approved by the APD. Commencement of drilling without the approved BOPE installed, unless otherwise approved, shall subject the operator to immediate assessment under 43 CFR 3163.1(b)(1). The BOP and related control equipment shall be suitable for operations in those areas which are subject to sub-freezing conditions. The BOPE shall be based on known or anticipated sub-surface pressures, geologic conditions, accepted engineering practice, and surface environment. Item number 7 of the 8 point plan in the APD specifically addresses expected pressures. The working pressure of all BOPE shall exceed the anticipated surface pressure to which it may be subjected, assuming a partially evacuated hole with a pressure gradient of 0.22 psi/ft.

(b) *Violation classifications.* The gravity of the violation for many of the well control minimum standards listed in paragraphs (b)(1) through (9) of this section are shown as minor. However, very short abatement periods in this subpart are often specified in recognition that by continuing to drill, the violation which was originally determined to be of a minor nature may cause or threaten immediate, substantial, and adverse impact on public health and safety, the environment, production accountability, or royalty income, which would require it reclassification as a major violation.

(1) *Minimum standards and enforcement provisions for well control equipment.* (i) A well control device shall be installed at the surface that is capable of complete closure of the well bore. This device shall be closed whenever the well is unattended.

TABLE 1 TO § 3172.6(b)(1)(i)

Violation	Corrective action	Normal abatement period
Major	Install the equipment as specified	Prompt correction required.

(ii) For 2M system:

(A) Annular preventer, double ram, or two rams with one being blind and one being a pipe ram (major);

(B) Kill line (2 inch minimum);

(C) 1 kill line valve (2 inch minimum);

(D) 1 choke line valve;

(E) 2 chokes (refer to diagram in appendix A to this subpart);

(F) Upper kelly cock valve with handle available;

(G) Safety valve and subs to fit all drill strings in use;

(H) Pressure gauge on choke manifold;

(I) 2 inch minimum choke line; and

(J) Fill-up line above the uppermost preventer.

TABLE 2 TO § 3172.6(b)(1)(ii)

Violation	Corrective action	Normal abatement period
Minor	Install the equipment as specified	24 hours.
Major (as indicated)	Install the equipment as specified	Prompt correction required.

(iii) For 3M system:

(A) Annular preventers (major);

(B) Double ram with blind rams and pipe rams (major);

(C) Drilling spool, or blowout preventer with 2 side outlets (choke side shall be a 3-inch minimum diameter, kill side shall be at least 2-inch diameter) (major);

(D) Kill line (2 inch minimum);

(E) A minimum of 2 choke line valves (3 inch minimum) (major);

(F) 3 inch diameter choke line;

(G) 2 kill line valves, one of which shall be a check valve (2 inch minimum) (major);

(H) 2 chokes (refer to diagram in appendix A to this subpart);

(I) Pressure gauge on choke manifold;

(J) Upper kelly cock valve with handle available;

(K) Safety valve and subs to fit all drill string connections in use;

(L) All BOPE connections subjected to well pressure shall be flanged, welded, or clamped (major); and

(M) Fill-up line above the uppermost preventer.

TABLE 3 TO § 3172.6(b)(1)(iii)

Violation	Corrective action	Normal abatement period
Minor	Install the equipment as specified	24 hours.
Major (as indicated)	Install the equipment as specified	Prompt correction required.

(iv) For 5M system:

(A) Annular preventer (major);

(B) Pipe ram, blind ram, and, if conditions warrant, as specified by the authorized officer, another pipe ram shall also be required (major);

(C) A second pipe ram preventer or variable bore pipe ram preventer shall be used with a tapered drill string;

(D) Drilling spool, or blowout preventer with 2 side outlets (choke side shall be a 3-inch minimum diameter, kill side shall be at least 2-inch diameter) (major);

(E) 3 inch diameter choke line;

(F) 2 choke line valves (3 inch minimum) (major);

(G) Kill line (2 inch minimum);

(H) 2 chokes with 1 remotely controlled from rig floor (refer to diagram in appendix A to this subpart);

(I) 2 kill line valves and a check valve (2 inch minimum) (major);

(J) Upper kelly cock valve with a handle available;

(K) When the expected pressures approach working pressure of the system, 1 remote kill line tested to stack pressure (which shall run to the outer edge of the substructure and be unobstructed);

(L) Lower kelly cock valve with handle available;

(M) Safety valve(s) and subs to fit all drill string connections in use;

(N) Inside BOP or float sub available;

(O) Pressure gauge on choke manifold;

(P) All BOPE connections subjected to well pressure shall be flanged, welded, or clamped (major); and

(Q) Fill-up line above the uppermost preventer.

TABLE 4 TO § 3172.6(b)(1)(iv)

Violation	Corrective action	Normal abatement period
Minor	Install the equipment as specified	24 hours.
Major (as indicated)	Install the equipment as specified	Prompt correction required.

(v) For 10M & 15M system:

(A) Annular preventer (major);

(B) 2 pipe rams (major);

(C) Blind rams (major);

(D) Drilling spool, or blowout preventer with 2 side outlets (choke side shall be a 3-inch minimum diameter, kill side shall be at least 2-inch diameter) (major):

(E) 3 inch choke line (major);

(F) 2 kill line valves (2 inch minimum) and check valve (major):

(G) Remote kill line (2 inch minimum) shall run to the outer edge of the substructure and be unobstructed;

(H) Manual and hydraulic choke line valves (3 inch minimum) (major);

(I) 3 chokes, 1 being remotely controlled (refer to diagram in appendix A to this subpart);

(J) Pressure gauge on choke manifold;

(K) Upper kelly cock valve with handle available;

(L) Lower kelly cock valve with handle available;

(M) Safety valves and subs to fit all drill string connections in use;

(N) Inside BOP or float sub available;

(O) Wear ring in casing head;

(P) All BOPE connections subjected to well pressure shall be flanged, welded, or clamped (major); and

(Q) Fill-up line installed above the uppermost preventer.

TABLE 5 TO § 3172.6(b)(1)(v)

Violation	Corrective action	Normal abatement period
Minor	Install the equipment as specified	24 hours.
Major (as indicated)	Install the equipment as specified	Prompt correction required.

(vi) If repair or replacement of the BOPE is required after testing, this work shall be performed prior to drilling out the casing shoe.

TABLE 6 TO § 3172.6(b)(1)(vi)

Violation	Corrective action	Normal abatement period
Major	Install the equipment as specified	Prompt correction required.

(vii) When the BOPE cannot function to secure the hole, the hole shall be secured using cement, retrievable packer or a bridge plug packer, bridge plug, or other acceptable approved method to assure safe well conditions.

TABLE 7 TO § 3172.6(b)(1)(vii)

Violation	Corrective action	Normal abatement period
Major	Install the equipment as specified	Prompt correction required.

(2) *Minimum standards and enforcement provisions for choke manifold equipment.* (i) All choke lines shall be straight lines unless turns use tee blocks or are targeted with running tees, and shall be anchored to prevent whip and reduce vibration.

TABLE 8 TO § 3172.6(b)(2)(i)

Violation	Corrective action	Normal abatement period
Minor	Install the equipment as specified	24 hours.

(ii) Choke manifold equipment configuration shall be functionally equivalent to the appropriate example diagram shown in appendix A of this subpart. The configuration of the chokes may vary.

TABLE 9 TO § 3172.6(b)(2)(ii)

Violation	Corrective action	Normal abatement period
Minor	Install the equipment as specified	Prompt correction required.

(iii) All valves (except chokes) in the kill line, choke manifold, and choke line shall be a type that does not restrict the flow (full opening) and that allows a straight through flow (same enforcement as paragraph (b)(2)(ii) of this section).

(iv) Pressure gauges in the well control system shall be a type designed for drilling fluid service (same enforcement as paragraph (b)(2)(ii) of this section).

(3) *Minimum standards and enforcement provisions for pressure accumulator system.* (i) 2M system—accumulator shall have sufficient capacity to close all BOP's and retain 200 psi above precharge. Nitrogen bottles that meet manufacturer's specifications may be used as the backup to the required independent power source.

TABLE 10 TO § 3172.6(b)(3)(i)

Violation	Corrective action	Normal abatement period
Minor	Install the equipment as specified	24 hours.

(ii) 3M system—accumulator shall have sufficient capacity to open the hydraulically controlled choke line valve (if so equipped), close all rams plus the annual preventer, and retain a minimum of 200 psi above precharge on the closing manifold without the use of the closing unit pumps. This is a minimum requirement. The fluid reservoir capacity shall be double the usable fluid volume of the accumulator system capacity and the fluid level of the reservoir shall be maintained at the manufacturer's recommendations. The 3M system shall have 2 independent power sources to close the preventers. Nitrogen bottles (3 minimum) may be 1 of the independent power sources and, if so, shall maintain a charge equal to the manufacturer's specifications.

TABLE 11 TO § 3172.6(b)(3)(ii)

Violation	Corrective action	Normal abatement period
Minor	Install the equipment as specified	24 hours.

(iii) 5M and higher system—accumulator shall have sufficient capacity to open the hydraulically controlled gate valve (if so equipped) and close all rams plus the annular preventer (for 3 ram systems add a 50 percent safety factor to compensate for any fluid loss in the control system or preventers) and retain a minimum pressure of 200 psi above precharge on the closing manifold without use of the closing unit pumps. The fluid reservoir capacity shall be double the usable fluid volume of the accumulator system capacity and the fluid level of the reservoir shall be maintained at the manufacturer's recommendations. Two independent sources of power shall be available for powering the closing unit pumps. Sufficient nitrogen bottles are suitable as a backup power source only, and shall be recharged when the pressure falls below manufacturer's specifications.

TABLE 12 TO § 3172.6(b)(3)(iii)

Violation	Corrective action	Normal abatement period
Minor	Install the equipment as specified	24 hours.

(4) *Minimum standards and enforcement provisions for accumulator precharge pressure test.* This test shall be conducted prior to connecting the closing unit to the BOP stack and at least once every 6 months. The accumulator pressure shall be corrected if the measured precharge pressure is found to be above or below the maximum or minimum limit specified in table 13 to this paragraph (b)(4) (only nitrogen gas may be used to precharge):

TABLE 13 TO § 3172.6(b)(4)

Accumulator working pressure rating (psi)	Minimum acceptable operating pressure (psi)	Desired precharge pressure (psi)	Maximum acceptable precharge pressure (psi)	Minimum acceptable precharge pressure (psi)
1,500	1,500	750	800	700
2,000	2,000	1,000	1,100	900
3,000	3,000	1,000	1,100	900

TABLE 14 TO § 3172.6(b)(4)

Violation	Corrective action	Normal abatement period
Minor	Perform test	24 hours.

(5) *Minimum standards and enforcement provisions for power availability.* Power for the closing unit pumps shall be available to the unit at all times so that the pumps shall automatically start when the closing unit manifold pressure has decreased to a pre-set level.

TABLE 15 TO § 3172.6(b)(5)

Violation	Corrective action	Normal abatement period
Major	Install the equipment as specified	Prompt correction required.

(6) *Minimum standards and enforcement provisions for accumulator pump capacity.* Each BOP closing unit shall be equipped with sufficient number and sizes of pumps so that, with the accumulator system isolated from service, the pumps shall be capable of opening the hydraulically operated gate valve (if so equipped), plus closing the annular preventer on the smallest size drill pipe to be used within 2 minutes, and obtain a minimum of 200 psi above specified accumulator precharge pressure.

TABLE 16 TO § 3172.6(b)(6)

Violation	Corrective action	Normal abatement period
Minor	Install the equipment as specified	24 hours.

(7) *Minimum standards and enforcement provisions for locking devices.* A manual locking device (*i.e.,* hand wheels) or automatic locking devices shall be installed on all systems of 2M or greater. A valve shall be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve shall be maintained in the open position and shall be closed only when the power source for the accumulator system is inoperative.

TABLE 17 TO § 3172.6(b)(7)

Violation	Corrective action	Normal abatement period
Minor	Install the equipment as specified	24 hours.

(8) *Minimum standards and enforcement provisions for remote controls.* Remote controls shall be readily accessible to the driller. Remote controls for all 3M or greater systems shall be capable of closing all preventers. Remote controls for 5M or greater systems shall be capable of both opening and closing all preventers. Master controls shall be at the accumulator and shall be capable of opening and closing all preventers and the choke line valve (if so equipped). No remote control for a 2M system is required.

TABLE 18 TO § 3172.6(b)(8)

Violation	Corrective action	Normal abatement period
Minor	Install the equipment as specified	24 hours.

(9) *Minimum standards and enforcement provisions for well control equipment testing.* (i) Perform all tests described in paragraphs (b)(9)(ii) through (x) of this section using clear water or an appropriate clear liquid for

subfreezing temperatures with a viscosity similar to water.

(ii) Ram type preventers and associated equipment shall be tested to approved (see § 3172.4(a)) stack working pressure if isolated by test plug or to 70 percent of internal yield pressure of casing if BOP stack is not isolated from casing. Pressure shall be maintained for at least 10 minutes or until requirements of test are met, whichever is longer. If a test plug is utilized, no bleed-off of pressure is acceptable. For a test not utilizing a test plug, if a decline in pressure of more than 10 percent in 30 minutes occurs, the test shall be considered to have failed. Valve on casing head below test plug shall be open during test of BOP stack.

(iii) Annular type preventers shall be tested to 50 percent of rated working pressure. Pressure shall be maintained at least 10 minutes or until provisions of test are met, whichever is longer.

(iv) As a minimum, the test in paragraph (b)(9)(iii) of this section shall be performed:

(A) When initially installed;

(B) Whenever any seal subject to test pressure is broken;

(C) Following related repairs; and

(D) At 30-day intervals.

(v) Valves shall be tested from working pressure side during BOPE tests with all down stream valves open.

(vi) When testing the kill line valve(s), the check valve shall be held open or the ball removed.

(vii) Annular preventers shall be functionally operated at least weekly.

(viii) Pipe and blind rams shall be activated each trip, however, this function need not be performed more than once a day.

(ix) A BOPE pit level drill shall be conducted weekly for each drilling crew.

(x) Pressure tests shall apply to all related well control equipment.

(xi) All of the tests described in paragraphs (b)(1)(ii) through (x) of this section and/or drills shall be recorded in the drilling log.

TABLE 19 TO § 3172.6(b)(9)

Violation	Corrective action	Normal abatement period
Minor	Perform the necessary test or provide documentation ...	24 hours or next trip, as most appropriate.

§ 3172.7 Casing and cementing.

(a) *Requirements.* The proposed casing and cementing programs shall be conducted as approved to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use. The casing setting depth shall be calculated to position the casing seat opposite a competent formation which will contain the maximum pressure to which it will be exposed during normal drilling operations. Determination of casing setting depth shall be based on all relevant factors, including: presence/absence of hydrocarbons; fracture gradients; usable water zones; formation pressures; lost circulation zones; other minerals; or other unusual characteristics. All indications of usable water shall be reported.

(1) Minimum design factors for tensions, collapse, and burst that are incorporated into the casing design by an operator/lessee shall be submitted to the authorized operator for his review and approval along with the APD for all exploratory wells or as otherwise specified by the authorized officer.

(2) Casing design shall assume formation pressure gradients of 0.44 to 0.50 psi per foot for exploratory wells (lacking better data).

(3) Casing design shall assume fracture gradients from 0.70 to 1.00 psi per foot for exploratory wells (lacking better data).

(4) Casing collars shall have a minimum clearance of 0.422 inches on all sides in the hole/casing annulus, with recognition that variances can be granted for justified exceptions.

(5) All waiting on cement times shall be adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

(b) *Minimum standards and enforcement provisions for casing and cementing.* (1) All casing, except the conductor casing, shall be new or reconditioned and tested casing. All casing shall meet or exceed American Petroleum Institute (API) standards for new casing. The use of reconditioned and tested used casing shall be subject to approval by the authorized officer: approval will be contingent upon the wall thickness of any such casing being verified to be at least 87½ percent of the nominal wall thickness of new casing.

TABLE 1 TO § 3172.7(b)(1)

Violation	Corrective action	Normal abatement period
Major	Perform remedial action as specified by the authorized officer.	Prompt correction required.

(2) For liners, a minimum of 100 feet of overlap between a string of casing and the next larger casing is required. The interval of overlap shall be sealed and tested. The liner shall be tested by a fluid entry or pressure test to determine whether a seal between the liner top and next larger string has been achieved. The test pressure shall be the maximum anticipated pressure to which the seal will be exposed. No test shall be required for liners that do not incorporate or need a seal mechanism.

TABLE 2 TO § 3172.7(b)(2)

Violation	Corrective action	Normal abatement period
Minor	Perform remedial action as specified by the authorized officer.	Upon determination of corrective action.

(3) The surface casing shall be cemented back to surface either during the primary cement job or by remedial cementing.

TABLE 3 TO § 3172.7(b)(3)

Violation	Corrective action	Normal abatement period
Major	Perform remedial cementing	Prompt correction required.

(4) All of the tests described in paragraphs (b)(1) through (3) of this section shall be recorded in the drilling log.

TABLE 4 TO § 3172.7(b)(4)

Violation	Corrective action	Normal abatement period
Minor	Perform the necessary test or provide documentation	24 hours.

(5) All indications of usable water shall be reported to the authorized officer prior to running the next string of casing or before plugging orders are requested, whichever occurs first.

TABLE 5 TO § 3172.7(b)(5)

Violation	Corrective action	Normal abatement period
Major	Report information as required	Prompt correction required.

(6) Surface casing shall have centralizers on the bottom 3 joints of the casing (a minimum of 1 centralizer per joint, starting with the shoe joint).

TABLE 6 TO § 3172.7(b)(6)

Violation	Corrective action	Normal abatement period
Major	Logging/testing may be required to determine the quality of the job. Recementing may then be specified.	Prompt correction upon determination of corrective action.

(7) Top plugs shall be used to reduce contamination of cement by displacement fluid. A bottom plug or other acceptable technique, such as a suitable preflush fluid, inner string cement method, etc., shall be utilized to help isolate the cement from contamination by the mud fluid being displaced ahead of the cement slurry.

TABLE 7 TO § 3172.7(b)(7)

Violation	Corrective action	Normal abatement period
Major	Logging may be required to determine the quality of the cement job. Recementing or further recementing may then be specified.	Based upon determination of corrective action.

(8) All casing strings below the conductor shall be pressure tested to 0.22 psi per foot of casing string length or 1,500 psi, whichever is greater, but not to exceed 70 percent of the minimum internal yield. If pressure declines more than 10 percent in 30 minutes, corrective action shall be taken.

TABLE 8 TO § 3172.7(b)(8)

Violation	Corrective action	Normal abatement period
Minor	Perform the test and/or remedial action as specified by the authorized officer.	24 hours.

(9) On all exploratory wells, and on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the

well. This test shall be performed before drilling more than 20 feet of new hole.

TABLE 9 TO § 3172.7(b)(9)

Violation	Corrective action	Normal abatement period
Minor	Perform the specified test	24 hours.

§ 3172.8 Mud program.

(a) *Requirements.* The characteristics, use, and testing of drilling mud and the implementation of related drilling procedures shall be designed to prevent the loss of well control. Sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring well control.

(b) *Minimum standards and enforcement provisions for mud program and equipment.* (1) Record slow pump speed on daily drilling report after mudding up.

TABLE 1 TO § 3172.8(b)(1)

Violation	Corrective action	Normal abatement period
Minor	Record required information	24 hours.

(2) Visual mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume.

TABLE 2 TO § 3172.8(b)(2)

Violation	Corrective action	Normal abatement period
Minor	Install necessary equipment	24 hours.

(3) When abnormal pressures are anticipated, electronic/mechanical mud monitoring equipment shall be required, which shall include as a minimum: pit volume totalizer (PVT); stroke counter; and flow sensor.

TABLE 3 TO § 3172.8(b)(3)

Violation	Corrective action	Normal abatement period
Minor	Install necessary instrumentation	24 hours.

(4) A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

TABLE 4 TO § 3172.8(b)(4)

Violation	Corrective action	Normal abatement period
Minor	Perform necessary tests	24 hours.

(5) A trip tank shall be used on 10M and 15M systems and on upgraded 5M systems as determined by the authorized officer.

TABLE 5 TO § 3172.8(b)(5)

Violation	Corrective action	Normal abatement period
Minor	Install necessary equipment	24 hours.

(6)(i) Gas detecting equipment shall be installed in the mud return system for exploratory wells or wells where abnormal pressure is anticipated, and hydrocarbon gas shall be monitored for pore pressure changes.

(ii) Hydrogen sulfide safety and monitoring equipment requirements may be found in subpart 3176 of this part.

TABLE 6 TO § 3172.8(b)(6)(ii)

Violation	Corrective action	Normal abatement period
Minor	Install necessary equipment	24 hours.

(7) All flare systems shall be designed to gather and burn all gas. The flare line(s) discharge shall be located not less than 100 feet from the well head, having straight lines unless turns are targeted with running tees, and shall be positioned downwind of the prevailing wind direction and shall be anchored. The flare system shall have an effective method for ignition. Where noncombustible gas is likely or expected to be vented, the system shall be provided supplemental fuel for ignition and to maintain a continuous flare.

TABLE 6 TO § 3172.8(b)(7)

Violation	Corrective action	Normal abatement period
Major	Install equipment as specified	24 hours.

(8) A mud-gas separator (gas buster) shall be installed and operable for all systems of 10M or greater and for any system where abnormal pressure is anticipated beginning at a point at least 500 feet above any anticipated hydrocarbon zone of interest.

TABLE 8 TO § 3172.8(b)(8)

Violation	Corrective action	Normal abatement period
Minor	Install required equipment	Prompt correction required.

§ 3172.9 Drill stem testing.

(a) *Requirements.* Initial opening of drill stem test tools shall be restricted to daylight hours unless specific approval to start during other hours is obtained from the authorized officer. However, drill stem tests (DSTs) may be allowed to continue at night if the test was initiated during daylight hours and the rate of flow is stabilized and if adequate lighting is available (*i.e.,* lighting which is adequate for visibility and vapor-proof for safe operations). Packers can be released, but tripping shall not begin before daylight, unless prior approval is obtained from the authorized officer. Closed chamber DSTs may be accomplished day or night.

(b) *Minimum standards for drill stem testing.* (1) A DST that flows to the surface with evidence of hydrocarbons shall be either reversed out of the testing string under controlled surface conditions, or displaced into the formation prior to pulling the test tool. This would involve providing some means for reserve circulation.

TABLE 1 TO § 3172.9(b)(1)

Violation	Corrective action	Normal abatement period
Major	Contingent on circumstances and as specified by the authorized officer.	Prompt correction required.

(2) Separation equipment required for the anticipated recovery shall be properly installed before a test starts.

TABLE 2 TO § 3172.9(b)(2)

Violation	Corrective action	Normal abatement period
Major	Install required equipment	Prompt correction required.

(3) All engines within 100 feet of the wellbore that are required to ''run'' during the test shall have spark arresters or water-cooled exhausts.

TABLE 3 TO § 3172.9(b)(3)

Violation	Corrective action	Normal abatement period
Major	Install required equipment	Prompt correction required.

§ 3172.10 Special drilling operations.

(a) In addition to the equipment already specified elsewhere in this subpart, the following equipment shall be in place and operational during air/gas drilling:

(1) Properly lubricated and maintained rotating head (major);

(2) Spark arresters on engines or water-cooled exhaust (major);

(3) Blooie line discharge 100 feet from well bore and securely anchored;

(4) Straight run on blooie line unless otherwise approved;

(5) Deduster equipment (major);

(6) All cuttings and circulating medium shall be directed into a reserve or blooie pit (major);

(7) Float valve above bit (major);

(8) Automatic igniter or continuous pilot light on the blooie line (major);

(9) Compressors located in the opposite direction from the blooie line a minimum of 100 feet from the well bore; and

(10) Mud circulating equipment, water, and mud materials (does not have to be premixed) sufficient to maintain the capacity of the hole and circulating tanks or pits.

TABLE 1 TO § 3172.10(a)

Violation	Corrective action	Normal abatement period
Minor	Install the equipment as specified	24 hours.
Major (as indicated)	Install the equipment as specified	Prompt correction required.

(b) Hydrogen sulfide operation is specifically addressed under subpart 3176 of this part.

§ 3172.11 Surface use.

(a) *Responsibilities.* Subpart 3171 of this part specifically addresses surface use. Subpart 3171 provides for safe operations, adequate protection of surface resources and uses, and other environmental components. The operator/lessee is responsible for, and liable for, all building, construction, and operating activities and subcontracting activities conducted in association with the APD. Requirements and special stipulations for surface use are contained in or attached to the approved APD.

(b) *Minimum standards and enforcement provisions for surface use.* The requirements and stipulations of approval shall be strictly adhered to by the operator/lessee and any contractors.

(c) *Violation.* If a violation is identified by the authorized officer he shall determine whether it is major or minor, considering the definitions in 43 CFR 3160.0–5, and shall specify the appropriate corrective action and abatement period.

§ 3172.12 Drilling abandonment.

(a) *Requirements.* The standards in paragraphs (a)(1) through (11) of this section apply to the abandonment of newly drilled dry or non- productive wells in accordance with § 3171.18 and 43 CFR 3162.3–4. Approval shall be obtained prior to the commencement of abandonment. All formations bearing usable-quality water, oil, gas, or geothermal resources, and/or a prospectively valuable deposit of minerals shall be protected. Approval may be given orally by the authorized officer before abandonment operations are initiated. This oral request and approval shall be followed by a written Notice of Intent to Abandon filed not later than the fifth business day following oral approval. Failure to obtain approval prior to commencement of abandonment operations shall result in immediate assessment of under 43 CFR 3163.1(b)(3). The hole shall be in static condition at the time any plugs are placed (this does not pertain to plugging lost circulation zones). Within 30 days of completion of abandonment, a subsequent report of abandonment shall be filed. Plugging design for an abandonment hole shall include the following:

(1) *Open hole.* (i) A cement plug shall be placed to extend at least 50 feet below the bottom (except as limited by total depth (TD) or plugged back total depth (PBTD)), to 50 feet above the top of:

(A) Any zone encountered during drilling which contains fluid or gas with a potential to migrate; and (B) Any prospectively valuable deposit of minerals.

(ii) All cement plugs, except the surface plug, shall have sufficient slurry volume to fill 100 feet of hole, plus an additional 10 percent of slurry for each 1,000 feet of depth.

(iii) No plug, except the surface plug, shall be less than 25 sacks without receiving specific approval from the authorized officer.

(iv) Extremely thick sections of a single formation may be secured by placing 100-foot plugs across the top and bottom of the formation, and in accordance with paragraph (a)(1)(ii) of this section.

(v) In the absence of productive zones or prospectively valuable deposits of minerals which otherwise require placement of cement plugs, long sections of open hole shall be plugged at least every 3,000 feet. Such plugs shall be placed across in-gauge sections of the hole, unless otherwise approved by the authorized officer.

(2) *Cased hole.* A cement plug shall be placed opposite all open perforations and extend to a minimum of 50 feet below (except as limited by TD or PBTD) to 50 feet above the perforated interval. All cement plugs, except the surface plug, shall have sufficient slurry volume to fill 100 feet of hole, plus an additional 10 percent of slurry for each 1,000 feet of depth. In lieu of the cement plug, a bridge plug is acceptable, provided:

(i) The bridge plug is set within 50 feet to 100 feet above the open perforations; (ii) The perforations are isolated from any open hole below; and (iii) The bridge plug is capped with 50 feet of cement. If a bailer is used to cap this plug, 35 feet of cement shall be sufficient.

(3) *Casing removed from hole.* If any casing is cut and recovered, a cement plug shall be placed to extend at least 50 feet above and below the stub. The exposed hole resulting from the casing removal shall be secured as required in paragraphs (a)(1)(i) and (ii) of this section.

(4) *Cement plug.* An additional cement plug placed to extend a minimum of 50 feet above and below the shoe of the surface casing (or intermediate string, as appropriate).

(5) *Annular space.* No annular space that extends to the surface shall be left open to the drilled hole below. If this condition exists, a minimum of the top 50 feet of annulus shall be plugged with cement.

(6) *Isolating medium.* Any cement plug which is the only isolating medium for a fresh water interval or a zone containing a prospectively valuable deposit of minerals shall be tested by tagging with the drill string. Any plugs placed where the fluid level will not remain static also shall be tested by either tagging the plug with the working pipe string, or pressuring to a minimum

pump (surface) pressure of 1,000 psi, with no more than a 10 percent drop during a 15-minute period (cased hole only). If the integrity of any other plug is questionable, or if the authorized officer has specific concerns for which he/she orders a plug to be tested, it shall be tested in the same manner.

(7) *Silica sand or silica flour.* Silica sand or silica flour shall be added to cement exposed to bottom hole static temperatures above 230°F to prevent heat degradation of the cement.

(8) *Surface plug.* A cement plug of at least 50 feet shall be placed across all annuluses. The top of this plug shall be placed as near the eventual casing cutoff point as possible.

(9) *Mud.* Each of the intervals between plugs shall be filled with mud of sufficient density to exert hydrostatic pressure exceeding the greatest formation pressure encountered while drilling such interval. In the absence of other information at the time plugging is approved, a minimum mud weight of 9 pounds per gallon shall be specified.

(10) *Surface cap.* All casing shall be cut-off at the base of the cellar or 3 feet below final restored ground level (whichever is deeper). The well bore shall then be covered with a metal plate at least ¼ inch thick and welded in place, or a 4-inch pipe, 10-feet in length, 4 feet above ground and embedded in cement as specified by the authorized officer. The well location and identity shall be permanently inscribed. A weep hole shall be left if a metal plate is welded in place.

(11) *Cellar.* The cellar shall be filled with suitable material as specified by the authorized officer and the surface restored in accordance with the instructions of the authorized officer.

(b) *Minimum standard.* All plugging orders shall be strictly adhered to.

TABLE 1 TO § 3172.12(b)

Violation	Corrective action	Normal abatement period
Major	Contingent upon circumstances	Prompt correction required.

§ 3172.13 Variances from minimum standards.

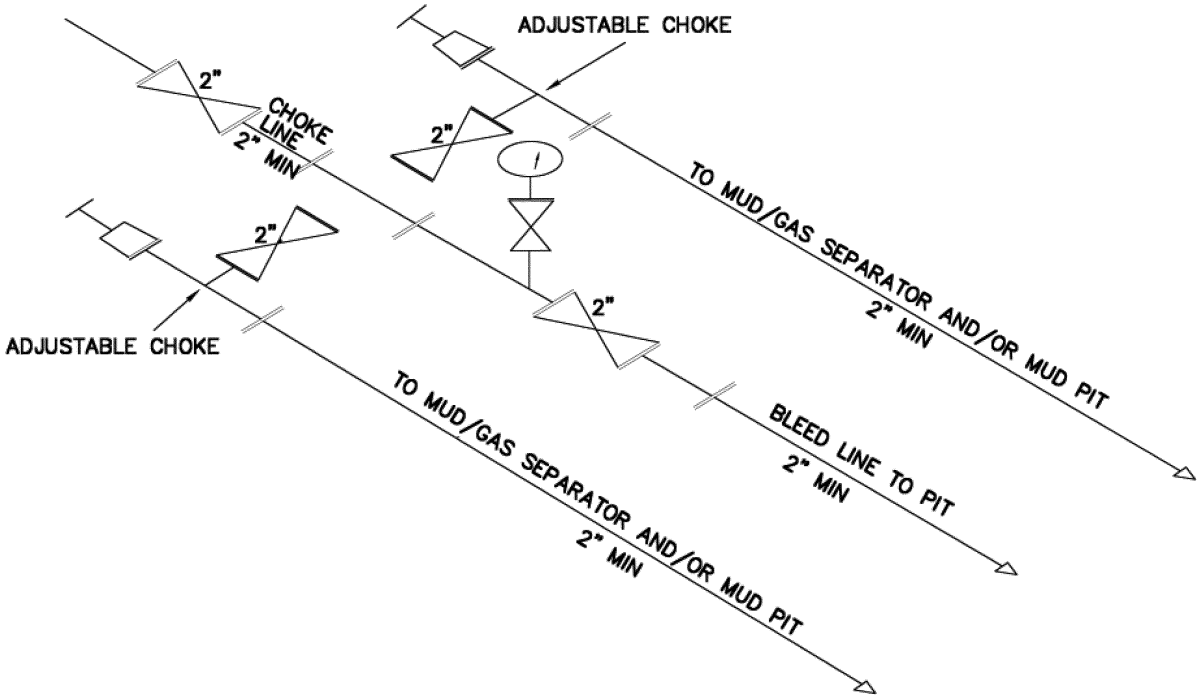
(a) An operator may request the authorized officer to approve a variance from any of the minimum standards prescribed in §§ 3172.6 through 3172.12. All such requests shall be submitted in writing to the appropriate authorized officer and provide information as to the circumstances which warrant approval of the variance(s) requested and the proposed alternative methods by which the related minimum standard(s) are to be satisfied. The authorized officer, after considering all relevant factors, if appropriate, may approve the requested variance(s) if it is determined that the proposed alternative(s) meet or exceed the objectives of the applicable minimum standard(s).

(b) Emergency or other situations of an immediate nature that could not be reasonably foreseen at the time of APD approval may receive oral approval. However, such requests shall be followed up by a written notice filed not later than the fifth business day following oral approval.

Appendix A to Subpart 3172—Diagrams of Choke Manifold Equipment

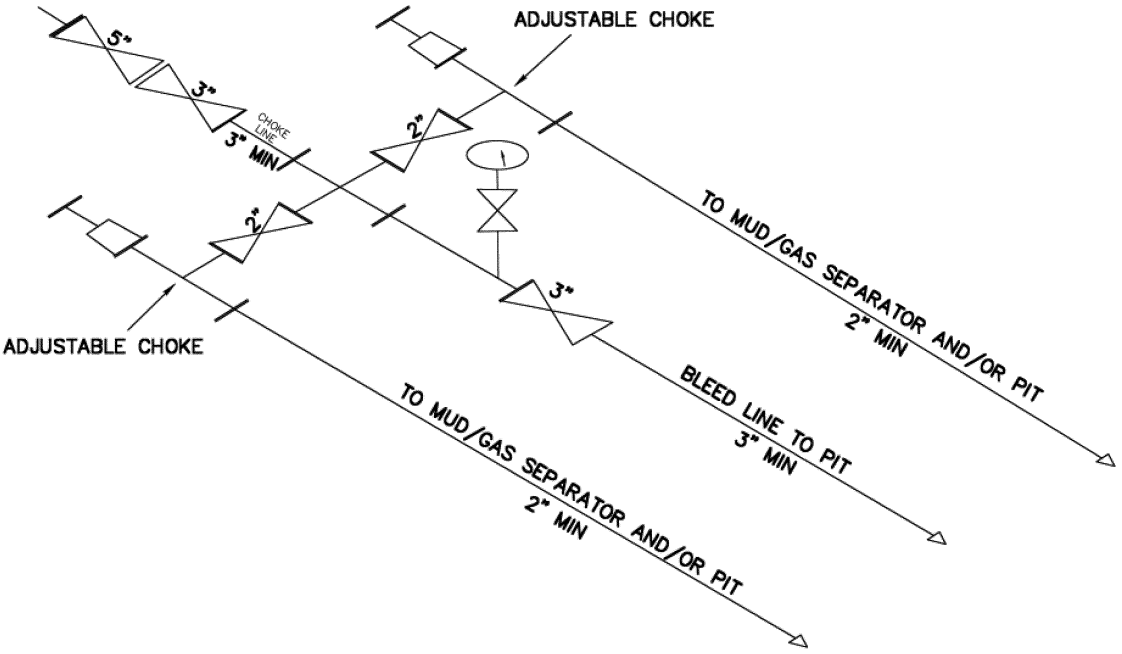
BILLING CODE 4331–29–P

Figure 1 to Appendix A to Subpart 3172—2M Choke Manifold Equipment



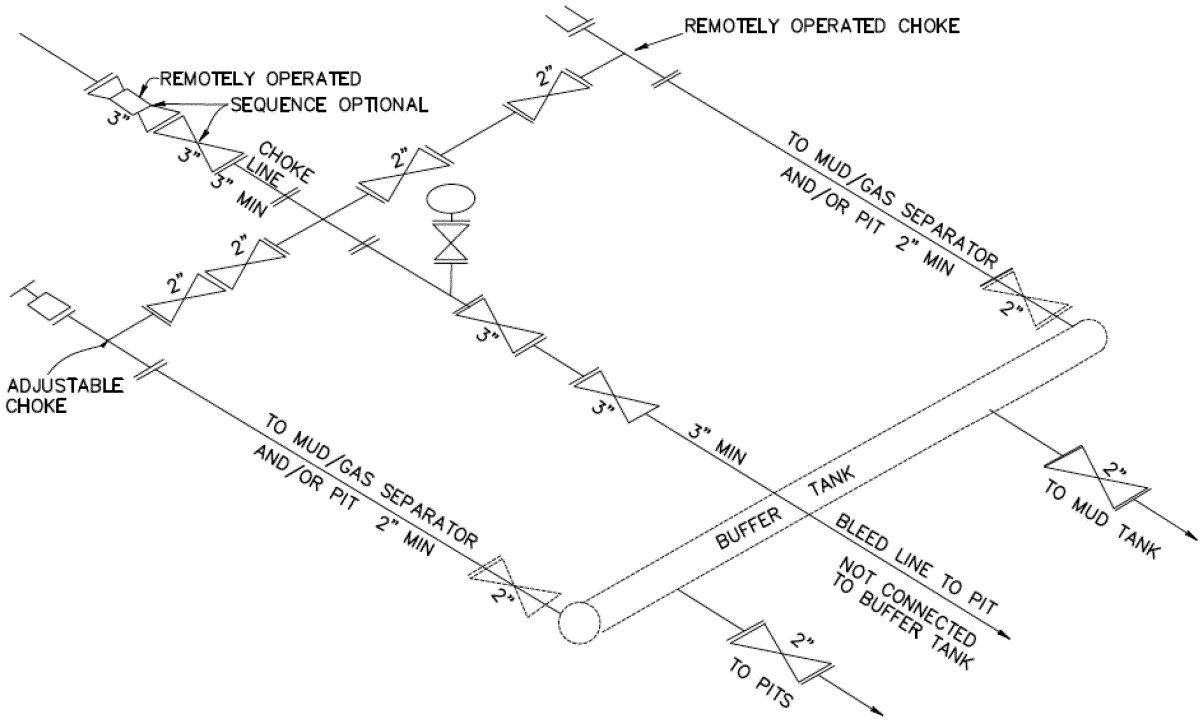
2M CHOKE MANIFOLD EQUIPMENT — CONFIGURATION MAY VARY

Figure 2 to Appendix A to Subpart 3172—3M Choke Manifold Equipment



3M CHOKE MANIFOLD EQUIPMENT — CONFIGURATION MAY VARY

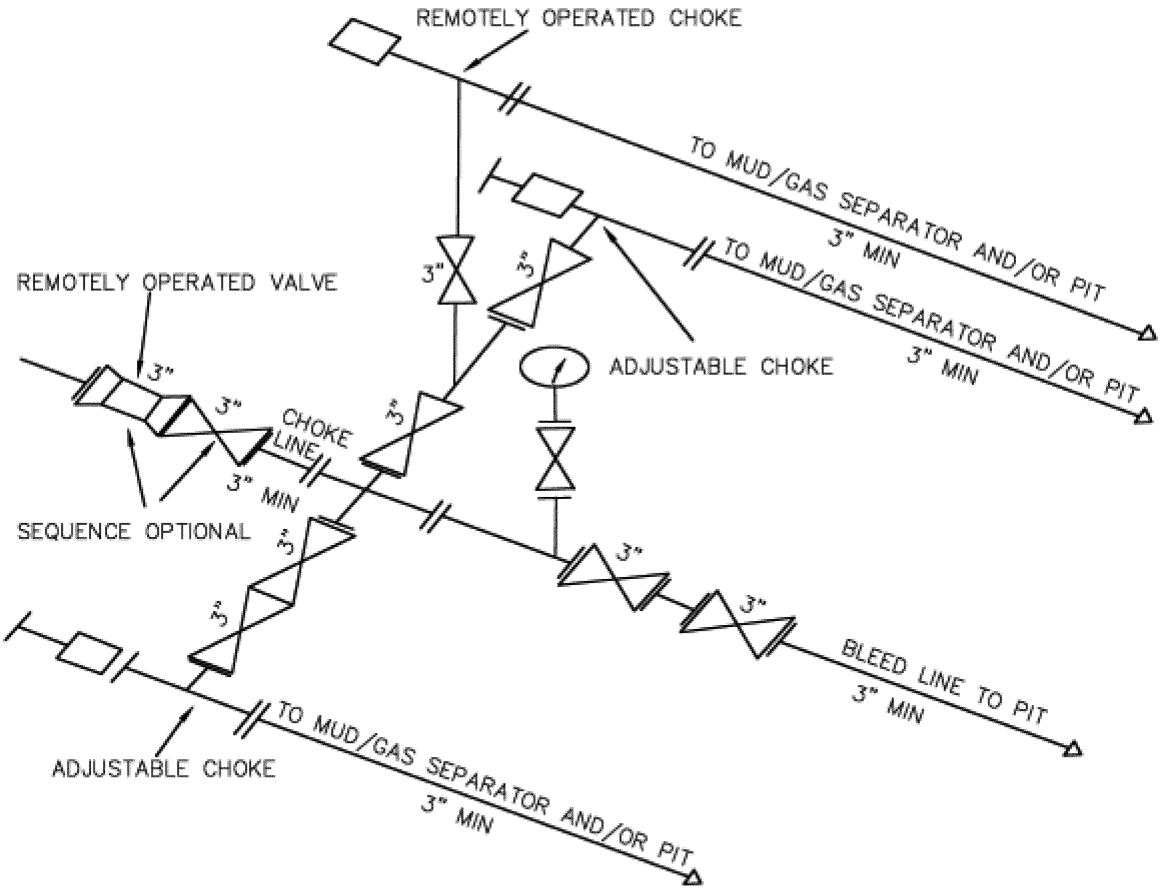
Figure 3 to Appendix A to Subpart 3172—5M Choke Manifold Equipment



5 M CHOKE MANIFOLD EQUIPMENT — CONFIGURATION MAY VARY

Although not required for any of the choke manifold systems, buffer tanks are sometimes installed downstream of the choke assemblies for the purpose of manifolding the bleed lines together. When buffer tanks are employed, values shall be installed upstream to isolate a failure or malfunction without interrupting flow control. Though not shown on 2M, 3M 10M, or 15M drawings, it would also be applicable to those situations.

Figure 4 to Appendix A to Subpart 3172—10M and 15M Choke Manifold Equipment



10M and 15M CHOKE MANIFOLD EQUIPMENT CONFIGURATION MAY VARY

BILLING CODE 4331–29–C

■ 3. Add subparts 3176 and 3177 to read as follows

Subpart 3176—Onshore Oil and Gas Production: Hydrogen Sulfide Operations

Sec.

Authority: 25 U.S.C. 396d and 2107; 30 U.S.C. 189, 306, 359, and 1751; and 43 U.S.C. 1732(b), 1733, and 1740.

§ 3176.1 Authority.

This subpart is established pursuant to the authority granted to the Secretary of the Interior through 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. More specifically, this subpart implements and supplements the provisions of 43 CFR 3162.1, 3162.5–1(a), (c), and (d), 3162.5–2(a), and 3162.5–3.

§ 3176.2 Purpose.

The purpose of this subpart is to protect public health and safety and those personnel essential to maintaining control of the well. This subpart identifies the Bureau of Land Management's uniform national requirements and minimum standards of performance expected from operators when conducting operations involving oil or gas that is known or could reasonably be expected to contain hydrogen sulfide (H_2S) or which results in the emission of sulfur dioxide (SO_2) as a result of flaring H_2S. This subpart also identifies the gravity of violations, probable corrective action(s), and normal abatement periods.

§ 3176.3 Scope.

(a) This subpart is applicable to all onshore Federal and Indian (except Osage Tribe) oil and gas leases when drilling, completing, testing, reworking, producing, injecting, gathering, storing, or treating operations are being conducted in zones which are known or could reasonably be expected to contain H_2S or which, when flared, could produce SO_2, in such concentrations that upon release could constitute a hazard to human life. The requirements and minimum standards of this subpart do not apply when operating in zones where H_2S is presently known not to be present or cannot reasonably be expected to be present in concentrations of 100 parts per million (ppm) or more in the gas stream.

(b) The requirements and minimum standards in this subpart do not relieve an operator from compliance with any applicable Federal, State, or local requirement(s) regarding H_2S or SO_2 which are more stringent.

§ 3176.4 Definitions.

As used in this subpart, the term:

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

Christmas tree means an assembly of valves and fittings used to control production and provide access to the producing tubing string. The assembly includes all equipment above the tubinghead top flange.

Dispersion technique means a mathematical representation of the physical and chemical transportation, dilution, and transformation of H_2S gas emitted into the atmosphere.

Escape rate means that the maximum volume (Q) used as the escape rate in determining the radius of exposure shall be that specified in paragraphs (1) through (4) of this definition, as applicable:

(1) For a production facility, the escape rate shall be calculated using the maximum daily rate of gas produced through that facility or the best estimate thereof;

(2) For gas wells, the escape rate shall be calculated by using the current daily absolute open-flow rate against atmospheric pressure;

(3) For oil wells, the escape rate shall be calculated by multiplying the producing gas/oil ratio by the maximum daily production rate or best estimate thereof; or

(4) For a well being drilled in a developed area, the escape rate may be determined by using the offset wells completed in the interval(s) in question.

Essential personnel means those on-site personnel directly associated with the operation being conducted and necessary to maintain control of the well.

Exploratory well means any well drilled beyond the known producing limits of a pool.

Gas well means a well for which the energy equivalent of the gas produced, including the entrained liquid hydrocarbons, exceeds the energy equivalent of the oil produced.

H_2S Drilling Operations Plan means a written plan which provides for safety of essential personnel and for maintaining control of the well with regard to H_2S and SO_2.

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

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 (43 CFR 3160.0–5).

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

Oil well means a well for which the energy equivalent of the oil produced exceeds the energy equivalent of the gas produced, including the entrained liquid hydrocarbons.

Operating rights owner means a person or entity holding operating rights in a lease issued by the United States. A lessee may also be an operating rights owner if the operating rights in a lease or portion thereof have not been severed from record title (43 CFR 3160.0–5).

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 he/she is responsible under the terms of the lease for the operations conducted on the leased lands or a portion thereof (43 CFR 3160.0–5).

Potentially hazardous volume means a volume of gas of such H_2S concentration and flow rate that it may result in radius of exposure-calculated ambient concentrations of 100 ppm H_2S at any occupied residence, school, church, park, school bus stop, place of business, or other area where the public could reasonably be expected to frequent, or 500 ppm H_2S at any Federal, State, County, or municipal road or highway.

Production facilities means any wellhead, flowline, piping, treating, or separating equipment, water disposal pits, processing plant, or combination thereof prior to the approved measurement point for any lease, communitization agreement, or unit participating area.

Prompt correction means immediate correction of violations, with operation suspended if required at the discretion of the authorized officer.

Public Protection Plan means a written plan which provides for the safety of the potentially affected public with regard to H_2S and SO_2.

Radius of exposure means the calculation resulting from using the following Pasquill-Gifford derived equation, or by such other method(s) as may be approved by the authorized officer:

(1) For determining the 100 ppm radius of exposure where the H_2S concentration in the gas stream is less than 10:

$$X = [1.589)(H_2S \text{ concentration})(Q)]^{(0.6258)}; \text{ or}$$

(2) For determining the 500 ppm radius of exposure where the H_2S concentration in the gas stream is less than 10:

$$X = [(0.4546)(H_2S \text{ concentration})(Q)]^{(0.6258)}$$

Where:

X = radius of exposure in feet;

H_2S Concentration = decimal equivalent of the mole or volume fractions of H_2S in the gaseous mixture; and

Q = maximum volume of gas determined to be available for escape in cubic feet per day (at standard conditions of 14.73 psia and 60°F).

(3) For determining the 100 ppm or the 500 ppm radius of exposure in gas streams containing H_2S concentrations of 10 percent or greater, a dispersion technique that takes into account representative wind speed, direction, atmospheric stability, complex terrain, and other dispersion features shall be utilized. Such techniques may include, but shall not be limited to, one of a series of computer models outlined in the Environmental Protection Agency's ''Guidelines on Air Quality Models'' (EPA–450/2–78–027R).

(4) Where multiple H_2S sources (*i.e.,* wells, treatment equipment, flowlines, etc.) are present, the operator may elect to utilize a radius of exposure which covers a larger area than would be calculated using radius of exposure formula for each component part of the drilling/completion/workover/production system.

(5) For a well being drilled in an area where insufficient data exits to calculate a radius of exposure, but where H_2S could reasonably be expected to be present in concentrations in excess of 100 ppm in the gas stream, a 100 ppm radius of exposure equal to 3,000 feet shall be assumed.

Zones known not to contain H_2S means geological formations in a field where prior drilling, logging, coring, testing, or producing operations have confirmed the absence of H_2S-bearing zones that contain 100 ppm or more of H_2S in the gas stream.

Zones known to contain H_2S means geological formations in a field where prior drilling, logging, coring, testing, or producing operations have confirmed that H_2S-bearing zones will be encountered that contain 100 ppm or more of H_2S in the gas stream.

Zones which can reasonably be expected to contain H_2S means geological formations in the area which have not had prior drilling, but prior drilling to the same formations in similar field(s) within the same geologic basin indicates there is a potential for 100 ppm or more of H_2S in the gas stream.

Zones which cannot reasonably be expected to contain H_2S means geological formations in the area which have not had prior drilling, but prior drilling to the same formations in similar field(s) within the same geologic basin indicates there is not a potential for 100 ppm or more of H_2S in the gas stream.

§ 3176.5 Requirements.

The requirements of this subpart are the minimum acceptable standards with regard to H_2S operations. This subpart also classifies violations as typically major or minor for purposes of the assessment and penalty provisions of 43 CFR part 3160, subpart 3163, specifies the corrective action which will probably be required, and establishes the normal abatement period following detection of a major or minor violation in which the violator may take such corrective action without incurring an assessment. However, the authorized officer may, after consideration of all appropriate factors, require reasonable and necessary standards, corrective actions, and abatement periods that may, in some cases, vary from those specified in this subpart that he/she determines to be necessary to protect public health and safety, the environment, or to maintain control of a well to prevent waste of Federal mineral resources. To the extent such standards, actions, or abatement periods differ from those set forth in this subpart, they may be subject to review pursuant to 43 CFR 3165.3.

§ 3176.6 Applications, approvals, and reports.

(a) *Drilling.* For proposed drilling operations where formations will be penetrated which have zones known to contain or which could reasonably be expected to contain concentrations of H_2S of 100 ppm or more in the gas stream, the H_2S Drilling Operation Plan and, if the applicability criteria in § 3176.7(a) are met, a Public Protection Plan as outlined in § 3176.7(b), shall be submitted as part of the Application for Permit to Drill (APD) (refer to subpart 3171 of this part). In cases where multiple filings are being made with a single drilling plan, a single H_2S Drilling Operations Plan and, if applicable, a single Public Protection Plan may be submitted for the lease, communitization agreement, unit, or field in accordance with subpart 3171. Failure to submit either the H_2S Drilling Operations Plan or the Public Protection Plan when required by this subpart shall result in an incomplete APD pursuant to 43 CFR 3162.3–1.

(b) *Drilling plan.* The H_2S Drilling Operations Plan shall fully describe the manner in which the requirements and minimum standards in § 3176.8, shall be met and implemented. As required by this subpart (§ 3176.8), the following must be submitted in the H_2S Drilling Operations Plan:

(1) Statement that all personnel shall receive proper H_2S training in accordance, with § 3176.8(c)(1).

(2) A legible well site diagram of accurate scale (may be included as part of the well site layout as required by subpart 3171 of this part) showing the following:

(i) Drill rig orientation;

(ii) Prevailing wind direction;

(iii) Terrain of surrounding area;

(iv) Location of all briefing areas (designate primary briefing area);

(v) Location of access road(s) (including secondary egress);

(vi) Location of flare line(s) and pit(s);

(vii) Location of caution and/or danger signs; and

(viii) Location of wind direction indicators.

(3) As required by this subpart, a complete description of the following H_2S safety equipment/systems:

(i) *Well control equipment.* (A) Flare line(s) and means of ignition;

(B) Remote controlled choke;

(C) Flare gun/flares; and

(D) Mud-gas separator and rotating head (if exploratory well);

(ii) *Protective equipment for essential personnel.* (A) Location, type, storage, and maintenance of all working and escape breathing apparatus; and

(B) Means of communication when using protective breathing apparatus;

(iii) *H_2S detection and monitoring equipment.* (A) H_2S sensors and associated audible/visual alarm(s); and

(B) Portable H_2S and SO_2 monitor(s);

(iv) *Visual warning systems.* (A) Wind direction indicators; and (B) Caution/danger sign(s) and flag(s);

(v) *Mud program.* (A) Mud system and additives; and (B) Mud degassing system;

(vi) *Metallurgy.* Metallurgical properties of all tubular goods and well control equipment which could be exposed to H_2S (§ 3176.8(d)(3)); and

(vii) *Communication.* Means of communication from wellsite.

(4) Plans for well testing.

(c) *Production.* (1) For each existing production facility having an H_2S concentration of 100 ppm or more in the gas stream, the operator shall calculate and submit the calculations to the authorized officer within 180 days of January 22, 1991, the 100 and, if applicable, the 500 ppm radii of exposure for all facilities to determine if the applicability criteria in § 3176.7(a) are met. Radii of exposure calculations shall not be required for oil or water flowlines. Further, if any of the applicability criteria (§ 3176.7(a)) are met, the operator shall submit a complete Public Protection Plan which meets the requirements of § 3176.7(b)(2) to the authorized officer within 1 year of January 22, 1991. For production facilities constructed after January 22, 1991, and meeting the minimum concentration (100 ppm in gas stream), the operator shall report the radii of exposure calculations, and if the applicability criteria in § 3176.7(a) are met, submit a complete Public Protection Plan (§ 3176.7(b)(2)) to the authorized officer within 60 days after completion of production facilities.

TABLE 1 TO § 3176.6(c)(1)

Violation	Corrective action	Normal abatement period
Minor for failure to submit required information.	Submit required information (radii of exposure and/or complete Public Protection Plan).	20 to 40 days.

(2) The operator shall initially test the H_2S concentration of the gas stream for each well or production facility and shall make the results available to the authorized officer, upon request.

TABLE 2 TO § 3176.6(c)(2)

Violation	Corrective action	Normal abatement period
Minor	Test gas from well or production facility	20 to 40 days.

(3) If operational or production alterations result in a 5 percent or more increase in the H_2S concentration (*i.e.,* well recompletion, increased gas-to-oil ratios) or the radius of exposure as calculated under paragraph (c)(1) of this section, notification of such changes shall be submitted to the authorized officer within 60 days after identification of the change.

TABLE 3 TO § 3176.6(c)(3)

Violation	Corrective action	Normal abatement period
Minor	Submit information to authorized officer	20 to 40 days.

(d) *Plans and reports.* (1) H_2S Drilling Operations Plan(s) or Public Protection Plan(s) shall be reviewed by the operator on an annual basis and a copy of any necessary revisions shall be submitted to the authorized officer upon request.

TABLE 4 TO § 3176.6(d)(1)

Violation	Corrective action	Normal abatement period
Minor	Submit information to authorized officer	20 to 40 days.

(2) Any release of a potentially hazardous volume of H_2S shall be reported to the authorized officer as soon as practicable, but no later than 24 hours following identification of the release.

TABLE 5 TO § 3176.6(d)(2)

Violation	Corrective action	Normal abatement period
Minor	Report undesirable event to the authorized officer	24 hours.

§ 3176.7 Public protection.

(a) *Applicability criteria.* For both drilling/completion/workover and production operations, the H_2S radius of exposure shall be determined on all wells and production facilities subject to this subpart. A Public Protection Plan (paragraph (b) of this section) shall be required when any of the following conditions apply:

(1) The 100 ppm radius of exposure is greater than 50 feet and includes any occupied residence, school, church, park, school bus stop, place of business, or other areas where the public could reasonably be expected to frequent;

(2) The 500 ppm radius of exposure is greater than 50 feet and includes any part of a Federal, State, County, or municipal road or highway owned and principally maintained for public use; or

(3) The 100 ppm radius of exposure is equal to or greater than 3,000 feet where facilities or roads are principally maintained for public use. Additional specific requirements for drilling/completion/workover or producing operations are described in §§ 3176.8 and 3176.9, respectively.

(b) *Public Protection Plan*—(1) *Plan submission/implementation/availability.* (i) A Public Protection Plan providing details of actions to alert and protect the public in the event of a release of a potentially hazardous volume of H_2S shall be submitted to the authorized officer as required by § 3176.6(a) for drilling or by § 3176.6(c) for producing operations when the applicability criteria established in paragraph (a) of this section are met. One plan may be submitted for each well, lease, communitization agreement, unit, or field, at the operator's discretion. The Public Protection Plan shall be maintained and updated, in accordance with § 3176.6(d).

(ii) The Public Protection Plan shall be activated immediately upon detection of release of a potentially hazardous volume of H_2S.

TABLE 1 TO § 3176.7(b)(1)(ii)

Violation	Corrective action	Normal abatement period
Major	Immediate implementation of the Public Protection Plan	Prompt correction required.

(iii) A copy of the Public Protection Plan shall be available at the drilling/completion site for such wells and at the facility, field office, or with the pumper, as appropriate, for producing wells, facilities, and during workover operations.

TABLE 2 TO § 3176.7(b)(1)(iii)

Violation	Corrective action	Normal abatement period
Minor	Make copy of Plan available	24 hours (drilling/completion/workover), 5 to 7 days (production).

(2) *Plan content.* (i) The details of the Public Protection Plan may vary according to the site-specific characteristics (concentration, volume, terrain, etc.) expected to be encountered and the number and proximity of the population potentially at risk. In the areas of high population density or in other special cases, the authorized officer may require more stringent plans to be developed. These may include public education seminars, mass alert systems, and use of sirens, telephone, radio, and television depending on the number of people at risk and their location with respect to the well site.

(ii) The Public Protection Plan shall include:

(A) The responsibilities and duties of key personnel, and instructions for alerting the public and requesting assistance;

(B) A list of names and telephone numbers of residents, those responsible for safety of public roadways, and individuals responsible for the safety of occupants of buildings within the 100 ppm radius of exposure (*e.g.,* school principals, building managers, etc.) as defined by the applicability criteria in paragraph (a) of this section. The operator shall ensure that those who are at the greatest risk are notified first. The Plan shall define when and how people are to be notified in case of an H_2S emergency;

(C) A telephone call list (including telephone numbers) for requesting assistance from law enforcement, fire department, and medical personnel and Federal and State regulatory agencies, as required. Necessary information to be communicated and the emergency responses that may be required shall be listed. This information shall be based on previous contacts with these organizations;

(D) A legible 100 ppm (or 3,000 feet, if conditions unknown) radius plat of all private and public dwellings, schools, roads, recreational areas, and other areas where the public might reasonably be expected to frequent;

(E) Advance briefings, by visit, meeting, or letter to the people identified in paragraph (b)(2)(ii)(B) of this section, including:

(*1*) Hazards of H_2S and SO_2;

(*2*) Necessity for an emergency action plan;

(*3*) Possible sources of H_2S and $S0_2$;

(*4*) Instructions for reporting a leak to the operator;

(*5*) The manner in which the public shall be notified of an emergency; and

(*6*) Steps to be taken in case of an emergency, including evacuation of any people;

(F) Guidelines for the ignition of the H_2S bearing gas. The Plan shall designate the title or position of the person(s) who has the authority to ignite the escaping gas and define when, how, and by whom the gas is to be ignited;

(G) Additional measures necessary following the release of H_2S and SO_2 until the release is contained are as follows:

(*1*) Monitoring of H_2S and SO_2 levels and wind direction in the affected area;

(*2*) Maintenance of site security and access control;

(*3*) Communication of status of well control; and

(*4*) Other necessary measures as required by the authorized officer; and

(H) For production facilities, a description of the detection system(s) utilized to determine the concentration of H_2S released.

§ 3176.8 Drilling/completion/workover requirements.

(a) *General.* (1) A copy of the H_2S Drilling Operations Plan shall be available during operations at the well site, beginning when the operation is subject to the terms of this subpart (*i.e.,* 3 days or 500 feet of known or probable H_2S zone).

TABLE 1 TO § 3176.8(a)(1)

Violation	Corrective action	Normal abatement period
Minor	Make copy of Plan available	24 hours.

(2) Initial H_2S training shall be completed and all H_2S related safety equipment shall be installed, tested, and operational when drilling reaches a depth of 500 feet above, or 3 days prior to penetrating (whichever comes first) the first zone containing or reasonably expected to contain H_2S. A specific H_2S operations plan for completion and workover operations will not be required for approval. For completion and workover operations, all required equipment and warning systems shall be operational and training completed prior to commencing operations.

TABLE 2 TO § 3176.8(a)(2)

Violation	Corrective action	Normal abatement period
Major	Implement H_2S operational requirements, such as completion of training and/or installation, repair, or replacement of equipment, as necessary.	Prompt correction required.

(3) If H_2S was not anticipated at the time the APD was approved, but is encountered in excess of 100 ppm in the gas stream, the following measures shall be taken:

(i) The operator shall immediately ensure control of the well, suspend drilling ahead operations (unless detrimental to well control), and obtain materials and safety equipment to bring the operations into compliance with the applicable provisions of this subpart.

TABLE 3 TO § 3176.8(a)(3)(i)

Violation	Corrective action	Normal abatement period
Major	Implement H_2S operational requirements, as applicable	Prompt correction required.

(ii) The operator shall notify the authorized officer of the event and the mitigating steps that have or are being taken as soon as possible, but no later than the next business day. If said notification is subsequent to actual resumption of drilling operations, the operator shall notify the authorized officer of the date that drilling was resumed no later than the next business day.

TABLE 4 TO § 3176.8(a)(3)(ii)

Violation	Corrective action	Normal abatement period
Minor	Notify authorized officer	24 hours.

(iii) It is the operator's responsibility to ensure that the applicable requirements of this subpart have been met prior to the resumption of drilling ahead operations. Drilling ahead operations will not be suspended pending receipt of a written H_2S Drilling Operations Plan(s) and, if necessary, Public Protection Plan(s) provided that complete copies of the applicable Plan(s) are filed with the authorized officer for approval within 5 business days following resumption of drilling ahead operations.

TABLE 5 TO § 3176.8(a)(3)(iii)

Violation	Corrective action	Normal abatement period
Minor	Submit plans to authorized officer	5 days.

(b) *Locations.* (1) Where practical, 2 roads shall be established, 1 at each end of the location, or as dictated by prevailing winds and terrain. If an alternate road is not practical, a clearly marked footpath shall be provided to a safe area. The purpose of such an alternate escape route is only to provide a means of egress to a safe area.

TABLE 6 TO § 3176.8(b)(1)

Violation	Corrective action	Normal abatement period
Minor	Designate or establish an alternate escape route	24 hours.

(2) The alternate escape route shall be kept passable at all times.

TABLE 7 TO § 3176.8(b)(2)

Violation	Corrective action	Normal abatement period
Minor	Make alternate escape route passable	24 hours.

(3) For workovers, a secondary means of egress shall be designated.

TABLE 8 TO § 3176.8(b)(3)

Violation	Corrective action	Normal abatement period
Minor	Designate secondary means of egress	24 hours.

(c) *Personnel protection*—(1) *Training program.* The operator shall ensure that all personnel who will be working at the wellsite will be properly trained in H_2S drilling and contingency procedures in accordance with the general training requirements outlined in API RP–49, Section 2 (incorporated by reference, see § 3176.11). (The use of later editions of API RP–49 is deemed to comply with the requirements of this paragraph (c)(1).) The operator also shall ensure that the training will be accomplished prior to a well coming under the terms of this subpart (*i.e.,* 3 days or 500 feet of known or probable H_2S zone). In addition to the requirements of API RP–49, a minimum of an initial training session and weekly H_2S and well control drills for all personnel in each working crew shall be conducted. The initial training session for each well shall include a review of the site-specific Drilling Operations Plan and, if applicable, the Public Protection Plan.

TABLE 9 TO § 3176.8(c)(1)

Violation	Corrective action	Normal abatement period
Major	Train all personnel and conduct drills	Prompt correction required.

(i) All training sessions and drills shall be recorded on the driller's log or its equivalent.

TABLE 10 TO § 3176.8(c)(1)(i)

Violation	Corrective action	Normal abatement period
Minor	Record on driller's log or equivalent	24 hours.

(ii) For drilling/completion/workover wells, at least 2 briefing areas shall be designated for assembly of personnel during emergency conditions, located a minimum of 150 feet from the well bore, and 1 of the briefing areas shall be upwind of the well at all times. The briefing area located most normally upwind shall be designated as the ''primary briefing area.''

TABLE 11 TO § 3176.8(c)(1)(ii)

Violation	Corrective action	Normal abatement period
Major	Designate briefing areas	24 hours.

(iii) One person (by job title) shall be designated and identified to all on-site personnel as the person primarily responsible for the overall operation of the on-site safety and training programs.

TABLE 12 TO § 3176.8(c)(1)(iii)

Violation	Corrective action	Normal abatement period
Minor	Designate safety responsibilities	24 hours.

(2) *Protective equipment.* (i) The operator shall ensure that proper respiratory protection equipment program is implemented, in accordance with ANSI Z88.2–1992 (incorporated by reference, see § 3176.11). (The use of ANSI Z88.2–1980 is deemed to comply with the requirements of this paragraph (d)(2)(i).) Proper protective breathing apparatus shall be readily accessible to all essential personnel on a drilling/completion/workover site. Escape and pressure-demand type working equipment shall be provided for essential personnel in the H_2S environment to maintain or regain control of the well. For pressure-demand type working equipment those essential personnel shall be able to obtain a continuous seal to the face with the equipment. The operator shall ensure that service companies have the proper respiratory protection equipment when called to the location. Lightweight, escape-type, self-contained breathing apparatus with a minimum of 5-minute rated supply shall be readily accessible at a location for the derrickman and at any other location(s) where escape from an H_2S contaminated atmosphere would be difficult.

TABLE 13 TO § 3176.8(c)(2)(i)

Violation	Corrective action	Normal abatement period
Major	Acquire, repair, or replace equipment, as necessary	Prompt correction required.

(ii) Storage and maintenance of protective breathing apparatus shall be planned to ensure that at least 1 working apparatus per person is readily available for all essential personnel.

TABLE 14 TO § 3176.8(c)(2)(ii)

Violation	Corrective action	Normal abatement period
Major	Acquire or rearrange equipment, as necessary	Prompt correction required.

(iii) The following additional safety equipment shall be available for use:

(A) Effective means of communication when using protective breathing apparatus;

(B) Flare gun and flares to ignite the well; and

(C) Telephone, radio, mobile phone, or any other device that provides communication from a safe area at the rig location, where practical.

TABLE 15 TO § 3176.8(c)(2)(iii)

Violation	Corrective action	Normal abatement period
Major	Acquire, repair, or replace equipment	24 hours.

(3) *H_2S detection and monitoring equipment.* (i) Each drilling/completion site shall have an H_2S detection and monitoring system that automatically activates visible and audible alarms when the ambient air concentration of H_2S reaches the threshold limits of 10 and 15 ppm in air, respectively. The sensors shall have a rapid response time and be capable of sensing a minimum of 10 ppm of H_2S in ambient air, with at least 3 sensing points located at the shale shaker, rig floor, and bell nipple for a drilling site and the cellar, rig floor, and circulating tanks or shale shaker for a completion site. The detection system shall be installed, calibrated, tested, and maintained in accordance with the manufacturer's recommendations.

TABLE 16 TO § 3176.8(c)(3)(i)

Violation	Corrective action	Normal abatement period
Major	Install, repair, calibrate, or replace equipment, as necessary.	Prompt correction required.

(ii) All tests of the H_2S monitoring system shall be recorded on the driller's log or its equivalent.

TABLE 17 TO § 3176.8(c)(3)(ii)

Violation	Corrective action	Normal abatement period
Minor	Record on driller's log or equivalent	24 hours.

(iii) For workover operations, 1 operational sensing point shall be located as close to the wellbore as practical. Additional sensing points may be necessary for large and/or long-term operations.

TABLE 18 TO § 3176.8(c)(3)(iii)

Violation	Corrective action	Normal abatement period
Major	Install, repair, calibrate, or replace equipment, as necessary.	Prompt correction required.

(4) *Visible warning system.* (i) Equipment to indicate wind direction at all times shall be installed at prominent locations and shall be visible at all times during drilling operations. At least 2 such wind direction indicators (*i.e.,* windsocks, windvanes, pennants with tailstreamers, etc.) shall be located at separate elevations (*i.e.,* near ground level, rig floor, and/or treetop height). At least 1 wind direction indicator shall be clearly visible from all principal working areas at all times so that wind direction can be easily determined. For completion/workover operations, 1 wind direction indicator shall suffice, provided it is visible from all principal working areas on the location. In addition, a wind direction indicator at each of the 2 briefing areas shall be provided if the wind direction

indicator(s) previously required in this paragraph (c)(4)(i) are not visible from the briefing areas.

TABLE 19 TO § 3176.8(c)(4)(i)

Violation	Corrective action	Normal abatement period
Minor	Install, repair, move, or replace wind direction indicator(s), as necessary.	24 hours.

(ii) At any time when the terms of this subpart are in effect, operational danger or caution sign(s) shall be displayed along all controlled accesses to the site.

TABLE 20 TO § 3176.8(c)(4)(ii)

Violation	Corrective action	Normal abatement period
Minor	Erect appropriate signs	24 hours.

(iii) Each sign shall be painted a high visibility red, black and white, or yellow with black lettering.

TABLE 21 TO § 3176.8(c)(4)(iii)

Violation	Corrective action	Normal abatement period
Minor	Replace or alter sign, as necessary	5 to 20 days.

(iv) The sign(s) shall be legible and large enough to be read by all persons entering the well site and be placed a minimum of 200 feet but no more than 500 feet from the well site and at a location which allows vehicles to turn around at a safe distance prior to reaching the site.

TABLE 22 TO § 3176.8(c)(4)(iv)

Violation	Corrective action	Normal abatement period
Major	Replace, alter, or move sign, as necessary	24 hours.

(v) The sign(s) shall read: ''DANGER—POISON GAS—HYDROGEN SULFIDE,'' and in smaller lettering: ''Do Not Approach If Red Flag is Flying'' or equivalent language if approved by the authorized officer. Where appropriate, bilingual or multilingual danger sign(s) shall be used.

TABLE 23 TO § 3176.8(c)(4)(v)

Violation	Corrective action	Normal abatement period
Minor	Alter sign(s), as necessary	5 to 20 days.

(vi) All sign(s) and, when appropriate, flag(s) shall be visible to all personnel approaching the location under normal lighting and weather conditions.

TABLE 24 TO § 3176.8(c)(4)(vi)

Violation	Corrective action	Normal abatement period
Major	Erect or move sign(s) and/or flag(s), as necessary	24 hours.

(vii) When H_2S is detected in excess of 10 ppm at any detection point, red flag(s) shall be displayed.

TABLE 25 TO § 3176.8(c)(4)(vii)

Violation	Corrective action	Normal abatement period
Major	Display red flag	Prompt correction required.

(5) *Warning system response.* When H_2S is detected in excess of 10 ppm at any detection point, all non-essential personnel shall be moved to a safe area and essential personnel (*i.e.,* those necessary to maintain control of the well) shall wear pressure-demand type protective breathing apparatus. Once accomplished, operations may proceed.

TABLE 26 TO § 3176.8(c)(5)

Violation	Corrective action	Normal abatement period
Major	Move non-essential personnel to safe area and mask-up essential personnel.	Prompt correction required.

(d) *Operating procedures and equipment*—(1) *General/operations.* Drilling/completion/workover operations in H_2S areas shall be subject to the following requirements:

(i) If zones containing in excess of 100 ppm of H_2S gas are encountered while drilling with air, gas, mist, other nonmud circulating mediums or aerated mud, the well shall be killed with a water- or oil-based mud and mud shall be used thereafter as the circulating medium for continued drilling.

TABLE 27 TO § 3176.8(d)(1)(i)

Violation	Corrective action	Normal abatement period
Major	Convert to appropriate fluid medium	Prompt correction required.

(ii) A flare system shall be designed and installed to safely gather and burn H_2S-bearing gas.

TABLE 28 TO § 3176.8(d)(1)(ii)

Violation	Corrective action	Normal abatement period
Major	Install flare system	Prompt correction required.

(iii) Flare lines shall be located as far from the operating site as feasible and in a manner to compensate for wind changes. The flare line(s) mouth(s) shall be located not less than 150 feet from the wellbore unless otherwise approved by the authorized officer. Flare lines shall be straight unless targeted with running tees.

TABLE 29 TO § 3176.8(d)(1)(iii)

Violation	Corrective action	Normal abatement period
Minor	Adjust flare line(s) as necessary	24 hours.

(iv) The flare system shall be equipped with a suitable and safe means of ignition.

TABLE 30 TO § 3176.8(d)(1)(iv)

Violation	Corrective action	Normal abatement period
Major	Install, repair, or replace equipment, as necessary	24 hours.

(v) Where noncombustible gas is to be flared, the system shall be provided supplemental fuel to maintain ignition.

TABLE 31 TO § 3176.8(d)(1)(v)

Violation	Corrective action	Normal abatement period
Major	Acquire supplemental fuel	24 hours.

(vi) At any wellsite where SO_2, may be released as a result of flaring of H_2S during drilling, completion, or workover operations, the operator shall make SO_2, portable detection equipment available for checking the SO_2 level in the flare impact area.

TABLE 32 TO § 3176.8(d)(1)(vi)

Violation	Corrective action	Normal abatement period
Minor	Acquire, repair, or replace equipment as necessary	24 hours to 3 days.

(vii) If the flare impact area reaches a sustained ambient threshold level of 2 ppm or greater of SO_2 in air and includes any occupied residence, school, church, park, or place of business, or other area where the public could reasonably be expected to frequent, the Public Protection Plan shall be implemented.

TABLE 33 TO § 3176.8(d)(1)(vii)

Violation	Corrective action	Normal abatement period
Major	Contain SO_2 release and/or implement Public Protection Plan.	Prompt correction required.

(viii) A remote controlled choke shall be installed for all H_2S drilling and, where feasible, for completion operations. A remote-controlled valve may be used in lieu of this requirement for completion operations.

TABLE 34 TO § 3176.8(d)(1)(viii)

Violation	Corrective action	Normal abatement period
Major	Install, repair, or replace equipment, as necessary	Prompt correction required.

(ix) Mud-gas separators and rotating heads shall be installed and operable for all exploratory wells.

TABLE 35 TO § 3176.8(d)(1)(ix)

Violation	Corrective action	Normal abatement period
Major	Install, repair, or replace equipment, as necessary	Prompt correction required.

(2) *Mud program.* (i) A pH of 10 or above in a fresh water-base mud system shall be maintained to control corrosion, H_2S gas returns to surface, and minimize sulfide stress cracking and embrittlement unless other formation conditions or mud types justify to the authorized officer a lesser pH level is necessary.

TABLE 36 TO § 3176.8(d)(2)(i)

Violation	Corrective action	Normal abatement period
Major	Adjust pH	Prompt correction required.

(ii) Drilling mud containing H_2S gas shall be degassed in accordance with API RP–49, sec. 5.14 (incorporated by reference, see § 3176.11), at an optimum location for the rig configuration. These gases shall be piped into the flare system. (The use of later editions of API RP–49 is deemed to comply with the requirements of this paragraph (d)(2)(ii).)

TABLE 37 TO § 3176.8(d)(2)(ii)

Violation	Corrective action	Normal abatement period
Major	Install, repair, or replace equipment, as necessary	24 hours.

(iii) Sufficient quantities of mud additives shall be maintained on location to scavenge and/or neutralize H_2S where formation pressures are unknown.

TABLE 38 TO § 3176.8(d)(2)(iii)

Violation	Corrective action	Normal abatement period
Major	Obtain proper mud additives	24 hours.

(3) *Metallurgical equipment.* (i) All equipment that has the potential to be exposed to H_2S shall be suitable for H_2S service. Equipment which shall meet these metallurgical standards include the drill string, casing, wellhead, blowout preventer assembly, casing head and spool, rotating head, kill lines, choke, choke manifold and lines, valves, mud-gas separators, drill-stem test tools, test units, tubing, flanges, and other related equipment.

(ii) To minimize stress corrosion cracking and/or H_2S embrittlement, the equipment shall be constructed of material whose metallurgical properties are chosen with consideration for both an H_2S working environment and the anticipated stress. The metallurgical properties of the materials used shall conform to NACE MR 0175–2021 (incorporated by reference, see § 3176.11). (The use of NACE MR 0175–90 through NACE MR 0175–2021 is deemed to comply with the requirements of this paragraph (d)(3)(ii).) These metallurgical properties include the grade of steel, the processing method (rolled, normalized, tempered, and/or quenched), and the resulting strength properties. The working environment considerations include the H_2S concentration, the well fluid pH, and the wellbore pressures and temperatures. Elastomers, packing, and similar inner parts exposed to H_2S shall be resistant at the maximum anticipated temperature of exposure. The manufacturer's verification of design for use in an H_2S environment shall be sufficient verification of suitable service in accordance with this subpart.

TABLE 39 TO § 3176.8(d)(3)(ii)

Violation	Corrective action	Normal abatement period
Major	Install, repair, or replace appropriate equipment, as necessary.	Prompt correction required.

(4) *Well testing in an H_2S environment.* Testing shall be performed with a minimum number of personnel in the immediate vicinity which are necessary to safely and adequately operate the test equipment. Except with prior approval by the authorized officer, the drill-stem testing of H_2S zones shall be conducted only during daylight hours and formation fluids shall not be flowed to the surface (closed chamber only).

TABLE 40 TO § 3176.8(d)(4)

Violation	Corrective action	Normal abatement period
Major	Terminate the well test	Prompt correction required.

§ 3176.9 Production requirements.

(a) *General.* (1) All existing production facilities which do not currently meet the requirements and minimum standards set forth in this section shall be brought into conformance within 1 year after January 22, 1991. All existing equipment that is in a safe working condition as of January 22, 1991, is specifically exempt from the metallurgical requirements prescribed in paragraph (c)(7) of this section.

TABLE 1 TO § 3176.9(a)(1)

Violation	Corrective action	Normal abatement period
Minor	Bring facility into compliance	60 days.

(2) Production facilities constructed after January 22, 1991, shall be designed, constructed, and operated to meet the requirements and minimum standards set forth in this section. Any variations from the standards or

established time frames shall be approved by the authorized officer in accordance with the provisions of § 3176.10. Except for storage tanks, a determination of the radius of exposure for all production facilities shall be made in the manner prescribed in § 3176.4.

TABLE 2 TO § 3176.9(a)(2)

Violation	Corrective action	Normal abatement period
Minor	Bring facility into compliance	60 days.

(3) At any production facility or storage tank(s) where the sustained ambient H_2S concentration is in excess of 10 ppm at 50 feet from the production facility or storage tank(s) as measured at ground level under calm (1 mph) conditions, the operator shall collect or reduce vapors from the system and they shall be sold, beneficially used, reinjected, or flared provided terrain and conditions permit.

TABLE 3 TO § 3176.9(a)(3)

Violation	Corrective action	Normal abatement period
Major, if the authorized officer determines that a health or safety problem to the public is imminent, otherwise minor.	Bring facility into compliance	3 days for major, 30 days for minor.

(b) *Storage tanks.* Storage tanks containing produced fluids and utilized as part of a production operation and operated at or near atmospheric pressure, where the vapor accumulation has an H_2S concentration in excess of 500 ppm in the tank, shall be subject to the following:

(1) No determination of a radius of exposure need be made for storage tanks.

(2) All stairs/ladders leading to the top of storage tanks shall be chained and/or marked to restrict entry. For any storage, tank(s) which require fencing (see paragraph (b)(6) of this section), a danger sign posted at the gate(s) shall suffice in lieu of this requirement.

TABLE 4 TO § 3176.9(b)(2)

Violation	Corrective action	Normal abatement period
Minor	Chain or mark stair(s)/ladder(s) or post sign, as necessary.	5 to 20 days.

(3) A danger sign shall be posted on or within 50 feet of the storage tank(s) to alert the public of the potential H_2S danger. For any storage tank(s) which require fencing (see paragraph (b)(6) of this section), a danger sign posted at the locked gate(s) shall suffice in lieu of this requirement.

TABLE 5 TO § 3176.9(b)(3)

Violation	Corrective action	Normal abatement period
Minor	Post or move sign(s), as necessary	5 to 20 days.

(4) The sign(s) shall be painted in high-visibility red, black, and white. The sign(s) shall read: ''DANGER—POISON GAS—HYDROGEN SULFIDE'' or equivalent language if approved by the authorized officer. Where appropriate, bilingual or multilingual warning signs shall be used.

TABLE 6 TO § 3176.9(b)(4)

Violation	Corrective action	Normal abatement period
Minor	Post, move, replace, or alter sign(s), as necessary	20 to 40 days.

(5) At least 1 permanent wind direction indicator shall be installed so that wind direction can be easily determined at or approaching the storage tank(s).

TABLE 7 TO § 3176.9(b)(5)

Violation	Corrective action	Normal abatement period
Minor	Install, repair, or replace wind direction indicator, as necessary.	20 to 40 days.

(6) A minimum 5-foot chain-link, 5-strand barbed wire, or comparable type fence and gate(s) that restrict(s) public access shall be required when storage tanks are located within ¼ mile of or contained inside a city or incorporated limits of a town or within ¼ mile of an occupied residence, school, church, park, playground, school bus stop, place of business, or where the public could reasonably be expected to frequent.

TABLE 8 TO § 3176.9(b)(6)

Violation	Corrective action	Normal abatement period
Minor	Install, repair, or replace fence and/or gate(s), as necessary.	20 to 40 days.

(7) Gate(s), as required by paragraph (b)(6) of this section, shall be locked when unattended by the operator.

TABLE 9 TO § 3176.9(b)(7)

Violation	Corrective action	Normal abatement period
Minor	Lock gate	24 hours.

(c) *Production facilities.* Production facilities containing 100 ppm or more of H_2S in the gas stream shall be subject to the following:

(1) Danger signs as specified in paragraph (b)(4) of this section shall be posted on or within 50 feet of each production facility to alert the public of the potential H_2S danger. In the event the storage tanks and production facilities are located at the same site, 1 such danger sign shall suffice. Further, for any facilities which require fencing (paragraph (b)(6) of this section), 1 such danger sign at the gate(s) shall suffice in lieu of this requirement.

TABLE 10 TO § 3176.9(c)(1)

Violation	Corrective action	Normal abatement period
Minor	Post, move, or alter sign(s), as necessary	5 to 20 days.

(2) Danger signs, as specified in paragraph (b)(4) of this section, shall be required for well flowlines and lease gathering lines that carry H_2S gas. Placement shall be where said lines cross public or lease roads. The signs shall be legible and shall contain sufficient additional information to permit a determination of the owner of the line.

TABLE 11 TO § 3176.9(c)(2)

Violation	Corrective action	Normal abatement period
Minor	Post, move, or alter sign(s), as necessary	5 to 20 days.

(3) Fencing and gate(s), as specified in paragraph (b)(6) of this section, shall be required when production facilities are located within ¼ mile of or contained inside a city or incorporated limits of a town or within ¼ mile of an occupied residence, school, church, park, playground, school bus stop, place of business, or any other area where the public could reasonably be expected to frequent. Flowlines are exempted from this additional fencing requirement.

TABLE 12 TO § 3176.9(c)(3)

Violation	Corrective action	Normal abatement period
Minor	Install, repair, or replace fence, and/or gate(s), as necessary.	20 to 40 days.

(4) Gate(s), as required by paragraph (c)(3) of this section, shall be locked when unattended by the operator.

TABLE 13 TO § 3176.9(c)(4)

Violation	Corrective action	Normal abatement period
Minor	Lock gate	24 hours.

(5) Wind direction indicator(s) as specified in paragraph (b)(5) of this section shall be required. In the event the storage tanks and production facilities are located at the same site, 1 such indicator shall suffice. Flowlines are exempt from this requirement.

TABLE 14 TO § 3176.9(c)(5)

Violation	Corrective action	Normal abatement period
Minor	Install, repair, or replace wind direction indicator(s), as necessary.	20 to 40 days.

(6) All wells, unless produced by artificial lift, shall possess a secondary means of immediate well control through the use of appropriate christmas tree and/or downhole completion equipment. Such equipment shall allow downhole accessibility (reentry) under pressure for permanent well control operations. If the applicability criteria stated in § 3176.7(a) are met, a minimum of 2 master valves shall be installed.

TABLE 15 TO § 3176.9(c)(6)

Violation	Corrective action	Normal abatement period
Minor	Install, repair, or replace equipment, as necessary	20 to 40 days.

(7) All equipment shall be chosen with consideration for both the H_2S working environment and anticipated stresses. NACE MR 0175–2021 (incorporated by reference, see § 3176.11) shall be used for metallic equipment selection and, if applicable, adequate protection by chemical inhibition or other such method that controls or limits the corrosive effects of H_2S shall be used. (The use of NACE MR 0175–90 through NACE MR 0175–2021 is deemed to comply with the requirements of this paragraph (c)(7).)

TABLE 16 TO § 3176.9(c)(7)

Violation	Corrective action	Normal abatement period
Minor	Install, repair, or replace equipment, as necessary	20 to 40 days.

(8) Where the 100 ppm radius of exposure for H_2S includes any occupied residence, place of business, school, or other inhabited structure or any area where the public may reasonably be expected to frequent, the operator shall install automatic safety valves or shutdowns at the wellhead, or other appropriate shut-in controls for wells equipped with artificial lift.

TABLE 17 TO § 3176.9(c)(8)

Violation	Corrective action	Normal abatement period
Minor	Install, repair, or replace equipment, as necessary	20 to 40 days.

(9) The automatic safety valves or shutdowns, as required by paragraph (c)(8) of this section, shall be set to activate upon a release of a potentially hazardous volume of H_2S.

TABLE 18 TO § 3176.9(c)(9)

Violation	Corrective action	Normal abatement period
Major	Repair, replace or adjust equipment, as necessary	Prompt correction required.

(10) If the sustained ambient concentration of H_2S or SO_2 from a production facility which is venting or flaring reaches a concentration of H_2S (10 ppm) or SO_2 (2 ppm), respectively, at any of the following locations, the operator shall modify the production facility as approved by the authorized officer. The locations include any occupied residence, school, church, park, playground, school bus stop, place of business, or other areas where the public could reasonably be expected to frequent.

TABLE 19 TO § 3176.9(c)(10)

Violation	Corrective action	Normal abatement period
Major	Repair facility to bring into compliance.	Prompt correction required

(d) *Public protection.* When conditions as defined in § 3176.7(a) exist, a Public Protection Plan for producing operations shall be submitted to the authorized officer in accordance with § 3176.7(b)(1) which includes the provisions of § 3176.7(b)(2).

TABLE 20 TO § 3176.9(d)

Violation	Corrective action	Normal abatement period
Minor	Submit Public Protection Plan	20 to 40 days.

§ 3176.10 Variances from requirements.

An operator may request the authorized officer to approve a variance from any of the requirements prescribed in §§ 3176.5 through 3176.9. All such requests shall be submitted in writing to the appropriate authorized officer and provide information as to the circumstances which warrant approval of the variance(s) requested and the proposed alternative methods by which the related requirement(a) of minimum standard(s) are to be satisfied. The authorized officer, after considering all relevant factors, may approve the requested variance(s) if it is determined that the proposed alterative(s) meets or exceeds the objectives of the applicable requirement(s) or minimum standard(s).

§ 3176.11 Incorporation by reference.

Certain material is incorporated by reference into this subpart with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved incorporation by reference (IBR) material is available for inspection at all Bureau of Land Management offices with jurisdiction over oil and gas activities, and at the National Archives and Records Administration (NARA). Contact the BLM at: Office of Energy, Minerals, and Realty Management, 1849 C Street Northwest, Washington, DC 20240; telephone 202–208–3801; email *begruber@blm.gov;* website *www.blm.gov/programs/energy-and-minerals/oil-and-gas.* For information on the availability of this material at NARA, visit *www.archives.gov/federal-register/cfr/ibr-locations.html* or email *fr.inspection@nara.gov.* The material also may be obtained from the following sources:

(a) *American National Standards Institute (ANSI),* 25 West 43rd St., 4th floor, New York, NY 10036; telephone: 212–642–4980; email: *info@ansi.org;* website: *www.ansi.org.*

(1) ANSI Standard Z88.2–1992 for Respiratory Protection, Approved August 6, 1992 (''ANSI Z88.2–1992''), IBR approved for § 3176.8.

(2) [Reserved]

Note 1 to paragraph (a): If ANSI Z88.2 is not available from document resellers, contact the BLM to obtain a copy.

(b) *American Petroleum Institute (API),* 200 Massachusetts Avenue NW, Suite 1100, Washington, DC 20001; telephone: 202–682–8000; email: *apipubs@api.org;* website: *www.api.org.*

(1) API Recommended Practice 49—Recommended Practice for Drilling and Well Servicing Operations Involving Hydrogen Sulfide; Third Edition, May 2001; Reaffirmed, January 2013 (''API RP 49''), IBR approved for § 3176.8.

(2) [Reserved]

(c) *Association for Materials Protection and Performance (AMPP)* formerly known as NACE International, 15835 Park Ten Place, Houston, TX 77084; telephone: 1–800–797–6223; website: *www.ampp.org.*

(1) ANSI/NACE MR0175–2021/ISO 15156–1:2020; Petroleum and natural gas industries—Materials for use in H_2S-containing environments in oil and gas production; Part 1: General principles for selection of cracking-resistant materials; Fourth Edition, Approved September 21, 2022 (''NACE MR 0175–2021''); IBR approved for §§ 3176.8; 3176.9.

(2) [Reserved]

Subpart 3177—Onshore Oil and Gas Production: Disposal of Produced Water

Sec.

§ 3177.1 Authority.

This subpart is established pursuant to the authority granted to the Secretary of the Interior by various Federal and Indian mineral leasing statutes and the Federal Oil and Gas Royalty Management Act of 1982. Said 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. As directed by the Federal Onshore Oil and Gas Leasing Reform Act of 1987, for National Forest lands the Secretary of Agriculture shall regulate all surface-disturbing activities and shall determine reclamation and other actions required in the interest of conservation of surface resources. Specific authority for the provisions contained in this subpart is found at 43

CFR 3162.3 and 3162.5 and 43 CFR part 3160, subpart 3163.

§ 3177.2 Purpose.

This subpart supersedes Notice to Lessees and Operators of Federal and Indian Oil and Gas Leases (NTL–2B), Disposal of Produced Water. The purpose of this subpart is to specify informational and procedural requirements for submittal of an application for the disposal of produced water, and the design, construction, and maintenance requirements for pits as well as the minimum standards necessary to satisfy the requirements and procedures for seeking a variance from the minimum standards. Also set forth in this subpart are certain specific acts of noncompliance, corrective actions required, and the abatement period allowed for correction.

§ 3177.3 Scope.

This subpart is applicable to disposal of produced water from completed wells on Federal and Indian (except Osage) oil and gas leases. It does not apply to approval of disposal facilities on lands other than Federal and Indian lands. Separate approval under this subpart is not required if the method of disposal has been covered under an enhanced recovery project approved by the authorized officer.

§ 3177.4 Definitions.

As used in this subpart, the term:

Authorized officer means any employee of the Bureau of Land Management authorized to perform duties described in 43 CFR parts 3000 and 3100.

Federal lands means all lands and interests in lands owned by the United States which are subject to the mineral leasing laws, including mineral resources or mineral estates reserved to the United States in the conveyance of a surface or nonmineral estate.

Free-board means the vertical distance from the top of the fluid surface to the lowest point on the top of the dike surrounding the pit.

Injection well means a well used for the disposal of produced water or for enhanced recovery operations.

Lease means any contract, profit share arrangement, joint venture, or other agreement issued or approved by the United States under a mineral leasing law that authorized exploration for, extraction of, or removal of oil or gas (see 43 CFR 3160.0–5).

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

Lined pit means an excavated and/or bermed area that is required to be lined with natural or manmade material that will prevent seepage. Such pit shall also include a leak detection system.

Major violation means noncompliance that 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).

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

Natural Pollutant Discharge Elimination System (NPDES) means a program administered by the Environmental Protection Agency or primacy State that requires permits for the discharge of pollutants from any point source into navigable waters of the United States.

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 a portion thereof (see 43 CFR 3610.0–5).

Produced water means water produced in conjunction with oil and gas production.

Toxic constituents means substances in produced water that when found in toxic concentrations specified by Federal or State regulations have harmful effects in plant or animal life. These substances include but are not limited to arsenic (As), barium (Ba), cadmium (Cd), hexavalent chromium (hCr), total chromium (tCr), lead (Pb), mercury (Hg), zinc (Zn), selenium (Se), benzene, toluene, ethylbenzene, and xylenes, as defined in 40 CFR part 261.

Underground Injection Control (UIC) program means a program by administered by the EPA, primacy State, or Indian Tribe under the Safe Drinking Water Act to ensure that subsurface injection does not endanger underground sources of drinking water.

Unlined pit means an excavated and/or bermed area that is not required to be lined, or any pit that is lined but does not contain a leak detection system.

§ 3177.5 Requirements.

(a) *General requirements.* Operators of onshore Federal and Indian oil and gas leases shall comply with the requirements and standards of this subpart for the protection of surface and subsurface resources. Except as provided under § 3177.8(c), the operator may not dispose of produced water unless and until approval is obtained from the authorized officer. All produced water from Federal/Indian leases must be disposed of by injection into the subsurface, discharging into pits, or other acceptable methods approved by the authorized officer, including surface discharge under NPDES permit. Injection is generally the preferred method of disposal. Operators are encouraged to contact the appropriate authorized officer before filing an application for disposal of produced water so that the operator may be apprised of any existing agreements outlining cooperative procedures between the Bureau of Land Management and either the State/Indian Tribe or the Environmental Protection Agency concerning Underground Injection Control permits for injection wells, and of any potentially significant adverse effects on surface and/or subsurface resources. The approval of the Environmental Protection Agency or a State/Tribe shall not be considered as granting approval to dispose of produced water from leased Federal or Indian lands until and unless BLM approval is obtained. Applications filed pursuant to NTL–2B and still pending approval shall be supplemented or resubmitted if they do not meet the requirements and standards of this subpart. The disposal methods shall be approved in writing by the authorized officer regardless of the physical location of the disposal facility. Existing NTL–2B approvals will remain valid. However, upon written justification, the authorized officer may impose additional conditions or revoke any previously approved disposal permit, if the authorized officer, for example, finds that an existing facility is creating environmental problems, or that an unlined pit should be lined, because the quality of the produced water has changed so that it no longer meets the standards for unlined pits set out in this subpart.

(b) *Temporary disposal.* Unless prohibited by the authorized officer, produced water from newly completed wells may be temporarily disposed of into reserve pits for a period of up to 90 days, if the use of the pit was approved as a part of an application for permit to drill. Any extension of time beyond this period requires documented approval by the authorized officer.

(c) *Approval timeline.* (1) Upon receipt of a completed application the authorized officer shall take one of the following actions within 30 days:

(i) Approve the application as submitted or with appropriate modification or conditions;

(ii) Return the application and advise the applicant in writing of the reasons for disapproval; or

(iii) Advise the applicant in writing of the reasons for delay and the excepted final action date.

(2) If the approval for a disposal facility, *e.g.,* commercial pit or class II injection well, is revoked or suspended by the permitting agencies such as the Environmental Protection Agency or the primacy State, the BLM water disposal approval is immediately terminated and the operator is required to propose an alternative disposal method.

§ 3177.6 Application and approval authority.

(a) *On-lease disposal.* For water produced from a Federal/Indian lease and disposed of on the same Federal/Indian lease, or on other committed Federal/Indian leases if in a unit or communitized area, the approval of the disposal method is usually granted in conjunction with the approval for the disposal facilities. An example would be the approval of a proposal to drill an injection well to be used for the disposal of produced water from a well or wells on the same lease.

(1) *Disposal of water in injection wells.* When approval is requested for on-lease disposal of produced water into an injection well, the operator shall submit a Sundry Notice, Form 3160–5. Information submitted in support of obtaining the Underground Injection Control permit shall be accepted by the authorized officer in approving the disposal method, provided the information submitted in support of obtaining such a permit satisfies all applicable Bureau of Land Management statutory responsibilities (including but not limited to drilling safety, down hole integrity, and protection of mineral and surface resources) and requirements in this subpart. If the authorized officer has on file a copy of the approval for the receiving facilities, he/she may determine that a reference to that document is sufficient.

(2) *Disposal of water in pits.* When approval is requested for disposal of produced water in a lined or unlined pit, the operator shall submit a Sundry Notice, Form 3160–5. The operator shall comply with all the applicable Bureau of Land Management requirements and standards for pits established in this subpart. On National Forest lands, where the proposed pit location creates new surface disturbance, the authorized officer shall not approve the proposal without the prior approval of the Forest Service.

(b) *Off-lease disposal*—(1) *On leased or unleased Federal/Indian lands.* The purpose of the off-lease disposal approval process is to ensure that the removal of the produced water from a Federal or Indian oil and gas lease is proper and that the water is disposed of in an authorized facility. Therefore, the operator shall submit a Sundry Notice, Form 3160–5, for removal of the water together with a copy of the authorization for the disposal facility. If the authorized officer has a copy of the approval for the receiving facilities on file, he/she may determine that a reference to that document is sufficient. Where an associated right-of-way authorization is required, the information for the right-of-way authorization may be incorporated in the Sundry Notice, and the Bureau of Land Management will process both authorizations simultaneously for Bureau lands.

(i) *Disposal of water in injection wells.* When approval is requested for removing water that is produced from wells on leased Federal or Indian lands and that is to be injected into a well located on another lease or unleased Federal lands, the operator shall submit to the authorized officer a Sundry Notice, Form 3160–5, along with a copy of the Underground Injection Control permit issued to the operator of the injection well, unless the well is authorized by rule under 40 CFR part 144.

(ii) *Disposal of water in pits.* When approval is requested for removing water that is produced from wells on leased Federal or Indian lands and is to be disposed of into a lined or unlined pit located on another lease or unleased Federal lands, the operator shall submit to the authorized officer a Sundry Notice, Form 3160–5.

(iii) *Right-of-way procedures.* The operator of the injection well or pit is required to have an authorization from the Bureau of Land Management for disposing of the water into the pit or well, under Title V of the Federal Land Policy and Management Act (FLPMA) and 43 CFR part 2800, or a similar authorization from the responsible surface management agency. In transporting the produced water from the lease to the pit or injection well, *e.g.,* building a road or laying a pipeline, a right-of-way authorization under Title V of FLPMA and 43 CFR part 2800 from the Bureau of Land Management or a similar permit from the responsible surface management agency also shall be obtained by the operator of the pit or any injection well or other responsible party.

(2) *Disposal of water on State and privately owned lands*—(i) *Disposal of water in injection wells.* When approval is requested for removing water that is produced from wells on leased Federal or Indian lands and that is to be injected into a well located on State or privately owned lands, the operator shall submit to the authorized officer, in addition to a Sundry Notice, Form 3160–5, a copy of the Underground Injection Control permit issued for the injection well by Environmental Protection Agency or the State where the State has achieved primacy. Submittal of the Underground Injection Control permit will be accepted by the authorized officer and approval will be granted for the removal of the produced water unless the authorized officer states in writing that such approval will have adverse effects on the Federal/Indian lands or public health and safety.

(ii) *Disposal of water in pits.* When approval is requested for removing water that is produced from wells on leased Federal and/or Indian lands and is to be disposed of into a pit located on State or privately owned lands, the operator shall submit to the authorized officer, in addition to a Sundry Notice, Form 3160–5, a copy of the permit issued for the pit by the State or any other regulatory agency, if required, for disposal in such pit. Submittal of the permit will be accepted by the authorized officer and approval will be granted for removal of the produced water unless the authorized officer states in writing that such approval will have adverse effects on the Federal/Indian lands or public health and safety. If such a permit is not issued by the State or other regulatory agency, the requested removal of the produced water from leased Federal or Indian lands will be denied.

(iii) *Right-of-way procedures.* If the water produced from wells on leased Federal and/or Indian lands, and to be disposed of at a location on State or privately owned lands, will be transported over off-lease Federal or Indian lands, the operator of the disposal facility or other responsible party shall have an authorization from the Bureau of Land Management under Title V of FLPMA and 43 CFR part 2800, or a similar authorization from the responsible surface management agency.

§ 3177.7 Informational requirements for injection wells.

For an injection well proposed on Federal or Indian leases, the operator shall obtain an Underground Injection Control (UIC) permit pursuant to 40 CFR parts 144 and 146 from the Environmental Protection Agency or the State/Tribe where the State/Tribe has achieved primacy. The operator shall also comply with the pertinent procedural and informational requirements for Application for Permit to Drill or Sundry Notice as set forth in

subpart 3171 of this part. The injection well shall be designed and drilled or conditioned in accordance with the requirements and standards described in subpart 3172 of this part and pertinent NTLs, as well as the UIC permit.

§ 3177.8 Informational requirements for pits.

Operators who request approval for disposal of produced water into a lined or unlined pit shall file an application on a Sundry Notice, Form 3160–5, and identify the operator's field representative by name, address, and telephone number and the source of the produced water. Sources of produced water shall be identified by facility, lease number, well number and name, and legal description of well location. All samples for water analysis shall be taken at the current discharge a point. A reclamation plan detailing the procedures expected to be followed for closure of the pit and the contouring and revegetating of the site shall be submitted prior to pit abandonment. If requested by the authorized officer, a contingency plan to deal with specific anticipated emergency situations shall be submitted as provided for in 43 CFR 3162.5–1(d).

(a) *Lined pits.* The authorized officer shall not consider for approval an application for disposal into lined pits on Federal/Indian leases unless the operator also provides the following information:

(1) A map and drawings of the site on a suitable scale that show the pit dimension, cross section, side slopes, leak detection system, and location relative to other site facilities;

(2) The daily quantity of water to be disposed of (maximum daily quantity shall be cited if major fluctuations are anticipated) and a water analysis (unless waived by the authorized officer as unnecessary) that includes the concentrations of chlorides, sulfates, pH, total dissolved solids (TDS), and toxic constituents that the authorized officer reasonably believes to be present;

(3) Criteria used to determine the pit size, which includes a minimum of 2 feet of free-board;

(4) The average monthly evaporation and average monthly precipitation for the area;

(5) The method and schedule for periodic disposal of precipitated solids and a copy of the appropriate disposal permit, if any; and

(6) The type, thickness, and life span of material to be used for lining the pit and the method of installation. The manufacturer's guidebook and information for the product shall be included, if available.

(b) *Unlined pits.* (1) Application for disposal into unlined pits may be considered for approval by the authorized officer where the application of the operator shows that such disposal meets one or more of the following criteria:

(i) The water to be disposed of has an annual average TDS concentration equal to or less than that of the existing water to be protected, provided that the level of any toxic constituents in the produced water does not exceed established State or Federal standards for protection of surface and/or ground water;

(ii) All, or a substantial part, of the produced water is being used for beneficial purposes and meets minimum water quality standards for such uses. For example, uses of produced water for purposes such as irrigation and livestock or wildlife watering shall be considered as beneficial;

(iii)(A) The water to be disposed of will not degrade the quality of surface or subsurface waters in the area;

(B) The surface and subsurface waters contain TDS above 10,000 ppm, or toxic constituents in high concentrations; or

(C) The surface and subsurface waters are of such poor quality or small quantity as to eliminate any practical use thereof; and

(iv) That the volume of water to be disposed of per disposal facility does not exceed an average of 5 barrels per day on a monthly basis.

(2) Operators applying for disposal into an unlined pit shall also submit the following information, as appropriate:

(i) Applications for disposal into unlined pits that meet the criteria in paragraphs (b)(1)(i) through (iv) of this section shall include:

(A) A map and drawings of the site on a suitable scale that show the pit dimension, cross section, side slopes, size, and location relative to other site facilities;

(B) The daily quantity of water to be disposed of and a water analysis that includes total dissolved solids (in ppm), pH, oil and grease content, the concentrations of chlorides and sulfates, and other parameters or constituents toxic to animal or plant life as reasonably prescribed by the authorized officer. The applicant should also indicate any effect or interaction of produced water with any water resources present at or near the surface and other known mineral deposits. For applications submitted under criterion in paragraph (b)(1)(iv) of this section, the water quality analysis is not needed unless requested by the authorized officer;

(C) The average monthly evaporation and the average monthly precipitation for the area. For applications submitted under criterion in paragraph (b)(1)(iv) of this section, average annual data will be acceptable;

(D) The estimated percolation rate based on soil characteristics under and adjacent to the pit. In some cases the authorized officer may require percolation tests using accepted test procedures; and

(E) Estimated depth and areal extent of the shallowest known aquifer with TDS less than 10,000 ppm, and the depth and extent of any known mineral deposits in the area.

(ii) Where beneficial use (criterion in paragraph (b)(1)(ii) of this section) is the basis for the application, the justification submitted shall also contain written confirmation from the user(s).

(iii) If the application is made on the basis that surface and subsurface waters will not be adversely affected by disposal in an unlined pit (paragraph (b)(1)(iii) of this section), the justification shall also include the following additional information:

(A) Map of the site showing the location of surface waters, water wells, and existing water disposal facilities within 1 mile of the proposed disposal facility;

(B) Average concentration of TDS (in ppm) of all surface and subsurface waters within the 1-mile radius that might be affected by the proposed disposal;

(C) Reasonable geologic and hydrologic evidence that shows the proposed disposal method will not adversely affect existing water quality or major uses of such waters, and identifies the presence of any impermeable barrier(s), as necessary; and

(D) A copy of any State order or other authorization granted as a result of a public hearing that is pertinent to the authorized officer's consideration of the application.

(c) *Emergency pits.* Application for a permanent pit (lined or unlined) to be used for anticipated emergency purposes shall be submitted by the operator on a Sundry Notice, Form 3160–5, for approval by the authorized officer, unless it has been approved in conjunction with a previously approved operational activity. Design criteria for an emergency pit will be established by the authorized officer on a case-by-case basis. Any emergency use of such pits shall be reported in accordance with NTL–3A, and the pit shall be emptied and the liquids disposed of in

accordance with applicable State and/or Federal regulations within 48 hours following its use, unless such time is extended by the authorized officer.

§ 3177.9 Design requirements for pits.

(a) Pits shall be designed to meet the following requirements and minimum standards. For unlined pits approved under criterion in § 3177.8(b)(1)(iv), requirements in paragraphs (a)(4) and (5) of this section, do not apply.

(1) As much as practical, the pit shall be located on level ground and away from established drainage patterns, including intermittent/ephemeral drainage ways, and unstable ground or depressions in the area.

(2) The pit shall have adequate storage capacity for safe containment of all produced water, even in those periods when evaporation rates are at a minimum. The design shall provide for a minimum of 2 feet of free-board.

(3) The pit shall be fenced or enclosed to prevent access by livestock, wildlife, and unauthorized personnel. If necessary, the pit shall be equipped to deter entry by birds. Fences shall not be constructed on the levees. Figure 1 in appendix A to this subpart shows an example of an acceptable fence design.

(4) The pit levees are to be constructed so that the inside grade of the levee is no steeper than 1 (vertical):2 (horizonal), and the outside grade no steeper than 1:3.

(5) The top of levees shall be level and at least 18 inches wide.

(6) The pit location shall be reclaimed pursuant to the requirements and standards of the surface management agency. On a spilt estate (private surface, Federal mineral) a surface owner's release statement or form is acceptable.

(b) Lined pits shall be designed to meet following requirement and minimum standards in addition to those specified in paragraph (a) of this section:

(1) The material used in lining pits shall be impervious. It shall be resistant to weather, sunlight, hydrocarbons, aqueous acids, alkalies, salt, fungi, or other substances likely to be contained in the produced water.

(2) If rigid materials are used, leak-proof expansion joints shall be provided, or the material shall be of sufficient thickness and length to withstand expansion without cracking, contraction, and settling movements in the underlying earth. Semi-rigid liners such as compacted bentonite or clay may also be used provided that, considering the thickness of the lining material chosen and its degree of permeability, the liner is impervious for the expected period of use. Figure 2 in appendix A to this subpart shows examples of acceptable standards for concrete, asphalt, and bentonite/clay liners.

(3) If flexible membrane materials are used, they shall have adequate resistance to tears or punctures. Figure 3 in appendix A to this subpart gives an example of acceptable standards for installation of the flexible membrane.

(4) Lined pits shall have an underlying gravel-filled sump and lateral system or other suitable devices for the detection of leaks. Examples of the acceptable design of the leak detection system are shown in Figures 4 and 5 of appendix A to this subpart.

(c) Failure to design the pit to meet the requirements in paragraphs (a) and (b) of this section and minimum standards in this subpart will result in disapproval of the proposal or a requirement that it be modified unless a request for variance is approved by the authorized officer.

§ 3177.10 Construction and maintenance requirements for pits.

Inspections will be conducted according to the following requirements and minimum standards during the construction and operation of the pit. Failure to meet the requirements and standards may result in issuance of an Incident of Noncompliance (INC) for the violation. The gravity of the violation, corrective actions, and the normal abatement period allowed are specified for each of the requirements/standards.

(a) Any disposal method that has not been approved shall be considered an incident of noncompliance and may result in the issuance of a shut-in order, assessments, or penalties pursuant to 43 CFR part 3163 until an acceptable disposal method is provided and approved by the authorized officer.

TABLE 1 TO § 3177.10(a)

Violation	Corrective action	Normal abatement period
Minor: If it causes no significant environmental damages or effects. *Major*: If it causes or threatens immediate, substantial and adverse impact on public health and safety, the environment, production accountability, or royalty income.	*Minor*: Submit acceptable application ..... *Major*: Shut-in, take corrective action to repair or replace damages according to instructions of authorized officer.	*Minor*: 1 to 20 days or as directed by authorized officer. *Major*: Within 10 days.

(b) The operator shall notify the authorized officer to inspect the leak detection system at least 2 business days prior to the installation of the pit liner.

TABLE 2 TO § 3177.10(b)

Violation	Corrective action	Normal abatement period
Minor	Require verification of its installation	Prior to use of pit.

(c) At least 2 business days prior to its use, the operator shall notify the authorized officer of completion of the pit construction, so that the authorized officer may verify that the pit has been constructed in accordance with the approved plan.

TABLE 3 TO § 3177.10(c)

Violation	Corrective action	Normal abatement period
(For failure to notify) Minor ..	N/A	N/A.
(For failure to construct in accordance with the approved plan) Minor, unless Major by definition.	The authorized officer may shut-in operations and require corrections to comply with the plan or require amendment of the plan.	1 to 20 days depending on the severity of the violation and the degree of difficulty to correct, if the pit is in use.

(d) Lined pit shall be maintained and operated to prevent unauthorized subsurface discharge of water.

TABLE 4 TO § 3177.10(d)

Violation	Corrective action	Normal abatement period
Usually Minor, unless Major as result of discharge.	Repair/replace liner and possibly shut in operations	1 to 20 days depending on the onsite situation.

(e) The pit shall be maintained as designed to prevent entrance of surface water by providing adequate surface drainage away from the pit.

TABLE 5 TO § 3177.10(e)

Violation	Corrective action	Normal abatement period
Minor	Provide surface drainage	Within 20 days.

(f) The pit shall be maintained and operated to prevent unauthorized surface discharge of water.

TABLE 6 TO § 3177.10(f)

Violation	Corrective action	Normal abatement period
Usually Minor, unless discharge results in Major.	Clean up if spill occurs, and reduce the water level to maintain the 2 feet of free-board; shut-in operations, if required by authorized officer.	1 to 20 days depending upon the onsite situation.

(g) The outside walls of the pit levee shall be maintained as designed to minimize erosion.

TABLE 7 TO § 3177.10(g)

Violation	Corrective action	Normal abatement period
Minor	Necessary repair	Within 20 days.

(h) The pit shall be kept reasonably free from surface accumulation of liquid hydrocarbons that would retard evaporation.

TABLE 8 TO § 3177.10(h)

Violation	Corrective action	Normal abatement period
Minor	Clean-up, and may require skimmer pits, settling tanks, or other suitable equipment.	Within 20 days.

(i) The operator shall inspect the leak detection system at least once a month or more often if required by the authorized officer in appropriate circumstances. The record of inspection shall describe the result of the

inspection by date and shall be kept and made available to the authorized officer upon request.

TABLE 9 TO § 3177.10(i)

Violation	Corrective action	Normal abatement period
Minor	Commence the required routine inspection and record-keeping.	Within 30 days.

(j) Prior to pit abandonment and reclamation, the operator shall submit a Sundry Notice for approval by the authorized officer, if not previously approved.

TABLE 10 TO § 3177.10(j)

Violation	Corrective action	Normal abatement period
Minor	Cease operations and file an application	Within 10 days.

(k) When change in the quantity and/or quality of the water disposed into an unlined pit causes the pit no longer to meet the unlined pit criteria listed under § 3177.8(b)(1), the operator shall submit a Sundry Notice amending the pit design for approval by the authorized officer.

TABLE 11 TO § 3177.10(k)

Violation	Corrective action	Normal abatement period
Minor unless the resulting damage is Major.	Submit the required amendment; shut-in operations if damage is determined by the authorized officer to be Major.	As specified by the authorized officer.

§ 3177.11 Other disposal methods.

(a) The person applying to use the surface discharge disposal method under an NPDES permit shall furnish a copy of the NPDES permit issued by the EPA or the primacy State, a current water quality analysis, and a Sundry Notice, Form 3160–5, describing site facilities (*e.g.,* retention ponds, skimmer pits and equipment, tanks, and any additional surface disturbance). Operations from the point of origin to the point of discharge are under the jurisdiction of the BLM. Operations from the point of discharge downstream are under the jurisdiction of the EPA or the primacy State.

(b) Use of existing commercial pits designed for containment of produced water or tanks in lieu of pits.

(c) New technology or any other proposal meeting the objective of this subpart that the authorized officer deems acceptable and that meets the requirements of State and Federal laws and regulations.

§ 3177.12 Reporting requirements for disposal facilities.

All unauthorized discharge or spills from disposal facilities on Federal/Indian leases shall be reported to the authorized officer in accordance with the provisions of NTL–3A.

TABLE 1 TO § 3177.12

Violation	Corrective action	Normal abatement period
Minor unless resulting damage is major.	Submit the required report	As specified by the authorized officer.

§ 3177.13 Variances from requirements or minimum standards.

An operator may request that the authorized officer approve a variance from any of the requirements or minimum standards prescribed in §§ 3177.5 through 3177.12. All such requests shall be submitted in writing to the appropriate authorized officer and provide information as to the circumstances that warrant approval of the variance(s) requested and the proposed alternative means by which the requirements or related minimum standard(s) will be satisfied. The authorized officer, after considering all relevant factors, will approve the requested variance(s) if it is determined that the proposed alterative(s) meet or exceed the objectives of the applicable minimum standard(s); or if the authorized officer determines that the exemption of the requirement is justified. Variances granted by BLM under this section shall be limited to proposals and requirements under BLM statutory and/or regulatory authority only, and shall not be construed as granting variances to regulations under EPA, State, or Tribal authority.

Appendix A to Subpart 3177—Examples of Acceptable Designs and Construction

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Figure 1 to Appendix A to Subpart 3177—Construction of Fences and Corner Posts

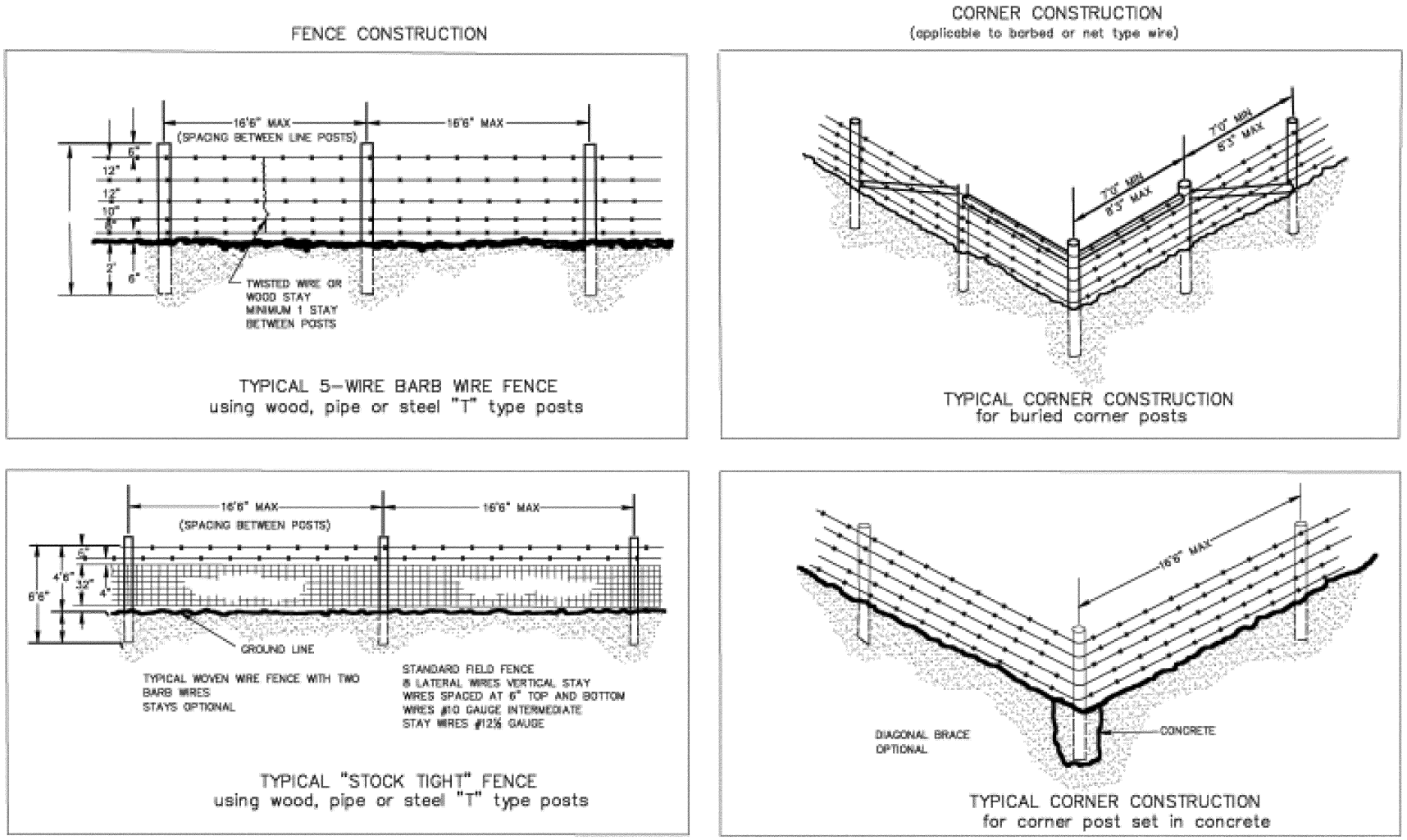

FIGURE 1. EXAMPLES FOR DESIGN AND CONSTRUCTION OF FENCES AND CORNER POSTS.

Figure 2 to Appendix A to Subpart 3177—Concrete, Asphalt, and Bentonite/Clay Liners

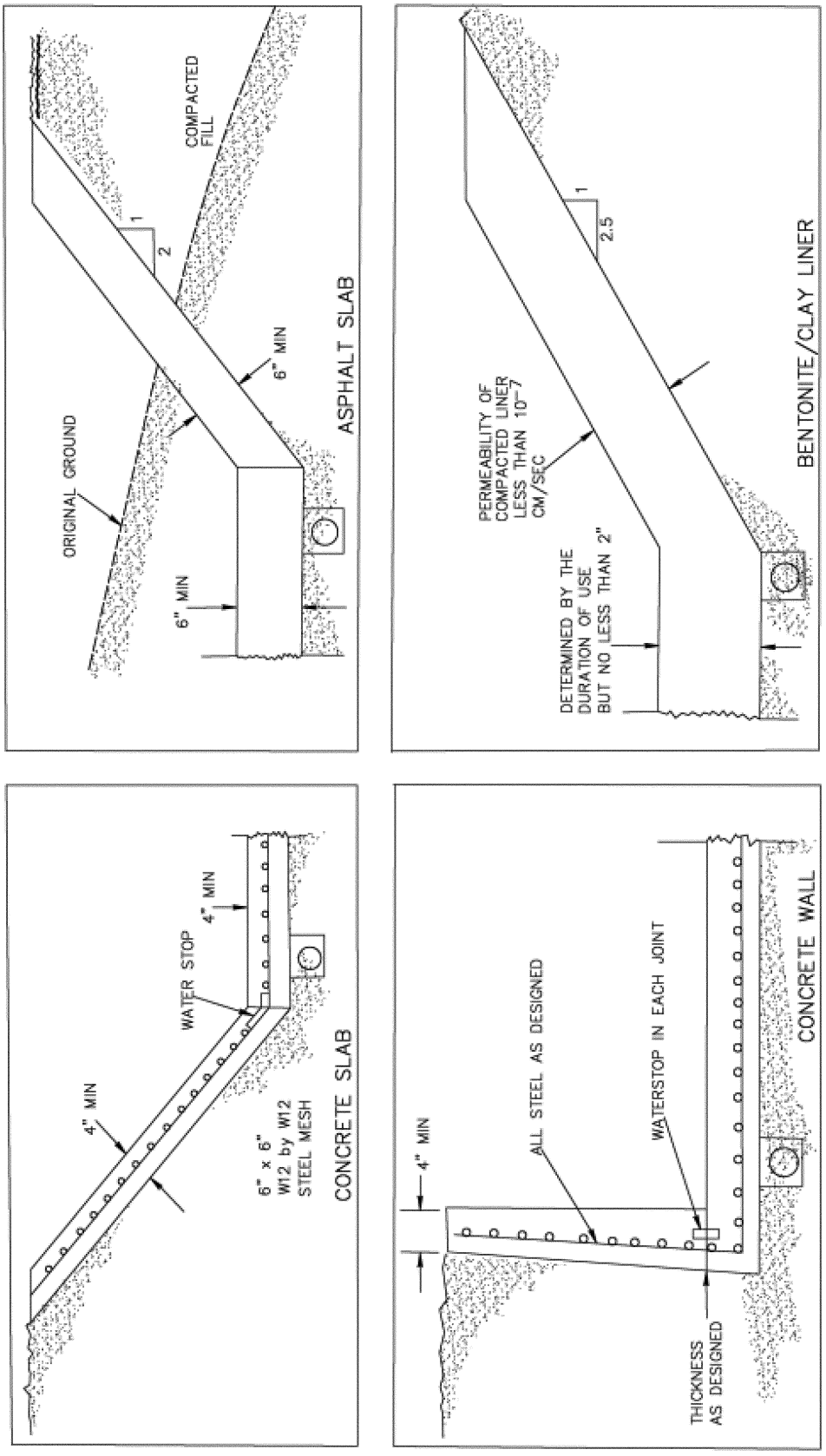

FIGURE 2. EXAMPLE OF ACCEPTABLE DESIGN FOR CONCRETE, ASPHALT AND BENTONITE/CLAY LINERS

Figure 3 to Appendix A to Subpart 3177—Flexible Liners

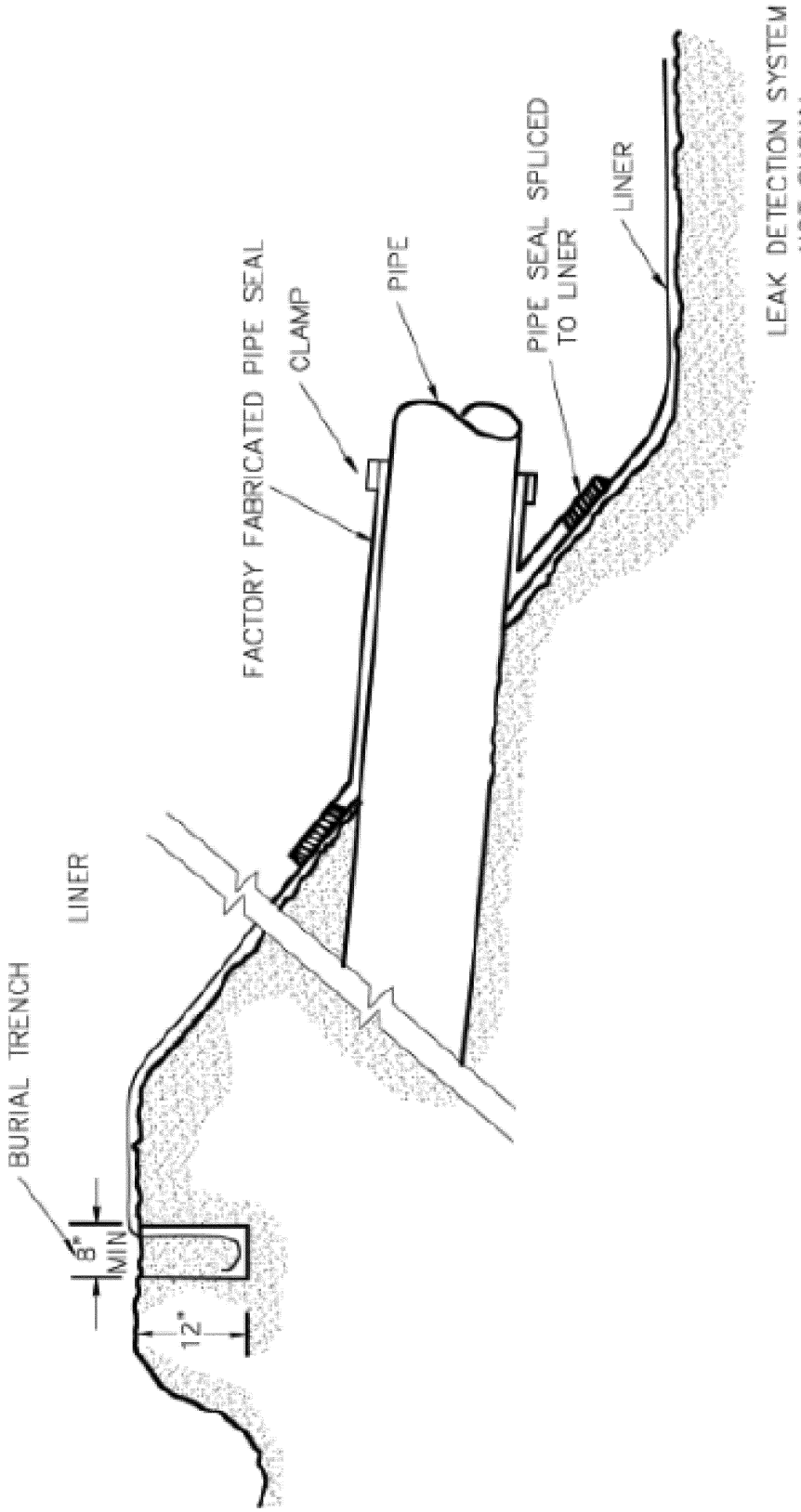

FIGURE 3. EXAMPLE OF ACCEPTABLE DESIGN OF A FLEXIBLE LINER.

Figure 4 to Appendix A to Subpart 3177—Leak Detection System for a Lined Pit Constructed in Relatively Impermeable Soils

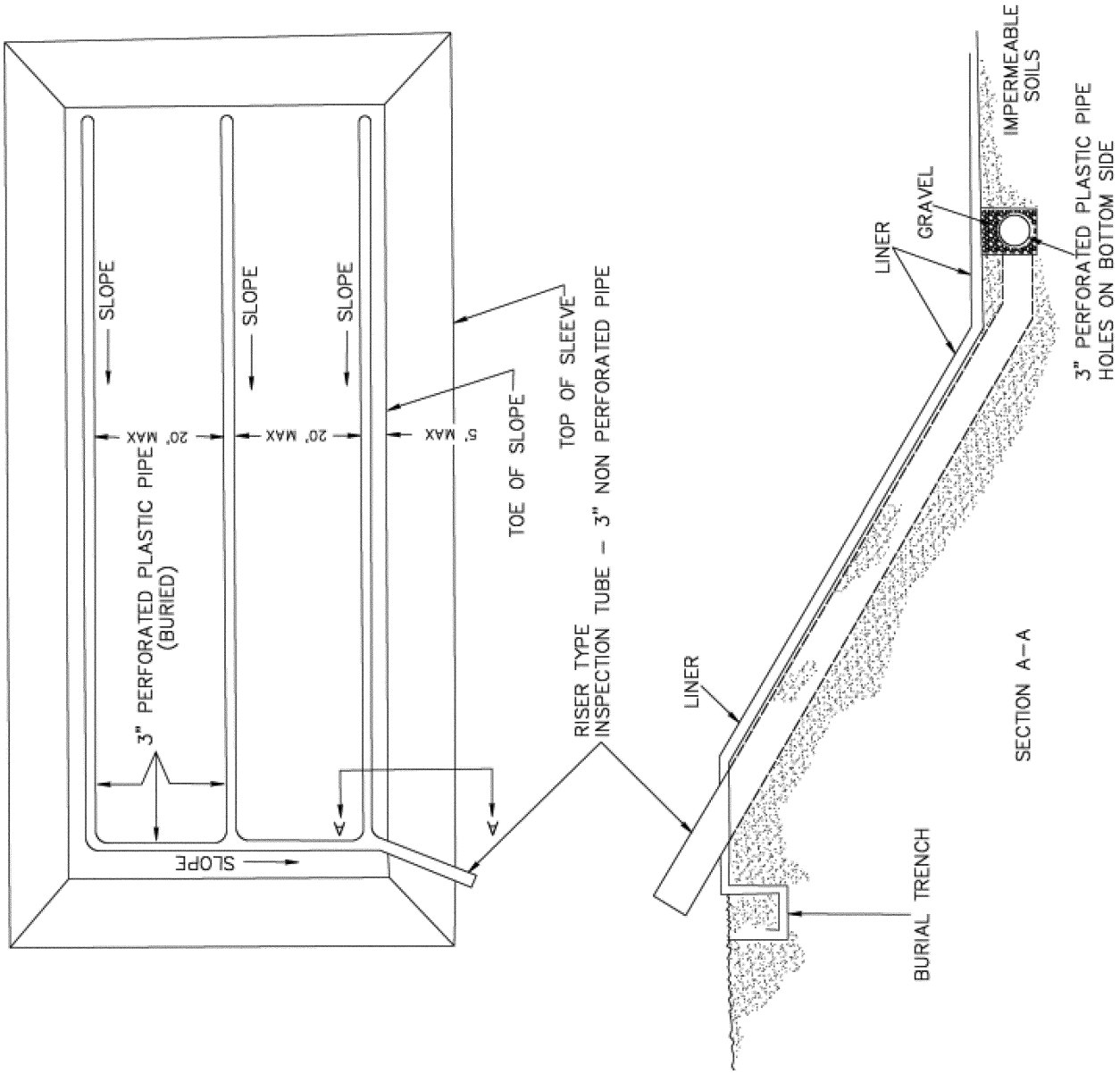

Figure 5 to Appendix A to Subpart 3177—Leak Detection System for a Lined Pit Constructed in Permeable Soils

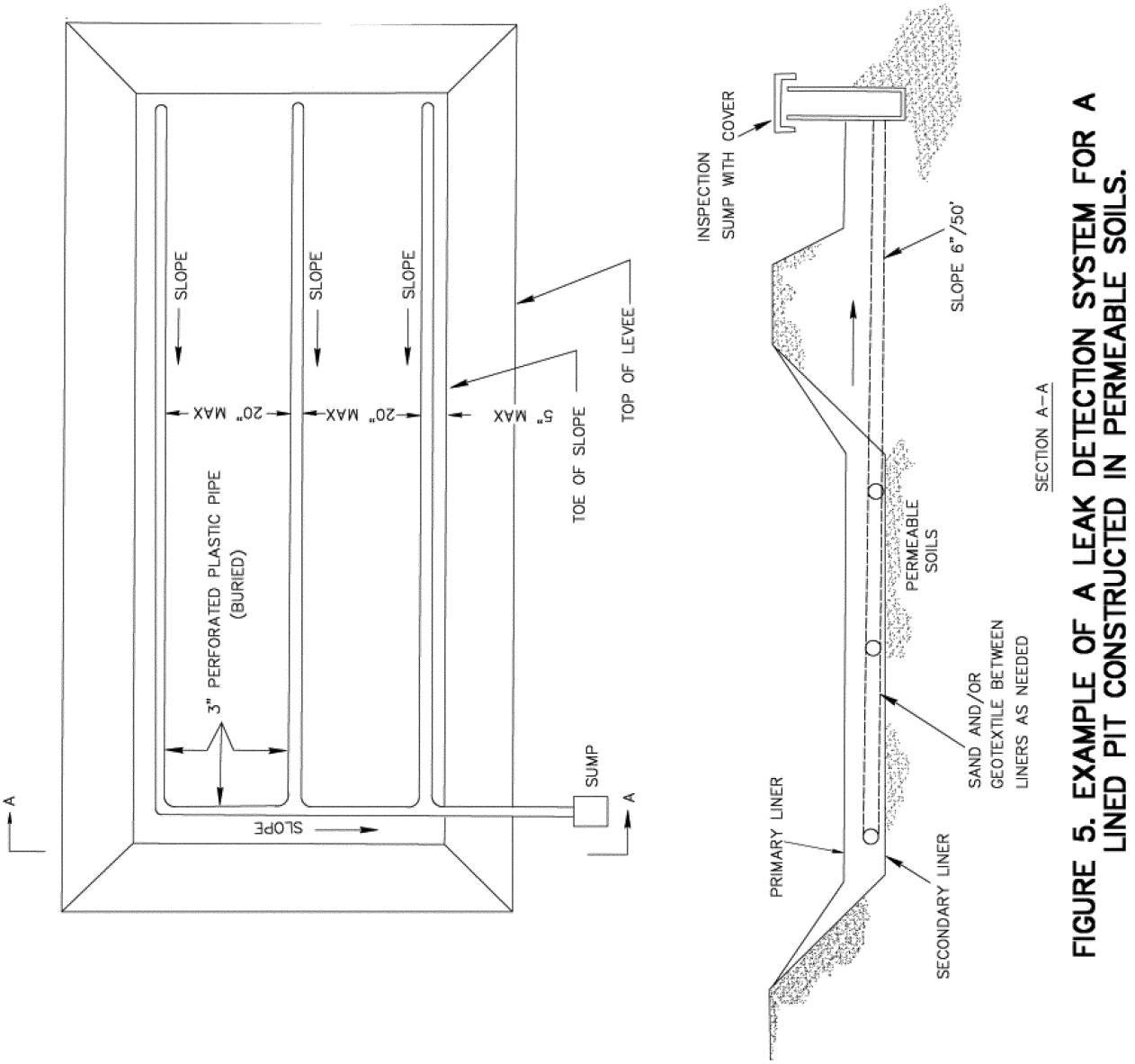

FIGURE 5. EXAMPLE OF A LEAK DETECTION SYSTEM FOR A LINED PIT CONSTRUCTED IN PERMEABLE SOILS.

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