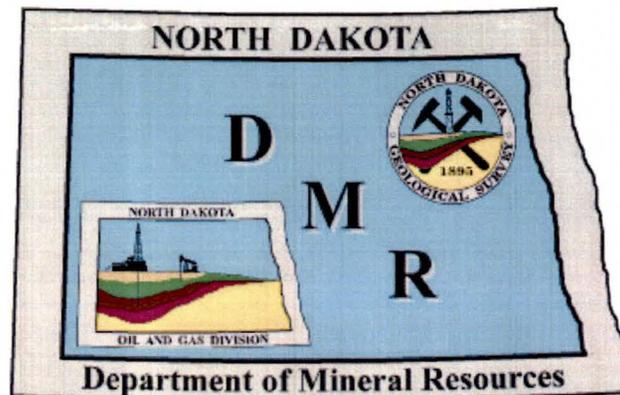


Energy Development and Transmission Committee 02/11/2014

1:30 p.m. Presentation by Mr. Helms on the permitting, regulation, and citing of oilfield waste pits

2:00 p.m. Comments and questions by committee members

<http://www.oilgas.nd.gov>



<http://www.state.nd.us/ndgs>

*600 East Boulevard Ave. - Dept 405
Bismarck, ND 58505-0840
(701) 328-8020 (701) 328-8000*

Western North Dakota

- 1951 – 1984
 - 10,424 wells drilled
 - Unlined reserve pits
 - 99% drilled with salt saturated mud
 - Pits trenched and buried



- EPA Review and Recommendations completed in 1987
 - Clean Water Act - 1972
 - Safe Drinking Water Act - 1974
 - Resource Conservation and Recovery Act - 1976
 - Toxic Substances Control Act - 1976
 - Comprehensive Environmental Response Compensation and Liability Act – 1980 – also known as Superfund
 - Emergency Planning and Community Right-to-Know Act - 1986
 - Oil Pollution Act - 1990

- revisited and reaffirmed in 1993



Exemption of Oil and Gas Exploration and Production Wastes from Federal Hazardous Waste Regulations



Scope of the Exemption

In December 1978, EPA proposed hazardous waste management standards that included reduced requirements for several types of large volume wastes. Generally, EPA believed these large volume "special wastes" are lower in toxicity than other wastes being regulated as hazardous waste under RCRA. Subsequently, Congress exempted these wastes from the RCRA Subtitle C hazardous waste regulations pending a study and regulatory determination by EPA. In 1988, EPA issued a regulatory determination stating that control of E&P wastes under RCRA Subtitle C regulations is not warranted. Hence, E&P wastes have remained exempt from Subtitle C regulations. The RCRA Subtitle C exemption, however, did not preclude these wastes from control under state regulations, under the less stringent RCRA Subtitle D solid waste regulations, or under other federal regulations. In addition, although they are relieved from regulation as hazardous wastes, the exemption does not mean these wastes could not present a hazard to human health and the environment if improperly managed.

Exempt E&P Wastes

- Produced water
- Drilling fluids
- Drill cuttings
- Rigwash
- Drilling fluids and cuttings from offshore operations disposed of onshore
- Geothermal production fluids
- Hydrogen sulfide abatement wastes from geothermal energy production
- Well completion, treatment, and stimulation fluids
- Basic sediment, water, and other tank bottoms from storage facilities that hold product and exempt waste
- Accumulated materials such as hydrocarbons, solids, sands, and emulsion from production separators, fluid treating vessels, and production impoundments
- Pit sludges and contaminated bottoms from storage or disposal of exempt wastes
- Gas plant dehydration wastes, including glycol-based compounds, glycol filters, and filter media, backwash, and molecular sieves
- Workover wastes
- Gases from the production stream, such as hydrogen sulfide and carbon dioxide, and volatilized hydrocarbons
- Materials ejected from a producing well during blowdown
- Cooling tower blowdown
- Gas plant sweetening wastes for sulfur removal, including amines, amine filters, amine filter media, backwash, precipitated amine sludge, iron sponge, and hydrogen sulfide scrubber liquid and sludge
- Spent filters, filter media, and backwash (assuming the filter itself is not hazardous and the residue in it is from an exempt waste stream)
- Pipe scale, hydrocarbon solids, hydrates, and other deposits removed from piping and equipment prior to transportation
- Produced sand
- Packing fluids
- Hydrocarbon-bearing soil
- Pigging wastes from gathering lines
- Wastes from subsurface gas storage and retrieval, except for the non-exempt wastes listed on page 11
- Constituents removed from produced water before it is injected or otherwise disposed of
- Liquid hydrocarbons removed from the production stream but not from oil refining
- Waste crude oil from primary field operations
- Light organics volatilized from exempt wastes in reserve pits, impoundments, or production equipment

Western North Dakota

- 1984 – 1994
 - 3,313 wells drilled
 - Lined reserve pits
 - 75% drilled with salt saturated mud – 25% with oil based mud
 - Liquids removed to disposal, solids buried



Western North Dakota

- 1994 – 2012
 - 6,539 wells drilled
 - Lined reserve pits
 - 90% drilled with oil based mud – 10% with salt saturated mud
 - Liquids removed to disposal, cuttings stabilized and buried



Western North Dakota

- 2012 – present
 - 6,388 wells drilled
 - 2,129 lined cuttings pits
 - 98% drilled with oil based mud
 - Cuttings stabilized, encapsulated, and buried



Western North Dakota

- 2012 – present
 - 6,388 wells drilled
 - 2,129 lined cuttings pits
 - 98% drilled with oil based mud
 - Cuttings stabilized, encapsulated, and buried
- Industrial Commission Rules
 - NDAC 43-02-03-19.2 Waste Material
 - NDAC 43-02-03-19.3 Earthen Pits and Open Receptacles
 - NDAC 43-02-03-19.4 Drilling Pits
 - NDAC 43-02-03-19.5 Reserve Pits
- All stabilization materials must be leach tested
- Sample leach test for stabilized drill cuttings



LABORATORY ANALYTICAL REPORT

Customer Name: National Oilfield Varco Fluid Control Order ID: 12022105
 Project ID: ND-WY Leachate Report Date: 2/27/2012
 Lab ID: 12022105-13 Date Time
 Customer Sample ID: True 32, James Hill 10-0112H, 9,320' Collection: 1/31/2012
 Matrix: Soil Received: 2/21/2012 10:25 AM
 Notes: Depth: 9,320', Company: EOG-Envirodry/JPO

Analyses	Result	Units	RL	Qual.	Method	Analysis Date/Time	Analyst
General Parameters							
pH	11.32	s.u.	1		WREP-125: S-1.10	2/22/2012 17:47	KF
Total Dissolved Solids	750	mg/L	5		SM 2510 B	2/22/2012 17:51	EJ
Total Metals							
Arsenic	< 0.01	mg/L	0.01		EPA 200.7	2/22/2012 11:48	CH
Barium	0.16	mg/L	0.001		EPA 200.7	2/22/2012 11:48	CH
Cadmium	< 0.03	mg/L	0.03		EPA 200.7	2/22/2012 11:48	CH
Chromium	< 0.01	mg/L	0.01		EPA 200.7	2/22/2012 11:48	CH
Lead	< 0.02	mg/L	0.02		EPA 200.7	2/22/2012 11:48	CH
Mercury	0.20	mg/L	0.01		EPA 200.7	2/22/2012 11:48	CH
Selenium	< 0.06	mg/L	0.06		EPA 200.7	2/22/2012 11:48	CH
Silver	0.28	mg/L	0.02		EPA 200.7	2/22/2012 11:48	CH
Organics							
Total Petroleum Hydrocarbons (HEM)	1.0	mg/L	1		EPA 1664 A	2/22/2012 10:00	JP
Wyoming Oil and Gas Conservation Commission Limits							
Parameter					Limit	Units	
pH					6.0-9.0	s.u.	
Total Dissolved Solids					< 5,000	mg/L	
Arsenic					< 5.0	mg/L	
Barium					< 100	mg/L	
Cadmium					< 1.0	mg/L	
Chromium					< 5.0	mg/L	
Lead					< 5.0	mg/L	
Mercury					< 0.2	mg/L	
Selenium					< 5.0	mg/L	
Total Petroleum Hydrocarbons					< 10	mg/L	

Definitions:

ND-Not Detected at the reporting limit S-Spike Recovery outside accepted recovery limits D-Diluted out of recovery limits
 RL-Analyte Reporting Limit J-Analyte detected below quantitation limits L-Analyzed by a contract laboratory
 H-Holding times for preparation or analysis exceeded M-Matrix Effect

Documentation will be kept for five (5) years.

- New Mexico Experience

**ORDER OF THE COMMISSION AND STATEMENT OF REASONS FOR
AMENDING NMAC TITLE 19, CHAPTER 15, PART 17**

- THIS MATTER comes before the Oil Conservation Commission (“Commission”) on the Application (“NMOGA Application”) of the New Mexico Oil And Gas Association (“NMOGA”) for Amendment of Certain Provisions of Title 19, Chapter 15 of the New Mexico Administrative Code Concerning Pits, Closed-Loop Systems, Below Grade Tanks and Sumps, and Other Alternative Methods Related to the Foregoing Matters, Statewide, assigned Case No. 14784, and on the Application (“Application Filed By IPANM”) of the Independent Petroleum Association of New Mexico (“IPANM”) for the Amendment of Certain Provisions of Title 19, Chapter 15 of the New Mexico Administrative Code Concerning Pits, Closed-Loop Systems, Below Grade Tanks and Sumps, and Amending Other Special Rules Related to the Foregoing Matters, Statewide, assigned Case No. 14785. Together, the NMOGA Application and the Application Filed By IPANM may be referred to herein as the “Filed Applications.” The Filed Applications seek to amend NMAC Title 19, Chapter 15, Part 17, as promulgated in June, 2008 and amended in July, 2009 (the 2008 regulation, as amended in 2009, may sometimes be referred to herein as the “2009 Pit Rule”). The Commission, after hearing testimony, argument and public comment and deliberating, and having carefully considered the evidence, pleadings, comments and other materials submitted related to the Filed Applications now enters this Order.
- NOW THEREFORE, Title 19, Chapter 15 Part 17 NMAC, as adopted on June 16, 2008 and as amended from time to time is hereby **REPEALED** and **REPLACED** by Title 19, Chapter 15 Part 17 NMAC that is Attachment A and Title 19, Chapter 15 Part 17 NMAC that is Attachment A is hereby **ADOPTED**. Division staff is instructed to secure prompt publication of the referenced rule changes in the New Mexico Register. The Commission retains jurisdiction of this matter for entry of such further orders as may be necessary. **IT IS SO ORDERED.**

DONE in Santa Fe, New Mexico, this 6th
 STATE OF NEW MEXICO
 OIL CONSERVATION COMMISSION
 ROBERT BALCH, Member
 GREGORY BLOOM, Member
 JAMI BAILEY, Chair
 S E A L

Western North Dakota

- 1,100 to 2,700 wells/year = 2,000 expected
- The New Mexico Model would do the following:
 - 25 to 30 semi loads of drill cuttings per well
 - 50,000 to 60,000 additional semi loads per year hauled 50 to 100 miles
 - Overwhelm special waste landfill capacity with high volume low toxicity material

• **New Mexico Experience – 15 of 19 superfund sites still listed**

Superfund's Biggest Mess May Be in the Courthouse :

July 10, 1994 | MELISSA HEALY | TIMES STAFF WRITER

WASHINGTON — In the lucrative world of corporate law, the word inspires dreams of shiny new BMWs, of vacations to Cancun and of billable hours mounting year after prosperous year.

The word is Superfund. It is the nickname given the 1980 law designed to clean up thousands of polluted sites across the nation—from abandoned landfills to manufacturing sites, mines and even federal facilities. For many lawyers, who have been called "wizards of ooze" because of their roles in litigating Superfund cases, the law has been mother's milk.

By the best available estimate—that of the Santa Monica-based RAND Corp. think tank—fully 40 cents of every dollar spent on such projects has gone not to clean up toxic waste but to pay lawyers' fees and other costs of litigation. And those dollars are staggering: The federal government alone spends nearly \$1.6 billion annually on Superfund. And private industry is believed to spend several times that amount. Even more demonstrative of the problem: The House Banking, Finance and Urban Affairs Committee estimated in 1990 that the insurance industry and its clients spend about \$500 million in legal costs annually wrangling over liability for Superfund cleanups. Critics of the system—including the Clinton Administration—contend that the slow pace of the work is directly attributable to the tangled web of litigation that can stall progress on a project for years while it ensnares the federal government, corporate polluters, insurance companies and—occasionally—hapless bystanders. So far, only 237 of the 1,344 toxic waste sites deemed in need of emergency cleanup have been declared clean and safe. In coming weeks, Congress, prodded by the Administration, is moving to complete a sweeping reform of Superfund law. And while the effort is designed to tackle an array of perceived problems, the primary focus is on stemming unintended legal costs. The purveyors of reform argue that the stakes are enormous. One out of four Americans lives within four miles of a toxic waste site slated for cleanup under the program. California, with 96 sites on the Superfund list, has one of the largest shares of polluted sites in the country. Besides the health of citizens, jobs also hang in the balance—not just for high-priced lawyers but for entire communities, the Administration contends. Almost 20% of Superfund projects are located in urban areas. But even after such sites have been declared clean, they remain legally poisonous to many potential buyers because, under current Superfund law, purchasers of such sites assume liability for past pollution.

As a result, most of these sites remain fenced off, while surrounding neighborhoods—many in minority communities—go without the jobs they need desperately. Meanwhile, businesses looking for operating sites are moving out to suburban "greenways," where woods and open farmland are cleared—and then lost—to establish new industrial sites.

Horror stories about the legal entanglements of Superfund cases abound.

* In Kalamazoo, Mich., the Upjohn Co., a major pharmaceuticals firm, was named by the Environmental Protection Agency as the party responsible for the \$20-million cost of cleaning up a toxic landfill. Hoping to spread the cost among other polluters, Upjohn wrote letters threatening to sue 741 parties that had dumped trash in the landfill. They ranged from Flipside's Flower Shop to the Milwood Little League. Even the mother of William Parfet, Upjohn's president at the time, couldn't escape the company's dragnet. Martha Parfet, chairwoman of Gilmore Bros. department store in downtown Kalamazoo, received a letter from Upjohn notifying her that the trash the store had put out on the curb could make it liable for a share of the cleanup.

* In the case of the Hardage Landfill in Criner, Okla., attorneys for a group of 350 firms held responsible for the cleanup stretched across the nation and read like a "Who's Who" of Superfund law, according to one participant. The cleanup itself was expected to cost \$70 million. But over nearly a decade, lawyers earned more than \$45 million in legal fees in the case and several suits are still unresolved. At one point, a tiny office of the Oklahoma State District Court became a defendant in the case. Its alleged misdeed? The office had disposed of a box of poisoned cookies—crumbs of evidence in an old criminal case—in the landfill.

* At one of the earliest and most notorious Superfund sites—a 63-acre landfill in New Jersey—more than 400 parties have sued and countersued, hoping to spread the \$52-million cleanup cost. Attorneys involved in the case spent more than \$80,000 a year on Federal Express deliveries alone, according to congressional testimony.

North Dakota

0 superfund sites since April 1997