

TEXAS STATE REVIEW



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

August, 2003

FORWARD TO THE REPORT OF THE TEXAS FOLLOW-UP REVIEW

The Oil and Gas Division of the Texas Railroad Commission (RRC) was initially reviewed in 1992. The report of that initial review, entitled Texas State Review, was published in April 1993 and contained specific findings and recommendations for action.

At the time of the initial Texas review, the RRC's general waste management standards were codified in 16 Texas Administrative Code (TAC) Chapter 3, §3.8 (known as "Rule 8"). This follow-up review was begun in June, 2002. Earlier in 2002, the RRC had published notice and had initiated rulemaking to adopt new comprehensive rules referred to in this report as Subchapter B, "General Waste Management" and to repeal Rule 8. Because the new Subchapter B rules appeared to address many of the recommendations of the 1993 initial review, and because adoption of the new rule appeared to be imminent, the STRONGER Board requested that the Review Team evaluate the RRC's programs as if the new Subchapter B had been adopted at the time of the review. Pursuant to the Board's direction, the Review Team reviewed the RRC's programs and drafted its report as though the new Subchapter B rules had been adopted.

By October, 2002, the new Subchapter B rules had not been adopted, and it appeared to the STRONGER Board that adoption would not occur before the Texas follow-up review report was ready for publication. In November, 2002 the STRONGER Board requested the Texas Review Team to reconvene and re-write the draft report based upon the recommendations of the 1993 initial review, the current Guidelines and Rule 8. The Team re-convened in January, 2003 to re-write the report. The re-written draft report was circulated to the RRC and official observers for comment, was revised based on the comments received, and was submitted to the STRONGER Board in June, 2003.

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TEXAS FOLLOW-UP AND SUPPLEMENTAL REVIEW FINAL REPORT

INTRODUCTION

This document reports a review of the environmental regulatory programs of the State of Texas as the programs apply to wastes generated from oil and gas exploration and production (E&P) activities. The focus of the review was on the Oil and Gas Division (OGD) of the Texas Railroad Commission (RRC, or Commission) as the primary regulatory authority concerning oil and gas exploration and production activities in the State of Texas. The review also considered the other state regulatory programs administered by the Texas Department of Health (TDH) and the Texas Commission on Environmental Quality (TCEQ). In this report, references to the RRC include its legal support staff.

The Texas program was initially reviewed during 1992 pursuant to the 1990 EPA/IOGCC Study of State Regulation of Oil and Gas Exploration and Production Waste, otherwise known as the "IOGCC Guidelines." The report of that initial review, entitled Texas State Review, was published in April 1993 (the "1993 Review"). It contained specific findings and recommendations for action.

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 Guidelines for the Review of State Oil and Natural Gas Environmental Regulatory Programs (the "2000 Guidelines"). The current review was conducted pursuant to the 2000 Guidelines. The review covers RRC's responses to the recommendations of the 1993 review (contained in the Questionnaire Responses, attached as Appendix A), and the RRC's program as compared with the 2000 Guidelines.

At the time of the current review, Section 8 of the Guidelines (Performance Measures) was in the process of revision by the STRONGER Board. A draft version of the revised Section 8 was prepared prior to the review, and the RRC volunteered that its performance measures could be reviewed under the draft Section 8. That draft Section 8 is included in this report as Appendix B.

In June, 2002, an eleven-person team appointed by STRONGER conducted a follow-up review to evaluate progress made in the Texas program since the initial review, and to evaluate the adequacy of the program compared to the 2000 Guidelines. The eleven-person Team consisted of six members and five observers. Don Neeper of the New Mexico Citizens for Clean Air and Water; Terri Lorenzon of the Wyoming Environmental Council; Michael Schmidt of the Oklahoma Corporation Commission; Allan (Skip) Dees of ChevronTexaco; Bill Stevens of the Texas Alliance of Energy Producers; and Ilan Levin of Henry & Levin, Attorneys at Law; served as team members. Dan Derkics of the U. S. EPA Office of Solid Waste; John Ford of the U.S. DOE National Petroleum Technology Office; Mark Carl representing the IOGCC; and A. Scott Anderson of the Texas Independent Producers and Royalty Owners Association participated as observers. Three Team members, Terri Lorenzon, Michael Schmidt, and Skip Dees, had served on the initial review.

The in-state portion of this review was conducted in Austin, Texas at the offices of the Oil and Gas Division on June 18 through 20, 2002. Ms. Leslie Savage, Advisor/Planner, Planning and Administration of OGD, and members of the OGD staff responded to questions from the team and observers. Following the interviews and review of the written materials and backup documentation provided by the RRC, the review team compiled this report.

This report is presented in the order of the sections of the 2000 Guidelines. Each section of the report includes a follow-up review of the initial recommendations applicable to that section, and new findings and recommendations based on the 2000 Guidelines.

At the time of the initial Texas review published in 1993, the RRC's general waste management standards were codified in 16 Texas Administrative Code (TAC) Chapter 3, §3.8 (Rule 8). The RRC relied on Rule 8 in conjunction with informal guidelines, referred to as "rules of thumb", which were developed using the expertise of RRC staff, to implement its permitting, inspection, and enforcement program for waste management facilities. The 1993 review report included several recommendations that advised the RRC to adopt more specific standards for its regulated facilities.

At the time of the current review, Texas proposed to repeal Rule 8 and adopt new comprehensive rules referred to in this report as Subchapter B, "General Waste Management." The proposed Subchapter B rules included new siting, construction, operation, closure standards and many of the provisions of Rule 8, as well as new regulations. Along with the proposed Subchapter B rules, the RRC proposed to continue to use its own guidelines to supplement the new rules. Many of the "rules of thumb" were incorporated into the proposed new rules. Others have been incorporated into manuals and guidance documents that are readily available to the regulated community and the public.

On November 19, 2002, the Commission officially withdrew the proposed Subchapter B rule amendments from consideration. The RRC staff states that the proposal will be resubmitted to the Commission for consideration at a later date. The review team also considered amendments proposed on February 8, 2002, to Rule 94, Disposal of Oil and Gas NORM Waste, during its interview. That proposal was officially withdrawn on August 8, 2002, but re-filed on August 23, 2002. The Commission adopted the Rule 94 amendments, recodified as 16 Texas Administrative Code, Chapter 4, Subchapter F, Oil and Gas NORM, in February of 2003. These new rules became effective on March 3, 2003.

In this report, rule numbers refer to Rule 8 unless specifically cited as Subchapter B proposal. Rule 8(b) states: "No person conducting activities subject to regulation by the Commission may cause or allow pollution of surface or subsurface water in the state." The RRC relies on this language to impose requirements on site-specific conditions and to cite in enforcement actions. Texas regards this language as a baseline standard for all regulated facilities. If the RRC does not have a standard that specifically addresses a waste management issue, the RRC regards Rule 8(b) as the authority to pursue remedial action and penalties. The review team encourages the RRC to ensure the enforceability of this language in any revision or replacement of Rule 8.

PROGRAM OVERVIEW

History of the Texas Railroad Commission

EDITOR'S NOTE: Material supplied by RRC, and the 1993 initial review.

The Texas Railroad Commission (RRC) was created by the Texas State Legislature in 1891 to correct abuses and prevent unjust discrimination and extortion in the rates of freight and passenger tariffs on the different railroads in the state. By the time the RRC was created in 1891, the Texas oil industry had been developing for many years. L.T. Barrett struck oil at 106 feet in the first oil well near Melrose in Nacogdoches County, Texas, in 1866. Oil had been found in Texas before, but it was either through surface leaks or when drilling for water. The first known gas production was recorded from a well near Graham in 1872.

In 1894, the beginnings of the Texas age of oil were realized by the first major discovery—Corsicana in the east-central part of the state. The first true boom came from the 1901 Spindletop gusher of Anthony Lucas. The next cluster of discoveries was in North Central Texas between 1902 and 1920—Petrolia, Electra, and Burkburnett—and, during that same period, and a little further south – Breckenridge and Desdemona in 1918.

In 1901, when the first great gusher came in at Spindletop, the oil industry changed and so did the impetus for regulation of the industry. In the two years that followed the Spindletop discovery, 1,200 wells were drilled on the 200-acre Spindletop salt dome. Production from the first well was so enormous, approximately 100,000 barrels per day, that the price of oil in the small Texas oil market dropped to an all time low of \$0.03 per barrel. The production frenzy that followed exceeded the capabilities of the limited pipeline and oil storage facilities. Thousands of barrels of oil were wasted while oil was stored in huge lakes supported by earthen dikes. Water pollution became a serious problem in the oil fields and fires were common.

Throughout these early years, whenever a well came in, oil seemed to cover the surrounding lands. The pressure of some of these wells was so great that it was days before the flow could be controlled. In the meantime, oil soaked into the ground, or ran off in nearby creeks and gullies, or was directed into nearby pits that were hastily dug. Even after the flow was controlled, pits or vast open tanks were used for storage. The results were inevitable—waste and pollution. While pollution may not have been a concern in those early days (oil was a sign of wealth and adventure even if it was in a creek), waste was. And, a fire roaring from one well to the next, engulfing one tank after another, was an all-too-frequent occurrence.

While the Texas Legislature in the 1800s and early 1900s had passed several bills relating to the use or conservation of the state's oil and gas, these laws were not enforced. In 1905, the legislature declared a state of emergency over the drilling, operation, and abandonment of oil, gas, and water wells. Subsequent to this declaration, other laws were enacted with the intent of preventing waste, but the legislature provided no effective way to enforce these laws.

Finally, in February of 1917, the RRC was given authority to regulate the oil and gas industry when the legislature declared oil pipelines to be common carriers. By this time, the power of the pipeline operators had grown to a level equivalent to that of the railroads when the RRC was created. In 1917, the pipeline operators had the same control over well operators that the railroads formerly had over farmers and ranchers who had to transport their goods to market.

In 1919, the Texas Legislature passed a law prohibiting waste and giving the RRC broad enforcement powers. The RRC created the Oil and Gas Division and issued rules that same year, including Rule 20, which required protection of fresh water. These rules continue to be a part of the oil and gas regulatory program today and they cover every phase of oil, gas, and geothermal field operations – from the permit to drill to the final authority to plug and abandon a well.

Regulation did not truly take hold until the 1930s and it was a struggle all the way. The East Texas Oil Field was discovered in 1930. Unlike many other fields at this stage of industry development, the East Texas Field was taken over by a multitude of small independent operators, each racing to put up a rig. Derrick touched derrick. Each well was produced wide-open. The price of oil crashed. More critically, the natural water drive of the field was being lost. When the RRC tried to step in and cut back production, action began in the courts and, at one point, State military forces were called in to regain order. It was several years before the courts and the State Legislature were able to settle on the position that the RRC had the right to prorate production—to conserve the state’s natural resources, to protect correlative rights, and to prevent pollution.

Since the 1930s, the RRC has held the leading role in the regulation of oil and gas, and its responsibilities have increased significantly. Today, the RRC regulates energy, transportation, public safety, and environmental protection. To implement these programs, the RRC has the following regulatory divisions:

- (1) Oil and Gas Division;
- (2) Gas Services Division;
- (3) Surface Mining and Reclamation Division; and
- (4) Rail Division.

These divisions oversee the Texas oil and gas industry, natural gas utilities, pipeline safety, safety in the liquefied petroleum gas industry, surface mining of coal, uranium and iron ore, and reclamation of mined lands. Additional divisions provide services such as data processing, legal support, investigation support, alternative fuels research and education.

Oil and Gas Production in Texas

Texas is the leading oil producing state and the leading gas producing state. Texas provides 27% of the domestic onshore oil production, and 36% of the domestic onshore gas production in the United States. Based on latest available information from the United States Energy Information Administration, Texas has remaining proven oil reserves of 4.9 billion barrels and proven gas reserves of 40.8 trillion cubic feet.

Oil production in Texas peaked in 1972, when 1,263,412,000 barrels were produced from 167,223 wells. In 1999, crude oil production in Texas was 406.8 million barrels from approximately 162,620 oil wells. Average production was less than 7 barrels of oil per well per day. In 1999, Texas produced 5,539 billion cubic feet of natural gas from 59,088 wells.

Environmental Setting

The second largest state in the nation, Texas occupies 267,277 square miles (171,057,280 acres), about seven percent of the total water and land area of the United States. Of this total, approximately 167,624,960 acres is land and 3,432,320 acres is water. There are a total of 254 counties in the state, the majority of which have some production of oil and/or gas.

Extending from sea level at the Gulf of Mexico to over 8,000 feet in the Guadalupe Mountains of far West Texas and from the semitropical Lower Rio Grande Valley to the High Plains of the Panhandle, Texas has a natural environment best described as “varied.” The geology and hydrology across the state is extremely variable. Even across much smaller areas such as a county, large differences occur.

Normal average annual precipitation range is from 58.3 inches at Orange on the Gulf Coast, to 8.8 inches at El Paso, in West Texas. Recorded temperatures range from a high of 120 degrees F in Monahans in 1994 to a low of -23 degrees F in Seminole in 1933.

Growing at a rate of 22.8%, Texas is the eighth fastest growing state according to the 2000 census. In 1999, Texas ranked first in states with the most farms and with the most land in farms.

Oil and Gas Division

The Oil and Gas Division of the RRC has responsibility for the prevention of pollution that might result from activities associated with exploration, development, and production of oil, gas, or geothermal resources of the State and to prevent operations dangerous to life or property. The RRC's environmental and safety programs cover drilling, operation, and plugging of wells; separation and treatment of produced fluids in the field or at natural gas processing plants; storage of crude oil before it enters the refinery; underground storage of hydrocarbons in salt caverns or natural gas depleted reservoirs; transportation of crude oil or natural gas by pipeline; drilling, operation and plugging of brine wells; and storage, hauling, reclamation, or disposal of wastes generated by these activities. Comprehensive regulations and programs covering these activities have been developed over the years. The RRC has revised and strengthened most of the major environmental and safety regulations within the last 10 years and has adopted several new regulations, such as rules for the protection of birds, disposal of NORM (Naturally Occurring Radioactive Material) waste, and management of hazardous oil and gas wastes. In addition, the RRC has a nationally recognized Waste Minimization Program to encourage and help industry reduce the amount and toxicity of the wastes they generate.

The RRC's environmental and safety regulations for oil and gas wastes are administered through the Environmental Services Section, the Site Remediation and Special Response Section, and the Field Operations Section, which includes the Well Plugging Section, of the Oil and Gas Division. Environmental Services administers the RRC's permitting programs for management of wastes which includes surface storage, disposal, enhanced recovery wells, underground hydrocarbon storage, and brine mining. The Environmental Services Section also coordinates with other state and federal agencies on environmental and safety matters. The Field Operations Section coordinates the activities of nine (9) district offices in inspecting oil and gas operations and enforcing the RRC's environmental and safety rules. Well Plugging and Site Remediation and Special Response Sections handle the plugging of abandoned wells and the cleanup of abandoned surface sites using a special Oil Field Cleanup Fund, which is supported by the oil and gas industry through various fees, taxes, and penalties. The Site Remediation and Special Response Section also administers the Operator Cleanup and Voluntary Cleanup programs and coordinates the RRC's response to large spills.

The RRC enforces its regulations through various mechanisms, including notices of violation, pipeline severances, sealing of wells, and penalty action. The RRC also has authority to pursue criminal action, particularly as a result of violation of the hazardous oil and gas waste regulations.

Waste Management Issues

One of the greatest responsibilities of the RRC is the protection of water resources. Water protection is a consideration in many of the RRC's Statewide Rules and is the primary purpose of Rule 8. The varied climate, topography, geology, and hydrology are just a few of the factors that make water protection on a statewide basis a complex problem.

Past efforts have been successful in eliminating major sources of pollution. Texas regulation of E&P wastes historically focused on management of the large volumes of produced water. Nearly all intentional discharges of oilfield salt water into surface waters have been eliminated. In 1969, the statewide elimination of pits for disposal of oilfield-produced saltwater greatly reduced the pollution. Yet, the effects of such pit disposal are still evident today.

Approximately 5.5 billion barrels of produced water were generated in Texas in 1999. Virtually all produced water is re-injected, either for enhanced oil recovery or for disposal. Enhanced recovery operations wells (39,281 wells at the end of 1999) accounted for over 75% of all injection wells (52,311 injection wells.) The small volume of produced water remaining is discharged under federal permits and RRC discharge permits issued under Rule 8. These discharges include discharges of produced water from four formations in Texas that are freshwater-bearing and which have been authorized under EPA Region 6, General Permit TX6290000, and discharges of produced water from wells in the territorial seas of Texas.

Wastes from oil and gas operations are managed on-site or treated or disposed at a wide range of off-site facilities.

At this time, there are 196 gasoline plants, three pressure maintenance plants, three cycling plants, and 1,275 dehydration, scrubber, compressor, separators, and drip facilities in Texas. Texas has 36 gas storage facilities and 160,000 miles of RRC-regulated pipelines.

PROGRAM HIGHLIGHTS

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

Data Management

The RRC is at the forefront of data management and processing capabilities with its ECAP program for permitting well drilling, recompletion, and reentry via on-line filing. This involves permitting and tracking authorized facilities. Electronic filing, permitting, imaging, geographic information systems and internet data transfer and access are all part of this system-wide development. The RRC allows both electronic submittals and electronic review of permit applications. This reduces the creation of paper copies. Introduced in May 2000, the RRC has processed 700 to 800 drilling permits filed in this manner. The RRC is re-engineering its work processes and then will re-engineer the data management system to support its processes, rather than allowing data management to dictate work processes.

Mapping Capabilities

Since the last review, the RRC and Texas' mapping capabilities have increased dramatically. In 1997, the OGD created a new Information Management Services (IMS) section, consisting of Well Mapping, GIS Projects, and Central Records, to facilitate electronic distribution of generations of valuable technical information on oil and gas fields and wells. IMS maintains multiple data layers in the GIS systems, such as surveys, highways, and rivers. New GIS layers may be created, or through a state cooperative effort, new GIS data layers may be imported from other governmental entities. The RRC participates in the Texas Statewide Geographic Information Systems program, the purpose of which is to build a carefully crafted organizational and technological infrastructure and to enhance Texas agency investments in GIS to support quality decision-making throughout the state. More information can be found on the Texas Geographic Information Council web site (<http://www.tgic.state.tx.us>), including the latest statewide plan. GPS devices have been purchased for each District Office and most inspectors have these devices.

Waste Minimization

The RRC has an excellent waste minimization program that gives practical information to operators to assist them in handling wastes by means other than disposal. The RRC has the authority to regulate recycling and it is currently looking into developing incentives for this program.

The RRC Waste Minimization in the Oil Field Manual articulates the RRC program for recycling, product substitution, and source reduction, and reportedly has become the standard for development of waste minimization programs. RRC outreach for the program includes a brochure that will be included with all notices of violation that are issued. The Manual, in PDF format, and additional information on technical practices are available to the public on the RRC website. RRC staff developed a waste minimization training program that has been presented through workshops across the country. A video of the training program has been produced by the IOGCC and is available for purchase. The RRC does an Oil and Gas Regulatory Expo every year and waste minimization has been on the agenda. This information is available to other agencies and other states.

Voluntary Cleanup Program

Texas Senate Bill 310 (2001) authorized the Commission to establish a Voluntary Cleanup Program (VCP) to provide an incentive to remediate a site by removing liability to the state for lenders, developers, owners, and operators who did not cause or contribute to contamination released at the site but want to clean it up with Commission oversight. The Commission anticipates that developers and other persons interested in putting contaminated former oil field property to productive use will enter the program and reduce the number of sites that would otherwise have to be remediated using money from the Oil Field Clean Up Fund. Participants are expected to pay for the clean up and for Commission oversight costs. The Commission has adopted new 16 TAC Chapter 4, Subchapter D to implement this legislation. The RRC is to be commended for initiating and following through on this legislation.

Orphaned Site Cleanup Program

Texas' orphaned well and site abandonment program is aggressively funded and professionally administered. The program reflects well on both the Railroad Commission of Texas and its oil and gas industry supporters.

GENERAL CRITERIA (2000 Guidelines Section 3)

The RRC proposed to repeal current Rule 8 and replace it with more comprehensive rules governing oil and gas exploration and production waste management. The new rules would have been codified as 16 TAC Sections 4.101 through 4.196, also known as Subchapter B. The new rules were published in the Texas Register on May 17, 2002, and the review team interviewed RRC staff in June 2002 concerning this proposal. The proposal was officially withdrawn by the RRC on November 19, 2002.

SUPPLEMENTAL FINDING 3.1

The proposed Subchapter B rules would have strengthened the waste management program administered by the RRC.

Except for oil spills in non-sensitive areas, Texas currently uses published guidelines to direct operator actions in the event of an unauthorized release. An exception is spill remediation in "sensitive areas" which are handled on a case-by-case basis. Rule 91 defines "sensitive areas" as areas that "include the presence of shallow groundwater or pathways for communication with deeper groundwater; proximity to surface water, including lakes, rivers, streams, dry or flowing creeks, irrigation canals, stock tanks, and wetlands; proximity to natural refuges or parks; or proximity to commercial or residential areas." Proposed Subchapter B would have prohibited the siting of commercial facilities within a sensitive area. The definition of "sensitive area" is therefore very important for both siting of facilities and remediation of releases.

SUPPLEMENTAL FINDING 3.2

Although Rule 91 contains a very general description of factors that characterize sensitive areas, the regulations provide no operational definition of "sensitive area" by which it can be objectively determined whether or not a particular location is sensitive.

SUPPLEMENTAL RECOMMENDATION 3.2

The RRC should adopt an unambiguous, operational definition of sensitive area. (2000 Guideline 3.1 c.)

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ADMINISTRATIVE CRITERIA

(2000 Guidelines Section 4)

4.1.1 Permitting

The RRC has a regulatory mechanism in place to manage waste generated during E&P operations in an environmentally responsible manner. The RRC's regulatory mechanism relies on the issuance of individual permits, issue of permits by rule, registration of certain facilities, and notice of certain activities undertaken pursuant to rules. The program uses a combination of individual permits for commercial and centralized facilities and some "minor" waste disposal practices and rule authorized operations.

Individual permits are issued for commercial and centralized pit facilities where waste from more than one E&P operation may be stored and/or disposed. The RRC also issues permits to maintain or use pits for storage or disposal of oil field brines, geothermal resource waters, or other mineralized water. These would include saltwater disposal pits, emergency saltwater disposal pits, drilling fluid disposal pits, washout pits, gas plant evaporation/retention pits, collecting pits, skimming pits, landfarming pits, and discharge to surface waters.

The RRC continues to require that permit applications for all commercial and centralized facilities contain a construction plan, closure plan, and operating plan. There are no siting restrictions for the placement of these facilities specified in Rule 8. However, the proposed Subchapter B included Siting Standards for Permitted Pits and Landfarms. These siting standards would have included 100-year floodplains; residences or commercial business establishments not owned or operated by the permittee; nearest public water supply well or domestic water well or irrigation water well or other well that supplies water for drilling; workover operations (landfarms only); thickness of tillable soil (landfarms only); depth to seasonal high water table; and distance to property lines.

The RRC staff continues to review topographic and geologic conditions during the permit review.—The proposed Subchapter B would have been more specific in its requirements for authorized pits to be lined where pollution is likely to occur if the authorized pit is not lined. The proposed rule outlined general construction standards and liner design, construction, and installation criteria. Currently, Rule 8 lists no specific topographic or geologic restrictions. Synthetic and natural pit liner materials, along with recommended pit bed preparation procedures, are discussed in the Water Protection Manual.

The RRC would have specified additional siting, construction, operation, and closure requirements for authorized facilities under the proposed Subchapter B. The RRC considered adoption of specific geologic, topographic, hydrologic, and other siting restrictions for authorized facilities in 1984. At that time, the RRC determined that the vast diversity of these conditions in Texas prohibited specific siting restrictions. The RRC relies instead on the knowledge, experience, and expertise of staff to impose site-specific restrictions. Since no specific notice of construction and use of authorized facilities is required, the RRC relies on surprise inspections and continual monitoring in the field as its chief enforcement mechanism. The RRC stated that all of its inspectors are familiar with the types of waste and materials that authorized pits and landfarms may contain.

1993 REVIEW FINDING II.1

RRC staff reviews permit applications and, as a matter of policy, considers the hydrology, geology, and climate at the site.

1993 REVIEW RECOMMENDATION II.1

The review team encourages RRC to continue considering site-specific conditions in the issuance of permits, and to continue requiring liners and other design features, when necessary, to prevent pollution and protect the environment and/or human health. (IOGCC 5.3.4.e.)

FOLLOW-UP FINDING II.1

The recommendation has been met.

1993 REVIEW FINDING II.3

As a matter of policy, RRC requires a conceptual design and an operating plan from an applicant as part of the application process. RRC requires closure plans for certain types of pits and landfarming applications.

1993 REVIEW RECOMMENDATION II.3

The review team encourages RRC to continue to require that permit applications for all commercial and centralized facilities contain a construction plan, closure plan, and operating plan. In addition, the review team recommends that RRC require a siting plan for these facilities. (IOGCC 5.7.2.2.a.)

FOLLOW-UP FINDING II.3

The recommendation has been partially met, but neither the RRC rules nor the Water Protection Manual require all of the siting information specified in the 1992 Guidelines. Supplemental Findings and Recommendations to address necessary changes in siting requirements are included in Technical Criteria.

The Texas legislature in 1999 adopted Section 2001.039 of the Texas Government Code, which requires that all rules and regulations be taken through a review and rule-making process every four years. If agency rules are no longer needed then they can be removed and if agency rules need to be re-adopted and/or revised, the agency can proceed to promulgate the rules again. This requirement provides the RRC the opportunity to evaluate rule authorized practices every four years.

1993 REVIEW FINDING II.7

RRC rules authorize reserve pits, mud circulation pits, completion/workover pits, basic sediment pits, flare pits, fresh makeup water pits, and water condensate pits.

1993 REVIEW RECOMMENDATION II.7

The review team recommends that RRC periodically evaluate the rule-authorized waste management practices in Rule 8 to determine whether a minor or individual permit should be required for certain practices. (IOGCC 5.3.2.)

FOLLOW-UP FINDING II.7

The recommendation has been met. The evaluation was done in the rulemaking process and is subject to agency evaluation every four years.

The RRC evaluated rule-authorized management practices when the Subchapter B proposal was developed. Proposed Subchapter B would have specified some minimum siting prohibitions and also would have required a person to line an authorized pit that is not specifically required to be lined if the RRC determines that oil and gas wastes or oil field fluids are likely to escape from the pit. The proposal contained additional requirements for one-time, on-site, rule-authorized landfarming of low chloride drilling fluids and cuttings.

1993 REVIEW FINDING II.8

The rules do not contain conditions related to the geologic, topographic, hydrologic, or other conditions of the site. Rule 8(d)(4).

1993 REVIEW RECOMMENDATION II.8

The review team recommends that RRC revise Rule 8 to include requirements applicable to authorized pits that are based upon specific geologic, topographic, hydrologic, or other conditions. (IOGCC 5.3.2.b.)

FOLLOW-UP FINDING II.8

The recommendation has not been met. A recommendation for more specificity in the rules with regard to geologic, topographic, hydrologic, and other conditions, such as proximity to schools, residences, and hospitals, is included in the Technical Criteria section.

Rule 8 does not impose any term limits for these facilities but does allow staff the discretion to impose such in the terms and conditions of the issued permit. The RRC's District Office personnel inspect commercial facilities on a frequent basis for any recurring violation that would cause the permit to be modified, suspended, or terminated. The Commission proposed term limits [no greater than five years] by rule on commercial/centralized disposal facilities and permitted surface water discharges under Subchapter B. However, the Subchapter B proposal did not impose term limits on permits for collecting pits or other non-disposal pits at commercial UIC disposal well facilities. Under the proposal, these would have continued to be valid for the life of the disposal well. RRC has determined that due to limited staff and other resources, that its efforts to prevent pollution would be more effective if it relies on its field inspection staff to verify compliance with the existing permit conditions rather than spend resources on paperwork.

Term limits for authorized pit facilities vary. Reserve pits and mud circulation pits containing fluid with a chloride concentration of 6,100 mg/liter or less and all fresh water makeup pits are to be closed within one year of cessation of drilling operations. When the chloride concentration is greater than 6,100 mg/liter, the authorized pit(s) must be dewatered within 30 days and closed within one year. Completion and workover pits are required to be dewatered within 30 days and closed within 120 days of the cessation of completion or workover operations. All other rule-authorized pits must be closed within 120 days of final cessation of use.

1993 REVIEW FINDING II.4

Pit permits, other than for commercial pits, normally do not have expiration dates.

1993 REVIEW RECOMMENDATION II.4

The review team recommends that RRC impose a fixed term limit on all of the individual pit permits it issues. The review team further recommends that RRC review the permits for all commercial and centralized disposal facilities no less frequently than every five years. (IOGCC 4.1.1.)

1993 REVIEW FINDING VI.15:

Except for disposal wells and associated pits, all offsite commercial and centralized disposal facilities' permits specify a finite term limit. The agency uses data and information consistent with the IOGCC technical criteria to approve or deny applications, to ensure compliance with permit conditions, and to order corrective actions.

1993 REVIEW RECOMMENDATION VI.15:

The review team recommends that RRC impose term limits in permits for all pits associated with commercial and centralized facilities and at municipal waste landfills. (IOGCC 4.1.1.)

FOLLOW-UP FINDING II.4/VI.15

The recommendation has partially been met, in that term limits are imposed as a term and condition of the issued permit for commercial and centralized Rule 8 facilities, other than those associated with UIC (Rule 9) facilities.

FOLLOW-UP RECOMMENDATION 4.1

The RRC should establish term limits for all individual pit permits it issues. (2000 Guidelines 4.1.1)

At the time of the 1993 review, processing time for permitted facilities was two to four months. Since that time the RRC developed guidelines for permit turnaround. The average processing time has been reduced to about one month. The average processing time will depend on several variables such as the completeness of the application when filed by the applicant and the number of permits to be reviewed. The RRC instituted new policies and procedures to streamline paperwork requirements to free up time for permit application review. For example, RRC instituted a policy of allowing automatic transfer of non-commercial pit permits, rather than requiring a new operator to get a new permit, in order to free up staff time for processing of new permit and commercial permit applications. The use of aerial photographs and better mapping tools has enhanced this process.

1993 REVIEW FINDING II.2

According to RRC personnel, the average processing time for pit and landfarming permit applications is two to four months. RRC has assigned only three staff persons to process pit and landfarming permit applications.

1993 REVIEW RECOMMENDATION II.2

The review team recommends that RRC employ additional personnel for permit application review to ensure that applications are processed promptly. (IOGCC 4.1.1.)

FOLLOW-UP FINDING II.2

The intent of this recommendation has been met. The RRC has not added additional personnel for permit application review. However, the RRC has amended several internal processes and supplied better tools for staff use. These changes have allowed the RRC to reduce the process review time and essentially meet the intent of the recommendation of the initial review team by reducing the process review time to a more acceptable level.

1993 REVIEW FINDING I.5

The review team finds that development of a NPDES and RCRA Subtitle C program will aid RRC in meeting its mandate to regulate E&P wastes.

1993 REVIEW RECOMMENDATION I.5

Although not required by the IOGCC Guidance, the review team encourages this effort.

FOLLOW-UP FINDING I.5

The RRC does not have delegated Subtitle C authority.

FOLLOW-UP RECOMMENDATION 4.2

Although not required by the 2000 STRONGER Guidelines, the review team recommends that RRC continue its efforts to obtain delegation of Subtitle C authority.

4.1.2. Compliance Evaluation

The RRC has a comprehensive compliance evaluation and enforcement program for permitted facilities. The RRC conducts comprehensive investigations of facilities and activities subject to regulation in order to identify failures to comply, and staff routinely inspects these facilities at a frequency commensurate to the risk to the environment and to health and human safety. These inspections are unannounced and may include waste sampling, facility monitoring and compliance investigations. The public is encouraged to report alleged violations. When the RRC identifies an enforceable violation, it does have all the necessary tools available to require compliance with permit terms and general rules. These include immediate shut down of operations, implementation of emergency measures to protect the environment, the issue of administrative orders to correct conditions or impose fines, and the revocation or suspension of the permit.

The Texas State Legislature passed House Bill 1407, 1995, which amended Section 91.114 of the Texas Natural Resource Code. The amendment expanded the RRC's authority to deny and or revoke permits to operators having unresolved violations under order. The violations include all those issued by the RRC under Chapter 85 or 91 of the Texas Natural Resources Code or Chapters 26, 27, or 29 of the Water Code. The RRC does not accept the filing of any drilling permit applications from operators having unresolved violations. The RRC also does not accept other types of permit applications nor issue any certificates of compliance for those entities. The expanded authority also permits the RRC to revoke any previously issued permit, certificate of compliance, or organization report under certain limited circumstances. The law requires the RRC to review the person's compliance history, the seriousness of the violation, the health and safety aspects of the violation(s), and any demonstration of good faith before revoking any permit, certificate, or organization report. The RRC will flag an operator's P-5 (Organization Report, required of all persons conducting business under RRC jurisdiction) when the operator fails to comply with its orders. Prior to issuing any permit, the RRC will check the operator's P-5. The RRC will also check the operator's compliance history. Permits requested and facilities operated by persons with poor compliance histories are scrutinized more thoroughly. Subchapter B would have specified conditions under which permits may be revoked.

A company must list on its P-5 all officers who possess 25% or more ownership in the company. Although there is no mechanism to prevent a person from submitting more than one P-5 or simply changing from one entity's P-5 to another when compliance history prevents or limits the person from operating facilities, the RRC can track an individual's compliance history through the P-5 process. The RRC maintains two separate databases for compliance history. One is maintained by the central office and is available for review by the district office personnel. Separate databases are maintained by individual district offices. The data of a particular district are available only to personnel of that district. Minor permits are for short-term, one-time disposal of E&P wastes. Field personnel have personal knowledge of the compliance history of applicants for minor permits in their respective districts.

1993 REVIEW FINDING II.6

RRC has the capability to do a limited compliance history review before issuance of minor permits.

1993 REVIEW RECOMMENDATION II.6

The review team recommends that RRC expand its capability to evaluate an applicant's compliance history before issuing a minor permit. The compliance history review should determine whether the operator has any outstanding violations or unpaid penalties, or a history of past violations. (IOGCC 4.1.1.)

FOLLOW-UP FINDING II.6

This recommendation has been met.

There is no required separate notification of authorized pit construction and use. However, the RRC receives some prior notice when the Form W-1 (drilling permit) and Form W-3A (Notice of intent to plug) are filed. The permit to drill, deepen, reenter, or plug back is valid for two years from the date of issue and no further notice of operation is required from the operator. Once issued an operator has authority to construct and use any type of rule-authorized pit in conjunction with drilling, completion, and workover operations without further notice. The RRC places no restrictions on the placement of reserve pits relative to drilling operations so there may be some few instances in which these pits are not located within 200 feet of the wellbore. The Commission has no way to know, other than through inspections, when rule-authorized pits not directly associated with drilling, reentry, or recompletion operations are constructed and used, or when fresh water drilling mud is landfarmed on the lease away from the well site.

Operators are required to provide the RRC with 5-day notice of intent to plug a well and also provide at least a 4-hour telephone notice prior to commencing such operation. This notice allows the RRC to witness plugging operations and, while at the site, identify all facilities that require closure. The RRC feels that it is aware of (or reasonably able to determine) the location and construction of authorized pit facilities.

1993 REVIEW FINDING II.9

RRC does not inspect all reserve pit or other authorized pit disposal sites. Operators are not required to notify RRC of the construction or use of pits authorized by rule. RRC depends on its record of drilling activity to predict the existence and location of authorized pits.

1993 REVIEW RECOMMENDATION II.9

The review team recommends that RRC require that it receive prior notification of the construction and use of authorized pits in order to ensure that proper construction, operation, and closure methods are used to protect human health and the environment. (IOGCC 5.3.2.d.)

FOLLOW-UP FINDING II.9

The RRC has not changed its process from the initial review. This recommendation has not been met. The RRC does, however, receive implied notice of reserve pits, mud circulation pits, makeup water pits, and some completion/workover pits when it issues drilling permits (Form W-1). The RRC relies on the knowledge of the field staff for information on the location, construction, operation, and closure of all other authorized facilities. The RRC does not receive notice of rule authorized landfarming operations. The RRC does not believe notification would benefit the agency.

FOLLOW-UP RECOMMENDATION 4.3

The RRC should enact suitable requirements for prior notification of the construction and use of rule-authorized pits and landfarms in order to ensure that proper construction, operation, and closure methods are used to protect human health and the environment. (2000 Guidelines 5.5.2.d.).

4.1.3. Enforcement

Any violation of RRC's rules may subject an operator to an enforcement action. Field inspectors have many options for use to ensure compliance with the RRC's rules. Usually staff will attempt to resolve most violations in the field without having to seek formal enforcement actions against an operator. Field inspectors have a variety of enforcement options available to them. With some minor violations, they may simply contact, either verbally or in writing, the operator and request that the violation be corrected within a prescribed time. On other violations, the inspectors may immediately seek formal enforcement actions. These may include severance or seal of the facility and/or issuance of an administrative order levying a financial penalty and ordering correction of the violation and any subsequent remediation necessary.

The field inspection staff recommends enforcement actions through the District Director to the central office. Attorneys in the central office will review the documentation associated with the referral and confer with the appropriate staff concerning the precise violations to be filed. At the time of the initial review, RRC indicated a broad reliance on Rule 8(b) for enforcement actions. The RRC reports that 67% of all penalties assessed for violations are uncollectible by the RRC. During Fiscal Years 2001 and 2002, the RRC assessed \$5,183,832 in penalties and collected \$1,728,595. The RRC does refer all unpaid obligations to the Attorney General for collection. The Attorney General collected another \$1,271,024 during those two fiscal years (includes assessments issued prior to FY01). Penalties are most often uncollectible because the company has gone out of business and has no assets.

4.2.1 Contingency Planning and Clean-up Requirements

Rule 20 requires the reporting of any spill of oil into water and any spill of oil or associated products on land greater than five barrels. The RRC does not specifically require the reporting of releases of produced water. It considers that spills must be cleaned up under current Rule 8(b) and proposed Subchapter B. Rule 98, Management of Hazardous Oil and Gas Waste, includes reporting requirements for hazardous wastes or materials that would result in hazardous wastes. The RRC does require a permit for cleanup operations and receives notice of spills through this process. Any unauthorized release of oil, associated products, hazardous substance, or deleterious substance is considered a violation. If the operator fails to properly remediate the release, enforcement actions can be brought against the operator, whether or not the release is causing pollution. Most of the RRC's enforcement actions with regard to spills involve the failure of an operator to clean up unauthorized releases.

Since the RRC receives no notice by operators having unauthorized releases of saltwater, the RRC relies on its inspection staff to find and cause such releases to be remediated where it is determined that the spills constitute a threat of pollution of surface or subsurface water. The RRC requires that all spills of crude oil in sensitive areas, condensate, or other contaminants under RRC jurisdiction be remediated to background unless otherwise approved through their spill cleanup permitting process under Rule 91(b). Thus, any operator causing pollution may be subject to a fine. The RRC contends that their current process works well in that only the people currently reporting would report under any rule developed to require reporting of saltwater spills. The recalcitrant operators not reporting now would also not report under any rule requiring such. The RRC believes that a saltwater release reporting rule would only result in a paper shuffle that would not benefit the industry or the RRC.

The RRC does have the ability to respond immediately to any spill that may cause a threat to human safety or the environment using the State Oilfield Cleanup Fund, and they have the authority or authorization to seek reimbursement of these expended funds.

1993 REVIEW FINDING V.2

Except for oil spills greater than 5 barrels and oil spilled to water, E&P waste spills are not required to be reported to RRC.

1993 REVIEW RECOMMENDATION V.2

The review team recommends that RRC amend its rules to require appropriate reporting of spills of E&P waste. (IOGCC 4.2.1.)

FOLLOW-UP FINDING V.2

This recommendation has not been met.

FOLLOW-UP RECOMMENDATION 4.4

The RRC should establish, by rule, a notification process for the appropriate reporting of releases of produced water and other E&P wastes not currently covered by the rules. (2000 Guidelines 4.2.1.)

4.2.2. Public Participation

RRC proposed rules are published in the Texas Register and are posted on their website. The RRC does not otherwise provide specific notice to the landowner or adjacent landowners of the issue of minor permits for waste disposal or of rule-authorized activities, other than the notice of the issue of a drilling permit. The RRC responds to all timely comments. Surface owners receive personal notice of the application for all permitted facilities. Adjacent landowners receive personal notice of applications for certain facilities. The public receives notice of applications for commercial facilities through newspaper publications. The RRC has expanded its list of stakeholders receiving notice of such activities.

The notice period for comment on most applications is 15 days. The notice period for rulemakings is generally 30 to 90 days, although notice of an emergency rulemaking can be as little as 15 days. The RRC believes that the notice period is adequate yet misunderstood. Any person desiring to protest or comment on a permit application is free to do so until that permit is officially issued. That period generally runs 20 to 40 days. Also, a person wanting to protest or comment does not have to present evidence or “be ready for court.” The staff will accept any comment or protest at any point prior to issuing the final permit. If a protest is received, the application is placed on hold until the issue is resolved or until the application is presented at an administrative hearing and finally determined at open conference by the Commissioners. According to the RRC staff, a phone call is sufficient to stop the process. The RRC is also liberal in their interpretation of affected party in accepting comments and protests.

1993 REVIEW FINDING IV.4

RRC provides for at least 15-day public notice before issuing individual and one-time annular disposal permits for E&P waste management activities.

1993 REVIEW RECOMMENDATION IV.4

The review team recommends RRC evaluate whether the minimum 15-day notice period provides an adequate opportunity for citizen participation in permitting decisions. (IOGCC 4.2.2.1.)

FOLLOW-UP FINDING IV.4

The RRC has met this recommendation. The RRC evaluated the sufficiency of the 15-day notice and determined that the notice period was sufficient.

Rule 8(d)6(G) and the proposed Subchapter B allow the Director to determine whether notice of an application for a minor permit is or should be required. The RRC does, in practice, require notice and allow an opportunity for comment for certain minor permits, such as roadspreading and off-lease landfarming. However, most minor permits are short-term permits with no notice requirements. Under current Rule 8(d)6(G) a minor permit is valid for 30 days. In August of 1998, the RRC extended the term limit for minor permits from 30 days to 60 days to eliminate the need for an operator to get an extension when 30 days is not adequate. Proposed Subchapter B would have maintained this extension of the term limit for a minor permit at 60 days. Both rules allow minor permits issued without notice to be modified, suspended, or terminated at any time without notice or hearing. The RRC allows the District Directors the latitude to make a determination whether notice should be provided for some minor permit applications. Generally, notice for a minor permit, when given, is given to the affected landowner. Notice is not provided to adjacent landowners. Minor permit applications are put into a report to the head office and are available electronically to the RRC staff. The District Director will also determine whether the waste stream is “minor” based on volumes and characteristic. If the waste can be appropriately handled in 30-60 days, it is considered minor. The Districts handle all applications for minor permits with a record (log) sent monthly to the central office.

1993 REVIEW FINDING IV.5

Because there is no public notice requirement for minor permit applications, the public’s opportunity to participate in RRC decisions on the issuance of minor permits is limited.

1993 REVIEW RECOMMENDATION IV.5

The review team recommends that RRC evaluate whether an opportunity to comment should be required for certain minor permit applications prior to issuance. (IOGCC 4.2.2.1.)

FOLLOW-UP FINDING IV.5

The RRC has evaluated whether opportunities exist for comments concerning minor permit applications. The RRC has met this recommendation.

Rule 8(d)6(C) requires notice of permit applications to the surface owner of the land in which the pit or disposal facility is to be located. If such land is within the limits of an incorporated city, town, or village, notice is also provided to the city clerk. The RRC proposed in Subchapter B to expand the notice requirements for commercial facilities to include mailed notice to landowners within ½ mile radius of the proposed facility and publication notice for commercial facilities. Section 91.116 also requires publication notice of any application for a “commercial surface disposal facility” and allows a public information hearing on an application for commercial surface disposal if it is determined to be in the public interest. If a protest is received prior to application approval, the application cannot be issued administratively until the protest is resolved. The applicant may withdraw the application, negotiate resolution with the protesting entity, or schedule a hearing. The RRC considers any protest a valid protest, and any party, whether receiving notice or not, may protest.

Although not specifically required by Rule, the Commission reports that written notice to adjacent landowners is required for permitting of facilities that would be characterized as large “centralized facilities” under the STRONGER Guidelines.

1993 REVIEW FINDING IV.6

RRC regulations do not require that adjacent landowners be given written notice of all applications for commercial or centralized E&P waste management facilities.

1993 REVIEW RECOMMENDATION IV.6

The review team recommends that RRC amend its rules to require that applicants provide written notification to adjacent landowners of permit applications for commercial and centralized facilities. (IOGCC 4.2.2.1.)

FOLLOW-UP FINDING IV.6

The RRC has not met this recommendation.

FOLLOW-UP RECOMMENDATION 4.5

The RRC should adopt rules to require that applicants provide written notification to adjacent landowners of permit applications for commercial and centralized facilities. (2000 Guidelines 4.2.2.1)

The RRC is very active in the area of disseminating program information to the regulated industry and the public. It provides several guidance documents concerning water protection and waste management practices, both on-line and hardcopy versions. The RRC provides educational seminars throughout the state to the regulated community and the public. The public has opportunities to participate in many of the various proceedings before the RRC including, but not limited to, rulemakings, permit application proceedings, and enforcement proceedings. The public also has access to the agency's staff and its records.

In the public outreach area, the RRC developed an Internet web site that became effective in December 1996. All of the RRC's current and proposed Rules are available at this web site. The RRC accepts comments on proposed rules through the web site as well. Additionally, guidance documents and manuals are also available for download. The RRC also expanded its list of persons to whom copies of the proposed rules are circulated. The list includes public advisory and environmental groups. In addition, the RRC holds numerous workshops to discuss proposed rulemakings and distributes informational summaries which include answers to frequently asked questions.

1993 REVIEW FINDING IV.3

Apart from the original rulemaking proceeding, there is no opportunity for public participation with regard to rule-authorized waste management activities.

1993 REVIEW RECOMMENDATION IV.3

Although beyond the scope of the Guidelines, the review team recommends that RRC consider whether it is appropriate to provide public notice of any rule-authorized activities.

FOLLOW-UP FINDING IV.3

This recommendation has been met. Notice is given of all well drilling permits in conjunction with which rule authorized pits may be constructed. Public participation occurs when the rule authorization is established.

Senate Bill 310, 2001, amended Chapter 91 by adding Section 91.1135, Oil Field Cleanup Fund Advisory Committee. The advisory committee has 10 members: the presiding officer of the senate committee with primary jurisdiction over matters affecting natural resources; the presiding officer of the house committee with primary jurisdiction over matters affecting energy resources; one public member appointed by the governor; one member appointed by the lieutenant governor from the academic field of geology or economics; one member appointed by the speaker of the house of representatives from the academic field of geology or economics; and the executive officer, or a person designated by the executive officer, of each of several industry and royalty owner associations. The task of the committee is to review the RRC's Oil Field Cleanup program and make recommendations to the RRC and the Legislature regarding the program.

The Guidelines recommend that the states should use advisory groups of industry, government, and public representatives to obtain input and feedback on the effectiveness of its program. Except for the Oil Field Cleanup Fund Advisory Committee, The Commission relies primarily on ad hoc workgroups for specific projects. The RRC attempts to balance workgroup membership by inviting all potentially affected stakeholders.

1993 REVIEW FINDING IV.12

RRC's information exchange with, and outreach to, the public falls short of meeting the IOGCC criteria.

1993 REVIEW RECOMMENDATION IV.12

RRC should consider establishing advisory groups with industry, government, and members of the public to obtain input and feedback on the effectiveness of aspects of RRC's E&P waste management program. (IOGCC 4.2.2.3.)

FOLLOW-UP FINDING IV.12

With the establishment of the Oil Field Cleanup Fund Advisory Committee and its ad hoc workgroups, the RRC has partially met this recommendation. The RRC staff believes that the Commission is prohibited from forming official standing advisory groups without specific legislative authorization.

FOLLOW-UP RECOMMENDATION 4.6

The review team encourages the RRC to establish volunteer, standing waste management advisory committees comprised of industry, government, and public representatives to obtain input and feedback on the effectiveness of aspects of RRC's E&P waste management program. (2000 Guidelines 4.2.2.3.)

4.2.4 Financial Assurance

The RRC, through recent legislation, will enact a new, more stringent financial assurance mechanism in 2004. Currently, operators have four options for complying with the financial assurance requirements. These are:

- 1) Option 1 – Bond in the amount of \$2 per foot of depth of the well (only available for operators with wells).
- 2) Option 2 – Bond in a varying amount based on the number of wells operated
 - a) 0 to 10 wells – \$25,000
 - b) 11 to 100 wells – \$50,000
 - c) 100 plus wells – \$250,000
- 3) Option 3 – A \$1,000.00 payment to the State's Oilfield Cleanup Fund, an acceptable record of compliance for the previous 48 months, and an administrative hearing to determine that options 1 and 2 are not available at a reasonable cost.

- 4) Option 4 – A 12.5% premium of the required bond amount under option 1 or two 2, whichever is less, paid to the State’s Oilfield Cleanup Fund.

Options 3 and 4 also require the operator to file a W-1X (Temporary deferral of plugging requirement) with a \$300.00 per year inactivity fee to the State’s Oilfield Cleanup Fund for each well temporarily abandoned.

The RRC recognized that changes were necessary to the types of financial assurance mechanisms allowed. Texas’ Orphan Well program has grown to about 17,000 wells and there are about 5,500 additional inactive wells operated by entities not in compliance with RRC well plugging rules. The average cost of plugging a well using the State’s Oilfield Cleanup Fund is \$4,500.00. Thus, Texas has a current plugging liability of \$76.5 million and an additional potential liability of \$24.75 million.

The RRC deliberated with all its stakeholders for more than a year to solve this problem. The proposed solution was the transition to universal bonding for all operators. The Texas Legislature, through Senate Bill 310 (2001), enacted this recommendation effective September 1, 2004. The RRC amended its financial assurance provisions under Statewide Rules 78 and 14 effective January 9, 2002. The Commission is considering Rule amendments to increase the bond amount for bay and offshore wells to cover the higher cost of plugging these wells. The RRC has authority to assess penalties for violations of its rules, including failure to properly plug a well or clean up a site. In fiscal year 2000, the RRC legal enforcement section processed 538 enforcement dockets

For the last ten years, most of the operators in the state have been eligible to provide an annual payment of \$100 as financial assurance for their operations, plus a \$100 annual fee for each inactive well. Virtually all of the wells that have been orphaned since this alternative to bonding was provided by the legislature have come from un-bonded operators using this form of “financial assurance.” Beginning September 1, 2004, options 3 and 4 and the W-1X program will be eliminated in their entirety. This change will require 100% of the entities legally operating wells in Texas to be under a bond. The change will result in a reduction in number of current operators since not all operators will be able to afford and/or qualify for a bond. The RRC has begun its implementation of these changes as wells can now only be transferred to operators under Financial Assurance Options 1 or 2. There are now 2,000 more bonded operators than last year at this time. This is resulting in more marginal wells being plugged by larger operators and a reduction in the revenue stream available to the State’s Oilfield Cleanup Fund.

During this transition period to full bonding, all operators have the option of filing a non-refundable annual fee equal to 12½% of the otherwise required bond amount. If the Commission determines that bonds are not available at reasonable prices, operators with an acceptable record of regulatory compliance for the preceding 48 months have the additional option, during the transition period, of filing a nonrefundable annual fee of \$1000. A small number of operators have complained that this transition is creating a hardship for them and have proposed that the transition be relaxed; the Commission feels however that the transition is progressing as expected.

The RRC also requires commercial facilities to be bonded under Rule 78(r) (16 TAC3.78(r) relating to financial security for commercial facilities). This rule requires financial security in the form of a bond or letter of credit for commercial facilities and reclamation plants.

1993 REVIEW FINDING II.11

RRC has the statutory authority for, and is currently developing, a bonding program to ensure the proper operation and closure of reclamation plants and commercial E&P waste disposal facilities.

1993 REVIEW RECOMMENDATION II.11

The review team recommends that RRC develop bonding programs for closure of reclamation plants and commercial E&P waste disposal facilities. (IOGCC 4.2.3.)

FOLLOW-UP FINDING II.11

The recommendation has been met.

1993 REVIEW FINDING II.12

Roughly 60 percent of Texas operators take advantage of the \$100 fee option. This fee option is being utilized primarily by smaller operators, some of whom may not have the financial resources to properly plug their wells and reclaim their disposal sites.

1993 REVIEW RECOMMENDATION II.12

The review team recommends that RRC review its rules to determine whether the program contains adequate incentives to ensure that operators properly plug their wells, reclaim their lease sites, and properly manage E&P waste sites. (IOGCC 4.2.3.)

FOLLOW-UP FINDING II.12

This recommendation has been met.

4.2.5. Waste Hauler Certification

The RRC requires all waste haulers to be permitted. Part of this permitting system is the establishment of facilities that any specific waste hauler may use. The waste hauler is only permitted or authorized to take waste to the specifically authorized facility. Rule 8(f)(2) and the proposed Subchapter B require that each oil and gas waste hauler maintain certain records showing daily oil and gas waste hauling operations under the permitted authority. The daily records must be dated and signed by the vehicle driver and shall show generally the same information that would be required on a manifest. The record must be available for inspection by the Commission and must be kept on file for at least three years from the date of the operation and recordation.

4.2.6. Waste Tracking

Rule 8(f)(2)(A) requires waste haulers to maintain daily records showing the identity of the property from which the waste is hauled and to which the waste is delivered. The daily records shall include the type and volume of the waste transported and delivered. Rule 8(g)(1) requires the waste generator to identify the waste hauler transporting waste from each operated facility and the disposal system to which the waste was transported. The waste generator must also record the type and volume of the hauled waste. Both the waste hauler and generator must maintain these records for three years and make them available to the RRC upon request. There are no Rule 8 requirements for commercial waste disposal facilities permitted by the RRC to maintain records on types, quantities, and sources of disposed oilfield wastes, but the RRC does impose record maintenance and reporting requirements as a condition of the permit. The RRC can use this information, along with the information received from the generator and the hauler to develop a discrepancy report. EPA- and TCEQ-permitted waste disposal facilities to which some oilfield wastes are sent do have record keeping and discrepancy reporting requirements (e.g., 30 TAC §355.15, Recordkeeping and Reporting Requirements Applicable to Owners or Operators of Storage, Processing, or Disposal Facilities) and 30 TAC §335.117, Recordkeeping and Reporting.

Proposed Subchapter B would have maintained the current specified that when oil and gas waste is hauled by vehicle from the lease, unit, or other oil or gas property where it is generated to an off-lease treatment, handling, recycling, disposal or injection facility permitted by the RRC, each load shall be accompanied by a manifest, run ticket, or shipping paper. The person generating the waste, the hauler, and the treatment, handling, recycling, disposal, or injection facility would have been required to keep, for a period of three years from the

date the waste is hauled copies of all such manifests, run tickets, or shipping papers. The manifests, run tickets, or shipping papers would have had to contain generally the same information that would be required on a manifest. Proposed subchapter B would have required discrepancy reporting upon discovery of any significant discrepancy in waste descriptions, volumes, place of origin, disposal locations or destinations, or other information based on personal observation or information contained in the manifest, run ticket, or shipping paper. The treatment, handling, recycling, disposal, or injection facility operator must submit a letter describing the discrepancy, and a copy of the manifest, run ticket, or shipping paper to the RRC and to the generator and hauler of the waste.

Many waste generators and haulers have developed their own manifest systems to comply with these requirements. The RRC did have many discussions with the waste generating and hauling industries and reviewed their processes and its requirements. The RRC determined that a 3-part form with one copy being submitted to the RRC was not beneficial enough to enact. The RRC believes that its efforts are better targeted at inspection and enforcement rather than this type of record keeping. Should the RRC enact such a requirement, it would be faced with an enormous task of reviewing and maintaining thousands of documents daily.

1993 REVIEW FINDING VII.2

While RRC does not have a three-part form, it does have a waste tracking system to document the movement of wastes from the site of origin to final disposition.

1993 REVIEW RECOMMENDATION VII.2

The review team recommends RRC finalize development of a three-part form to track E&P waste and require retention of the form by the operator for three years. (IOGCC 5.7.2.3.a. and b.)

FOLLOW-UP FINDING VII.2

The Guidelines have changed and no longer require the 3-part manifest system. The RRC is in substantial compliance with the 2000 Guidelines.

The RRC does not require waste haulers to attest on each individual manifest that there was no illegal dumping. As the RRC declined to adopt a three-part waste tracking form, any attestation cannot be a part of that form. The RRC waste hauling permit, includes a requirement that the operators follow the law and the permit also requires the waste hauler to properly train and educate its drivers as to the Rules of the Commission.

1993 REVIEW FINDING VII.3

RRC currently has no requirement for the disposal facility operator and hauler to “attest to no illegal dumping.”

1993 REVIEW RECOMMENDATION VII.3

The review team recommends that the "attest to no illegal dumping" be made part of the three-part form being developed. (IOGCC 5.7.2.3.c.)

FOLLOW-UP FINDING VII.3

This recommendation has not been met. The RRC does not require an attestation of “no illegal dumping” on any documents required by the RRC. The waste hauler currently signs a permit application that states the hauler will follow the law.

FOLLOW-UP RECOMMENDATION 4.7

The RRC should require that waste haulers certify in writing on a manifest, run ticket, or shipping paper that no unauthorized wastes were dumped illegally or at a location or facility not designated by the generator and that no unauthorized wastes were mixed with the exempt waste during transport. (2000 Guidelines 5.10.2.3.c.)

1993 REVIEW FINDING VII.4

RRC does not require the reporting of discrepancies from the operator of a disposal facility receiving E&P waste.

1993 REVIEW RECOMMENDATION VII.4

The review team recommends that RRC develop a discrepancy reporting requirement. (IOGCC 5.7.2.3.d.)

FOLLOW-UP FINDING VII.4

The RRC has not met this recommendation.

FOLLOW-UP RECOMMENDATION 4.8

The RRC should adopt rules requiring the operator of a disposal facility to report waste management discrepancies. (2000 Guidelines 5.10.2.3 d)

4.2.7. Location of Closed Disposal Sites

The initial review team felt that the RRC should establish some mechanism to track authorized facilities. Since authorized facilities are closely associated with the wellbore, generally within 200 feet, the RRC only tracks the locations of the wells. The RRC does record wellbore locations, as well as locations of permitted pits and this information is available to the public. The only authorized pits that might not be located within 200 feet of a wellbore are some flare pits, some water condensate pits, and some small sumps. These are specialized pits that generally are used for short periods at a time during equipment malfunction, generally must be lined, and must be emptied and properly closed. The RRC believes that, as long as operators comply with the restrictions, the risk of pollution from this type of pit is not great enough to warrant the additional paperwork and data entry that would be required to maintain these pit locations.

1993 REVIEW FINDING IV.10

RRC does not have record for all rule-authorized pit locations that are located more than 200 feet away from the wellhead; hence, there is very limited public access to pit location information for those pits.

1993 REVIEW RECOMMENDATION IV.10

The review team recommends that RRC keep records of all pit locations and make them available to the public. (IOGCC 5.3.6.f.)

FOLLOW-UP FINDING IV.10

The RRC has not met this recommendation.

FOLLOW-UP RECOMMENDATION 4.9

The RRC should expand its record maintenance system to include data capture of location and type of authorized pits greater than 200 feet from a well. (2000 Guidelines 4.2.7., 5.5.5.f)

The initial review team recommended that the RRC develop a mechanism to track and record all minor permits issued for waste storage and disposal issued by the district or regional offices. The RRC did develop such a mechanism and the central office is now informed of all such permits.

1993 REVIEW FINDING II.5

RRC district offices are not required to notify the central office of the issuance of minor permits. Consequently, RRC has no central records for a large number of disposal practices.

1993 REVIEW RECOMMENDATION II.5

Although beyond the scope of the IOGCC Guidelines, the review team suggests that RRC require the district offices to notify the central office of the issuance of minor permits. The review team also suggests the RRC record minor permits in a central computer system.

FOLLOW-UP FINDING II.5

The RRC has met this recommendation.

4.2.8 Data Management

An effective data management program should include information about permitting, operation, and monitoring of E&P waste management facilities. The program should be able to determine if the facilities maintain effective waste disposal practices and include the ability to share information concerning facility operations. The RRC has made great strides in its data management capabilities. It has developed comprehensive data management program for well permitting, well location and construction information, complaint tracking, and enforcement actions. The RRC has also developed a very informative web site that contains all its current and proposed rules, guidance documents, and stakeholder comments.

The RRC is at the forefront of data management and processing capabilities with its ECAP program for permitting well drilling, recompletion, and reentry via on-line filing. This involves permitting and tracking authorized facilities. Electronic filing, permitting, imaging, geographic information systems and Internet data transfer and assess are all part of this system-wide development. The RRC decided to pilot with the drilling permit process. The RRC allows both electronic submittals and electronic review of permit applications. This reduces the creation of paper copies. Introduced in May 2000, the RRC has processed 700 to 800 drilling permits filed in this manner. The RRC is re-engineering its work processes and then will re-engineer the data management system to support that, rather than the other way around.

The RRC has developed and continues to modify programming capabilities to effectively and efficiently use the data that are available for statewide dissemination. Interested citizens can track permit applications on-line once filed. The requirement for public notification remains. Whereas, the waste disposal volumes and quantitative analysis are not on-line, the information concerning the facility permit is available. The system is also being expanded to include permitting for other activities, including UIC applications, workovers, and other types of permits and applications and will also be used for electronic filing of required reports. The RRC receives more than 2 million paper copy reports per year.

Enforcement information is available to staff making determinations concerning permit application through the docket database (IDOC) and the P-5 computer system. Field enforcement information is available to permittees through copies of notice of violation letters and inspection reports. This information is available to the district office personnel through the wide-area network. This information will be even more accessible after conversion of the RRC's Rbase databases to Oracle.

SUPPLEMENTAL REVIEW FINDING 4.10

The commission has recognized the longstanding deficiency in its information tracking capabilities, and has diligently pursued, through the legislative appropriations process, an effort to migrate its oil and gas information systems to an updated platform. When this happens, information will be more easily and systematically shared between field personnel and management.

SUPPLEMENTAL REVIEW RECOMMENDATION 4.10

The review team encourages RRC to diligently pursue efforts to upgrade its information technology to allow the district offices to routinely share information with management and the public. (2000 Guidelines 4.2.8.3, 8.2)

Texas reviews and approves proposed data access fees, and charges of copies, maps, and other reproduction services based on actual costs of production. Price schedules are posted on the website. Any data posted on the website for review and downloading is free of charge. The RRC has several standardized maps available on-line for downloading but the public cannot yet build maps on request. If the RRC receives a public request for other data that are not available on the web site or that requires additional programming, the RRC cannot specifically allocate resources for filling these requests. If the requests can be filled with minimum programming, the RRC will supply the information at its cost, including programming and replication costs. The RRC feels that the work it is completing on its new oracle system will make this process more efficient.

The RRC does back up its networked data on tape each night and stores these tapes in a vault. These data are restorable should a catastrophic event occur that damages the system or data. This backup system works well and would allow for only minimum loss of networked information. The data stored on individual personal computers are not backed-up by the RRC's data processing personnel. The RRC does have a formal retention schedule to which it adheres.

Since the last review, the RRC and Texas' mapping capabilities have increased dramatically. In 1997, the OGD created a new Information Management Services (IMS) section, consisting of Well Mapping, GIS Projects, and Central Records, to facilitate electronic distribution of generations of valuable technical information on oil and gas fields and wells. IMS maintains multiple data layers in the GIS systems, such as surveys, highways, and rivers. New GIS layers may be created, or through a state cooperative effort, new GIS data layers may be imported from other governmental entities. The RRC participates in the Texas Statewide Geographic Information Systems program, the purpose of which is to build a carefully crafted organizational and technological infrastructure and to enhance Texas agency investments in GIS to support quality decision-making throughout the state. More information can be found on the Texas Geographic Information Council web site (<http://www.tgic.state.tx.us>), including the latest statewide plan. GPS devices (136 units) have been purchased for each District Office and all field inspectors, as well as personnel in Site Remediation, plugging and other areas, have these devices.

1993 REVIEW FINDING VIII.1

RRC has both mainframe and PC data management capabilities for tracking E&P waste and is expanding use of that capability.

1993 REVIEW RECOMMENDATION VIII.1

The review team recognizes that RRC has developed an exceptional data management system and encourages RRC to continue to expand its use in E&P waste management by:

- Tracing enforcement information on-line, therefore, making operators' compliance history available to E&P waste permittees; and
- Increasing the availability and use of other state and federal resources of information such as information on groundwater, fish, wildlife habitats, and the location of other ecologically sensitive areas. (IOGCC 4.2.7.)

Although beyond the scope of this review, the team recommends outfitting RRC technicians with Global Positioning Devices, so that when inspecting various activities, technicians can acquire accurate information.

FOLLOW-UP FINDING VIII.1

The RRC should receive special commendation on their efforts regarding this recommendation. The RRC has met this recommendation.

FOLLOW-UP RECOMMENDATION 4.11

The Review Team encourages the Commission to continue to request the necessary funding for development of its GIS capabilities, migration of its records to its ORACLE database in integrated formats, online permitting capabilities, and improvement of public access to its records. The Team specifically encourages the inclusion of web-based data access to permitting, well location, production, and waste management (including spill and remediation) information.

The majority of the RRC's data management services are related to reservoir management-type applications, i.e., identification of surface location of wellbores, wellbore construction, production volumes, production tests, drilling permits, and inspection reports. There are sufficient data and data layers available to allow the RRC to create a comprehensive environmental management data system using Geographic Information Systems (GIS) integrated with global positioning information. Such a system would facilitate the issue of all environmental permits and environmental inspection performed by staff.

SUPPLEMENTAL FINDING 4.12

There are many databases available through various Texas State agencies and several data management systems available that the RRC could acquire and use to develop a comprehensive environmental data management system to facilitate its permitting and inspection processes.

SUPPLEMENTAL RECOMMENDATION 4.12

The RRC should continue to acquire available databases from other Texas State environmental agencies and data management systems such as GIS programs and develop an integrated comprehensive environmental data management system.(2000 Guidelines 4.2.8.1.)

4.3. Personnel and Funding

4.3.1. Personnel

The RRC has a qualified and experienced staff. It has 12 districts operated through nine district or field offices. Each office has a Director, Assistant Director, engineers, geologists, field inspectors, pluggers, cleanup coordinators, H₂S coordinators, technicians, and administrative assistants. Its field inspectors live throughout the State and are assigned to work designated areas. The RRC has 81.5 FTE positions in its field inspection program available for general E&P inspection, investigation, and witnessing duties. It has an additional 33 FTE positions dedicated to the state's Oilfield Cleanup Program managing state and operator cleanups and site remediation programs. Texas has more than 350,000 sites, averaging about 5,000 sites per inspector. The goal of the RRC is to witness 75% of all operator plugging procedures and 100% of all Oilfield Cleanup Program plugging procedures.

To better use its limited resources, the RRC allows its field inspectors to work out of their homes. This lets them become very acquainted with the natural resources, oil and gas facilities and operators working in these areas. These "outriders" as the RRC terms them, communicate with their respective District Offices daily through the use of computer e-mail, phone, and mail and attend monthly district-wide meetings. The RRC evaluated its use of staff in late 1999 and early 2000 and reduced some paper duties to free up inspection time. This evaluation also resulted in a shifting of some inspectors to other districts to meet the critical needs.

Like most states, Texas is experiencing an inability to attract and retain qualified, experienced field personnel. The State is most affected when younger workers leave for better industry jobs when activity increases, and the long-term issue is the training of younger workers to assume senior management

positions. This becomes more critical as current management staff reaches retirement age resulting in a loss of institutional knowledge. Texas is beginning to experience this problem and, in an effort to retain critical employees, the 77th Texas Legislature (2001) allowed agencies to offer retention bonuses to enhance the retention of classified employees. The bonus is not an increase in salary but a one-time payment of up to \$3,000 to an individual employed in a classified position deemed as necessary to the operations of a state agency. The employee must remain with that agency in a classified position for 12 months after the date of the execution of a bonus contract. The need to retain the necessary classified employee must be adequately documented. More than 100 bonuses were offered to field inspectors.

The RRC is commended for its attempts to improve staff salaries and for its use of outriders to increase operational efficiency.

The RRC does not have a hydrologist in each field office, but relies on dissemination of technical expertise from its Austin office. Permitted landfarms are required to submit periodic reports as well as a closure report that is reviewed thoroughly by technical staff who may determine that additional field investigation is necessary. At closure of a facility such as a landfarm, an inspector ordinarily examines operator records (which are different from period reports and closure reports) only if there is a complaint or other indication of a problem from outside the program. By its own admission, the program often operates in a reactive mode. The state has approximately 5,000 open wells per inspector, and four staff persons to supervise approximately 650 operator cleanups. Additional technical and field staff are needed for adequate inspection, supervision, and enforcement. The RRC expects that senior, experienced staff will be departing during the next ten years. It will be difficult for replacements to mature on the job because much of the staff is transient, joining the RRC during times of low petroleum prices when the industry releases workers, and leaving the RRC when the industry hires personnel at higher wages than the RRC can pay.

1993 REVIEW FINDING I.6

The OGD [Oil and Gas Division of the RRC] has a highly-qualified, competent work force. The staff has efficiently managed increasing responsibilities with fewer people and fewer dollars. At this time, OGD needs additional funding and staff to more effectively administer and accomplish the goals and objectives of the E&P waste management program.

1993 REVIEW RECOMMENDATION I.6

The review team agreed that the State of Texas should continue to explore ways to supplement funding of OGD. The team supports the efforts of the RRC to increase staff positions and funding of OGD. In particular, the team supports the RRC's efforts to restore the ten planning positions lost by OGD, to place a hydrologist in each district office, to increase the laboratory facilities available to the district offices, and to increase the number of field inspection staff. The state should also seek to make salaries of its staff more competitive with non-governmental employers (IOGCC 4.3.1 and 4.3.2)

FOLLOW-UP FINDING I.6

This recommendation has not been met. Staff salaries are still not sufficiently competitive to assure retention and professional development of employees. In addition, the increasing reliance of the program upon rule-authorized activities rather than permits requires that the program have more staff to inspect situations and judge conditions. The RRC is commended for its attempts to improve staff salaries and for its use of outriders to increase operational efficiency.

FOLLOW-UP RECOMMENDATION 4.13

The State should make the salaries of its staff more competitive with industry, so that good employees are retained to become experienced senior professionals. The RRC should increase the number of staff available to advise operators, to inspect facilities, and to evaluate the wide variety of situations existing in the field. (2000 Guidelines 4.3.1)

SUPPLEMENTAL REVIEW FINDING 4.14

Funds have not been available for RRC staff training and travel. The RRC has used in-house training to bring the agency together for an exchange of information and education. However, as the RRC works to develop and keep skilled, motivated professionals, the opportunity for the staff to attend professional seminars, workshops, and meetings, some of which will inevitably be located out of state, will be essential.

SUPPLEMENTAL REVIEW RECOMMENDATION 4.14

The RRC should provide an on-going training program for RRC staff, particularly technical training for the field staff. The training program should include an in-house education component to take advantage of the expertise that exists within the agency.

The RRC employs 17 people for site remediation in its State Oilfield Cleanup Program. Eight of these are technical people with two managers, three administrators, one hydrologist, one toxicologist, and one geologist. This program is currently responsible for more than 1,600 abandoned sites. Also, the RRC witnesses more than 600 operator cleanups and directing more than 200 state-funded cleanups involving soil and groundwater pollution. The RRC indicated the need of at least four more additional technical people to assist with this program.

The initial review team recommended the RRC continued its development of the Field Operations Manual for its field inspection staff. The first printing of the “RRC’s Field Operations Manual” was in early 1995. This manual was published in three ring binder form to allow for updating as required; the manual is currently in need of updating. The manual is available to the regulated community for their use as well.

1993 REVIEW FINDING IX.2

Memoranda, instructions, and procedures relating to inspections already available in the district files have been compiled into a draft field inspection manual that is now being reviewed by the districts.

1993 REVIEW RECOMMENDATION IX.2

The review team supports the development of this manual. (IOGCC 4.3.1.4.)

FOLLOW-UP FINDING IX.2

This recommendation has been met.

4.3.2. Funding

RRC oil and gas pollution prevention activities are funded through a variety of sources. It has three basic funds available for use: state general funds provided through appropriations, federal funds provided for various federal programs and grants, and the State Oilfield Cleanup Program fund. For its oil and gas waste management activities, the RRC receives annual funding of approximately \$9 million from state general revenues, \$1 million for the federal government, and \$20 million from the State Oilfield Cleanup Fund. The State Oilfield Cleanup Fund is discussed in detail in Section 6.4 under Abandoned Sites.

The review team recognizes the statewide budgetary shortfalls being experienced by the State of Texas. These shortfalls have the potential of adversely affecting many vital programs across the State of Texas including, but not limited to, the various regulatory and environmental programs administered by the RRC. Like most State agencies, the RRC is expected to incur a 5 to 10 percent reduction in their upcoming fiscal year. The environmental waste management protection programs administered by the RRC are important programs governing one of the State’s most important industries. Many problems currently being experienced are historic problems dating back to times when the RRC’s waste management program elements were less comprehensive.

SUPPLEMENTAL REVIEW FINDING 4.15

The State of Texas is experiencing budgetary shortfalls and the RRC expects reduced funding through its general fund appropriations in the coming fiscal year.

SUPPLEMENTAL RECOMMENDATION 4.15

The State of Texas should ensure that the elements of its E&P waste management programs (permitting, compliance and enforcement) are sufficiently funded to maintain their effectiveness. (2000 Guidelines 4.3.2.)

4.4. Coordination Among Agencies

The RRC participates in numerous committees and councils. Representatives of public advisory and environmental groups are members of many of these committees or councils or often participate in the committee/council activities. These groups often provide input and feedback on the effectiveness of RRC's programs. Examples include the Texas Groundwater Protection Committee, Toxic Substances Coordinating Committee, the Texas Radiation Advisory Board, Coastal Coordination Council, Interagency Council on Coastal Spills, Oil Spill Oversight Council, Clean Rivers Act Steering Committee, Galveston Bay National Estuary Program and Corpus Christi Bay National Estuary Program. RRC staff also participated in the Strategic Texas Environmental Priorities Project, which was a comparative risk project.

The RRC interacts with other Texas State Agencies that have some jurisdiction concerning air and water quality, protection of wildlife, and naturally occurring radioactivity. The initial review team recommended that memoranda of understanding be developed with each of the various state agencies interacting with the RRC.

The RRC adopted an updated MOU with the Texas Natural Resource Conservation Commission (TNRCC) as Rule 30, effective May 31, 1998. Coordination between the two agencies concerning the issue of disposal of oil and gas wastes at municipal landfills was addressed in the revised MOU and in a guidance document (revised on January 1, 1994), which reflects additional requirements and restrictions for this type of waste disposal.

The public had an opportunity to comment on the MOU during the rulemaking processes of both agencies. Furthermore, each Texas State Agency is required under Texas Government Code Section 2001.039 (as added by Acts 1999, 76th Legislature, chapter 1499, Section 1.11(a)), to review its regulations once every four years. The public also has an opportunity to participate in this process.

The RRC has no formal MOU with Texas Parks and Wildlife Department (TPWD) or the Texas Department of Health. However, RRC reports that frequent informal contact with other state jurisdictional agencies, including TPWD and TDH at the working level is sufficient to provide the needed coordination. The regulatory functions (migratory birds, fish/wildlife toxicology, etc.) of these two Departments do not really cross into the regulatory jurisdiction of the RRC and the RRC sees little need to establish MOUs with either. The RRC receives information on biota studies conducted by TPWD, and can enforce its own Rule 22 for protection of birds without action by TPWD. The Team understands that an MOU between the RRC and the TDH is in discussion.

1993 REVIEW FINDING I.4

RRC participates in coordinating committees with the other state agencies that have responsibilities for waste management. RRC has finalized one MOU with TWC, has MOUs under development with TACB and GLO, and has developed a working document with TWC regarding disposal of E&P waste in municipal landfills. (Texas Water Commission (TWC), Texas Air Control Board (TACB), General Land Office (GLO))

1993 RECOMMENDATION I.4

The review team recommends that RRC develop MOUs with TACB, GLO, TPWD, and any other agency(ies) with which RRC must coordinate E&P waste management. All MOUs should contain a procedure for periodic review and revision of MOU. The pending revision of the TWC/TDH/RRC MOU should be finalized. The working document for waste disposal in municipal landfills should be finalized as an MOU. (IOGCC 3.1., 4.4.)

FOLLOW-UP FINDING I.4

The RRC has partially met this recommendation by establishing an MOU with the TNRCC (Now the TCEQ).

FOLLOW-UP RECOMMENDATION 4.16

The RRC should develop formal coordination procedures with Parks and Wildlife and the Department of Health through MOUs or other appropriate methods. (2000 Guidelines 3.1 e.)

1993 REVIEW FINDING IV.2

RRC has no formal mechanism for public participation in the development of MOUs with other agencies.

1993 REVIEW RECOMMENDATION IV.2

Although beyond the scope of the IOGCC guidance, one team member believes it necessary to make the following recommendation: RRC should explore methods by which the public could provide formal input into the process of developing MOUs.

FOLLOW-UP FINDING IV.2

Although this recommendation is beyond the scope of the guidelines, the RRC did develop the MOU with TNRCC (now the TCEQ). The TNRCC/RRC general MOU has been adopted by each agency as a rule. The public has an opportunity to comment on the proposed rules, as they are published in the Texas Register.

TECHNICAL CRITERIA (2000 Guidelines Section 5)

5.1 General

The RRC's reliance on Rule 8, guidelines, and the expertise of the staff gives the RRC and operators considerable flexibility in siting, constructing, operating, and closing exploration and production sites. In the 1993 Texas review, the team expressed its concern with these general standards and recommended the adoption of specific technical standards for pits, landfarms, non-commercial, and commercial facilities. Although some flexibility in a program can be of benefit to the regulated industry and the state, additional information in regulations as to technical requirements for permits can facilitate the routine implementation of these practices by industry. The program will be more efficient as the state and operators know what is expected while site-specific conditions can continue to be accommodated.

Texas proposed new standards for disposal of water condensate; disposal of inert wastes; landfarming of low chloride water base drilling fluids; burial of water base drilling fluid, drill cuttings, sands, and silts; burial of completion/workover wastes; and disposal of sewage, storm water, and hydrostatic test water from new pipelines in Subchapter B. This revision would have set out new standards for rule-authorized pits, including siting standards, general construction standards, operating standards, and closure standards. Current Rule 8 prohibits, as would the proposed Subchapter B revision, pits used for the storage of oil or oil products (production pits), except in emergency situations. The RRC has continued to rely on Rule 8(b) in most enforcement actions. RRC staff has stated that this prohibition of pollution will continue to an important tool for enforcement, although other regulations will often be cited as a basis for enforcement action.

1993 REVIEW FINDING III.1

RRC relies on a very liberal application of Rule 8(b) prohibiting pollution of surface and subsurface water for site restrictions or prohibitions. This provided RRC with a broad tool for pollution prevention as long as it is enforced by a well-trained, well-qualified staff.

1993 REVIEW RECOMMENDATION III.1

The review team recommends that RRC continue its broad enforcement and liberal application of Rule 8(b), until specific site restrictions and prohibitions can be developed and implemented. (IOGCC 5.3.3.)

FOLLOW-UP FINDING III.1

This recommendation has been met.

The RRC does not have specific requirements for waste management facilities. Although the RRC proposed some siting, construction and closure standards for permitted pits, landfarms, and non-commercial facilities in Subchapter B, written standards to guide decisions on site suitability for minor permit applications do not exist. Operators are responsible for compliance with local regulations. When evaluating whether an area is sensitive, the RRC may review local land use regulations, but Rule 8, the guidelines, and proposed Subchapter B fail to specifically address land use regulations. Although the RRC staff considers site suitability for permit and minor permit applications, no written standards to guide these decisions exist.

1993 REVIEW FINDING III.3

In practice, RRC implements siting restrictions for permitted E&P waste facilities. The permit review process includes and addresses such issues as fluid makeup; depth to, and quality and quantity of, groundwater; wetlands; flood prone areas; surface contour; proximity to drinking water supplies and wells, surface water, residential and commercial buildings and schools; geological hazards; and other environmentally sensitive area.

1993 REVIEW RECOMMENDATION III.3

The review team recommends that RRC develop rules specifying site restrictions for the various types of permitted E&P waste management facilities. (IOGCC 5.3.3.)

FOLLOW-UP FINDING III.3

These recommendations have not been met.

1993 REVIEW FINDING III.4:

Some minor permit applications for waste disposal or storage may not be reviewed for site suitability.

1993 REVIEW RECOMMENDATION III.4

The review team recommends that RRC consider site suitability for all minor permit applications requesting authorization for waste disposal or storage at sites which are not already permitted for this activity. (IOGCC 5.3.3.)

FOLLOW-UP FINDING III.4

The recommendation has been met. All minor permit applications are reviewed, either by staff in Austin or in the District Offices, to determine site suitability.

FOLLOW-UP RECOMMENDATION 5.1

The RRC should develop siting rules that incorporate all the siting concerns addressed in 2000 Guidelines 5.1.e.

5.2 - Waste Characterization

Most waste management within the program requires waste characterization through process knowledge or testing of the waste. All permits - rule-authorized, general and minor - currently require characterization of the wastes to be managed under the permits. There are additional testing and characterization requirements for spill cleanup and site remediation, some of which are included in current oil and condensate spill guidance on the RRC website. Site remediation staff works with the permit staff to ensure that contaminated media is properly characterized, and that the remediation staff knows what to expect in the event of a cleanup or remediation action. RRC staff collects samples, using standard sampling protocols detailed in internal RRC guidance, and certified laboratories are hired to run the samples.

Proposed Subchapter B would have added more specificity as to waste characterization requirements and final cleanup standards. The standards proposed in Subchapter B would have set threshold standards for wastes handled by rule-authorized facilities and would have required complete testing and characterization for all general, or full, permits. Although not currently spelled out in Rule 8, RRC staff reports that testing and characterization are always required as permit conditions on full permits.

Testing requirements, including test methods, for air emissions from certain E&P facilities are found in the TCEQ regulations relating to air quality and human health. H₂S emissions are regulated also by the RRC, for protection of public safety, and require monitoring to make sure that safe limits are not exceeded.

SUPPLEMENTAL REVIEW FINDING 5.2

The Guideline standards have been met.

5.3 – Waste Management Hierarchy

The RRC Waste Minimization in the Oil Field manual articulates the RRC program for recycling, product substitution, and source reduction. A waste hierarchy has been established. RRC outreach includes a brochure that will be included with all notices of violation that are issued. The Manual is in PDF format on the RRC website and a download of technical practices is available to the public. RRC staff developed a waste minimization training program that has been presented through workshops across the country. A video of the training program has been produced by the IOGCC and is available for purchase. The RRC does an Oil and Gas Regulatory Expo every year and waste minimization has been on the agenda. This information is available to other agencies and other states.

The RRC has an excellent waste minimization program that gives practical information to operators to assist them in handling wastes by means other than disposal. The RRC has the authority to regulate recycling and it is currently looking into developing incentives for this program.

SUPPLEMENTAL REVIEW FINDING 5.3

The Guideline standards have been met.

1993 REVIEW FINDING VI.5

Low volume E&P wastes may be disposed of in those municipal solid waste landfills whose permits allow that disposal. Disposal of drilling fluids is allowed only at those municipal landfills specifically designed to handle such wastes.

1993 REVIEW RECOMMENDATION VI.5

The review team recommends that RRC issue permits for disposal of drilling fluids in municipal landfills only if a better option is not available. (IOGCC 5.1.)

FOLLOW-UP FINDING VI.5

This recommendation has been met. RCRA Subtitle D requirements for municipal landfills prohibit the disposal of fluids. Since this requirement has been in effect, disposal of drilling fluids in municipal landfills has become a moot issue. Disposal of other E&P wastes, such as drill cuttings, are allowed as long as no fluids are included. The TCEQ regulates municipal landfills and an MOU between the RRC and the TCEQ has coordinated the guidance on disposal of E&P waste in these landfills. This guidance also reminds operators that state law mandates a recycling rate of 40% and state policy considers landfill disposal as the least desirable method of disposal.

5.5 Technical Criteria for Pits

1993 REVIEW FINDING II.10

RRC allows the use of unlined basic sediment pits.

1993 REVIEW RECOMMENDATION II.10

The review team recommends that RRC prohibit the use of unlined basic sediment pits for the disposal of oily wastes. (IOGCC 5.3.5.1.)

FOLLOW-UP FINDING II.10

This recommendation has not been met. However, rules imposing a liner requirement and use and closure requirements for basic sediment pits were contained in the Subchapter B proposal.

FOLLOW-UP RECOMMENDATION 5.4

The RRC should adopt rules, including lining, use, and closure requirements for basic sediment pits. (2000 Guidelines 5.5.4. I)

Proposed Subchapter B included site restrictions, prohibitions, and construction requirements for authorized pits. The RRC currently receives implied notice of reserve pits, mud circulation pits, makeup water pits, and some completion/workover pits when it issues drilling permits (Form W-1) and when an operator files a Form W-3A (notice of intent to plug a well). The RRC relies on the knowledge of the field staff for information on the location, construction, operation, and closure of all other authorized facilities. The RRC does not believe notification would benefit the agency.

1993 REVIEW FINDING III.5

RRC does not consider site suitability for authorized facilities associated with drilling, completion, and production operations prior to the facility's construction and use. No notice from the operator to RRC is required prior to the construction and use of authorized facilities.

1993 REVIEW RECOMMENDATION III.5

The review team recommends that RRC develop rules specifying site restrictions, prohibitions, and construction notice requirements for the various types of authorized pits. (IOGCC 5.3.3.)

1993 REVIEW FINDING VI.7

General Standards for construction of pits are communicated to facility operators through RRC rules (Rules 8 and 22), the Water Protection Manual, and annual seminars held at several locations across the state. Other requirements may be included in facility permits.

1993 REVIEW RECOMMENDATION VI.7

The review team recommends that the regulatory standards for permit issuance in Rule 8 be amended to specify that:

- Pit size should be sufficient to ensure adequate storage until closure, taking into account historical precipitation patterns;
- Pit depth should be such that the bottom does not penetrate groundwater, or such that the pit contents do not adversely impact groundwater or surface water; and
- Berm height, slope, and material should be such that the pit is structurally sound, and that pit integrity is not compromised by terrain or breached by heavy rains, winds, seepage or other natural forces. (IOGCC 5.3.4.)

1993 REVIEW FINDING VI.8

Rule 8(d)(4) does not adequately define construction standards for rule-authorized pits. Criteria that are not addressed for all types of rule-authorized pits include size, configuration, liner requirements, siting considerations, etc. RRC staff has received permission from the Commissioners to develop Rule 8 amendments to more thoroughly define its technical criteria for rule-authorized pits.

1993 REVIEW RECOMMENDATION VI.8

The review team agrees that Rule 8 needs to be amended to define minimum construction standards for all rule-authorized pits. (IOGCC 5.3.4.)

FOLLOW-UP FINDING III.5/VI.7/VI.8

These recommendations have not been met.

FOLLOW-UP RECOMMENDATION 5.5

The RRC should adopt requirements specifying site restrictions, prohibitions, and construction, use and notice requirements for the various types of rule-authorized pits to protect human health and the environment. (2000 Guidelines 5.5.2.d.).

1993 REVIEW FINDING III.6:

RRC published a Water Protection Manual that provides some guidance as to what operators should consider in the construction and use of authorized and permitted facilities.

1993 REVIEW RECOMMENDATION III.6:

The review team recommends that RRC continues publishing and distributing the Water Protection Manual. (IOGCC 4.2.2.2.)

1993 REVIEW FINDING VI.4

RRC staff reviewing permit application use in-house guidelines (“rules of thumb”) and their professional judgment to determine suitable and consistent technical requirements for facility construction, operation, and closure.

1993 REVIEW RECOMMENDATION VI.4

The review team recommends that RRC allow staff to periodically compile, publish, and update its in-house technical criteria "rules-of-thumb". (IOGCC 5.21 and 5.2.)

FOLLOW-UP FINDING III.6/VI.4:

These recommendations have been met. The RRC does compile, publish, and update the technical criteria in its various guidance documents, including the Water Protection Manual. Many guidance documents are now available through the RCC website and many of the “rules of thumb” were proposed for incorporation in the Subchapter B rules.

1993 REVIEW FINDING VI.9

RRC uses the individual permit process to impose the operating requirements suggested by the IOGCC Guidance. Some operating conditions for rule-authorized pits are contained in Rule 8(d)(3) and (4), but the rule does not contain all of the IOGCC-recommended provisions.

1993 REVIEW RECOMMENDATION VI.9

The review team recommends that general operating standards for permitted and rule-authorized pits be added to Rule 8. (IOGCC 5.3.5.)

FOLLOW-UP FINDING VI.9

This recommendation has not been met. While operating standards for permitted and rule authorized pits would have been included in Subchapter B, the proposed standards did not include all operational recommendations set out in the Guidelines.

FOLLOW-UP RECOMMENDATION 5.6

The RRC should adopt pit operation standards that address all the Guidelines standards. (2000 Guidelines 5.5.4b, c, d.)

1993 REVIEW FINDING VI.10

Pit closure requirements for rule-authorized pits meet some, but not all, of the IOGCC-recommended requirements.

1993 REVIEW RECOMMENDATION VI.10

The review team recommends that general pit closure standards for permitted and rule-authorized pits be added to Rule 8. (IOGCC 5.3.6.)

FOLLOW-UP FINDING VI.10

This recommendation has not been met.

FOLLOW-UP RECOMMENDATION 5.7

The RRC should adopt rules that meet the 2000 Guidelines. (2000 Guidelines 5.5.4m)

5.6 Technical Criteria for Landspreading

Rule 8 allows landspreading of low-chloride drilling fluids, drill cuttings and wash water as rule-authorized. Under Rule 91, rule-authorized landfarming of crude oil spills in non-sensitive areas is subject to immediate mixing to less than 5% tph and reduction to less than 1% tph within twelve months. Landfarming of other E&P wastes is permitted by the RRC on a case-by-case basis, in which information on the specific wastes and appropriate loading rates are considered. The RRC believes this limitation eliminates the need for testing of the waste and the receiving soils to determine appropriate loading rates. The authorization specifies removal of hydrocarbons, minimum proximity to surface water, maximum slope, and spreading in a manner that prevents pooling, ponding, or runoff of the waste, and requires disking into the soil as necessary to distribute solids present in the waste within the soil. There are specifications for pH, EC, and TPH for the final waste/soil mixture.

Rule 8 does not contain specific standards for landspreading. The proposed Subchapter B rules did not set loading rates, and testing prior to landspreading would not have been required. Operators would have been required to test the "final mix" to determine if the waste, when worked into the soil, would meet the standards. Operators are not required to test prior to landspreading unless there is a concern the background level of contaminants is higher than the standard. Rather than establishing loading rates, the RRC relies on the operator to develop a plan for loading that will result in a mixture that meets state standards. Records of the sampling must be kept for 3 years and the results are not sent to the RRC. If a problem arises at the site of the landspreading, the RRC will review the records, conduct an inspection, and require remedial action.

1993 REVIEW FINDING VI.11

RRC has not adopted regulations or published standards specifically for land treatment of E&P wastes.

1993 REVIEW RECOMMENDATION VI.11

The review team recommends that RRC publish a guideline document for land treatment, including its current "rules-of-thumb" standards, and consider amending Rule 8 to include minimum operational requirements for land treatment. (IOGCC 5.4.3.)

FOLLOW-UP FINDING VI.11

The recommendation has been partially met. The absence of a loading rate is inconsistent with Guidelines requirements.

FOLLOW-UP RECOMMENDATION 5.8

The RRC should require testing of the E&P waste prior to landtreatment and the RRC should develop a standard loading rate. (2000 Guidelines 5.6.3.d and 5.6.3.i.)

5.7 Technical Criteria for Burial and Landfilling

E&P wastes are buried on-site only in closed pits; therefore, the standards are the same as for pit closure. Burial is rule-authorized for water-based drilling fluid; drill cuttings, sands, and silts obtained while using oil-base drilling fluids or water-based drilling fluids; and completion/workover pit wastes.

1993 REVIEW FINDING VI.12:

Factors considered by RRC in its review of an application for disposal of an E&P waste by burial are consistent with recommended regulatory requirements in the IOGCC Guidelines. There is no published guidance to operators on technical or performance standards other than the Rule 8(b) “no pollution” standard. The rule-authorized disposal of E&P wastes by burial (Rule 8(d)(3) and (4)) is generally consistent with the operational requirements in the IOGCC Guidance. The only significant exception is the absence of a requirement for rule-authorized burial pits to be lined, if the average salt or hydrocarbon content of the mixture being buried exceeds state-determined criteria unless the waste is solidified, fixed, or encapsulated.

1993 REVIEW RECOMMENDATION VI.12

The review team recommends that RRC publish a guideline document for burial of E&P wastes including its current “rules of thumb” on technical criteria, and consider amending Rule 8 to include the minimum operational requirements for E&P waste burial. IOGCC Guidance section 5.5.3.

FOLLOW-UP FINDING VI.12

This recommendation has not been met. Although the RRC, through proposed Subchapter B pit rules, wrote standards for waste burial, those proposed standards did not require maintenance of liner integrity when pits containing wastes are closed by burial.

FOLLOW-UP RECOMMENDATION 5.9

The RRC should provide operational standards, including maintenance of liner integrity, for burial of E&P waste. (2000 Guideline 5.7.3).

5.8 Technical Criteria for Roadspreading

Roadspreading is generally managed under a minor permit issued for spreading waste on lease roads. Roadspreading is limited to oily wastes, such as tank bottoms, wastes from reclamation plants, and some gas plant wastes. Although not required by rule, RRC practice is to require that the surface owner be notified of a permit application on a lease road. County commissioners must give written permission for roadspreading on a county road.

Guidance for roadspreading of reclamation plant waste and waste from gas plants has been developed in a memorandum that is available to the public. The memorandum provides the application requirements and analysis of chloride concentration and oil content that are required as part of the application. More extensive analysis may be required depending on the nature of the waste

1993 REVIEW FINDING VI.13

In practice, RRC appears to be applying technical criteria for roadspreading that are consistent with the IOGCC Guidelines. These criteria are not published in the Commission’s regulations, Water Protection Manual, or other guidelines.

1993 REVIEW RECOMMENDATION VI.13

The review team recommends that RRC adopt minimum regulatory requirements for roadspreading, and that it publish its guidelines for roadspreading permit applications. (IOGCC 5.6.3.)

FOLLOW-UP FINDING VI.13

This recommendation has not been met.

FOLLOW-UP RECOMMENDATION 5.10

The RRC should adopt minimum regulatory requirements for roadspreading. (2000 Guidelines 5.8.2., 5.8.3.)

5.9 - Technical Criteria for Tanks

The RRC has jurisdiction over all tanks at E&P facilities, except hazardous waste tanks at gas plants. RRC does not have specific rules governing installation, maintenance or removal of waste tanks, except for fire prevention and public safety. The locations and sizes of tanks are gathered and maintained by TCEQ under air quality regulations and by TDH under SARA Title III regulations, but not in an electronic format. All storage tanks, including waste tanks at lease operations, are subject to the Rule 8(b) general prohibition against pollution and the Rule 8(d) prohibition on unauthorized disposal, including discharges and spills. In practice, the RRC also attaches special permit conditions for tanks located at centralized/commercial facilities. The permit requirements for tanks at commercial disposal well facilities address catch basins, allowable fabrication materials, maintenance, dikes, gauges, and alarms. Tanks must be maintained in a leak-free condition and must be emptied and repaired if necessary.

Corrosion protection is required only for hydrogen sulfide tanks under Rule 36. Rule 22 requires operators to screen, net, cover or otherwise render tanks harmless to birds. Rule 14(d)(12) requires tanks, vessels, and related piping and flow lines be emptied within 120 days of plugging a well, and all subsurface equipment less than 3 feet below the surface must be removed.

SUPPLEMENTAL REVIEW FINDING 5.11

The RRC partially meets the Guidelines requirements because some requirements are imposed through permitting.

SUPPLEMENTAL REVIEW RECOMMENDATION 5.11

The RRC should adopt rules relating to siting, construction, operation, removal and closure of E&P waste tanks. (2000 Guidelines 5.9.)

5.10 Technical Criteria for Commercial and Centralized Disposal Facilities

The RRC maintains that it is necessary to maintain flexibility to develop commercial and centralized facility permits on a case-by-case basis. Current requirements for construction, maintenance, operation, and closure are specific to the facility permits. These permits and the supporting information are available to the public. General guidance has been developed but the guidance has not been published. The guidelines that are used consist of permits that have already been issued. This case-by-case permitting process may be vulnerable to charges of inconsistency, and the public may not know what to expect in terms of commercial and centralized facility regulation.

Proposed Subchapter B would have required that applications for centralized and commercial disposal facilities must contain a description of the soil, the precipitation and evaporation rates, the depth to and quality of groundwater, and information regarding the proposed facility. Subchapter B would not have required that the application contain information on the permeability of the vadose zone, the direction of groundwater movement, baseline data on the quality of soils, and the baseline data on the quality of nearby surface waters, as required by 2000 Guidelines 5.10.2.2.b.v.

1993 REVIEW FINDING VI.19

All permits are reviewed and issued on a case-by-case basis with no restrictions or requirements established by rule.

1993 REVIEW RECOMMENDATION VI.19

The review team recommends RRC specify, by rule, construction, maintenance, operation, and closure requirements for commercial and centralized facilities. (IOGCC 5.7.2.2.(c)(d) and (e))

FOLLOW-UP FINDING VI.19

This recommendation has not been met.

FOLLOW-UP RECOMMENDATION 5.12

The RRC should adopt rules for construction, maintenance, operation, and closure for commercial and centralized facilities, including the plans enumerated in the Guidelines. (2000 Guidelines 5.10.)

Texas employs an air emissions permitting program, administered by TCEQ, to require facilities to control and minimize air emissions. TCEQ has established permits by rule at 30 TAC Chapter 106, Subchapter O for small salt water disposal facilities, oil and gas production facilities, sour gas treating facilities, and pipeline metering/purging/maintenance operations. Subchapter X has a permit by rule authorization for soil and water remediation projects. Larger oil and gas production and gas processing/treating facilities may install or modify facilities using the standard TCEQ permit located in Subchapter F of 30 TAC Chapter 116 if they meet the standard permit conditions.

All other oil and gas facilities (including most commercial and centralized facilities other than simple salt water disposal facilities) are required to be permitted under the TCEQ's normal New Source Review Permitting program. This permitting process considers such factors as the volatile organic compound emissions, particulate matter carried by the wind, chemical reactions (e.g., production of hydrogen sulfide from sulfur-bearing wastes), and health effects on people who might be exposed to the emissions. These same factors were considered in the development of the permits by rule and standard permits used in oil and gas operations.

RRC does not require operators to demonstrate that the facility has the required approvals from the TCEQ (which has the statutory authority to regulate air emissions). The RRC permits for commercial and centralized facilities do not include plans for preventing or minimizing air emissions other than of hydrogen sulfide, which is regulated by the RRC to protect the public from immediately hazardous releases of H₂S. Public safety concerns relative to air emissions are addressed by the RRC. Commercial and centralized facility permits are available to the public, and protests to issuance of a permit because of air quality concerns are normally filed with the TCEQ.

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ABANDONED SITES

(2000 Guidelines Section 6)

6.1 - Introduction

Statutory authority for the Commission to plug orphaned wells and clean up orphaned sites is found in Chapters 89 and 91 of the Texas Natural Resources Code (TNRC). The Texas Legislature in 1983 created a dedicated Well Plugging Fund with about \$3 million in annual industry fees, increased the penalties for violations of environmental protection statutes, and gave the Commission the authority to act immediately to plug leaking wells.

By 1990, it was apparent that the Well Plugging Fund was not adequate for a growing number of orphaned wells and that there was a need for funding to cleanup orphaned oil and gas surface sites. Texas Senate Bill 1103 in 1991 rolled remaining monies in the Well Plugging Fund into a new \$10 million/year Oil Field Cleanup Fund (OFCF), with expanded scope and industry fees. (See TNRC §§91.111-91.113) The fund is a dedicated account and receives revenue from the oil and gas industry in the form of fees for permits, oil and gas production regulatory fees, financial assurance collections, sales of salvageable equipment, reimbursement for plugging and remediation costs, administrative penalties, and civil penalties; a full list of the revenue sources is found in TNRC §91.111(c).

The same legislation required operator bonding, with the alternative of financial assurance fees paid into the OFCF. The Commission amended 16 TAC §3.14 (Rule 14) and 16 TAC 3.78 (Rule 78) to implement these changes. From Fiscal Year 1992 through Fiscal Year 2002, the Commission has used nearly \$85 million from the OFCF to plug 15,306 orphaned wells and clean up 2,062 orphaned sites.

Some of the steps taken by the Texas Legislature and the Commission since 1991 to remediate abandoned sites and prevent additional wells and sites from being orphaned include:

1992: 16 TAC §3.5 (Rule 5) was amended to deny a drilling permit to an organization/officer with an outstanding final order for a safety or pollution violation.

1992: Rule 14 was amended to limit the number of time extensions an operator can receive before plugging a well without filing a bond.

1992: Rule 14 was amended to require testing of wells at least 25 years old and that have been inactive for more than a year to determine whether the well poses a potential threat to surface or subsurface waters.

1993: The Commission established a formal priority system - including additional environmental, wildlife, and human health factors - for plugging orphaned wells.

1993: 16 TAC §3.91 (Rule 91) was adopted to establish regulatory standards and procedures for cleanup of most crude oil spills.

1993: 16 TAC §3.83 (Rule 83) was adopted to implement new legislation providing a severance tax exemption for wells that had been inactive for at least three years and were returned to production. The statute (and Rule 83) was subsequently amended to provide this tax exemption to production from wells that had been inactive for two years. About 11,000 inactive wells have been returned to production under this program.

1997: The Commission expanded delegations of the Oil and Gas Division Director's approval and emergency response authority to provide more prompt response when a problem was identified.

1998: The Commission began bidding multiple well plugging/site remediation operations under one contract to expedite the work and reduce costs.

1998: The Commission amended Rule 78 and 16 TAC §3.57 (Rule 57) to require the owners and operators of reclamation plants and commercial disposal facilities to file financial security in an amount to ensure proper closure of the facility when operations cease.

2000: The Commission amended 16 TAC 3.1 (Rule 1) and 16 TAC §3.58 (Rule 58) to disqualify an operator from getting an organization report because of outstanding violations. (See TNRC §91.114.) An organization report is required to do any business regulated by the RRC.

2000: The Commission amended Rule 14 and Rule 78 to require an un-bonded operator to obtain a well plugging bond for any well inactive over 36 months and to prohibit transfer of any inactive well without a bond for the well or the new operator. Mechanical integrity tests were required for all plugging extensions by un-bonded operators.

2001: Texas Senate Bill 310 (Railroad Commission Sunset Review Legislation) increased the amounts of several fees dedicated to the OFCF to a projected \$20 million per year, established “universal bonding” requirements for all facilities and inactive wells effective September 1, 2004, and made existing “interim” financial assurance alternatives for un-bonded inactive wells more costly and difficult to achieve. The Commission has amended Rules 14 and 78 to implement these legislative changes.

2001: Texas Senate Bill 310 authorized the Commission to establish a Voluntary Cleanup Program to provide an incentive to remediate a site by removing liability to the state for lenders, developers, owners, and operators who did not cause or contribute to contamination released at the site but want to clean it up with Commission oversight. The Commission anticipates that developers and other persons interested in putting contaminated former oil field property to productive use will enter the program and reduce the number of sites that would otherwise have to be remediated using money from the Oil Field Clean Up Fund. Participants are expected to pay for the clean up and for Commission oversight costs. The Commission has adopted new 16 TAC Chapter 4, Subchapter D to implement this legislation.

2002: The Commission has published a regulatory proposal to institute new bonding requirements for bay and offshore wells. Commission staff has considered public comments and is preparing an alternative proposal, which it will propose to the Commission for publication.

SUPPLEMENTAL REVIEW FINDING 6.1

Texas has been extremely proactive in addressing the issues relating to existing orphaned wells and sites, as well as in taking action to stem the growth of this problem.

SUPPLEMENTAL REVIEW FINDING 6.2

The Commission is to be commended for recommending legislation and developing a regulatory program for a voluntary cleanup program - with appropriate Commission oversight - for use by persons who are not otherwise responsible for orphaned well and site abandonment.

6.3. Identification of Abandoned Sites

In most cases, a well is identified as “orphaned” when it is not plugged within the time prescribed by the Commission, the operator fails to provide the required financial assurance for the well or wells, and (in subsequent enforcement action) the Commission determines that the operator either cannot be found, has no assets with which to plug the well, or refuses to plug the well. At the present time there are more than 17,000 wells in the state that are inactive and the last operator of record is delinquent in renewing its organization report.

Abandoned sites are identified through various sources, including lease inspections, complaints, state-funded plugging activity, and personnel from other state and/or federal agencies. All identified sites are collected in an inventory that is maintained in the Austin office of Site Remediation and is accessible to field personnel. There are 1,629 abandoned sites currently eligible for state-funded remediation.

6.4. Funding for Abandoned Site Remediation

Funding for the State Oilfield Cleanup Program is generated through a variety of fees, penalties, and taxes assessed on the oil and gas exploration and production industries. Expenditures from this fund are not subject to legislative appropriation. The Commission is charged with management of the fund. Senate Bill 310, 2001, increased permitting and oil and gas production regulatory fees to increase annual revenues from approximately \$12 million to about \$20 million. These include fees for drilling permits (variable scale based on depth of proposed well) and other applications (disposal and injection applications, NPDES discharge applications, certificate of compliance, waste hauling permits, hazardous waste generation fees, etc.), the P5 Organization Filing Fees, a percentage tax on oil and gas production, the sale of abandoned oilfield equipment associated with state-funded cleanup sites, penalties assessed for noncompliance with RRC rules, and other various forms of assessments. The statutory changes made in Senate Bill 310 were enacted to address the problem of a growing number of oil and gas wells and sites that have been abandoned by insolvent operators and that must be plugged with OFCF monies.

The Agency Strategic Plan for Fiscal Years 2003-2007 points out that most of these categories of revenue are dependent on the health of the industry. During periods of low prices and rig counts, revenue from permitting fees and production drops. Yet, at the same time, demands on the OFCF increase as poor economic conditions tend to result in more orphaned wells and neglected sites. For a variety of reasons, including Commission delays in implementing the fee increases authorized by the legislature, actual collections for Fiscal Year 2002 were only \$16.84 million. The RRC budgeted \$20.5 million. This, coupled with a higher than initially projected rate of expenditures, could lead to a declining fund balance, thereby restricting the ability of the Commission to undertake more projects.

Paradoxically, funding for this program may be adversely affected by the new requirement for operator bonding. Operators who are unable to obtain the required bond at a reasonable cost and who have an acceptable compliance record for the previous 48 months may pay \$1,000.00 annually into the Fund. Other operators who can neither obtain a bond nor demonstrate an acceptable compliance record may satisfy the financial assurance requirement by paying into the fund 12.5% of the required bond amount (based on the number of wells operated). In either case, the operator also has to pay an annual fee of \$300 per inactive well. This revenue stream (approximately \$2,000,000.00 annually) will be eliminated as the strict bonding requirement is enacted by Fiscal Year 2005. One of the charges to the Oilfield Cleanup Fund Advisory Committee is to monitor the revenue and expenses for the Fund and make any necessary recommendations to the Legislature for adjustment to the funding levels.

On the surface, the State Oilfield Cleanup Fund appears to be financially well funded. The Fund directly employs 15.5 coordinating and technical positions and indirectly funds 36 field inspector positions. The RRC spends approximately 50% of the available funds on well plugging and the other 50% on state-funded site cleanup operations. The RRC has roughly \$75 million in known well plugging liability alone with a potential for that to grow to \$100 million if well operated by non compliant operators become orphaned. In addition to the orphaned wells, the State Oilfield Cleanup Fund remediates abandoned surface sites and surface and ground water contaminated areas left by operators who are no longer in business. The RRC has recorded more than 1,600 abandoned sites that would qualify under this cleanup program and projects that about 200 abandoned sites will be closed each year. Based on the projected expenditure listed below and the estimated number of sites to be closed, the RRC will spend about \$29,000 per site closure. If this is the anticipated average, the RRC has approximately \$46.6 million in site remediation liability.

FY 2002 expenditures by the RRC from the Oilfield Cleanup fund were \$18.38 million - \$5.23 million on remediation, \$11.29 million on well plugging, and \$1.86 million on well testing and other programs. From Fiscal Year 1992 through FY 2002, the RRC has spent \$85 million from the Oilfield Cleanup Fund to plug 15,306 orphaned wells and remediated or restore 2,062 orphaned sites. The RRC is trying to equalize the spending between each program. In addition to the well plugging and site remediation projections listed above, the RRC projects direct salaries of \$4.63 million, indirect salaries and operations of \$3.18 million, and an additional \$500,000 for well testing and direct salaries associated with such. With \$8.31 million in direct and indirect personnel and operating expenses, the RRC has only between \$8 million and \$12 million per year to spend on well plugging and site remediation. The RRC also anticipates a reduction in revenue (\$2 million annually) occurring from the changes to the financial assurance mechanism process. With all considered, the RRC has about 20 years worth of projects already identified (\$150 million in potential liability and \$8 million annual revenue for well plugging and site remediation).

Senate Bill 310 also created the Oilfield Cleanup Fund Advisory Committee (TNRC §91.1135). The Committee consists of representatives from the legislature, industry, and the public and meets regularly with the Commission to monitor the effectiveness of the OFCF, comment to the Commission regarding proposed rules relating to the OFCF, and make recommendations to the governor, lieutenant governor, and speaker of the house of representatives for any legislation needed to address problems identified with the administration of the fund or otherwise needed to further the purposes of the fund. This will include any necessary adjustments to revenue sources (or expenditures) based on actual program experience with the recent legislative and regulatory changes.

SUPPLEMENTAL REVIEW FINDING 6.3

Texas has established a self-funded model program dedicated to protecting the environment through the plugging of orphaned wells and the closure/remediation of abandoned sites.

SUPPLEMENTAL REVIEW FINDING 6.4

The State Oil Field Cleanup Fund will lose about 10% of its annual revenue stream as the current operator financial assurance programs are phased out for the new bonding requirements.

SUPPLEMENTAL REVIEW RECOMMENDATION 6.4

The Review Team recommends that the RRC and the Oil Field Cleanup Fund Advisory Committee thoroughly review its funding options for any needed replacement of lost or declining revenue. (2000 Guidelines 6.4.)

The RRC has taken advantage of the Oil Spill Contingency Liability Trust Fund for removal of imminent threats to the environment from leaking oil wells and facilities by obtaining close to \$700,000 to remediate five abandoned and contaminated sites. The Oil Spill Contingency Liability Trust Fund is a federally managed program enacted through the Oil Pollution Act of 1990 (OPA 90). This program has about \$1 billion in reserves for the remediation of oil spills to the Waters of the U.S. or the removal of imminent threats of oil spills to the Waters of the U.S. The U.S. Environmental Protection Agency authorizes the removal or remediation program either by directly handling the cleanup/removal or through a Pollution Removal Funding Agreement with the State or other entities. The EPA may spend only \$50 million per year on direct cleanups/removals. The remaining \$950 million is dedicated to reimbursement to the other entities cleaning up spills or removing threats. The EPA is the only federal source of money for removal of such threats. The Commission is currently limited on the amount of money the agency can obtain from EPA under OPA 90 and, in fact, has been told not to send any more applications at this time.

The Commission also received \$6 million for remediation of contamination from pipeline spills as part of a civil lawsuit settlement with a Texas pipeline operator, \$1.2 million in Surface Damage Account funds from GLO for plugging Texas bay wells, and a grant from TCEQ for evaluating the source of salt water seeps in East Texas. The RRC has also received a TCEQ grant to plug 226 wells in the Upper Colorado River Basin, Red River Basin, and Canadian River Basins. Additionally, the TCEQ has tentatively agreed to fund the plugging of an additional 361 wells in these Basins and one other in South Texas.

SUPPLEMENTAL REVIEW FINDING 6.5

The RRC is proactive and aggressive in seeking revenue to protect the environment and works with other state and federal agencies to identify and obtain the revenue necessary to prevent pollution. The Oilfield Cleanup Program is professionally administered and reflects well on both the RRC and the oil and gas industry that actively supports it.

6.5. Criteria for Prioritizing Remediation

TNRC §89.043 provides the Commission with authority to re-plug a well that has not been effectively plugged when neither the operator nor another working interest owner in the well can be found or when neither have assets with which to properly plug the well. These determinations must be made from information developed at a Commission hearing. The Commission may act immediately – without the normal formal notice and hearing requirements - if a well is leaking (or is likely to leak), the leakage will cause (or is likely to cause) a serious threat of pollution or injury to the public health, and the operator fails to take appropriate remedial action. In such a case, the Commission is entitled to be reimbursed by the operator for the costs incurred by the Commission in plugging the well.

NRC §91.113 provides the Commission with the statutory authority to enter the land of another for the purpose of conducting a site investigation or environmental assessment or controlling or cleaning up substances or materials. The Commission is entitled to recover all costs that it has incurred from any person who is a “responsible person” with regard to that site. If a Commission order does not result in the recovery of the costs, the Commission may request the attorney general to file suit against the person to recover those costs. Costs that are recovered are deposited to the oil-field cleanup fund.

If oil or gas wastes (or other substances or materials) from oil and gas operations and regulated by the Commission are causing or are likely to cause the pollution of surface or subsurface water, TNRC §91.113 provides that the Commission may use OFCF money to conduct a site investigation or environmental assessment or control or clean up the wastes, provided that:

- (1) the responsible person has failed or refused to control or clean up the substances after notice and opportunity for hearing;
- (2) the responsible person is unknown, cannot be found, or has no assets with which to control or clean up the substances; or
- (3) the substances are causing the pollution of surface or subsurface water.

Commission staff are trained to respond to situations that require immediate action to prevent or control pollution. The Commission has contractors for placement of booms, major dirt work, etc., but RRC field personnel have shovels and know how to turn off valves. All field people have safety training relating to the types of situations they might reasonably be expected to encounter. The Commission's emergency protocols require that an effort be made to contact operator - by telephone, in person, or otherwise. If all else fails, the Commission will send a certified letter as concurrently with action that is being taken by field personnel as is reasonably possible.

The Commission's Well Plugging Priority System, which was last updated in April, 2002, is designed to ensure that wells that pose the greatest threat of pollution and safety concern are plugged first. The priority system considers 20 factors relating to protection of human health, the environment, and wildlife. Each factor has been assigned a weight dependent on its potential to affect human health, the environment, and wildlife. The sum of the weighted factors determines the priority a well receives. Wells receive a priority between 1 and 4, where 1 is the highest priority. The Commission retains the flexibility to give appropriate weight to unique concerns.

Leaking wells (other than those with minor, easily repaired leaks such as from the stuffing box) are still Priority One, followed by Priority Two wells (which have high fluid levels), and Priority Three and Four wells (all others), ranked according to the risked weighting system described above. Fluid levels for orphaned wells are determined by Commission field personnel, who are trying to "sound" one-sixth of the wells each year (focusing first on those areas where reservoir conditions are known to be conducive to high fluid levels).

The Commission currently has about 100 Priority One wells in its inventory. Not all of these are leaking; if one well on a lease is leaking, all the orphaned wells on that lease are listed as Priority One to make the best use of plugging rigs and Commission personnel. Every priority one well will be plugged this year. If necessary, the Commission will take necessary measures in the interim to contain the leaks.

The vast majority of orphaned wells plugged by the Commission are Priorities Two and Three. In Fiscal Year 2002, the Commission had plugged 1,124 orphaned wells (P1 – 94; P2 – 350; P3 – 679; and P4 – 1) by the end of May and is budgeted for 1,510 orphan well pluggings by the end of August.

SUPPLEMENTAL REVIEW FINDING 6.6

The Commission is required by statute, passed in 2001, to adopt rules for identifying abandoned wells that pose a high risk of contaminating surface water or groundwater, periodically testing high-risk wells by conducting a fluid level test (or, if necessary, a pressure test), and giving priority to plugging high-risk wells with compromised casings. Such rules will make public an internal process that the Commission already practices in determining which abandoned wells should be plugged first.

SUPPLEMENTAL REVIEW RECOMMENDATION 6.6

Although the guidelines do not require rules, the Commission should proceed with the required rule adoption. (2000 Guidelines 6.5)

Priority rankings for surface sites are Priority A (high), Priority B (medium), and Priority C (low). Priority A sites are those where an emergency cleanup is needed because of active or imminent pollution; a threat to public health, safety, or sensitive areas; or anticipated significant increase in cleanup costs if action is delayed. In determining priority rankings for other sites, the Commission considers such factors as the contaminant type, media contaminated, number of potentially affected people, potential for releases or leaks or seeps, need for repeated inspections, distance to surface water, distance to nearest municipal or domestic use water well, proximity to known aquifers, annual precipitation, and native soil type.

When large and complex sites require specialized investigations, the Commission will use contractors to conduct its site assessments, propose cost-effective cleanup techniques, and conduct cleanup activities in the field. In addition to private contractors, the Commission has contracted on occasion with the Texas Bureau of Economic Geology (the University of Texas at Austin) to investigate such complex sites.

The Commission tries, but is not bound under its risk-based priority ranking systems, to handle both any well plugging and surface contamination at an orphaned site at the same time. The priority ranking systems are independent. For instance, if an orphaned site that is a high priority for surface contamination remediation also has a low priority orphaned well, it is not a necessity that the well be plugged at the same time as the surface site is remediated. The Well Plugging Priority System and the similar system for prioritizing remediation of surface sites are published in the Oil Field Cleanup Program Annual Report.

6.5.1. Goal for Remediation

The impact of the OFCF and the Commission’s efforts to obtain additional funding from other sources for orphan well and site abandonment is clearly demonstrated by the increase in the number of wells plugged and sites remediated from fiscal year 1992 to the present. In 2001 the Commission plugged its 18,000th well, and has consistently stepped up the number, complexity, and expenditures on sites remediated with 229 completed cleanups, investigations, or assessments in 2001 with contract services expended of more than \$6.5 million.

The Commission has stated its orphan well and site abandonment goals in the Agency Strategic Plan for Fiscal Years 2003-2007. The strategic objective is to “Identify and correct existing environmental threats through voluntary operator actions or with use of state funds.” Desired outcomes are couched – as shown below - in terms of percentages of non-compliant wells (known as of 2002) plugged with state funds, and total identified sites (known as of 2002) investigated, assessed, or cleaned up, with state funds. These outcomes reflect the Commission’s current OFCF revenue projections.

Outcome	2003	2004	2005	2006	2007
Percentage of known orphaned wells plugged with the use of state funds.	6.0%	4.5%	3.0%	2.3%	2.3%
Percentage of identified sites investigated, assessed, or cleaned up with state funds.	10.0%	10.0%	7.0%	8.0%	8.0%

In addition to the above projected outcomes, the Commission measures progress in orphaned well plugging and site remediation by keeping track of such performance parameters as

- Number of complex, operator-initiated cleanups monitored and evaluated
- Number of wells plugged with the use of state funds
- Number of pollution sites investigated, assessed, or cleaned up with the use of state funds
- Total aggregate plugging depth of wells plugged with the use of state funds
- Average number of days to complete state-funded well plugging
- Average number of days to complete state-funded site clean-up
- Number of orphaned wells approved for plugging
- Number of known inactive wells in non-compliance with the Commission plugging rule
- Number of wells plugged, by operators, without the use of state funds
- Number of identified abandoned pollution sites that are candidates for state funded cleanup

6.5.2. Liability for Remediation

TNRC §89.011 charges the operator of a well with the responsibility for plugging that well. TNRC §89.002(a)(2) and Commission Rule 14(c) specifically designate the person with responsibility for plugging a well as the person specifically identified on the most recent operator designation form filed by that person and approved by the Commission. The statutes provide that an unplugged inactive well may be transferred only if the well is in compliance with commission rules relating to safety or the prevention or control of pollution at the time of the conveyance. They further require that the new operator have a Commission-approved organization report, specifically list the well as one for which the person assumes plugging responsibility, and have a commission-approved bond or other form of financial security covering the well.

For site cleanups, the Commission does not rely on the above statute, nor is there a Commission rule that defines who is responsible for cleaning up an abandoned site. Rather, the Commission interprets the term "responsible person" in the context of TNRC §91.113, meaning "any operator or other person required by law, rules adopted by the Commission, or a valid order of the Commission to control or cleanup the oil and gas wastes or other substances or materials."

The Commission makes this determination based on its current prohibitions in Rule 8 on improper waste disposal and pollution of surface or subsurface water – the person who caused the problem should clean it up. The Commission looks first to the operator of record, but in the final analysis the agency attempts to determine who (current or past) caused the pollution and enforce against that operator. In making this determination, the Commission is not concerned with any contractual releases of liability the current operator may have provided to the previous operator(s); that is a civil matter and outside the jurisdiction of the Commission to adjudicate. Procedures for making a final determination as to how the responsibility for the site cleanup is to be apportioned include notice to all affected parties and opportunity for hearing.

TNRC §89.012 provides each working interest owner in a well is responsible for his proportionate share of the cost of the proper plugging of the well if the well operator fails to plug it as required by statute. More often than not such an effort is not cost effective. To do so, it is necessary to identify the other working interest owners from division orders, find out if they have assets to pay for the work, and work through the hearing process to collect the money. The Commission's legal staff looks for other working interest owners in high-dollar state-funded well pluggings and cleanups, but typically does not do so unless the cleanup is more than \$50,000.

In some instances, a person who did not cause the pollution may be required to control or cleanup oil and gas wastes. For instance, a surface property developer who begins to manage or move around oil and gas wastes on a property could fall under Commission jurisdiction by virtue of trying to manage those wastes.

6.6. Standards for Remediation

In plugging orphaned wells and cleaning up orphaned sites, the Commission complies with its own regulations and guidelines in the same manner as operators under its jurisdiction are required to do.

To coordinate orphaned site cleanup activities, the Commission has assigned specially trained cleanup coordinators in each of the nine district offices, supported by technical and administrative staff in Austin. Technical staff in Austin includes geologists, engineers, and a toxicologist. Progress of the sites is monitored on a computer program.

Cleanup standards are determined on a case-by-case basis, depending on site-specifics, including land ownership and current and anticipated future use. At abandoned sites on formerly producing property that are located on land where the surface owner is different from the mineral owner, the Commission keeps the landowner apprised of the agency's cleanup activity. The Commission also keeps in mind, when determining cleanup levels, that the land use could change in the future.

To lessen the costs associated with state-funded cleanup and/or site remediation, the RRC considers the type and level of contamination and current and anticipated land use when determining and appropriate level of remediation. Other than Rule 91, Cleanup of Soil Contamination by a Crude Oil Spill in non-sensitive areas, RRC guidance documents for crude oil and condensate spill cleanup, and Rule 94, Disposal of Oil and Gas NORM Waste, however, no Commission-approved standards, guidance or rules are available for risk-based site remediation. The Commission allows operators to propose cleanup levels for sensitive areas and other contaminants using site-specific characteristics and applying risk-based methods developed by such sources as ASTM, TCEQ, or EPA. In the absence of approved RRC standards, staff has to evaluate both the site information and applicability of the risk-based method on a case-by-case basis

Section 91.1131, Risk Assessment Standards, enacted with Senate Bill 310, 2001, does provide the RRC with the necessary authority to establish risk assessment guidance and adopt risk-based cleanup rules. Section 91.1131 states that the RRC may establish risk assessment as the guide for: 1) conducting site investigations and environmental assessments; and 2) controlling and cleaning up oil and gas wastes and other substances and materials. Any rules adopted under this law must provide for: 1) determining whether an actual or potential risk exist at a site; 2) screening contaminants at the site to identify those that pose a risk; 3) developing cleanup standards based on contamination levels that are protective of human health and the environment; and 4) establishing a reporting mechanism for informing RRC regarding specific remediation activities.

The RRC does realize the value of risk-based guidelines and proposed risk assessment standards during an informal comment period. Concerns about the proposal surfaced during the comment period and the Commission voted to discontinue consideration in 2001.

SUPPLEMENTAL REVIEW FINDING 6.7

The RRC currently uses a risk-based site remediation program for cleanup on a case-by-case basis only. The RRC does not have comprehensive Commission-approved, risk-based standards, guidelines, or rules for site remediation.

SUPPLEMENTAL REVIEW RECOMMENDATION 6.7

Although beyond the scope of the guidelines, the RRC should develop and implement written risk-based remediation guidelines or rules for complex pollution situations to lessen its average cleanup costs for both state-funded and industry-funded operations and allow more sites to be worked. (2000 Guidelines 6.6)

Rule 14 requires an operator, in plugging a well, to empty and remove associated tanks, vessels, related piping and flowlines - and to close all associated pits - that will not be actively used in the continuing operation of the lease within 120 days after plugging of a well is completed. The Commission complies with this directive in abandoning orphaned wells and sites. The state has a first lien, in the amount of the abandonment costs, on any responsible person's interest in equipment located at an abandoned well, site, or facility and used by that person in connection with the activity that generated the pollution or is being abandoned.

For well plugging or site remediation, the surface owner and/or tenant(s) are the primary affected parties. Signs at the sites let these persons know that the Commission is the one abandoning an orphan well or site. In addition, the Commission notifies the surface owner of OFCF abandonment activities on his property. The Commission has experienced few problems with landowners in this regard.

Surface owner or affected person input, when offered, is considered by the Commission in determining the appropriate cleanup levels and methods, but the statutory authority of the Commission largely dictates these decisions. The Commission is charged with the prevention of pollution of surface and subsurface water and will re-vegetate the site to the extent necessary to accomplish that objective. The Commission's public health protection responsibilities also bear on site remediation procedures and cleanup levels. The agency is not responsible for restoration of land to its original use or to some other desired use as may be defined by the landowner.

SUPPLEMENTAL REVIEW FINDING 6.8

The RRC generally does not take the initiative to consult with surface owners and surface tenants in determining the appropriate remediation of surface sites. The RRC does consult with other State agencies having relevant expertise in site remediation as appropriate.

SUPPLEMENTAL REVIEW RECOMMENDATION 6.8

The RRC should consult with surface owners, surface tenants and other State agencies such as the University of Texas Bureau of Economic Geology, when and as appropriate, in determining what surface remediation is needed. (2000 Guidelines 6.6.2)

6.6.3. Record of Remediation

All records pertaining to abandonment of orphaned wells and remediation of orphaned surface sites are retained in the Oil and Gas Division, which is required to comply with a retention schedule for such public information. All records are available to the public pursuant to the Texas Open Records Act, Tex. Rev. Civ. Stat. Ann. Art. 6252-17a.

6.7. Public Participation

Any person who might be affected by Commission decisions on appropriate cleanup levels in a site remediation project may file a complaint with the Commission alleging that these decisions are inadequate or inappropriate and ask the agency to consider alternative methods of cleanup levels. The Commission responds to all complaints, makes any necessary site investigations within 24 hours, and keeps complainants apprised of initial findings, progress, and final outcome throughout the complaint resolution process.

6.7.1. Access to Information

The Commission by statute (TNRC §91.112(b)) has to submit to the Texas Legislature and make available to the public an annual report that reviews the performance of the OFCF and the Commission's orphan well and site abandonment program. The report must include, by region of the state:

- (1) the number of wells plugged;
- (2) the number of wells abandoned;
- (3) the number of inactive wells not currently in compliance with commission rules;
- (4) the status of enforcement proceedings for all wells in violation of commission rules and the time period during which the wells have been in violation;
- (5) the number of surface locations remediated; and
- (6) the number of sites successfully remediated under the voluntary cleanup program.

The report also must provide:

- (7) a detailed accounting of expenditures of money in the fund, including expenditures for site investigations and environmental assessments, plugging of abandoned wells, remediation of surface locations, and staff salaries and other administrative expenses;
- (8) the method by which the commission sets priorities by which it determines the order in which abandoned wells are plugged;
- (9) a projection of the amount of money needed for the next biennium for conducting site investigations and environmental assessments, plugging abandoned wells, and remediating surface locations; and
- (10) the status of implementation of the statutory requirements relating to possession and sale of equipment to recover plugging costs.

In addition, quarterly financial reports for the OFCF revenue and expenditures are posted on the Commission's website in the Oil and Gas Division section. Also, sites with documented groundwater contamination are listed in the Texas Groundwater Protection Committee's annual Joint Groundwater Monitoring and Contamination Report, which is available on the Internet at www.tgpc.state.tx.us/publications.html.

SUPPLEMENTAL REVIEW FINDING 6.9

The RRC maintains excellent public records on the state's progress in its abandoned sites program. However, the RRC does not make available to the public a similar compilation of the locations of abandoned sites, the extent of contamination, or statements of the required remediation.

SUPPLEMENTAL REVIEW RECOMMENDATION 6.9

The RRC should release to the public, perhaps via its web page, a periodically updated list presenting the location, extent of contamination, and status of remediation of abandoned sites. (2000 Guidelines 6.7.1)

6.7.3. Participation Regarding Priority on the Inventory and Level of Remediation

[See discussion under Public Participation in Administrative Criteria, above]

6.8. Avoid Future Abandoned Site Problems

In addition to cleanup of abandoned sites, the RRC also is responsible for the oversight of cleanups performed and paid for by the responsible operators. It is not uncommon for operators to discover contamination at their sites during routine environmental assessment and to subsequently seek “no further action” letters from the RRC. Operator cleanups can be extremely complex in both assessment and remedial action. The majority of the projects are long-term remediation projects, many involving cleanup of ground water. These projects involve review of assessments and cleanup proposals and monitoring of cleanup actions to ensure a final cleanup that is protective of public health, safety and the environment. At those sites where the responsible operator owns the surface, the RRC will consider institutional controls, such as deed recordation.

In the past year this activity and requests for guidance from industry have escalated significantly, and currently there are over 600 complex pollution sites in the Operator Cleanup Program. Recent industry bankruptcy actions have highlighted the need to devote additional resources to this effort to accelerate the cleanup of such sites, encourage additional voluntary early cleanups by operators, and avoid the potential for such sites to be orphaned at some future date.

SUPPLEMENTAL REVIEW FINDING 6.10

In preventing the orphaning of sites, the RRC is limited by inadequate manpower, restraints on expenditures for training, and lack of historical data regarding oil and gas sites.

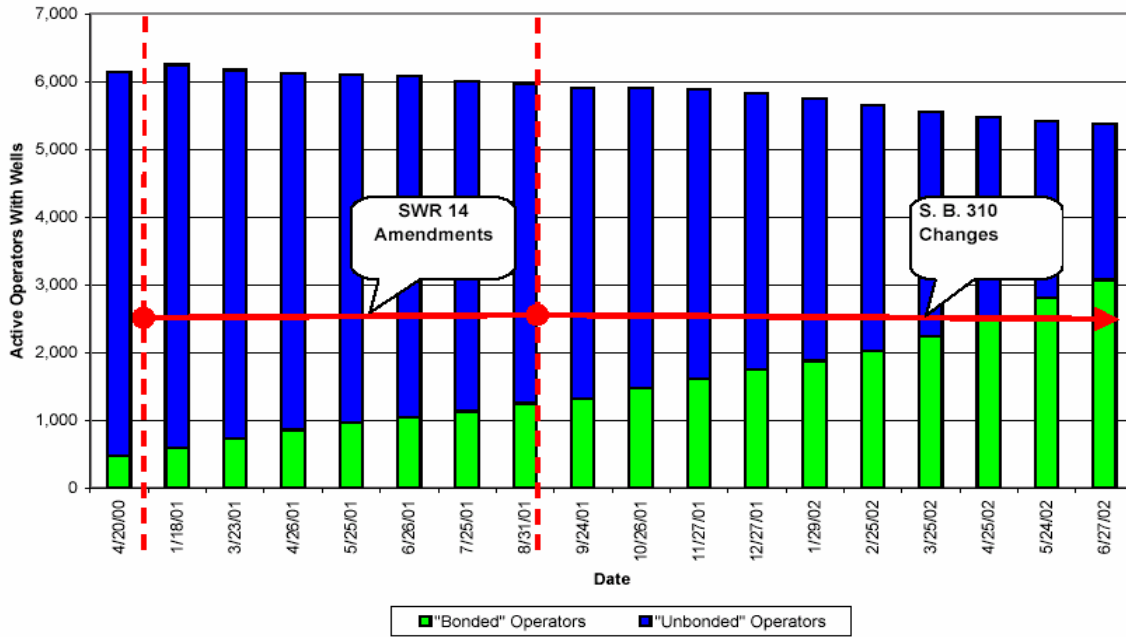
SUPPLEMENTAL REVIEW RECOMMENDATION 6.10

The Commission is encouraged to review its overall resource needs with regard to compliance assistance and enforcement, and make appropriate recommendations to the Texas Legislature. (2000 Guideline Section 6.8)

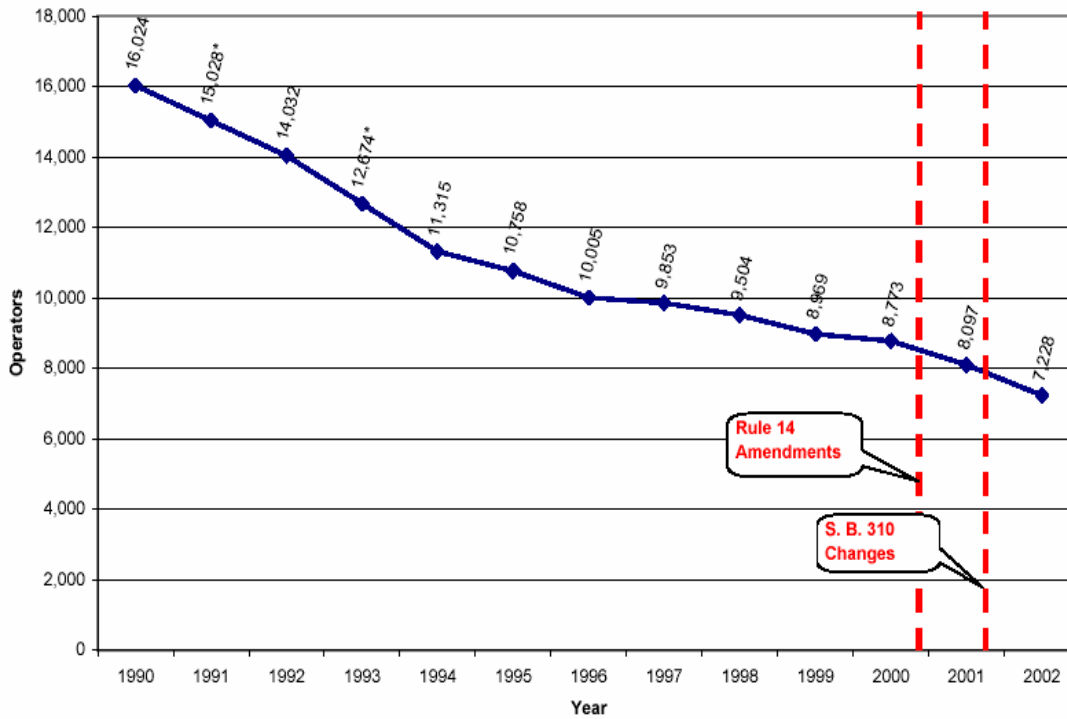
Statutory changes produced by Senate Bill 310 amendments also address the recurring scenario in which a well near the end of its producing life is transferred from a solvent operator to an under-capitalized operator who lacks the resources to plug the well when it ceases production. The amended provisions prohibit the Commission from approving the transfer of a well unless the acquiring operator has a bond, letter of credit or cash deposit as its organizational financial assurance.

The amendments have already led to a dramatic increase in the number of operators who have significant financial assurance in the form of a bond or letter of credit and, in the long term, will stem the influx of “orphaned” wells that must be plugged with funds from the Oil Field Cleanup Fund. The immediate effect, however, is likely to be an increase in the number of recognized “orphan” wells as marginal operators who are unable to meet the more stringent financial assurance requirements cease operations.

Active Operators with Wells Impact of Regulatory Changes on Financial Assurance Options



Active Operators



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NATURALLY OCCURRING RADIOACTIVE MATERIALS (2000 Guidelines Section 7)

Subsequent to the completion of the review but prior to publication, RRC has adopted additional rules which may address some of the recommendations in this section.

Under Texas statutes (Chapter 401, Radioactive Materials and Other Sources of Radiation, Health and Safety Code) the Texas Department of Health (TDH) has jurisdiction over the possession, use, processing, transporting, transferring, and recycling of NORM and the decontamination of equipment and facilities. Under the same statute, the Commission has jurisdiction over disposal of oil and gas NORM waste and the management of NORM waste at oil and gas properties to facilitate disposal at the site. The Commission also recently received statutory authority to require the owner or operator of oil and gas equipment used in exploration, production, or disposal to identify any such equipment which may contain or be contaminated with oil and gas NORM.

TDH regulations establishing risk-based radiation protection standards for the possession, use, transfer, transport, and/or storage of NORM or the recycling of NORM-contaminated materials were originally adopted in 1993. They were subsequently codified in their current form (25 TAC §289.259, Licensing of Naturally Occurring Radioactive Material).

These standards were developed for the protection of workers, the public, and the environment. The regulations exempt possession, storage, use, transportation, and commercial distribution of natural gas and natural gas products and crude oil and crude oil products containing NORM and exempt possession of produced water containing NORM. They provide for general licensing of persons who possess oil-field NORM in concentrations or at exposure rates that exceed the state-adopted action levels should be generally licensed or permitted. Specific licenses are required for commercial storage, removal, decontamination, remediation, treatment or disposal of oil-field NORM.

In 1994, the Commission promulgated 16 TAC §3.94, Disposal of Oil and Gas NORM Waste (also known as Rule 94) to regulate management of oil and gas NORM waste. A rulemaking currently in progress would require identification and marking of oil and gas equipment that contains or is contaminated with oil and gas NORM above a risk-based 50 microR/hr ($\mu\text{R/hr}$) action level. The current proposal would require such equipment at commercial facilities to be identified within two years and at all other sites within five years.

Rule 94 contains permitting requirements and technical criteria for those disposal methods needing a permit. Any permit issued for disposal of oil and gas NORM contains those requirements deemed necessary by the Commission to protect public health and the environment.

The Commission has issued permits for four (4) commercial oil and gas NORM disposal facilities - one in southeast Texas and three in West Texas. These facilities are authorized to treat and process NORM solids into a slurry prior to disposal in an injection well. Oil and gas NORM wastes that are exempt or are non-hazardous, non-exempt wastes are acceptable for disposal. These facilities do not accept oilfield equipment for disposal, but do dispose of NORM scale that has been removed from equipment.

Rule 94 authorizes - without a specific permit but subject to specific performance standards – disposal of NORM-contaminated solids (such as pipe scale) on the site where they were generated by burial or placement in a well that is being plugged and abandoned. Similarly, contaminated soil may be landspread under certain conditions. Rule 94 also authorizes disposal of oil and gas NORM waste at a licensed facility and injection of NORM treated by a TDH specific licensee provided the operator complies with specific requirements contained in the rule.

Disposal options for NORM-contaminated equipment differ from the options for NORM-contaminated solids. NORM-contaminated equipment that is waste, i.e., equipment that is no longer wanted, may be recycled as scrap metal under TDH regulations or disposed of. The equipment must be decontaminated if it is to be released for unrestricted use (e.g., used for some purpose other than for oil and gas activities). Rule 94 does not allow the burial of NORM-contaminated equipment. Buried flowlines that contain NORM, however, may remain buried contingent on the lease agreement. NORM-contaminated tubulars and other equipment may also be placed in a plugged and abandoned well.

NORM disposal methods prohibited by Rule 94 include discharge of oil and gas NORM waste other than produced water, spreading of oil and gas NORM waste on public or private roads, and any other method that is not specifically provided for by Rule 94.

TDH includes conditions on permits for commercial storage, when appropriate, to limit the volume or duration of storage of oil and gas NORM in excess of state action levels. There are no such limitations on private storage by an oil and gas operator, other than the worker protection exposure standards in the TDH regulations. The RRC has considered requiring disposal of NORM within a particular time period (as suggested by Section 7.3.7 of the Guidelines). Currently, approximately 11,000 barrels of Texas-generated NORM waste is present in the State. The RRC has, for the present, concluded that setting a time limit for NORM disposal is not warranted by the volumes of NORM waste accumulation.

Rule 94 contains a provision reminding oil and gas operators of the need to comply with applicable TDH rules. To help operators better understand the full scope of oil and gas NORM regulation, Commission and TDH staff are preparing to conduct joint seminars for oil and gas operators on oil and gas NORM waste management.

TDH and the Commission have discussed the need to develop a Memorandum of Understanding (MOU) regarding NORM, but such an MOU has not been prepared to date. Texas statutes define the division of responsibilities between the two agencies with respect to oil and gas NORM. In addition, staff of RRC, TDH and the TCEQ (which has statutory authority over disposal of non-oil and gas NORM waste) closely coordinate NORM issues at regular interagency coordination meetings and at the quarterly meetings of the Texas Radiation Advisory Board.

SUPPLEMENTAL REVIEW FINDING 7.1

Between the Commission and TDH, Texas has an oil field NORM regulatory program that addresses, use, possession, transport, storage, transfer, decontamination, and disposal to protect human health and the environment. The Commission has proposed new rules to require operators to identify NORM-contaminated equipment that should meet the requirements of the Guidelines.

SUPPLEMENTAL REVIEW RECOMMENDATION 7.1

The Commission is encouraged to adopt rules that require operators to label NORM-contaminated equipment, so as to adequately advise affected parties that the equipment may be NORM-contaminated. (2000 Guidelines 7.2)

SUPPLEMENTAL REVIEW FINDING 7.2

TDH has regulatory standards for survey instruments, but does not have published guidelines for identifying and documenting equipment, materials, and sites that may contain NORM above the action levels. This deficiency is expected to be remedied and the requirements of the Guidelines met when the joint Commission and TDH oil and gas NORM training program for oil and gas operators is developed and implemented.

SUPPLEMENTAL REVIEW RECOMMENDATION 7.2

The Commission and TDH should continue with development and implementation of the proposed oil and gas NORM training for oil and gas operators. (2000 Guidelines 7.3.3)

SUPPLEMENTAL REVIEW FINDING 7.3

TDH regulations prohibit release, for unrestricted use, of land and equipment containing oil and gas NORM above state action levels. Current Commission rules do not require notification to purchasers of equipment containing or contaminated with NORM above state action levels.

SUPPLEMENTAL REVIEW RECOMMENDATION 7.3

The Commission should adopt rules that require operators to provide for appropriate notification to subsequent owners. (2000 Guidelines 7.3.8 and 7.3.9)

SUPPLEMENTAL REVIEW FINDING 7.4

Although TDH and the Commission are still in the process of finalizing a formal MOU regarding division of jurisdiction over oil and gas NORM, they do have formal coordination procedures - including interagency task groups with periodic meetings between themselves and with the Texas Radiation Advisory Board - that facilitate jurisdictional clarity and regulatory consistency as required by Sections 4.4 and 7.3.11 of the Guidelines.

SUPPLEMENTAL REVIEW RECOMMENDATION 7.4

The State should ensure that the Texas Radiation Advisory Board has general public representation including public interest and environmental representation. (2000 Guidelines 7.3.12, 4.2.2)

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PERFORMANCE MEASURES (2000 Guidelines Section 8)

The RRC's formal performance measurements are organized to comply with the legislative appropriation process. Goals set in the agency's strategic plan are included in its legislative appropriation request which, when adopted, becomes the resource allocation plan for the biennium. The Commission's Strategic Plan for Fiscal Years 2001-2005 lists Environmental Protection as the primary goal. Other goals include safety, resource development, and technological enhancements.

Strategic Plan Objectives to meet the goal of environmental protection are:

- (1) reducing the occurrence of pollution violations, and
- (2) identifying and correcting existing threats through voluntary operator actions or through the use of state funds.

The Railroad Commission tracks and reports several parameters (inputs, outputs, and outcomes) to evaluate how effectively it is achieving its environmental protection goals. These parameters are used for budgeting and staffing purposes and are measured using prior years as benchmarks.

Some RRC formal performance parameters for measuring environmental protection include:

- Percentage of oil and gas facility inspections that identify environmental violations;
- Number of inspections performed;
- Number of enforcement referrals;
- Number of permits processed;
- Percentage of known non-compliant wells plugged with state funds;
- Percentage of pollution sites investigated, assessed, or cleaned up with state funds; and
- Number of complex operator cleanups monitored.

Based on budgeting and resource allocation, inactive wells and abandoned sites are the RRC's highest priority performance indicators. The RRC focuses on site remediation and plugging of Priority 1 wells (wells that are leaking or could leak). Recent changes to the oil field cleanup fund will allow the agency to maintain its focus on cleaning up abandoned sites and plugging abandoned wells. Complexity of site cleanup makes it difficult to measure performance by simply counting the number of sites remediated. A statutorily created committee provides oversight and helps set goals for the use of the Oil Field Cleanup Fund. Well plugging and site remediation is benchmarked against prior years and also against neighboring states.

Field personnel, operators, and the public are additional sources of input for central management and decision-makers, providing a mechanism for continuous monitoring and modifications to the program in an ongoing, informal, cyclic process. Data from the District Office field staff are entered into the Field Operations ORACLE database, and analyzed to adjust priorities and resources, and to determine trends or compliance problems. Any of the information on the District Office forms may be manipulated to determine trends or compliance problems. As new issues arise, resources can be reallocated, although the primary focus has remained on the formalized performance measures tailored to the legislative appropriations process. The primary parameters measured at the district office include witnessing operator pluggings, mechanical integrity tests, cleanup of surface spills, and cementing of surface casings.

District offices are responsible for resolving issues in the field. Field staff receive safety training, and may attend periodic agency-wide conferences. Site remediation staff receive some training in risk assessment. In addition, most field staff have prior industry experience that is job related.

The commission, through rulemaking, has the ability to modify its program to respond to environmental threats. For example, in the 1950's, the commission began issuing "No-pit orders" for certain counties, and ultimately passed a statewide rule eliminating salt-water disposal pits in 1969. More recently, in 1991, the commission adopted a rule for the protection of migratory birds, under pressure from the public and US Fish and Wildlife Service. The Commission also adopted NORM regulations in 1994 in response to concerns about public health and safety.

Complaints are another source of information, which the agency can use to determine whether changes are needed to respond to environmental threats. Field staff respond to approximately 100 complaints per month, mostly for environmental concerns which often relate to abandoned sites. RRC central office management is able to track complaint trends in order to decide whether resource reallocation is warranted. Complaint response is the only measure related to the general public or affected parties which is routinely tracked by the agency.

In this review, the RRC agreed to be evaluated under a draft experimental set of proposed new guidelines for Performance Measures (the "Draft Guidelines"). These Draft Guidelines are presented in Appendix B. The Draft Guidelines (8.1 – 8.4) are based on the 2000 Guidelines sections 8.1 – 8.3, although they contain additional detail. References to the Draft Guidelines in this section are to the draft Performance Measures Guidelines in Appendix B.

SUPPLEMENTAL REVIEW FINDING 8.1

NOVs, which are typically documented in District Office inspection reports, make up the vast majority of compliance information available to the commission. Most NOVs are resolved informally at the district office level.

SUPPLEMENTAL REVIEW RECOMMENDATION 8.1

RRC should use inspection reports and NOVs as part of an ongoing cyclic self-evaluation, to determine trends and the need for modifications to the program. (Draft Guidelines 8.3.2)

SUPPLEMENTAL REVIEW FINDING 8.2

RRC field staff report that most rule violations associated with pits are found on rule-authorized, rather than individually permitted, pits. Tracking and reporting on trends in complaints and inspection reports could help the agency determine how to ensure that rule-authorized activities are equally protective of the environment as permitted activities.

SUPPLEMENTAL REVIEW RECOMMENDATION 8.2

RRC should track and report complaint and inspection information related to rule-authorized activities, in particular rule-authorized pits. The information should be used by the commission to determine whether it needs to amend its rules or better communicate the standards to operators. (Draft Guidelines 8.1, 8.2)

SUPPLEMENTAL REVIEW FINDING 8.3

Almost all performance measures used by the RRC are administrative, dealing with allocation of resources and tallies of tasks completed. These measures are appropriate for indicating how well the program is functioning administratively. However, in addition to administrative parameters, performance measures should also indicate to what extent the rules and practices of the program bring about environmental protection (Guidelines 8.1). The RRC does not routinely use quantitative environmental impact parameters as performance measures.

SUPPLEMENTAL REVIEW RECOMMENDATION 8.3

The RRC should institute measurements of environmental impacts such as the nature and extent of contamination by E&P waste, environmental impact trends, timeliness in controlling releases, and/or progress of abatement. These measurements should be made available to the staff, the industry, and the public through the RRC's data management capabilities, just as production and permitting information are made available. (Draft Guidelines 8.2)

The RRC's program is structured around a philosophy of minimal regulation. Rather than promulgating numerous detailed regulations, the agency relies on the general prohibition of pollution in Rule 8(b). RRC's promulgated rules and informal guidelines specify only a few cleanup standards or procedures. The agency does not rely on formal requirements for cleanup procedures such as facility investigations, corrective measures studies, and post-abatement monitoring.

SUPPLEMENTAL REVIEW FINDING 8.4

Without attendant performance measures, neither the agency nor the public knows whether or not the philosophy of minimal regulation and increased flexibility promotes compliance and results in better environmental protection.

SUPPLEMENTAL REVIEW RECOMMENDATION 8.4

The RRC should institute quantitative measures, including state-wide nature and extent of contamination, to assess the effectiveness of its case-by-case handling of spills, its procedures for remediation, and its standards for rule-authorized waste treatment. Documentation of the selected parameters and the ability to acquire, assess, and present the data are critical to this assessment. (Draft Guidelines 8.1 and 8.2)

SUPPLEMENTAL REVIEW FINDING 8.5

The RRC relies as little as possible on formal enforcement action and penalties, preferring voluntary action by the responsible party.

SUPPLEMENTAL REVIEW RECOMMENDATION 8.5

The RRC should include a performance measure of enforcement as a measure of the effectiveness of the agency's administrative controls in the prevention and abatement of pollution. This measure should enable evaluation of whether the program's responses to operators encourages or inhibits compliance and timely remediation. (Draft Guidelines 8.2)

SUPPLEMENTAL REVIEW FINDING 8.6

The public and affected parties provide valuable input to RRC. Examples of this input include comments on rules, requests for hearings, involvement in contested permitting or enforcement matters, and complaints. However, complaint tracking is the RRC's only measure of public participation.

SUPPLEMENTAL REVIEW RECOMMENDATION 8.6

RRC should implement tracking of performance measures to determine the effectiveness of public notice and participation, including measures related to public and affected persons' participation in rulemaking, permitting (including minor permits), and enforcement. RRC should track and make available to the public the composition of all advisory committees, working groups, and taskforces, especially those groups that provide input to the staff on rulemaking. RRC should strive to ensure broad representation of all relevant viewpoints on such groups. (Draft Guidelines 8.3.2)

SUPPLEMENTAL REVIEW FINDING 8.7

Field inspectors are the eyes and ears of the agency. They gain first-hand knowledge of compliance issues, usually resolving them informally at the district office level. District office and field personnel make numerous decisions, such as decisions relating to violations, sampling, and public input. RRC utilizes information from field staff in assessing program performance primarily through informal communication, such as periodic meetings between managers and field personnel. Field staff are often the most knowledgeable people with regard to the effectiveness of Commission regulatory and enforcement procedures in achieving the goals of the agency. While valuable, this process results in reliance on institutional memory that is easily lost with personnel changes.

SUPPLEMENTAL REVIEW FINDING 8.8

Performance measurement cases (no-pit orders, migratory bird protection, surface water impairment list) are excellent examples of establishing benchmarks and goals and developing measurement techniques that allow documentation of progress. However, these cases also show that RRC may not have been as proactive as it could have been, modifying its program after a long period of time or in response to outside pressure from the public, the legislature, or other agencies.

SUPPLEMENTAL REVIEW RECOMMENDATION 8.7/8.8

RRC should create a documented process for obtaining input from within the agency, with emphasis on input from field staff, to identify program strengths and weaknesses, and make program changes accordingly. (Draft Guidelines 8.3.2)

SUPPLEMENTAL REVIEW RECOMMENDATION 8.9

RRC should track outreach to the public and affected parties. (Draft Guidelines 8.3.2)

SUPPLEMENTAL REVIEW FINDING 8.10

RRC effectively manages data for tracking and reporting formal (legislative appropriations-driven) performance measurement, but many potential performance indicators are informally tracked and not routinely made a part of a systematic evaluation by regulators.

SUPPLEMENTAL REVIEW RECOMMENDATION 8.10

RRC should implement a data management system that facilitates review and evaluation of district office information. In particular, potential performance data relating to permitting and enforcement matters, currently housed in district offices, should be accessible by central office staff and the public. (Draft Guidelines 8.2)

SUPPLEMENTAL REVIEW FINDING 8.11

RRC is in the process of updating its website to provide the public the same level of information related to spills and violations as for production reports.

SUPPLEMENTAL REVIEW RECOMMENDATION 8.11

The review team encourages the RRC expand the performance measurement information on its website to include spills and enforcement actions. The information should be easily accessible by the general public, and searchable by operator and by county. (Draft Guidelines 8.2)

SUPPLEMENTAL REVIEW FINDING 8.12

While the RRC has done a good job measuring efforts to address cleanup of contaminated sites and plugging of inactive or abandoned wells, opportunities exist to improve performance measures tied to permitting and enforcement, in order to prevent pollution or the threat of pollution before it happens. For example, while tracking the number of permits processed and the average processing time logically relate to the goal of resource development, these output and efficiency measures are inadequate to determine whether permits are sufficiently protective of the environment.

SUPPLEMENTAL REVIEW RECOMMENDATION 8.12

The Railroad Commission should use trend indicators, including the following, to determine whether rule changes are needed:

- *Variances requested by operators;*
- *Complaint information;*
- *Inspection reports/notices of violation; and*
- *Requests for hearings by affected parties.*

(Draft Guidelines 8.3.2)

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APPENDIX A
GLOSSARY OF ACRONYMS

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μR/hr	MicroRoentgens per hour
ASTM	American Society for Testing and Materials
E&P	Exploration and Production
EPA	United States Environmental Protection Agency
FTE	Full Time Employees
GIS	Geographical Information System
GLO	General Land Office
GPS	Global Positioning System
H ₂ S	Hydrogen Sulfide
IDOC	Docket Database
IMS	Information Management Services
IOGCC	Interstate Oil and Gas Compact Commission
MOU	Memorandum of Understanding
NORM	Naturally Occurring Radioactive Materials
NOV	Notice of Violation
NPDES	National Pollutant Discharge and Elimination System
OFCE	Oil Field Cleanup Fund
OGD	Oil and Gas Division
OPA	Oil Pollution Act of 1990
RCRA	Resource Conservation and Recovery Act
RRC	Railroad Commission of Texas
STRONGER	State Review of Oil and Natural Gas Environmental Regulations
TAC	Texas Administrative Code
TACB	Texas Air Control Board
TCEQ	Texas Commission on Environmental Quality
TDH	Texas Department of Health
TNRC	Texas Natural Resource Code
TNRCC	Texas Natural Resource Conservation Commission
TPWD	Texas Parks and Wildlife Department
TWC	Texas Water Commission
VCP	Voluntary Cleanup Program

APPENDIX B

**COMPLETED TEXAS QUESTIONNAIRE
AND SELECTED ATTACHMENTS**