

# **NEW MEXICO**

## **FOLLOW-UP AND SUPPLEMENTAL REVIEW**



**State Review of Oil and Natural Gas  
Environmental Regulations, Inc.**

August, 2001

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## INTRODUCTION

Part 1 of this Follow-up Review is a report of the progress made by the Oil Conservation Division (OCD) of the New Mexico Energy, Minerals and Natural Resources Department since the original assessment of the New Mexico exploration and production waste regulatory program pursuant to the 1990 *EPA/IOCC Study of State Regulation of Oil and Gas Exploration and Production Waste* (the "IOGCC Guidelines"). That assessment, known as the New Mexico State Review, was published in June 1994, and contained specific findings and recommendations for action based on the IOGCC Guidelines. This report is also a review of the OCD's responses to questions on aspects of its program not covered by the IOGCC Guidelines, but which are addressed in subsequent Guidelines revisions.

Since the initial review, The IOGCC Guidelines were updated and revised by the Interstate Oil and Gas Compact Commission (the "IOGCC") in 1994. In 1999, administration of the state review program devolved to a non-profit, multi-stakeholder organization named State Review of Oil and Natural Gas Environmental Regulations, Inc. ("STRONGER"). STRONGER again revised, expanded and updated the Guidelines, which were accepted by the IOGCC, and published in June 2000 as the *Guidelines for the Review of State Oil and Natural Gas Environmental Regulatory Programs* (the "2000 Guidelines").

In April, 2001, a fourteen-person team appointed by STRONGER conducted a follow-up review to evaluate progress made in the New Mexico program since the initial review, and evaluate the adequacy of the program compared to the 2000 Guidelines. The fourteen-person Team consisted of six members and eight observers. Don Neeper of the New Mexico Citizens for Clean Air and Water; Don Garvin of Trout Unlimited; Ron Gilius of the Pennsylvania Bureau of Oil and Gas Management; John Johnston of the West Virginia Office of Oil and Gas; David Searle of Marathon Oil Company; and Frank Yates, Jr. of Yates Petroleum Corporation served as Team members. John Lopez of the STRONGER Board and the Lake Pontchartrain Basin Foundation; Bonnie Robinson of the U. S. EPA Office of Solid Waste; John Ford of the U.S. DOE National Petroleum Technology Office; Tina Thomas representing the IOGCC; Jim Erb of the STRONGER Board and the Pennsylvania Bureau of Oil and Gas Management; Dan Chadwick of the U.S. EPA Office of Compliance; Dixon Sandoval of the Jicarilla Apache Nation; and Perry Pearce of Burlington Resources participated as observers. Two Team members, Ron Gilius and Frank Yates served on the initial review. Perry Pearce served as an official observer on the initial review.

The in-state portion of the follow-up review was conducted in Santa Fe, New Mexico at the offices of the New Mexico Oil Conservation Division on April 22<sup>nd</sup> through 25<sup>th</sup>, 2001. Ms. Lori Wrotenbery, Director of the OCD and Mr. Roger Anderson, Environmental Bureau Chief of the OCD, responded to questions from the Team and observers. Other OCD staff and staff of the New Mexico Environment Department (NMED) also provided information in response to Team Member and Observer questions. Following the interviews and review of the written materials and backup documentation provided by the state, the Review Team compiled this follow up review report.

This report is presented in two parts. Part 1 contains the findings and recommendations of the initial review report, the New Mexico OCD responses to those recommendations, and the follow-up findings of the Review Team. Part 2 of this report presents the findings of the Review Team with respect to those aspects of the New Mexico program governed by standards

established in the 2000 Guidelines which are new or different from the standards of the 1990 IOGCC Guidelines under which the New Mexico program was initially reviewed.

## **PROGRAM OVERVIEW**

### **Oil and Gas Production**

Oil and natural gas were first produced in New Mexico in 1921. Since then, virtually all production has been from four counties in the San Juan Basin in the northwest and four counties in the Permian Basin in the southeast. Crude oil produced from Permian and older sediments is the principal hydrocarbon resource in southeastern New Mexico, while natural gas produced from Cretaceous and Tertiary sands is the principal resource in the northwestern part of the state.

Oil production in the state peaked in 1969 at 129.2 million barrels. In 1999, New Mexico produced about 65.4 million barrels of oil from 22,451 wells, ranking 5th in the nation. Production on federal lands accounted for 67 percent of total production while state lands, private lands and Indian lands accounted for 39 percent, 20 percent, and about 1 percent, respectively. Oil reserves were estimated at 718 million barrels -- fourth highest in the nation. Oil production has decreased gradually over the past 25 years and is expected to continue to decrease, barring a major discovery.

Unlike crude oil, production of natural gas has increased, fueled primarily by development of coal-bed methane resources in the San Juan Basin in the past 10 years. New Mexico produced 1.66 trillion cubic feet of natural gas in 1999 from 20,849 wells and ranked third nationally. Production on federal lands accounted for 67 percent of total production, while production from state lands, private lands and Indian lands accounted for 17 percent, 13 percent and 3 percent respectively. Natural gas reserves of 15.5 trillion cubic feet ranked second nationally.

### **Land Status and Environmental Setting**

New Mexico is the fifth largest state in the nation. Its 77,866,240 acres (121,666 square miles) include 147,187 acres under water in lakes, rivers and wetlands. Land ownership is characterized by a large percentage of publicly held lands; 34 percent of the land is owned by the federal government and 12 percent is owned by the state of New Mexico. Indian lands account for 9 percent of the total and privately owned lands account for the remaining 44 percent.

New Mexico is an arid to semiarid state where the landscape ranges from Upper Sonoran desert life zones in the southwest to alpine life zones in the south-central and north-central mountains. Annual rainfall averages from less than 7 inches in the deserts to more than 30 inches in the mountains. Groundwater provides about 90 percent of drinking water used in the state. Surface water is used principally for irrigation of crops.

### **Waste Management Issues**

Regulation of exploration and production wastes historically has focused on management of the large volumes of produced water generated annually in New Mexico. About 593 million barrels were produced in 1999; 92 percent of that volume was generated in two southeastern counties (Lea and Eddy) alone. The water-to-oil ratio now stands at 6.5 barrels of water to every 1 barrel of oil produced. Since 1982, produced water volumes have increased nearly 80 percent as recoverable crude has decreased.

About 90 percent of all produced water is re-injected, either for enhanced oil recovery (EOR) or for disposal. EOR operations (4,467 wells) accounted for about 58 percent of injection in 1999. About 42 percent of all injected produced water was disposed in 628 Class II disposal wells. About 59 million barrels of produced water were disposed in on-site pits and in commercial and centralized surface impoundments. Surface discharge of produced water to waters of the U.S. is not currently done in New Mexico.

OCD estimates that 90 percent of all drilling muds and cuttings are disposed in pits and the rest are landfarmed. Estimates for the volume of drilling wastes generated from the 1,450 wells drilled in New Mexico in 1999 are 89,650 yd<sup>3</sup> of drill cuttings and 1,134,400 bbls of drilling fluids. OCD also estimates that about half of all associated wastes (E&P wastes other than produced water and drilling muds and cuttings) is disposed in pits, about 45 percent is diverted to oil reclaimers, and the remainder is buried on-site. No estimates are available for the volume of associated wastes generated annually in the state.

E&P wastes not managed on-site in pits and tanks are treated or disposed at a wide range of off-site facilities. As of the time of this review, OCD has approved 26 commercial surface disposal facilities, including three that manage produced water exclusively, 13 that are exclusively landfarms, and three that accept multiple waste streams; OCD has also approved 18 centralized surface disposal facilities. OCD has approved 16 crude oil and tank bottom reclamation operations, which in New Mexico are known as waste oil processing companies or waste oil treating plants. Nine of those 16 are co-located with commercial surface disposal facilities.

From data acquired from the pit inventory required in 1997, there are an estimated 11,600 on-site pits in the state. Approximately 5800 pits have been closed in the last seven years. Although unlined production pits were prohibited by OCD in the four southeastern counties in 1967, low-volume production pits, tank-drain pits, and basic sediment and water (BS&W) pits are allowed.

Of the eight refineries in New Mexico, four were operating at the end of 1999. The state hosts 37 operating gas-processing plants, at least 5000 natural gas pipeline compressor stations, 700 oil-field service company facilities, and 17 operating brine manufacturing wells. In all, OCD has issued permits for more than 402 major, off-site facilities associated with the refining, processing, and transporting of crude oil and natural gas and the management of E&P wastes.

OCD and industry are addressing both area-wide and site-specific contamination problems in both producing regions. As of January 1, 2001, OCD had addressed or was continuing to investigate 734 cases of soil or groundwater contamination statewide. Remediation had been completed at 220 of those sites. Of the 734 cases, 444 were at field production locations.

## **REVIEW HIGHLIGHTS**

The New Mexico program is, overall, a well-managed oil and gas environmental regulatory program. The Review team noted several aspects of the New Mexico OCD and its operations that merit special recognition, and that may offer ideas for other state regulatory programs.

### **State Action Plan**

In response to the findings and recommendations of the initial 1994 New Mexico Review, OCD prepared a State Action Plan in a matrix format, showing the text of all of the review recommendations, the proposed/completed OCD actions, the location of the documentation of the action and the completion date. This demonstrates OCD's pro-active, systematic approach to the review recommendations and established a tracking mechanism to document progress in meeting the recommendations to improve the New Mexico program, and in anticipation of the follow-up review. The State Action Plan greatly facilitated the follow-up review process and set a positive tone for the review.

### **Public Participation and the OCD Website**

OCD has established a website as a part of its outreach and public information strategy. The OCD page appears under the New Mexico Energy, Minerals and Natural Resources Department page, and includes links to such sub-pages as Bureaus, Districts, Director, FAQ's, General Information, Publications, Rulebook and What's New. The What's New sub-page, in turn, contains links to Commission hearing dates and dockets, updated procedures, new rules, training seminars and other recent news. OCD created a link on its What's New page to the completed review questionnaire which included, in turn, links to the referenced rules, charts, matrices and other publications, all of which are provided in a down-loadable formats. Also included is a link to the State Action Plan that provides both the Review Team and the interested public with OCD's responses to the initial review recommendations and OCD's work on the recommendations to date. The Review Team has offered some suggestions to enhance the accessibility of the linked information, but was very impressed with OCD's use of internet technology to both increase public awareness of its programs and activities, and to provide electronic access to the completed questionnaire and all the supporting documentation.

### **Staff Participation in the Review**

The Review Team was very impressed with OCD's inclusion of their staff and NMED staff in the interview portion of the In-state Review. Having the front-line staff present added much to the discussion and actually resulted in some brainstorming of issues and suggestions for program improvement.

### **Staff Qualifications and Management**

A somewhat intangible aspect of a successful regulatory program is the professionalism and team spirit of the program management and staff. The Review Team was very favorably impressed with the knowledge and professionalism of the OCD staff, and feel that such a high-quality staff speaks well of the management of the overall program. The interaction between the Review Team and OCD staff suggests that the management and staff of OCD are committed to

the highest standards of professional conduct and the success of the OCD regulatory program. The Team is also favorably impressed by the OCD office facilities.

### **Pollution Prevention/Best Management Practices Manual and Pocket Guide**

OCD has developed a Pollution Prevention/Best Management Practices Manual and an accompanying Pocket Guide as a quick lookup reference for common oil and gas pollution prevention and waste minimization practices. The focus of the Manual and Pocket Guide is to reduce production of wastes by utilizing best management practices, and to offer a quick reference to recommended waste handling practices in the field. The Manual and Pocket Guide are organized alphabetically by waste type, and provide information in a bulleted outline format. The Pocket Guide is printed so as to be carried in the field in a truck glove compartment for ready reference on site. The Review Team sees these tools as effective and innovative techniques to minimize pollution and waste in the field.

### **The Environmental Handbook**

OCD has developed an Environmental Handbook which puts all the relevant regulations and guidance governing oil field waste management in a single, logically organized document. The Environmental Handbook is designed as a one-stop reference guide to orders and guidelines applicable to oil and gas regulation, and represents a comprehensive compilation of previously scattered regulatory guidance. The Review Team sees this initiative as worthy of special recognition.

### **The OCD Abandoned Sites Program**

Although specific standards for abandoned oil and gas sites were not part of the Guidelines when the New Mexico program was reviewed in June 1994, OCD has already taken the initiative to address the matter. Since the 1994 review, New Mexico has made tremendous strides in identifying inactive and abandoned oil and gas sites and operating a program with measurable outcomes. The Review Team is impressed with OCD's initiative and systematic approach to identifying and prioritizing abandoned sites for remediation.



# **PART 1**

## **FOLLOW-UP TO RECOMMENDATIONS CONTAINED IN THE INITIAL NEW MEXICO STATE REVIEW**

In response to the findings and recommendations contained in the report of the New Mexico State Review, published in June, 1994, the New Mexico Oil Conservation Division (OCD) prepared finding-by-finding responses and an Action Plan to address the program changes recommended. The 1994 report determined that the New Mexico OCD met or exceeded most of the standards of the 1990 IOGCC Guidelines. However, where the team reached consensus that an aspect of the New Mexico E&P waste management program could be improved, a recommendation was made. This section contains an evaluation of the OCD's responses and actions taken as a result of the recommendations. Follow-up review comments that include recommendations by the Review Team are bolded.

### **GENERAL**

#### **Finding and recommendation I.3**

##### **Finding I.3:**

The programmatic overview documents describe the functions and responsibilities of OCD's central and district offices, but do not contain a clear statement of the goals and objectives of New Mexico's E&P waste regulatory program.

##### **Recommendation I.3:**

Oil Conservation Division should develop and adopt a clear and concise statement describing the goals and objectives of its environmental regulatory programs, including those that apply to E&P wastes. This statement should be widely disseminated to the regulated community and the public, perhaps as an introductory message in OCD's Environmental Regulations Manual and Program Guide. (IOGCC Guidelines, sections 3.2., 4.2.2.2., and 5.1.a.)

##### **OCD Response:**

The OCD has developed goals and objectives as part of its Strategic Plan, and has provided a link to the strategic plan in the Environmental Handbook.

##### **Follow-up Review Comments:**

This recommendation has been met. Also see the discussion under Section 8, Performance Measures.

#### **Finding and recommendation I.4**

##### **Finding I.4:**

The WQCC's Delegation of Authority between OCD and NMED for implementation of Water Quality Act requirements represents a clear delineation of responsibilities, consistent with IOGCC Guidelines

##### **Recommendation I.4:**

OCD and NMED, as constituent agencies of the WQCC, should periodically review the Delegation of Authority to ensure there are no regulatory gaps in the state's E&P waste management program. OCD and NMED should continue to exchange program information and discuss program direction to build on recent improvements in interagency cooperation. (IOGCC Guidelines, section 4.4.)

##### **OCD Response:**

The Director receives a briefing prior to each regularly scheduled WQCC meetings. WQCC issues are also discussed at the weekly Environmental Bureau meetings.

##### **Follow-up Review Comments:**

This recommendation has been met. The Delegation of Authority clearly delineates OCD and NMED responsibilities. The Review team found that there is interagency coordination at the program level and with management.

#### **Finding and recommendation I.6**

##### **Finding I.6:**

In implementing its responsibilities under the WQA and WQCC Regulations, OCD has relied on an informal strategy for "calling in" existing facilities for retroactive permitting and remediation of soil and ground water contamination.

##### **Recommendation I.6:**

OCD should formalize its prioritization strategy to ensure that all oil and gas facilities subject to WQCC Regulations are permitted in a timely manner, and where necessary, are subject to requirements for pollution abatement. (IOGCC Guidelines, section 4.1.1.)

##### **OCD Response:**

The OCD has published a priority system for permitting WQCC facilities based on a potential environmental impact ranking

##### **Follow-up Review Comments:**

This recommendation has been met. OCD has prioritized its permitting workload, and is nearing completion of the permitting process.

### **Finding and recommendation I.7**

#### **Finding I.7:**

The transfer of contamination cases involving crude oil pipeline leaks from Oil Conservation Division to New Mexico Environment Department has resulted in a two-year delay in remediation because of the lengthy RCRA permitting process NMED must implement for those cases. Under OCD's authorities, such crude oil contamination cases would not be subject to lengthy permitting proceedings. Any undue delay in remediation makes cleanup more expensive, prolongs the environmental impact of the contamination, and may even threaten public health.

#### **Recommendation I.7:**

NMED, OCD and EPA should work cooperatively to ensure that contamination cases involving spills of crude oil from pipelines are corrected expeditiously to protect human health and the environment. (IOGCC Guidelines sections 4.5.2.a. and 5.1.a.)

#### **OCD Response:**

OCD is the lead agency and works closely with NMED if analysis shows hazardous waste is involved. The OCD requires operators to submit an analysis if it is not exempt.

#### **Follow-up Review Comments:**

This recommendation has been met.

### **Finding and recommendation I.9**

#### **Finding I.9:**

OCD R-3221-C, the "no pit" order for southeastern New Mexico, exempts pits which receive up to 1 barrel of produced water a day from each 40-acre spacing unit not to exceed a total of 16 barrels of produced water a day.

#### **Recommendation I.9:**

OCD should review and evaluate the technical basis for the "low-volume" exemption in Order R-3221-C to ensure that fresh groundwater in southeastern New Mexico is adequately protected. (IOGCC Guidelines, sections 5. 1. A. and 5. 1. C.)

#### **OCD Response:**

Data obtained from OCD studies and recent pit closures have shown that very small volume discharges have resulted in ground water contamination. Rules are being drafted that will prohibit the use of pits that can adversely impact ground water.

#### **Follow-up Review Comments:**

This recommendation has been met. OCD is commended for completing review of the low volume exemption, and is adopting rules for the protection of fresh groundwater.

### **Finding and recommendation I.10**

#### **Finding I.10:**

Of the 103 contamination cases reported by OCD, remediation has been completed or is ongoing at 65 of the sites. Preliminary investigations have been conducted at most of the remaining sites. No information is available to the Review Team that indicates how OCD will respond to these remaining sites, or in what order. There appears to be no written criteria for assessment of contaminated sites or prioritization of responses to cases involving areawide contamination.

#### **Recommendation I.10:**

OCD should develop and publish criteria for assessing and ranking contamination cases, and should use that criteria in setting agency priorities for responses. OCD also should continue to investigate and monitor areawide contamination cases to ensure that existing groundwater pollution is abated as required by state law. (IOGCC Guidelines, section 5.1.a.)

#### **OCD Response:**

The OCD has developed criteria for ranking historical contamination based on:

1. Potential for impacts on public health.
2. Potential for impacts on surface & ground waters.
3. Potential for continued migration of contaminants.
4. Magnitude of extent of contamination.

All recent contamination cases are addressed with remediation or abatement plans pursuant to Rule 116.

#### **Follow-up Review Comments:**

This recommendation has been met. OCD has developed criteria for the ranking of contaminated sites pursuant to the notification requirements of Rule 116, and the abatement requirements of Rule 19. OCD has applied the criteria; sites that pose a threat to health or groundwater are addressed immediately.

### **Finding and recommendation I.11**

#### **Finding I.11:**

As a general matter, the use of unwritten policies as regulatory tools may create confusion and uncertainty in the regulated community and for members of the public.

#### **Recommendation I.11:**

OCD should publish a statement of its regulatory policies. (IOGCC Guidelines, section 4.2.2.2.)

**OCD Response:**

Past regulatory policies have either been incorporated in rules or published in the Environmental Handbook

**Follow-up Review Comments:**

This recommendation has been met.

**Finding and recommendation I.12****Finding I.12:**

OCD's memoranda and notices to operators are valuable instruments with which to communicate agency policies, guidance, legal interpretations and regulatory expectations. However, collectively, they are not contained in any single document.

**Recommendation I.12:**

All memoranda and notices to operators should be numbered sequentially and included in OCD's Environmental Regulations Manual. (IOGCC Guidelines, section 4.2.2.2.)

**OCD Response:**

Memoranda and notices are no longer used to interpret environmental issues

**Follow-up Review Comments:**

This recommendation has been met by incorporating regulatory policies and memoranda into rules, or publication in the "Environmental Handbook."

**Finding and recommendation I.13****Finding I.13:**

The enforceability of OCD's environmental policies is not certain. Neither do OCD's memoranda and notices to operators cite legal authorities for any requirements listed.

**Recommendation I.13:**

OCD policies, memoranda and notices should include citations to legal authorities, if applicable, and should be reviewed for their enforceability. OCD should seek a legal opinion regarding the enforceability of its policies, memoranda and notices. (IOGCC Guidelines, sections 3.1.b., 4.2.2.2. and 5.1)

**OCD Response:**

Memoranda from Director LeMay to legal bureau requires legal review and cite inclusion in all memoranda interpreting rules or policies. See also I.12.

**Follow-up Review Comments:**

This recommendation has been met by incorporating regulatory policies and memoranda into rules, or publication in the “Environmental Handbook.”

**Finding and recommendation I.14****Finding I.14:**

There is no formal agreement between the Oil Conservation Division and Bureau of Land Management that provides for the coordination of field inspections for consistency in the application of technical requirements in the “vulnerable area” of the San Juan Basin, and for overall cooperation in E&P waste management.

**Recommendation I.14:**

OCD and BLM should enter into a formal agreement, consistent with their respective authorities, that sets forth each agency's responsibilities for inspection and enforcement and for ensuring appropriate cementing and casing of production wells, proper construction of surface impoundments, installation of tanks, and closure of unlined pits in northwestern New Mexico. (IOGCC Guidelines, sections 4.4. and 4.5.2.a.)

**OCD Response:**

The BLM and the OCD have worked informally through joint committees and to establish common cementing and casing guidelines and P&A requirements. The OCD, BLM and Navajo Tribe have worked together to establish common pit closure requirements. The BLM and OCD communicate on a daily basis about compliance issues.

**Follow-up Review Comments:**

This recommendation has not been met. However, the Review Team notes that the Guidelines do not require formal agreements between state and federal agencies. The agency coordination purpose of the recommendation appears to have been met through informal means. No further recommendation is made.

**Finding and recommendation I.15****Finding I.15:**

New Mexico’s expression of jurisdiction over non-Indian operators on Indian lands appears to be unilateral and without any formal cooperative agreement. The Review Team is concerned that the controversy over jurisdiction erects barriers to interagency and international cooperation, and as a result, may inhibit protection of public health and the environment as related oil and gas production and E&P waste management on Indian lands.

**Recommendation I.15:**

While the issue of Indian jurisdiction is beyond the scope of the IOGCC Guidelines, the Review Team recommends that OCD ask the Governor's office to initiate government-to-government contact with the three oil-and gas-producing tribes in the northwest, expressing respect for their treaty rights

and boundaries and pledging the state's commitment to work cooperatively, while acknowledging the state's obligations to protect public health and the environment.

**OCD Response:**

Due to the sensitive nature of State/Tribal relations, cooperation is carried out at an informal working level between State and Tribal agencies. The formal involvement of tribal and State leaders would involve other unrelated controversial issues and could damage the current working relationships. The OCD recently plugged several orphan wells on Navajo Tribal lands. The tribe reimbursed the OCD plugging fund with the proceeds from the plugging bond. Navajo EPA and grazing were involved in this operation

**Follow-up Review Comments:**

This recommendation has not been met. However, the Review Team recognizes that the initial recommendation is beyond the scope of the Guidelines. The state-tribe coordination purpose of the recommendation appears to have been met through informal means. No further recommendation is made.

**Finding and recommendation I.16**

**Finding I.16:**

Formal, cooperative agreements among state, federal and tribal governments are needed to ensure the consistent regulation of oil and gas production and E&P waste management practices in northwestern New Mexico.

**Recommendation I.16:**

In addition to the government-to-government contact suggested in Recommendation I.15., OCD should initiate periodic meetings and discussions with BLM, BIA, USFS, the Jicarilla Apache Tribe, the Navajo Nation, and the Ute Mountain Ute Nation to develop, adopt and implement a formal cooperative agreement for consistent regulation of E&P operations on state, federal, Indian and private lands in northwestern New Mexico. (IOGCC Guidelines, section 4.4.)

**OCD Response:**

The tribes and OCD work together on several committees and the affected tribes always participate on OCD committees unless they are represented by the BLM. For example, the Jicarilla Tribe participates on the Fruitland Coal study committee chaired by the OCD. The Jicarilla Tribe and the OCD Aztec office often meet informally to discuss issues of mutual interest such as some problems that arose recently concerning produced water at a well site. The Ute Mountain Ute Tribe has chosen to not have any kind of contact with the OCD due to a controversial tax issue. The OCD and the Navajo Tribe often cooperate in scheduling injection well MIT's.

**Follow-up Review Comments:**

This recommendation has not been met. However, the Review Team notes that the Guidelines do not require formal agreements among these agencies. The agency coordination purpose of the

recommendation appears to have been met through informal means. No further recommendation is made.

#### **Finding and recommendation I.18**

##### **Finding I.18:**

OCD's five-person Environmental Bureau appears to lack enough personnel to keep up with current and future regulatory responsibilities. This apparent shortage may inhibit OCD in carrying out its statutory mandates.

##### **Recommendation I.18:**

OCD should perform a workload analysis of current and projected workloads to determine if there is and will be sufficient staff to accomplish the goals and objectives of the program. The workload analysis should consider the number of applications and plans to be reviewed; the number of inspections to be conducted; increased data management responsibilities; current staffing at both the central and district offices; and projected personnel and funding shortfalls. (IOGCC Guidelines, section 4.3.1.)

##### **OCD Response:**

In 1995 the OCD Environmental Bureau performed a workload analysis and submitted a request for 1 additional environmental inspector for the OCD Artesia Office and 2 additional environmental staff for the Santa Fe Office.

Since that time, primarily as a result of increased automation and efficiency in administration, positions were reallocated to add one field inspector in Aztec, a second environmental engineer in Hobbs, an environmental engineer in Artesia and an additional environmental engineer in Santa Fe.

##### **Follow-up Review Comments:**

This recommendation has been met. OCD should be commended on its efforts to increase efficiency by utilizing increased automation and streamlining business practices. The Team remains concerned that ground water contamination incidences and abandoned sites may need more attention, but no further recommendation is made.

#### **Finding and recommendation I.19**

##### **Finding I.19:**

OCD's current level of legal assistance does not appear to be adequate to support the agency's ongoing administrative, technical and enforcement programs.

##### **Recommendation I.19:**

The workload analysis recommended in Recommendation I.18 should include an evaluation of legal support available to the Division. (IOGCC Guidelines, section 4.3.1.2.)



**OCD Response:**

One additional attorney was assigned Division responsibilities.

**Follow-up Review Comments:**

With the addition of an attorney, there is now legal support for OCD and separate legal support for OCC. The Review team finds that the recommendation has been implemented and meets the standard of 4.3.1.2 of the 2000 Guidelines.

**Finding and recommendation I.20****Finding I.20:**

The Oil conservation Commission has not used an attorney other than the OCD Counsel.

**Recommendation I.20:**

Although the issue of independent legal counsel is not addressed in the IOGCC Guidelines, the Review Team recommends that the Oil Conservation Commission use independent legal counsel to avoid any potential conflict of interest.

**OCD Response:**

The OCC is represented by counsel independent from the Division counsel.

**Follow-up Review Comments:**

This recommendation has been met.

**Finding and recommendation I.21****Finding I.21:**

Recent cutbacks in staff travel funds have constrained OCD's ability to expand environmental training for field personnel.

**Recommendation I.21:**

Additional financial resources should be allocated to ensure that funds are available for environmental training of field personnel, a key programmatic objective of OCD. (IOGCC Guidelines, section 4.3.2.)

**OCD Response:**

OCD has developed a training plan that is updated annually. Lack of in-state training courses and out of state travel resources hampers our efforts. A process is in place to identify outside resources.

**Follow-up Review Comments:**

While additional funding has not been secured, the intent of this recommendation has been met. In the past three years, OCD has developed a training plan, and has budgeted to accomplish the plan. OCD has adapted to reduced travel funding by offering training at District sites, scheduling an annual in-house training, and taking advantage of training offered by industry, and is seeking additional resources to meet its training goals.

**Finding and recommendation I.22****Finding I.22:**

The Review Team applauds the cooperative efforts of NMED, OCD, industry and environmental organizations to define the extent of NORM occurrence in E&P wastes and oil-field equipment in New Mexico.

**Recommendation I.22:**

Although the IOGCC Guidelines do not address the radiological constituents of E&P wastes, the Review Team recommends that OCD and NMED continue to work cooperatively with industry and environmental groups to systematically characterize oil-field waste streams and equipment for oil-field NORM.

**OCD Response:**

The OCD is currently meeting this recommendation. In 1999 the OCD was tasked to tabulate all NORM data in a database.

**Follow-up Review Comments:**

This recommendation has been met. NORM is now addressed by standards of the Guidelines and is discussed further in Section 7 of this report.

**Finding and recommendation I.23****Finding I.23:**

NMED, OCD, industry and environmental groups have cooperated in developing proposed oil-field NORM regulations for consideration by the Environment Improvement Board and Radiation Technical Advisory Council. OCD cannot fulfill its statutory mandate to protect public health and the environment without Environment Improvement Board authority to regulate the disposal of oil-field NORM at facilities within OCD's jurisdiction

**Recommendation I.23:**

If proposed oil-field NORM regulations are promulgated after public comment and hearing, OCD and NMED should develop and implement a formal agreement that authorizes the OCC to promulgate technical standards for disposal of oilfield NORM in facilities regulated by OCD pursuant to the Oil and Gas Act. (IOGCC Guidelines, sections 4.4 and 5.1.a)

**OCD Response:**

NORM regulations were promulgated by the EIB. The OCD promulgated NORM disposal regulations that include technical standards for disposal of oilfield NORM at OCD-regulated facilities

**Follow-up Review Comments:**

This recommendation has been met.

**Finding and Recommendation I.24****Finding I.24:**

Industry is implementing the Legislature's direction to identify abandoned oil and gas production facilities and E&P waste management sites at the same time that OCD is conducting an inventory of pits.

**Recommendation I.24:**

Although abandoned sites are outside the scope of the IOGCC Guidelines, the Review Team recommends that OCD identify all abandoned oil-field sites, using information developed by industry, and solicit input from interested parties.

**OCD Response:**

The individual districts are identifying abandoned sites in their normal course of field operations. OCD monitors non-producing wells through ONGARD for identifying companies that are no longer submitting reports.

**Follow-up Review Comments:**

This recommendation has been met. Abandoned Sites are now addressed by standards in Section 6 of the Guidelines.

**Finding and recommendation I.25****Finding I.25:**

NMED has statutory and regulatory authority to permit or otherwise regulate emissions of air pollutants from E&P operations.

**Recommendation I.25:**

NMED should evaluate, and if necessary, permit or otherwise regulate air emissions from E&P operations to prevent or minimize air pollution. In reviewing which E&P operations should receive scrutiny for air emissions, NMED should evaluate facilities which handle, store, treat, or dispose of oily wastes, such as commercial landfarms, oil treating plants, large-scale impoundments, and tank batteries. (IOGCC Guidelines, sections 5.1.a and 5.7.2.2.c)

**OCD Response:**

The IOGCC Review Team report was supplied to the Environment Department.

**Follow-up Review Comments:**

This recommendation has been met. The regulation of air quality is currently outside the scope of the Guidelines. NMED has evaluated and is regulating air emissions from E&P operations.

**Finding and recommendation I.26****Finding I.26:**

OCD regulates emissions of hydrogen sulfide from facilities that are permitted pursuant to Rule 711 and located near populated areas, for the purpose of protecting public health.

**Recommendation I.26:**

OCD should amend Rule 711 to establish maximum concentrations for release of hydrogen sulfide from commercial surface disposal facilities. (IOGCC Guidelines, sections 5.7.2., 5.7.2.2.c. and 5.1.a.)

**OCD Response:**

The OCD amended Rule 711 to include language dealing with hydrogen sulfide emissions. Concentration limits are included in the application guidelines and individual permit conditions

**Follow-up Review Comments:**

This recommendation has been met. Rule 711 B(1)(h) requires a Hydrogen Sulfide Prevention and Contingency Plan to protect public health.

**Finding and recommendation I.27****Finding I.27:**

NMED and OCD do not routinely consult on air quality matters prior to NMED's issuance of air quality permits for oil and gas facilities or prior to OCD's issuance of Rule 711 permits for commercial surface disposal facilities.

**Recommendation I.27:**

NMED and OCD should establish a routine consultation process that allows for consideration of air quality control strategies prior to issuance of air permits by NMED and Rule 711 permits by OCD. Such a consultation process also could include joint NMED-OCD field studies of air emissions from E&P waste facilities. (IOGCC Guidelines, sections 4.4., 5.1.a., and 5.1.f.)

**OCD Response:**

Under the OCD's legislative mandate, Rule 711 permits are designed to protect fresh waters, human health and the environment. The OCD has no legislative authority for air quality permits and does not have the expertise to evaluate air quality permits.

**Follow-up Review Comments:**

This recommendation has not been met. The regulation of air quality is currently outside the scope of the Guidelines. NMED has evaluated and is regulating air emissions from E&P operations. OCD is regulating H<sub>2</sub>S under Rule 711 and Rule 118. No further recommendation is made.

## PERMITTING

### **Finding and recommendation II.1**

#### **Finding II.1:**

There is no requirement that an operator notify OCD when construction or use of a drilling pit is to commence. In addition, pit construction details are neither required nor reviewed by district staff prior to issuing a drilling permit.

#### **Recommendation II.1:**

OCD should require an operator to notify the appropriate district office prior to use of any drilling pit, so that a field representative may have the opportunity to inspect it. (IOGCC Guidelines, section 5.3.2.d.) (See, also, Finding and Recommendation VI.4.)

#### **OCD Response:**

The proposed use, location, construction and operation details of any lined or unlined pits should be provided to the division for approval under the APD. Rule 102, 202 and Form C-101 currently do not require this information. The OCD is changing these rules and form through the rule-making process

#### **Follow-up Review Comments:**

The notification recommendation has been met. Rulemaking now in progress will also require submittal of construction and operation details as part of the APD.

### **Finding and recommendation II.2**

#### **Finding II.2:**

OCD Rule 711 applies to commercial facilities, but does not address the permitting of centralized facilities, although the two types of facilities are often similar in operation.

#### **Recommendation II.2:**

OCD Rule 711 should be amended to include regulation of centralized facilities on a statewide basis. (IOGCC Guidelines, section 5.7.2.2.) Proposed changes to rule 711 include the addition of centralized facilities.

#### **OCD Response:**

Changes to Rule 711 include the addition of centralized facilities.

#### **Follow-up Review Comments:**

This recommendation has been met.

### **Finding and recommendation II.3**

#### **Finding II.3:**

While some landspreading operations are approved by the district supervisor, OCD does not always approve on-site landspreading of E&P wastes.

#### **Recommendation II.3:**

OCD should authorize on-site landspreading of E&P wastes by permit or rule. (Guidelines, section 5.4.2.)

#### **OCD Response:**

OCD is developing rules for landfilling, landfarming, landspreading, burial and roadspreading of E&P wastes.

#### **Follow-up Review Comments:**

This recommendation has been met by Rules 102 and 105.

### **Finding and recommendation II.4**

#### **Finding II.4:**

Compliance status and history of an applicant is considered with issuing a permit for commercial and centralized facilities, but is not considered for other types of facilities.

#### **Recommendation II.4:**

OCD should consider an applicant's history of compliance when deciding to issue permits for all E&P waste disposal facilities and oil and gas operations. (IOGCC Guidelines, section 4.1.1.)

#### **OCD Response:**

OCD Rule 711 currently requires consideration of an applicant's compliance with Division Rules.

#### **Follow-up Review Comments:**

This recommendation has been met. Rule 711 C.5 gives OCD the authority to consider the applicant's compliance history.

### **Finding and recommendation II.5**

#### **Finding II.5:**

The amounts of financial assurance required for closure of commercial surface disposal facilities and oil treating plants are fixed and there is no review made of the adequacy of those amounts.

**Recommendation II.5:**

OCD should periodically review the amount of financial assurance required for commercial surface disposal facilities and waste oil treating plants and make adjustments, as needed, to ensure that adequate funds will be available for closure if the financial instrument is forfeited. (IOGCC Guidelines, sections 4.2.3. and 5.7.2.2.e.)

**OCD Response:**

Changes to Rule 711 include bonding amounts which reflect the actual cost of closure including removal or remediation of wastes, removal of equipment and recontouring of the facility. Rule 312 (treating plants) was combined with Rule 711.

**Follow-up Review Comments:**

This recommendation has been met by Rule 711. Commercial treatment facilities are required to be bonded to the estimated value of reclamation. For commercial facilities existing on January 1, 1996, there is a maximum limit of \$250,000. Centralized facilities are required to have a \$25,000 bond per facility, or statewide bond of \$50,000. OCD provided information showing that there were only 3 of 24 existing commercial facilities where the closure estimate exceeded the limit. Should one of these facilities become abandoned, OCD can use funds from the Reclamation Fund to supplement the amount of the operator's financial assurance. The Reclamation Fund is funded by a fee on production and is capped at \$1,000,000. New Mexico has been requesting spending authority for about \$450,000 annually from the fund and has been plugging about 40 abandoned wells per year. The Reclamation Fund may also be used to clean up abandoned centralized facilities.

**Finding and recommendation II.6****Finding II.6:**

OCD is proposing to require financial assurance for centralized facilities.

**Recommendation II.6:**

OCD is encouraged to follow through on its proposal to require adequate financial assurance for centralized facilities. (IOGCC Guidelines, sections 4.2.3. and 5.7.2.2.e.)

**OCD Response:**

All centralized disposal facilities are included in the changes to Rule 711 and require closure bonds.

**Follow-up Review Comments:**

This recommendation has been met.



## **SITE CLOSURE**

### **Finding and Recommendation II.7**

#### **Finding II.7:**

While the well plugging fund is adequate to meet the needs of the current OCD well plugging program, a shorter contract approval time could assist OCD with more timely well plugging.

#### **Recommendation II.7:**

OCD should investigate and develop a means to accomplish contract procurement for well plugging in a more timely manner. (IOGCC Guidelines, section 4.2.3.)

#### **OCD Response:**

Although cumbersome, the plugging contracting process has worked well enough to keep the plugging work moving. To streamline the process, a “blanket” type contract/price agreement for both the southeast and northwest is being developed for multiple contractors under contract for one or two-year period.

#### **Follow-up Review Comments:**

This recommendation has been met.

### **Finding and recommendation II.8**

#### **Finding II.8:**

Except for emergencies, the well plugging fund covers only orphaned and abandoned wells. OCD reported there are other abandoned facilities that need to be properly closed, yet funds are not available for that purpose.

#### **Recommendation II.8:**

Although IOGCC Guidelines do not address abandoned sites, New Mexico is encouraged to find a way to broaden the scope and purpose of the well plugging fund to include orphaned and abandoned facilities besides wells, or else, seek a way to provide separate funding for that purpose. (See, also, Finding and Recommendation I.24.)

#### **OCD Response:**

Legislation was enacted in 1996 to include the “restoration and remediation of well sites and associated production facilities.”

#### **Follow-up Review Comments:**

This recommendation has been met.

## **Finding and recommendation II.9**

### **Finding II.9:**

The well plugging fund can only be used to plug the well and restore the surface. There is no mechanism in place to remediate any pollution that has occurred as a result of operations.

### **Recommendation II.9:**

The scope and purpose of the well plugging fund should be expanded to include remediation of any pollution that has occurred as a result of operation of the well. (IOGCC Guidelines, section 5.1.a.)

### **OCD Response:**

In 1996 the statutes were changed to allow the reclamation fund to be used for environmental reclamation of a well site.

### **Follow-up Review Comments:**

This recommendation has been met.

## **Finding and recommendation II.10**

### **Finding II.10:**

There is no time limit for closure of drilling pits, emergency pits and other pits at the well-sites.

### **Recommendation II.10:**

OCD should set time limits for closure of drilling pits, emergency pits and other pits at the well-site. (IOGCC Guidelines, section 5.3.6.)

### **OCD Response:**

Rule 105 is being redrafted to include:

1. All pits not just drilling pits.
2. A condition setting time limits for closure after cessation of operation.
3. A requirement that closure be in accordance with division guidelines.

### **Follow-up Review Comments:**

This recommendation has not been met. However, OCD is developing a rulemaking to address well site pit permitting and closure, including timeliness. **The review team recommends that OCD adopt the new rule consistent with the standards of section 5.5.5 of the 2000 Guidelines.**

## SITING

### **Finding and recommendation III.1**

#### **Finding III.1:**

OCD does not have statewide siting requirements that specifically protect wetlands or address floodplains.

#### **Recommendation III.1:**

OCD should develop statewide siting requirements which specifically protect wetlands and address floodplains. (IOGCC Guidelines, section 5.3.3.)

#### **OCD Response:**

This issue will be incorporated into the new rule on onsite disposal. See II.3.

#### **Follow-up Review Comments:**

This recommendation has not been met. However, OCD is developing a rulemaking to address statewide siting requirements. **The review team recommends that OCD adopt the new rule consistent with the standards of section 5.1.e of the 2000 Guidelines.**

### **Finding and recommendation III.2**

#### **Finding III.2:**

OCD has authority under the OGA to protect public health and establish site suitability limitations on a case-by-case basis, but has not adopted generally applicable siting requirements for populated areas.

#### **Recommendation III.2:**

OCD should adopt siting restrictions applicable to E&P waste management facilities. Such restrictions might include buffer zones around populated areas or facility-specific design requirements applicable to environmentally sensitive areas. (IOGCC Guidelines, sections 5.1.a., 5.3.3., and 5.7.2.2.b.)

#### **OCD Response:**

Changes in Rule 711 include additional siting restrictions.

#### **Follow-up Review Comments:**

This recommendation has been met.

### **Finding and recommendation III.3**

#### **Finding III.3:**

There appears to be little or no coordination between local planning authorities and state regulatory agencies such as OCD regarding the siting of E&P waste facilities.

#### **Recommendation III.3:**

OCD should work closely with local governments on issues relating to the siting of E&P waste facilities in close proximity to populated areas. (IOGCC Guidelines, sections 5.1. and 5.3.3.)

#### **OCD Response:**

Local governments are supplied with copies of notices of applications pursuant to Rule 711 and the discharge plan requirements, and are encouraged to provide input during the review process.

#### **Follow-up Review Comments:**

This recommendation has been met.

## **PUBLIC PARTICIPATION**

### **Finding and Recommendation IV.1**

#### **Finding IV.1:**

OCD does not always include non-industry participation in the initial development of rules and regulations that address E&P waste management.

#### **Recommendation IV.1**

OCD should include participation of interested groups in advisory committees for the initial development of major rules and regulations. (IOGCC Guidelines, section 4.2.2.3.)

#### **OCD Response:**

All new rules are presented to the OCC at a scheduled hearing in OCD proposed draft form. The OCC at that time forms an advisory committee consisting of interested groups to assess and refine the rule prior to presentation of a final proposal to the commission. The OCC sets appropriate time schedules. Since the review, all environmentally related rules have had public input.

#### **Follow-up Review Comments:**

This recommendation has been met.

### **Finding and recommendation IV.2**

#### **Finding IV.2:**

OCD provides and requires public notice, opportunity for comment, and hearings for rulemakings, commercial facility permit applications, and discharge plan applications.

#### **Recommendation IV.2:**

OCD should adopt public notice, comment, hearing, and adjacent-landowner notification provisions for centralized facilities. (IOGCC Guidelines, section 4.2.2.1.) (See, also, Finding and Recommendation II.2.)

#### **OCD Response:**

Changes to Rule 711 implement this recommendation

#### **Follow-up Review Comments:**

This recommendation has been met.

### **Finding and recommendation IV.3**

#### **Finding IV.3:**

OCD presently uses advisory groups only for regulation development and does not use such groups for overall program evaluation.

#### **Recommendation IV.3:**

OCD should use advisory groups for receiving input and feedback on the overall program for management of E&P wastes. In particular, OCD should provide forums and opportunities whereby representatives of industry, the public, and local, state, federal, and tribal agencies can evaluate the effectiveness of the State's program for management of E&P wastes. The advisory groups may be used on a statewide or district level. (IOGCC Guidelines, section 4.2.2.3.)

#### **OCD Response:**

The OCD has chosen to use ad hoc committees as opposed to standing committees.

#### **Follow-up Review Comments:**

This recommendation has been met.

### **Finding and recommendation IV.4**

#### **Finding IV.4:**

OCD makes use of various mailing lists to disseminate program information, and participates in industry seminars and programs to share information. However, there is a general lack of public knowledge about OCD's environmental protection responsibilities.

#### **Recommendation IV.4:**

OCD should develop a broader public information program that communicates OCD's overall mission and responsibilities to the public. The program should also include provisions for making citizen complaint procedures more widely known. Press releases should be used to supplement this education process. (IOGCC Guidelines section 4.2.2.2.)

#### **OCD Response:**

Each district has established citizen complaint procedures. The OCD has developed a web page to disseminate information about the division and its responsibilities

#### **Follow-up Review Comments:**

This recommendation has been met.

## CONTINGENCY PLANNING

### **Finding and recommendation V.1**

#### **Finding V.1:**

Despite having sufficient statutory authority under the Oil and Gas Act and the Water Quality Act to require operator compliance with a state-prepared contingency planning program for preventing and abating spills and releases.

#### **Recommendation V.1:**

OCD should develop a statewide contingency planning program that addresses release prevention, control and abatement. This program should require operators to prepare and maintain company wide or facility-specific contingency plans, based on general design and operational standards outlined in the state program and current OCD spill-reporting and corrective-action requirements. Information about the state program should be disseminated to the regulated community and the public in the agency's Environmental Regulations Manual. Existing spill response guidelines could be used to aid operator compliance. (IOGCC Guidelines, section 4.2.1.)

#### **OCD Response:**

Rule 116 was changed and Rule 19 was created to address control and abatement of releases. Discharge plans are a preventive permit. The pollution prevention manual has been created to address prevention and recycle/reuse. The Division participates in joint emergency response (ER) exercises with industry, law enforcement agencies and local governments.

The Division has required an operator conduct blowout ER training through a supplemental environmental program (SEP).

OCD is currently working on a contingency plan to be included in the regulations.

#### **Follow-up Review Comments:**

This recommendation has been met.

### **Finding and recommendation V.2**

#### **Finding V.2:**

Rule 116 is undergoing internal review by OCD to determine if its reporting requirements, including reportable quantities, are protective of public health and the environment.

#### **Recommendation V.2:**

OCD should adopt revised spill reporting requirements that are protective of fresh water, public health and the environment. (IOGCC Guidelines, sections 4.2.1. and 5.1.a.)

#### **OCD Response:**

Rule 116 reporting requirements have been revised.

**Follow-up Review Comments:**

This recommendation has been met.

**Finding and recommendation V.3****Finding V.3:**

There are no Reportable Quantities for “water contaminants” required to be reported under WQCC Regulations or for “deleterious chemicals” required to be reported under Rule 116.

**Recommendation V.3:**

Although the IOGCC Guidelines do not address Reportable Quantities, the Review Team recommends that OCD define Reportable Quantities for substances other than crude oil, condensate and produced water.

**OCD Response:**

The reportable quantity for “deleterious chemicals” under OCD Rule 116 and “water contaminants” under WQCC Regulation 1-203 is any volume. There is no lower limit on what is reportable under these rules and regulations. Rule 116 was revised to further protect fresh waters.

**Follow-up Review Comments:**

This recommendation has been met.

**Finding and recommendation V.4****Finding V.4:**

Rule 116 does not specify the process by which the agency will approve, modify, or deny a corrective-action plan submitted by an operator within 10 days of a spill.

**Recommendation V.4:**

The Oil Conservation Division should specify a process by which the Oil Conservation Division approves, modifies, or denies an operator's corrective-action plan. (IOGCC Guidelines, sections 4.2.1. and, generally, 4.1.3.1.f.)

**OCD Response:**

The OCD has revised Rule 116 addressing OCD approval of corrective action plans.

**Follow-up Review Comments:**

This recommendation has been met.



## **Finding and recommendation V.5**

### **Finding V.5:**

OCD corrective-action and remediation standards are contained in OCD guidelines and in references to WQCC Regulations. None of those standards have been promulgated as rules by OCD or OCC.

### **Recommendation V.5:**

OCD should incorporate the remediation standards of its pit closure guidelines and the groundwater numerical standards and "toxic pollutant" narrative standards of the WQCC Regulations in the state contingency planning program discussed in Finding and Recommendation V.1. The standards should be applicable not only to spills and accidental releases, but also to chronic releases from E&P waste management facilities and oil and gas facilities. (IOGCC Guidelines sections 4.2.1. and 5.1.a.)

### **OCD Response:**

The OCD adopted Rule 19 to address cleanup standards at all oil and gas sites.

### **Follow-up Review Comments:**

This recommendation has been met.

## **Finding and recommendation V.6**

### **Finding V.6:**

OCD district policy is to require cleanup of any volume of free-standing oil, condensate or produced water if the substance poses a safety risk to people or animals. The Review Team finds that this policy is a prudent measure to protect public safety and private property.

### **Recommendation V.6:**

OCD should develop requirements for cleanup of spills with volumes below the reportable quantities of Rule 116, but which may pose an undue risk to people, animals or the environment. These requirements should be incorporated in the statewide contingency program suggested in Recommendation V.1. (IOGCC Guidelines, sections 4.2.1. and 5.1.a.)

### **OCD Response:**

A spill "which may pose an undue risk to people, animals or the environment" is now required to be reported immediately under Rule 116 and would require mitigation actions. Rule 19 requires a formal abatement plan for contamination that cannot be remediated within one year

### **Follow-up Review Comments:**

This recommendation has been met.

### **Finding and recommendation V.7**

#### **Finding V.7:**

OCD does not have a formalized plan to respond to emergencies within its jurisdiction, including those involving releases of hydrogen sulfide.

#### **Recommendation V.7:**

OCD should develop internal mechanisms to respond to emergencies within its jurisdiction. OCD should communicate its internal response plan to other state and federal agencies to ensure that its responsibilities are well understood. (IOGCC Guidelines, section 4.2.1.)

#### **OCD Response:**

The OCD is a member agency of the state Hazardous Materials Emergency Response (HMER) Plan. The OCD is documenting its internal response procedures as an addendum to the HMER Plan.

#### **Follow-up Review Comments:**

This recommendation has been met.

### **Finding and recommendation V.8**

#### **Finding V.8:**

The industry's aging infrastructure report, which made recommendations for new preventive maintenance rules for certain facilities, is available to the public through OCD but has not been widely disseminated to or debated by the public.

#### **Recommendation V.8:**

OCD should seek public comment on industry's aging infrastructure report and take appropriate action, if warranted. (IOGCC Guidelines, section 4.2.2.1.)

#### **OCD Response:**

NM First has identified this as a priority. The Division is appointing a committee to revisit this issue.

#### **Follow-up Review Comments:**

This recommendation has not been met. OCD has initiated a program to gather public input on this issue. **The Review team recommends that OCD continue with the planned public involvement (Guidelines section 4.2.2.3).**

## TECHNICAL

### **Finding and Recommendation VI.1**

#### **Finding VI.1:**

Technical guidelines are valuable tools for assisting the regulated community in carrying out and complying with OCD requirements for such activities as pit closures, construction of surface impoundments, preparation of discharge plan applications for a variety of facilities, construction and operation of landfarms, and sample collection, analysis and quality control.

#### **Recommendation VI.1:**

Although beyond the scope of the IOGCC Guidelines, the Review Team recommends OCD adopt, where appropriate, rules which authorize guidelines not referenced elsewhere, and otherwise, cross-reference guidelines to their applicable rules, regulations or orders. Guidelines also should be published in the New Mexico Register.

#### **OCD Response:**

Guidelines are now referenced in some rules and are available on the Division web site

#### **Follow-up Review Comments:**

This recommendation has been met. OCD has also developed an Environmental Handbook containing program guidance and has posted it on their website.

### **Finding and recommendation VI.2**

#### **Finding VI.2:**

OCD is considering rule changes which would require the evaluation of existing unlined skimming pits and would require closure or lining if they are found to be causing pollution.

#### **Recommendation VI.2:**

OCD should evaluate the extent to which unlined skimming pits may be causing pollution and require lining or closure of unlined skimming pits if they are found to be causing pollution or may reasonably be expected to cause pollution. (IOGCC Guidelines, sections 5.3.4.h. and 5.3.5.1.)

#### **OCD Response:**

The OCD does not currently allow and for the past 5 years has not allowed the use of unlined skimmer pits at commercial and centralized disposal facilities. Previously, facilities permitted after OCC hearing allowed unlined skimmer pits if no protectable ground water could be found at the site. Since there is no protectable ground water at these prior permitted sites, it is recommended that no remedial actions be taken at these facilities until final closure of the individual facilities. Rule 310 prohibits the retention of oil in earthen reservoirs or open receptacles.

**Follow-up Review Comments:**

This recommendation has been met. Also see the discussion of pits in the Appendix.

**Finding and recommendation VI.3****Finding VI.3:**

Pit closures are carried out pursuant to OCD's Unlined Surface Impoundment Closure Guidelines. There are no specific requirements for the closure of pits outside the "vulnerable area" of the San Juan Basin, except for Rule 202.

**Recommendation VI.3:**

OCD should ensure that there are requirements and technical criteria to close all pits at the end of their useful life. (IOGCC Guidelines, section 5.3.6.a.)

**OCD Response:**

All rules authorizing pits should incorporate the requirement that they be closed in accordance with division guidelines

**Follow-up Review Comments:**

This recommendation has not been met. However, OCD has initiated rulemaking to address onsite pits. **The Review Team recommends that OCD adopt these rules consistent with Section 5.5 of the 2000 Guidelines (Guidelines section 5.5).**

**Finding and recommendation VI.4****Finding VI.4:**

OCD has no siting, construction, operational or closure requirements for drilling pits, nor siting, construction and operational requirements for on-site production and ancillary pits.

**Recommendation VI.4:**

OCD should develop requirements for the siting, construction, operation, and closure of reserve pits. In addition, OCD should develop and adopt requirements for construction and operation of on-site production and ancillary pits. Technical criteria to implement these requirements should allow for sufficient flexibility to accommodate any design which prevents contamination of fresh water, the health and safety of the public, and the quality of the environment. (IOGCC Guidelines, sections 5.3.4., 5.3.5., 5.3.6., 5.3.3., 5.1.2., and 5.1.c.)

**OCD Response:**

Approval of siting, construction and operation of lined pits and below grade tanks is already covered under Rule 18. All other on-site pits should be proposed and approved through the APD process (see Recommendation II.2.).

**Follow-up Review Comments:**

This recommendation has been met with regard to lined pits and below-grade tanks. This recommendation has not been specifically met with regard to reserve pits. However, OCD has initiated rulemaking to clearly address reserve pits. **The Review Team recommends that OCD adopt these rules consistent with Section 5.5 of the 2000 Guidelines.**

**Finding and recommendation VI.5****Finding VI.5:**

Oil treating plants (i.e., crude oil and tank bottom reclaimers), are not required to file a closure plan as a condition of permit approval.

**Recommendation VI.5:**

OCD should amend Rule 312 to require submittal of an acceptable closure plan as a condition of approval of a permit for an oil treating plant. (IOGCC Guidelines section 5.7.2.2.e.)

**OCD Response:**

Rule 312 was incorporated into Rule 711 which requires submission of a closure plan to be approved by the Director.

**Follow-up Review Comments:**

This recommendation has been met.

**Finding and recommendation VI.7****Finding VI.7:**

OCD has no technical requirements for burial and landfilling.

**Recommendation VI.7:**

OCD should develop burial and landfilling technical requirements consistent with IOGCC Guidelines for permitting, siting, construction, operation, and closure. (IOGCC Guidelines, section 5.5.)

**OCD Response:**

See recommendation II.3. Rule 711 has been changed to accomplish this recommendation for commercial and centralized facilities.

**Follow-up Review Comments:**

This recommendation has been met with regard to centralized and commercial facilities. **The Review Team recommends that OCD pursue pending rulemaking to meet the standards of section 5.7 of the Guidelines for onsite burial and landfilling.**

### **Finding and recommendation VI.8**

#### **Finding VI.8:**

OCD's uses of the terms landfilling, landspreading, and landfarming is inconsistent with the definitions found in the IOGCC Guidelines.

#### **Recommendation VI.8:**

The Review Team recommends that OCD clarify definitions for burial and landfilling, landfarming and landspreading. OCD should consider using the IOGCC definitions, where appropriate

#### **OCD Response:**

See recommendation II.3. Rule 711 has been changed to accomplish this recommendation for commercial and centralized facilities.

#### **Follow-up Review Comments:**

This recommendation has been met with regard to centralized and commercial facilities. **The Review Team recommends that OCD pursue pending rulemaking to meet the standards of sections 5.6.1 and 5.7.1 of the Guidelines.**

### **Finding and recommendation VI.9**

#### **Finding VI.9:**

There are no technical requirements for landspreading.

#### **Recommendation VI.9:**

OCD should evaluate the toxicity and environmental effects of E&P wastes that are landspread, and, if warranted, develop and adopt technical requirements for landspreading consistent with IOGCC Guidelines, section 5.4.

#### **OCD Response:**

See recommendation II.3. Rule 711 has been changed to accomplish this recommendation for commercial and centralized facilities

#### **Follow-up Review Comments:**

This recommendation has been met with regard to centralized and commercial facilities. **The Review Team recommends that OCD pursue pending rulemaking to meet the standards of sections 5.6 of the Guidelines.**

#### **Finding and recommendation VI.10**

##### **Finding VI.10:**

Other than verbal approval, there are no technical or regulatory requirements for roadspreading in New Mexico.

##### **Recommendation VI.10:**

OCD should develop an approval process and technical and regulatory requirements for roadspreading. The requirements should include provisions for notification of adjacent landowners and address waste contents and protection of water resources. (IOGCC Guidelines, sections 5.6.2. and 5.6.3.)

##### **OCD Response:**

See recommendation II.3.

##### **Follow-up Review Comments:**

This recommendation has been met with regard to centralized and commercial facilities. **The Review Team recommends that OCD pursue pending rulemaking to meet the standards of sections 5.8 of the Guidelines.**

#### **Finding and recommendation VI.11**

##### **Finding VI.11:**

Existing technical and regulatory requirements for pits may not be inclusive of pits at UIC facilities.

##### **Recommendation VI.11:**

OCD should ensure that pits at UIC facilities are covered by technical or regulatory requirements applicable to other types of surface impoundments. (IOGCC Guidelines, section 5.3.)

##### **OCD Response:**

Surface pits at UIC facilities are addressed in Rule 711.

##### **Follow-up Review Comments:**

This recommendation has been met.

#### **Finding and recommendation VI.12**

##### **Finding VI.12:**

OCD does not have any technical or regulatory requirements that address annular disposal.

**Recommendation VI.12:**

Although annular disposal is beyond the scope of the IOGCC Guidelines, the Review Team recommends that OCD ensure there is an approval process and technical requirements for this practice.

**OCD Response:**

Annular disposal will be addressed if and when an application for this disposal method is filed with the Division.

**Follow-up Review Comments:**

The recommendation has been met because OCD has agreed to address annular disposal, even though it is beyond the scope of the Guidelines, if and when this issue arises.

**Finding and recommendation VI.13****Finding VI.13:**

OCD requires operators of commercial surface disposal facilities to segregate exempt from nonexempt E&P wastes and prohibits them from accepting listed or characteristically hazardous wastes. This waste segregation requirement is contained only in OCD memoranda and has not been adopted as a rule, regulation or order.

**Recommendation VI.13:**

OCD should formalize its waste-segregation requirements for commercial surface disposal facilities in a rule, regulation or order that is applicable to all off-site disposal facilities. (IOGCC Guidelines, sections 2.9.b. and 5.1.b.)

**OCD Response:**

It was determined that the modification of Rule 711 should not address segregation of exempt and non-exempt wastes. Testing requirements for non-exempt wastes are stringent enough to address the review team's concerns.

**Follow-up Review Comments:**

This recommendation has been met.

**Finding and recommendation VI.14****Finding VI.14:**

OCD's revised policy of allowing disposal of nonexempt, non-oilfield wastes at exempt E&P waste disposal facilities only in an emergency is a prudent step toward the goal of preventing the disposal of hazardous wastes at E&P waste management facilities. This revised policy has not been put in writing.



**Recommendation VI.14:**

OCD should prohibit the disposal of non-oilfield wastes at exempt E&P waste facilities, except in emergencies, and should communicate this policy to operators and the public in writing. (IOGCC Guidelines, section 5.1.b.)

**OCD Response:**

Rule 711 was modified to address this concern.

**Follow-up Review Comments:**

This recommendation has been met.

**Finding and recommendation VI.15****Finding VI.15:**

For the purpose of supporting the rulemaking process, OCD has extensively tested, evaluated, and correlated E&P waste streams.

**Recommendation VI.15:**

OCD should continue to test, evaluate, and correlate E&P waste streams for the purpose of supporting the rulemaking process. (IOGCC Guidelines, sections 5.1.f., 5.7.2.1.c. and 5.7.2.2.d.vi.)

**OCD Response:**

The OCD has been doing this since 1985.

**Follow-up Review Comments:**

This recommendation has been met.

**Finding and recommendation VI.16****Finding VI.16:**

OCD relies exclusively on the written statements of waste generators that their wastes are exempt E&P wastes and are, therefore, not subject to OCD testing requirements applicable to surface disposal facilities.

**Recommendation VI.16:**

OCD should periodically, or on a random basis, sample and analyze wastes at surface disposal facilities to verify the written statements of the generators and to ensure that the accepted exempt wastes are not characteristically hazardous or contain hazardous constituents. (IOGCC Guidelines, sections 5.1.b. and 5.1.f.)

**OCD Response:**

All commercial and centralized facilities are inspected on an annual basis. Testing of exempt wastes will not verify the exempt status of the waste certified by the generator. The determination of a waste's exempt status is based upon the generation point not the quality of the waste. Upon testing, E&P exempt wastes may be characteristically hazardous, however, they are exempt from being characterized as a RCRA Subtitle C hazardous waste. The only way to verify the exempt status of the waste is to inspect the generation point. Since the OCD inspectors currently perform occasional inspections of the waste generation point, this recommendation is already being implemented and no action is required.

**Follow-up Review Comments:**

This recommendation has been met.

**Finding and recommendation VI.17****Finding VI.17:**

OCD's practice of encouraging operators to implement a waste management hierarchy is informal and does not include any regulatory incentives or requirements.

**Recommendation VI.17:**

OCD should consider various incentives and disseminate public information to encourage operators to reduce, recycle and reuse materials prior to disposal. OCD's waste hierarchy flow chart should be incorporated in the agency's Environmental Regulations Manual. (IOGCC Guidelines, sections 3.2. and 5.1.e.)

**OCD Response:**

OCD has completed the Pollution Prevention Manual and is in the process of conducting a training program. This manual addresses reduction, recycling and reuse.

**Follow-up Review Comments:**

This recommendation has been met. OCD deserves recognition for its efforts, as the Manual is often cited and used by other state programs.

## WASTE TRACKING AND CERTIFICATION

### **Finding and recommendation VII.1**

#### **Finding VII.1:**

OCD has not identified existing elements for waste hauler certification program, nor has it incorporated these elements into a comprehensive waste tracking program.

#### **Recommendation VII.1:**

OCD should fully develop and implement a waste tracking system that documents the movement of waste from the well-site to the disposal site, and incorporate existing waste tracking practices to the greatest extent possible. New Mexico should also develop and implement a waste hauler certification program.

#### **OCD Response:**

The OCD asked industry to form a committee to study the issue of waste tracking and to propose a rule to track all oilfield wastes. The industry committee reported that industry has adequate internal waste tracking and, as OCD has access to the records, recommended that no action be taken. The OCD is considering rule making that would require registration of waste transporters and training of transport employees.

#### **Follow-up Review Comments:**

This recommendation has not been met. **The Review Team recommends that OCD meet the requirements of section 4.2.6 of the Guidelines with regard to waste tracking. OCD is considering rulemaking to require registration of waste haulers. OCD should pursue this rulemaking (Guidelines sections 4.2.5).**

## **DATA MANAGEMENT**

### **Finding and recommendation VIII.1**

#### **Finding VIII.1:**

OCD headquarters and district offices are progressing in their development of comprehensive data management capabilities.

#### **Recommendation VIII.1:**

OCD should expand its data management capabilities to include complaint tracking, waste tracking, permits issued, compliance status, approvals given, inspections, enforcement actions, applications, and

#### **OCD Response:**

Vast amounts of data are generated through inspections, permitting, closures, remediations and waste disposal. RBDMS is designed with modules that address all issues in the recommendation

#### **Follow-up Review Comments:**

This recommendation has been met. The Review team commends OCD on its records automation initiatives.

### **Finding and recommendation VIII.2**

#### **Finding VIII.2:**

The ONGARD system is in a preliminary phase of implementation and is undergoing various debugging efforts. Monies appropriated for the system have been used for personnel to install, debug, and enter data into the system. Funds for ONGARD have not been used for the OCD/EB database development.

#### **Recommendation VIII.2:**

A data entry position is needed by OCD for development of the Environmental Bureau's new database system to preclude the use of staff for installation of the ONGARD system. (IOGCC Guidelines, section 4.3.1.)

#### **OCD Response:**

Data will be entered into the RBDMS system.

#### **Follow-up Review Comments:**

This recommendation has been met.

## INSPECTION, SURVEILLANCE, COMPLIANCE EVALUATION

### **Finding and recommendation IX.1**

#### **Finding IX.1:**

OCD may not have enough Field Representatives to adequately inspect a sufficient number of sites to ensure the goals of the Division are met.

#### **Recommendation IX.1:**

OCD should assess the workload and priorities of Field Representatives and look into the possibility of increasing the number of sites inspected to ensure that the goals of the division are met. (IOGCC Guidelines, section 4.3.1.4.) (See, also, Finding and Recommendation I.18.)

#### **OCD Response:**

Aztec has reorganized and increased efficiency and has added a full-time field representative. The Division has broadened inspector training, i.e., BLM training course, H2S training . RBDMS is providing more complete information on which to make management decisions.

#### **Follow-up Review Comments:**

This recommendation has been met.

### **Finding and recommendation IX.2**

#### **Finding IX.2:**

Selection of facilities to inspect are at the discretion of the district supervisor and the Field Representatives. There are no procedures to ensure that all facilities are inspected, or that facilities are inspected at random or based on risk.

#### **Recommendation IX.2:**

OCD should develop a procedure to ensure that all facilities and activities are inspected at a frequency that is commensurate with their risk to public health and the environment. The inspection reports should be preserved at the district in such a manner that these reports are readily available and accessible. (IOGCC Guidelines, section 4.1.2.1.b. (2))

#### **OCD Response:**

RBDMS has active modules for wells and incidents. Modules for other facilities are being populated. The Districts have policies in place that increase inspection frequency based on the risk posed by the facility.

#### **Follow-up Review Comments:**

This recommendation has been met.

### **Finding and recommendation IX.3**

#### **Finding IX.3:**

Procedures for the receipt and retention of operator reports are not standardized or documented.

#### **Recommendation IX.3:**

OCD should standardize and establish, in writing, the procedures for the receipt, documentation and retention of operator reports. (IOGCC Guidelines, section 4.1.2.1.a.)

#### **OCD Response:**

The spill report form has been standardized. Spill reports are entered into RBDMS. A memo has been prepared to standardize the procedures for entering spill data into RBDMS.

#### **Follow-up Review Comments:**

This recommendation has been met.

### **Finding and recommendation IX.4**

#### **Finding IX.4:**

The Oil Conservation Division district staff could benefit from additional training in specialized areas.

#### **Recommendation IX.4:**

The Oil Conservation Division/Environmental Bureau should provide training for district staff in such specialized areas as procedures for tracking complaints, sample collection and chain of custody, enforcement procedures, and evidence collection. (IOGCC Guidelines, section 4.3.1.4.) (see, also, Finding I.17)

#### **OCD Response:**

Additional training for field inspectors is necessary for properly performing their duties under OCD and WQCC environmental regulations. The Environmental Bureau is conducting periodic training at the district office.

#### **Follow-up Review Comments:**

This recommendation has been met.

### **Finding and recommendation IX.5**

#### **Finding IX.5:**

OCD may not have the legal authority to maintain the confidentiality of the name of a complainant.

**Recommendation IX.5:**

OCD should inform complainants that the agency may not be able to keep their names confidential.  
(IOGCC Guidelines, section 4.1.2.1.c.)

**OCD Response:**

Complainants are informed at the time of contact that the agency may not be able to keep their names confidential.

**Follow-up Review Comments:**

This recommendation has been met.

## **ENFORCEMENT**

### **Finding and recommendation X.1**

#### **Finding X.1:**

OCD prefers and encourages an operator's "voluntary compliance" with the state's laws, rules, regulations, and guidelines.

#### **Recommendation X.1:**

OCD should authorize an independent evaluation of the effectiveness of its "voluntary compliance" policy in encouraging operators to accomplish corrective actions. (IOGCC Guidelines, section 4.1.3.2.)

#### **OCD Response:**

It is not clear why the OCD should have "an independent evaluation of the effectiveness of its voluntary compliance policy." This is not OCD policy but is a state policy mandated by legislative act (74-6-9.D.). It is also one of five primary Department goals. Since the OCD has no discretion for not working toward voluntary compliance, and finds voluntary compliance far superior in obtaining satisfactory results, this recommendation should not be implemented

#### **Follow-up Review Comments:**

The Review Team finds the recommendation for an independent evaluation of the effectiveness of the voluntary compliance policy to be beyond the scope of the Guidelines. From a review of OCD's statutes and rules, the team finds that OCD is not limited to voluntary compliance, and does have authority to take appropriate enforcement actions. Performance measurement of the program is addressed in Part 2, Section 8 of this report. No further recommendation is made.

### **Finding and recommendation X.2**

#### **Finding X.2:**

Administrative procedures for tracking problems and violations have not been established.

#### **Recommendation X.2:**

OCD should develop, and provide to its field representatives, written guidelines for initial enforcement procedures. Field trip reports should be modified to allow documentation and tracking of problems and verbal notices of violation, including compliance status. (IOGCC Guidelines, section 4.1.3.2.)

#### **OCD Response:**

Guidelines for enforcement procedures and tracking of violations have been developed. A tracking module is active in RBDMS.



**Follow-up Review Comments:**

This recommendation has been met.

**Finding and recommendation X.3****Finding X.3:**

There are no specific, written criteria by which civil penalties can be calculated or imposed. Because there are no written criteria, OCD's use of civil penalties may be ineffective.

**Recommendation X.3:**

OCD should consider developing specific criteria for the imposition and amount of civil penalties. (IOGCC Guidelines, section 4.1.3.2.)

**OCD Response:**

On-going. As the OCD experiences more violations warranting civil penalties, the OCD can determine what are fair and reasonable penalties for each type of violation. See X.2

**Follow-up Review Comments:**

This recommendation has not been met. **The Review Team recommends that OCD meet the requirements of section 4.1.3 of the Guidelines.**

**Finding and recommendation X.5****Finding X.5:**

OCD has an escalating enforcement policy, progressing from voluntary compliance and verbal notices of violation to penalties, orders, and court actions. OCD has relied on some, but not all, of its available enforcement options.

**Recommendation X.5:**

OCD should periodically reevaluate its enforcement policies, practices and procedures to ensure that appropriate options are used to achieve compliance. (IOGCC Guidelines, section 4.1.3.1.)

**OCD Response:**

See X.3.

**Follow-up Review Comments:**

This recommendation has been partially met. In 2000, OCD re-evaluated its enforcement policies, practices and procedures and developed "OCD Enforcement Guidelines", which discuss the various enforcement actions contained in IOGCC Guideline 4.1.3.1. It is still not clear that the Enforcement Guidelines are being appropriately used to achieve compliance. **The Team recommends that OCD's tracking system be used to ensure that voluntary compliance is working.**

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## **PART 2**

### **NEW GUIDELINES STANDARDS**

Since publication of the 1994 report of the initial New Mexico review, the 1990 IOGCC Guidelines have been updated and expanded. The current 2000 Guidelines contain specific program standards for Abandoned Sites (Section 6), Naturally Occurring Radioactive Materials (NORM, Section 7), and Performance Measures (Section 8). The findings and recommendations of the 1994 initial review addressed some aspects of the new Guidelines sections, and the follow-up Review Team comments on OCD's responses to those recommendations appear in Part 1 of this report. This Part 2 contains the specific findings and recommendations of the follow-up Review Team on Abandoned Sites, NORM and Performance Measures based on the standards set forth in the 2000 Guidelines on those subjects.

#### **Section 6. ABANDONED SITES**

Abandoned oil and gas sites have come within the review guidelines since the New Mexico program was reviewed in June 1994. The 1994 review stated that 25 oil wells and 50 gas wells had been identified as not having an operator or not having a solvent operator. Since the 1994 review, New Mexico has made tremendous strides in identifying inactive and abandoned oil and gas sites and operating a program with measurable outcomes. An initial study determined that about 8,000 inactive sites had been identified. Further refinement of that study, which included administrative corrections, operator contact, and placing wells into compliance orders, currently place the number of inactive sites at about 5,500. Of those inactive sites, 143 sites appear to meet the Guidelines definition of Abandoned Sites.

For well sites, the Districts evaluate inactive well sites and prioritize those sites without a responsible party based on the potential threat to fresh water and public health. For other sites, the OCD has identified and prioritized areas of major areal contamination from historical practices in the oil and gas industry where responsible parties are currently unknown. Sites have been identified through spill reports, citizen reports and historical data. The Division has initiated a program to investigate each site to determine the actual extent and impact on fresh water, public health and the environment. This program will determine through risk analysis what actions are necessary, if any, to reduce or eliminate the adverse impacts. If responsible parties are identified during the investigation, they will be required to continue the investigation and effect remediation. If responsible parties cannot be identified, the Division will take the appropriate action identified through the risk analysis.

#### **Funding**

Funding is available from the "Reclamation fund" for reclaiming orphaned sites. The fund is financed by a tax on production, and proceeds from bond forfeitures, and has a cap of one million dollars. The fund has been used once to reclaim a commercial facility, numerous times for reclaiming well sites, once for a spill cleanup and once for an "extent of contamination investigation". The fund is presently being used for conducting a second commercial site remediation and to conduct water well contamination investigations. A report from the OCD to

the New Mexico legislature is required annually. Approximately \$450,000 is currently requested from the Reclamation Fund annually to plug approximately 40 wells each year.

### **Responsible Parties**

If responsible parties are identified during the investigation of inactive sites, they will be required to continue the investigation and effect remediation. If responsible parties cannot be identified, the Division will take the appropriate action identified through the risk analysis.

Pursuant to 70-2-38 NMSA "...the division [OCD] is authorized to bring a suit against the operator or the owner of the minerals under the tract, or both...for indemnification for all costs incurred by the division in plugging the well or restoring and remediating the well site and associated production facilities." The Division determines who the current owner/operator of record is and files for collection against that person.

### **Standards**

OCD's ultimate goal is protection of fresh water, public health and the environment pursuant to the statutes. When OCD utilizes the reclamation fund to remediate abandoned sites, contractors are monitored by developing specific requirements in the contracts for reporting and by OCD site inspections until final closure.

OCD focuses on abatement of soils to concentrations of contaminants that will not, with reasonable probability, migrate and cause ground water to exceed the standards set forth in 20.6.2 and remediation of ground water to the standards of 20.6.2.

While Rule 202 provides flexibility in the type of materials used in the abandonment and plugging of a well, including surface restoration, Rule 106 requires "All fresh waters and waters of present or probable value for domestic, commercial, or stock purposes shall be confined to their respective strata and shall be adequately protected... Special precautions...shall be taken in...abandoning wells to guard against any loss of artesian water from the strata in which it occurs, and the contamination of artesian water by objectionable water, oil, or gas. All water shall be shut off and excluded from the various oil-and gas-bearing strata which are penetrated. Water shut-offs shall ordinarily be made by cementing casing." Each district must evaluate each abandoned well site for surface, downhole, and geologic/hydro-geologic conditions and prepare a plugging program adaptable on a case-by-case basis for District Supervisor approval.

Rule 202 requires well locations to be leveled, junk removed and the site restored to safe and clean conditions. For other sites, the Division investigates each site to determine the actual extent and impact on fresh water, public health and the environment.

### **Public Participation**

All records pertaining to well sites are retained in the well records at both the appropriate District office and the Santa Fe office, pursuant to the New Mexico Open Records Act (14-2-1 NMSA). Drafted rules are presented to the public and industry in formal meetings in various towns around New Mexico. Each year, the Division decides on locations for remote formal hearings. These are generally concentrated in the "oil patch" areas located in the southeastern and northwestern portions of the state. The New Mexico Oil and Gas Association and the New Mexico Independent Petroleum Producers Association are issued copies of draft rules for comments. Public and industry comments are reviewed and assimilated into new rules where

appropriate. OCD's priority site listing is based, in part, on citizen complaints. Rule making and standards creation are formulated with public input. In addition, throughout the review, the OCD staff made numerous comments concerning their availability and willingness to discuss problems and answer questions from the public. The public also has access through the process of notice and comment rulemaking to provide input into the rulemaking process.

**Finding 6.1:**

Currently, only "inactive" well is a defined term in New Mexico's program. During the course of the review, other terms, including "abandoned well," "idle well," and "orphaned well" were used to explain the program.

**Recommendation 6.1:**

**New Mexico should adopt additional definitions for abandoned wells and sites. Defining additional terms will help avoid confusion and make the program and inventory of abandoned wells and abandoned sites better able to be defined and understood. (Guidelines sections 6.2, 6.3)**

**Finding 6.2:**

The Review team finds that OCD is implementing an Abandoned Sites program that is consistent with the standards of Section 6 of the 2000 Guidelines.

## **Section 7. NATURALLY OCCURRING RADIOACTIVE MATERIALS**

The New Mexico State Review report issued in June 1994 presented preliminary information regarding the development of Naturally Occurring Radioactive Materials (NORM) regulatory program in New Mexico. The “General Technical” section D.1., Oil-field NORM, found on pages 24 – 25 of the 1994 report presents a general background summary and two findings and recommendations. Section D.1. referenced studies completed by the OCD that documented the presence of NORM above background levels in produced water and pit sediments. Based on those findings the New Mexico Environment Department (NMED) and the OCD were developing regulations to manage NORM at that time.

Since June 1994, regulations have been promulgated by both the NMED and OCD regulating oil-field NORM. The NMED promulgated Subpart 14, *Naturally Occurring Radioactive Materials (NORM) in the Oil and Gas Industry*, to the radiation protection regulations in 1995. The OCD promulgated Rule 714, *Disposal of Regulated Naturally Occurring Radioactive Material (Regulated NORM)*, in 1996. In summary, the regulation of oil-field NORM is managed primarily through the NMED’s Subpart 14, except for the disposal of NORM waste which is regulated by OCD under Rule 714. Regulatory roles and responsibilities regarding NORM are coordinated between the agencies informally without a memorandum of understanding.

### **Finding 7.1:**

OCD’s and NMED’s programs for regulating NORM are consistent with the standards of Section 7 of the 2000 Guidelines.

### **Finding 7.2:**

NMED representatives indicated that their NORM program is “under-funded and under-staffed”.

### **Recommendation 7.2:**

**NMED should conduct a workload analysis to determine if there is and will be sufficient staff to accomplish the goals and objectives of their program relating to oil and gas NORM. (Guidelines Section 4.3)**

## **Section 8. PERFORMANCE MEASURES**

As explained in its responses to the questionnaire, the OCD has four primary statutory mandates:

- \* Prevention of waste;
- \* Protection of mineral owners' rights;
- \* Collection of records on regulated operations; and
- \* Protection of human health and the environment.

It is said, "What gets measured gets done." Therefore, it is important for OCD to measure how well it performs under each mandate, including the effectiveness of waste management and environmental protection efforts. (2000 Guidelines, sections 4.2.3 and 8.1) OCD should use all types of parameters in evaluating the effectiveness of its environmental program, including impacts of E&P operations, input from the public and regulated community, and the output products of the Division itself. (2000 Guidelines section 8.1.)

OCD already has--and is developing--many excellent tools that can be applied to assessing its own effectiveness. These tools range from the informal comments received by field offices to the formal activity reports published on the internet. At present, these tools are oriented toward production, administration, and prevention of environmental damage. Examples are the electronically published records of production, applications, and permits; the waste management matrix; the development of automated reporting; and the documentation of the abandoned sites program. These present and emerging tools can be utilized to evaluate the Division's effectiveness according to the different parameters gauged by each tool. In contrast, OCD does not have a visible mechanism for assessing progress in remediation, although it supervises hundreds of sites with contaminated fresh water. Despite its fourth mandate, above, the Division appears unable to say whether the known extent of contamination is increasing or decreasing.

Documentation is critical to any performance measure. (2000 Guidelines, section 8.1.) The Division has several methods of documentation that could be adjusted to include performance parameters.

### **Finding 8.1**

The Strategic Plan contains goals, actions, time frames, and--in some cases--quantitative measures of performance. However, the Plan is fragmented, and contains outdated material. It is not clear whether the five new goals replace some or all of the goals articulated in OCD's 1997 strategic plan.

### **Recommendation 8.1**

**The OCD Strategic Plan should be brought up-to-date as a single, coherent document. OCD may wish to consider tying the plan to its performance-based budget plan. (Guidelines sections 3.2, 8.1)**

### **Recommendation 8.2**

**To the extent practicable, the Strategic plan should include specific, appropriate environmental indicators, and milestones such as specific timeframes or measurable performance parameters, that will enable OCD to assess whether the program is meeting the goal of protection of human health and the environment. Established performance measures should be maintained from year to year to assist assessment of long-term program effectiveness. (Guidelines sections 4.2.3, 8.1)**

### **Finding 8.3**

OCD does not appear to have a formal method or schedule of self-assessment.

### **Recommendation 8.3**

**OCD should have a formal, scheduled periodic self-assessment that is tied to the movement of environmental indicators. (Guidelines section 8.3)**



## APPENDIX A

### ACRONYMS

AQCR	Air Quality Control Regulations
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BS&W	Basic Sediment and Water
E&P	Exploration and Production
EIB	Environmental Improvement Board
EMNRD	Energy, Minerals and Natural Resources Department
EOR	Enhanced Oil Recovery
EPA	U.S. Environmental Protection Agency
FR	Field Representative
FTE	Full-time Equivalent
Mg/l	Milligrams per liter
NEPA	Navajo Environmental Protection Administration
NMED	New Mexico Environment Department
NMSA	New Mexico Statutes Annotated
NORM	Naturally Occurring Radioactive Materials
NPDES	National Pollutant Discharge Elimination System
OCC	Oil Conservation Commission
OCD	Oil Conservation Division
OGA	Oil and Gas Act
ONGARD	Oil and Natural Gas Accounting and Revenue Database
Ppm	Parts per million
RCRA	Resource Conservation and Recovery Act
RQ	Reportable Quantity
SDWA	Safe Drinking Water Act
SLO	State Land Office
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
UIC	Underground Injection Control
USFS	United States Forest Service
VOC	Volatile Organic Compound
WQA	Water Quality Act
WQCC	Water Quality Control Commission
WQCCR	Water Quality Control Commission Regulation

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## **APPENDIX B**

### **REVIEW TEAM OBSERVATIONS**

The Review Team discussed aspects of OCD's and NMED's regulatory programs that fall outside the scope of the standards of the Guidelines and, therefore, did not address those matters in the body of the review report. However, the Team wished to communicate some of its observations to OCD. These comments are not Review Team findings or recommendations, and are not minority findings or recommendations, but are offered only as individual observations which may be of some value to OCD.

#### **Abandoned Sites**

Inactive well bores can constitute assets, and some may be economically viable to produce. Adoption of a "good samaritan" well-adoption program may encourage operators to attempt to produce such wells. The potential benefits accruing from a program of this type could include reducing the number of wells to be plugged by the state, and increasing tax revenues and employment. It is suggested that adopted wells could be entitled to tax incentive programs described in Rules 30 through 34, and zero minimum bids. OCD could also consider nominating orphaned leases to be offered for bid at state lease sales.

New Mexico only recently began investigating use of "Oil Pollution Act of 1990" (OPA) funds for use to plug wells. New Mexico may wish to further investigate the use of OPA funds in order to plug additional abandoned wells.

#### **Public Participation and Information**

OCD has an admirable policy of open contact between its staff and the public. OCD has a good web site in which many records accessible to the public, and has laudable projects to place additional images and records on the web. However, some of the hypertext documents on the OCD's web site cannot be operated with all current browsers, and some other documents are files made by proprietary software. This could inhibit public access. OCD may wish to check the functioning of its web documents. Where possible, textual, tabular, or graphical information could be made available in text files or in files that can be read by widely accepted software such as Adobe Acrobat.

OCD's web site contains administrative, production, and permitting records, but no records of spill reports, remediation plans, abatement plans, or site closures. All of these data are strong candidates for evaluating performance and are of interest to the public. OCD could consider placing records of contamination and remediation, including images of previous documents, on its web site.

The Team believes that developing a standing listing of public participants interested in OCD activities could facilitate the formation of advisory committees.

OCD relies extensively on its web page to broaden its information program to implement this recommendation. OCD may wish to publicize the existence of the website as their main communication tool by other means in order to reach more constituents.

## **Contingency Planning**

OCD may want to consider utilizing table-top drills to test their contingency planning. Additional HAZWOPER training may also be beneficial for OCD employees.

## **Program Guidance**

As discussed in the Review report, OCD is to be complimented for collecting policies and program implementation guidance into a single published document. Some members of the Review Team, however, expressed some uncertainty that the guidance tracks the requirements of the formally adopted Rules. OCD should verify that its non-rule program guidance is consistent with the requirements of the Rules.

## **Technical Criteria**

Although beyond the scope of the Guidelines, one possible way to implement Recommendation VI.4 concerning on-site pits might be the following. New OCD guidelines could be drafted and referenced by rule 105 (the rule requiring reserve pits) which would describe current industry practice for the siting, construction, operation and closure of lined reserve pits. Operators could then include a brief description of the mud program, location plan, construction, and closure of the reserve pit in the C101, Notice of Intent to Drill. This strategy could provide OCD a simple way of complying with the Guidelines without being overly burdensome to industry or the OCD staff.

The OCD does not have a permitting or certification program for transporting RCRA exempt wastes with the exception of produced water hauled to class II injection wells. The OCD may wish to revisit the need for certification of the transportation of RCRA exempt E&P wastes. If it is deemed necessary to develop a separate program from the water hauler program, the detail of the program should be consistent with the volume and the hazards associated with the waste hauled. ( IOGCC guidelines 1.3.1.d., 5.10.2.3.e.)

**APPENDIX C**

**COMPLETED QUESTIONNAIRE  
AND SELECTED ATTACHMENTS**

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