CLEAN WATER ACT ISSUES RAISED BY SALTWATER AND OIL PIPELINE SPILLS

By Carrie La Seur
President and Founder of Plains Justice
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P. O Box 1095, Dickinson ND 58602-1095
(701) 483-2851
www.drcinfo.com

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FOREWORD

North Dakota has long produced oil and gas for our nation's energy needs. The exploitation of the Bakken Formation in the last few years, however, has produced an unprecedented oil boom that has catapulted the state from eighth to fourth in U.S. oil production and garnered national attention.

Extracting these natural resources has produced many benefits, including increased tax revenue for the state and both leasing bonuses and royalties for those who own mineral rights in the state.

The boom has also brought new problems for the state to confront, including housing shortages, widespread road damages, **increased traffic accidents and deaths,** delays for local governments in accessing revenue to meet infrastructure needs, and impacts to many rural residents and landowners who do not share in mineral royalties yet live and work in agricultural areas that have suddenly become industrial zones.

In addition to these problems is the risk of spills and other oil-related accidents that endanger soils and groundwater and present a difficult challenge to our overworked state agencies. In 2006, North Dakota experienced the largest saltwater spill in its history when a McKenzie County saltwater pipeline leaked, contaminating Charbonneau Creek. Clean-up of the spill is still in progress. This fall a spill of oil and hydraulic fracturing fluids occurred near Killdeer in Dunn County at a well drilled through the Killdeer Aquifer, which supplies drinking water to the city of Killdeer and numerous rural residents. The incident remains under investigation.

Dakota Resource Council (DRC) was formed in 1978 as an independent citizens' organization to address impacts of fossil fuel extraction on rural communities in North Dakota. Its founders recognized the importance of protecting natural resources, including land, air and water, that are critical to western North Dakota's agricultural economy and quality of life.

DRC offers this report to the public **as a** resource for **developing** policies that protect North Dakota residents from damaging spills caused by oil and gas exploitation.

Marie **D.** Hoff
Bismarck
Chair, Dakota Resource Council

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Introduction

What state policies or regulations should be recommended for enactment in North Dakota to reduce the risk of oil and saltwater spills into state waters.

The Clean Water Act, Oil Pollution Act and Safe Drinking Water Act each provide forms of protection for North Dakota waters, but state regulators have authority and responsibility to provide additional protections to ensure that North Dakotans will continue to have safe, clean water available for all purposes. All surface and subsurface use of fluids related to oil and gas extraction, including brine and all forms of hydrocarbons, should be tracked at all times using best available monitoring technology so that leaks and spills are detected and mitigated immediately. Real-time monitoring and comprehensive, publicly noticed emergency response planning should be mandatory as permit conditions.

The state should enact a strict liability standard for contamination of state waters by oil and gas developers and put the burden of proof on industry to show that contaminated water was not previously drinkable according to EPA standards. Best practice regulations for hydraulic fracturing should be promulgated, taking the 1999 Alabama regulations as a necessary but insufficient starting place. In addition, Congress members should be urged to rescind the 2005 Energy Policy Act exemption from the Safe Drinking Water Act for hydraulic fracturing and to enact a federal pipeline safety and abandonment regulatory structure similar to that of Canada. As a stopgap measure, the state should put in place SDWA-equivalent water quality protections for hydraulic fracturing operations, and enact pipeline safety and abandonment standards modeled on those of the state of Iowa, the county of Santa Barbara (California), and/or Canada's federal regulatory scheme.

The catastrophic 2006 Zenergy, Inc. saltwater spill in northwestern North Dakota has raised concerns about the sufficiency of state regulations and enforcement to protect state waters from potential spills caused by oil and gas extraction.[1] The January 2006 breach of a 3-inch diameter, 18-mile pipeline spilled over a million gallons of water 10 times as salty as seawater into Charbonneau Creek, which drains to the Yellowstone River, causing a "massive die-off" of all aquatic life in the creek. Zenergy had failed to install monitoring equipment that would have given warning of the spill (not required under state law), and the state had failed to inspect the pipeline.[2]

Zenergy has paid state fines and penalties totaling $123,300, cleanup costs totaling more than $2 million, and an undisclosed settlement to two affected landowners. The Department of Health indicates that cleanup of contaminated groundwater will continue at least 3-5 more years. A spill of this magnitude, easily preventable, has spurred

[1] MacPherson, James, "New Problems for Zenergy in N.D. Saltwater Spill," *Grand Forks Herald* (July 8, 2010).
[2] *Id.*

questions about how the state can better protect its waters from similar spills. To this day there is no legal requirement in place for the kind of continuous monitoring that would have given early warning of the spill, nor for a comprehensive emergency response plan that would ensure quick mitigation.

North Dakota law governing oil and gas extraction and transport, as it relates to potential water contamination, comes from two sources. Since 1975, North Dakota has had delegated authority to enforce the federal Clean Water Act (CWA).[3] The state also has "primacy" to enforce the federal Safe Drinking Water Act.[4] Pursuant to its duty to implement and enforce federal water quality statutes, North Dakota has enacted water quality standards and effluent limits into state law.[5] The state also has independent law governing oil and gas extraction activities, which include regulations that protect state waters from discharges related to this industry.[6] We will first examine relevant federal laws, then state laws governing releases into state waters and oil and gas production activities. A concluding section presents recommendations for legislative and agency actions in North Dakota to improve protection of state waters.

[3] *See* 70 Fed. Reg. 54744 (Sep. 16, 2005).
[4] *See* <http://www.epa.gov/safewater/sdwa/pdfs/fs_30ann_sdwa_web.pdf>.
[5] North Dakota Administrative Code (NDAC) Article 33-16.
[6] North Dakota Century Code (NDCC) Chapter 38-08.

Policy and Enforcement Issues

Applicability of Federal Laws

1. Clean Water Act

a. Jurisdiction

The applicability of the Clean Water Act (CWA) to discharges of pollutants into North Dakota waters will depend on convoluted jurisdictional standards developed in recent Supreme Court rulings interpreting the scope of the CWA and the definition of "waters of the United States." The recent decision in *Rapanos v. United States* creates new limitations on waters covered by CWA protections. The Supreme Court held that the CWA phrase "waters of the United States" includes only relatively permanent, standing or continuously flowing bodies of water "forming geographic features" described in ordinary parlance as streams, oceans, rivers, and lakes. The phrase does not include intermittent or ephemeral channels, or channels that periodically provide drainage for rainfall.[7] For this reason state law has the potential, and arguably the duty, to protect state waters that fall outside the CWA jurisdictional definition, including wetlands, seasonal streams, prairie potholes, and groundwater.

The Century Code defines "Waters of the state" as:

> all waters within the jurisdiction of this state, including all streams, lakes, ponds, impounding reservoirs, marshes, watercourses, waterways, and all other bodies or accumulations of water on or under the surface of the earth, natural or artificial, public or private, situated wholly or partly within or bordering upon the state, except those private waters that do not combine or effect a junction with natural surface or underground waters just defined.[8]

This definition, broader than the CWA definition, allows the state to create broader protections than currently available under the more restrictive federal jurisdiction.

b. Discharges of Oil

Section 311(j)(1)(C) of CWA requires the President to issue regulations establishing procedures, methods, equipment, and other requirements to prevent discharges of oil to navigable waters or adjoining shorelines from vessels and facilities and to contain such discharges.[9]

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[7] 547 U.S. 715 at 726-7 (2006).
[8] NDCC § 61-28-02(11).
[9] 33 U.S.C.S § 1321(j)(1)(C). The President delegated the authority to regulate non-transportation-related onshore facilities to EPA in Executive Order 11548 (35 FR 11677, July 22, 1970), which was replaced by Executive Order 12777 (56 FR 54757, October 22, 1991). A Memorandum of Understanding between the U.S. Department of Transportation and EPA (36 FR 24080, November 24, 1971) established the definitions of transportation-related and non-transportation-related facilities.

Regulations implementing the oil and gas extraction point source category under CWA and creating effluent limitations for onshore discharges require "no discharge of waste water pollutants into navigable waters from any source associated with production, field exploration, drilling, well completion, or well treatment (i.e., produced water, drilling muds, drill cuttings, and produced sand).[10]

The regulations governing oil and gas extraction point sources for agricultural and wildlife water use create limits explicitly exempting produced water, and also create a numeric effluent limitation:

> Except as provided in §§ 125.30 through 125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):
>
> (a) There shall be no discharge of waste pollutants into navigable waters from any source (other than produced water) associated with production, field exploration, drilling, well completion, or well treatment (i.e., drilling muds, drill cuttings, and produced sands).
>
> (b) Produced water discharges shall not exceed the following daily maximum limitation: [11]

Effluent characteristics	**Effluent limitation (mg/l)**
Oil and Grease	35

North Dakota has incorporated by reference all federal effluent limits, new source performance standards and pretreatment standards.[12] North Dakota therefore has effluent limits in place relating to waste pollutants created during oil and gas extraction. The state retains authority to create limits more protective than federal standards.

c. Other Clean Water Act Authority

The National Pollutant Discharge Elimination System provides the regulatory structure for permitting discharges into waters of the United States ("NPDES" permits). Point sources of water pollutants identified by CWA are required to hold current permits governing the conditions under which discharges are allowed. Since oil and gas extraction activities have the potential to discharge pollutants to U.S. waters, NPDES permits could potentially be used to place conditions on the industry for the protection of U.S. waters. The research behind this memorandum did not include an examination of

[10] 40 C.F.R. § 435.32. Sections 125.30 through 125.32, referenced herein, provide criteria and standards for determining fundamentally different factors for determining effluent limits under Sections 301(B)(1)(A), 301(B)(2)(A) and (E) of CWA.
[11] 40 C.F.R. § 435.52.
[12] NDAC § 33-16-01-13 and 33-16-01-29 through 31.

NPDES permits for North Dakota oil and gas operations, but review of those permit conditions would provide valuable information about the possibilities for improving both permit conditions and enforcement. NPDES permits consist of at least the following 5 components, according to an EPA summary of the standard permit document:

> 1. *Cover Page* **-** Typically contains the name and location of the permittee, a statement authorizing the discharge, and the specific locations for which a discharge is authorized.
> 2. *Effluent Limits* **-** The primary mechanism for controlling discharges of pollutants to receiving waters. Permit writers spend a majority of their time deriving appropriate effluent limits based on applicable technology-based and water quality-based standards.
> 3. *Monitoring and Reporting Requirements* **-** Used to characterize waste streams and receiving waters, evaluate wastewater treatment efficiency, and determine compliance with permit conditions.
> 4. *Special Conditions* - Conditions developed to supplement effluent limit guidelines. Examples include: best management practices, additional monitoring activities, ambient stream surveys, and toxicity reduction evaluations.
> 5. *Standard Conditions* **-** Preestablished conditions that apply to all NPDES permits and delineate the legal, administrative, and procedural requirements of the permit.

If NPDES permits are not being issued to operations that are discharging pollutants – even via stormwater runoff – to U.S. waters, citizens may petition the state to commence permitting activities. Judicial review of the agency's decision is available. EPA also has authority to withdraw delegation of CWA authority from states that do not implement the statute correctly.

d. Preventing Another Zenergy Spill

Regulations banning discharges and setting effluent limits only work if discharges at isolated spots can be detected remotely and monitoring laws are enforced. North Dakota needs a regime that will regulate all fluids used or produced by the oil and gas recovery process, including pipelines carrying brine. Continuous remote monitoring and comprehensive emergency response planning and training should be part of the regulatory scheme.

2. Safe Drinking Water Act

a. Jurisdiction

Several statutes may be leveraged to protect water quality, but EPA's central authority to protect drinking water is drawn from the Safe Drinking Water Act (SDWA). SDWA includes, at Part C, provisions for protection of underground sources of drinking water (USDWs).[13]

[13] 42 U.S.C.S. § 300h.

b. Hydraulic Fracturing

Because hydraulic fracturing ("fracking") involves underground injection of fluids that can find their way into ground and surface water, this practice is relevant to analyses of water quality protection in oil and gas recovery. However, pollutants from oil and gas recovery can reach USDWs in other ways, including surface spills that seep or flow to groundwater. The protection of USDWs is focused in the Underground Injection Control (UIC) program, which regulates the subsurface emplacement of fluid.[14] EPA currently has a study underway, projected to end in 2012, of the water quality impacts of hydraulic fracturing.

Prior to a 1997 decision in a lawsuit by a Florida NGO named Legal Environmental Assistance Foundation (LEAF), there was no judicial ruling on EPA's authority over fracking activities under SDWA. LEAF petitioned EPA to withdraw approval of Alabama's UIC program, alleging that the Alabama program was deficient because it failed to regulate fracking associated with coalbed methane gas production. EPA denied the petition and LEAF sued for judicial review. The 11th Circuit Court of Appeals held that fracking activities constituted "underground injection" as defined by SDWA.[15]

As a result, in 1999 under EPA direction, the State Oil and Gas Board of Alabama revised its UIC regulations to address fracking for coalbed methane. In summary the new Alabama regulations:

- provided for detailed review by the Board's administrative staff;
- required a review of logs to ensure that fracture fluid remains in the coalbed fractured;
- ensured that the coalbed fractured is beneath an impervious stratum;
- required a water well survey;
- banned hydraulic fracturing shallower than 300 feet; and
- required an operator to certify that the fracture fluid does not contain components that exceed federal primary drinking water standards.[16]

EPA approved these revised regulations in January 2000, and LEAF appealed to the 11th Circuit. On December 21, 2001, the court ruled that EPA was within its authority to approve Alabama's fracking regulations.[17]

Unsatisfied with this outcome, industry continued to lobby Congress for a statutory

[14] 42 U.S.C.S. § 300h(d).
[15] *Legal Environmental Assistance Foundation v. U.S. E.P.A.*, 118 F.3d 1467, 1478 (11th Cir. 1997). LEAF subsequently sought, and the court issued, a writ of mandamus to enforce the 1997 ruling. *See In re Legal Envtl. Assist. Found., Inc.,* No. 98-06929 (11th Cir. Feb. 18, 1999) (unpublished).
[16] S. Marvin Rogers, "History of Litigation Concerning Hydraulic Fracturing to Produce Coalbed Methane" (January 2009), linked at Interstate Oil and Gas Compact Commission website (http://www.iogcc.state.ok.us/hydraulic-fracturing).
[17] *LEAF v. U.S. E.P.A.,* 276 F.3d 1253, 1265 (11th Cir. 2001).

exception from SDWA for fracking. Congress complied and, with the Energy Policy Act of 2005, provided for exclusions to UIC authority under SDWA:

> The term 'underground injection' –
> (A) means the subsurface emplacement of fluids by well injection; and
> (B) excludes –
> (i) the underground injection of natural gas for purposes of storage; and
> (ii) the underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations related to oil, gas, or geothermal production activities.[18]

While the SDWA now specifically excludes hydraulic fracturing from UIC regulation, the use of diesel fuel during hydraulic fracturing is still regulated by the UIC program. Any service company that performs hydraulic fracturing using diesel fuel must receive prior authorization from the UIC program. Injection wells receiving diesel fuel as a hydraulic fracturing additive will be considered Class II wells by the UIC program.

According to EPA,

> Class II wells inject fluids associated with oil and natural gas production. Most of the injected fluid is salt water (brine), which is brought to the surface in the process of producing (extracting) oil and gas. In addition, brine and other fluids are injected to enhance (improve) oil and gas production. The approximately 144,000 Class II wells in operation in the United States inject over 2 billion gallons of brine every day. Most oil and gas injection wells are in Texas, California, Oklahoma, and Kansas.
>
> Three types of Class II injection wells are associated with oil and natural gas production.
>
> 1. **Enhanced Recovery Wells** inject brine, water, steam, polymers, or carbon dioxide into oil-bearing formations to recover residual oil and—in some limited applications—natural gas. This is also known as secondary or tertiary recovery. The injected fluid thins (decreases the viscosity) or displaces small amounts of extractable oil and gas, which is then available for recovery. In a typical configuration, a single injection well is surrounded by multiple production wells. Production wells bring oil and gas to the surface; the UIC Program does not regulate production wells. Enhanced recovery wells are the most numerous type of Class II wells, representing as much as 80 percent of all Class II wells.
> 2. **Disposal Wells** inject brines and other fluids associated with the production of oil and natural gas or natural gas storage operations. When oil and gas are produced, brine is also brought to the surface. The brine is segregated from the oil and is then injected into the same underground formation or a similar formation. Class II disposal wells can only be used to dispose of fluids associated with oil and gas production. Disposal wells

[18] *Id.*

represent about 20 percent of Class II wells.

3. **Hydrocarbon Storage Wells** inject liquid hydrocarbons in underground formations (such as salt caverns) where they are stored, generally, as part of the U.S. Strategic Petroleum Reserve.[19]

Since disclosure of fluids used for fracking is very difficult to obtain for third parties, this rule is virtually unenforceable for the average citizen who may be affected.

North Dakota's UIC regulations define underground injection as "the subsurface emplacement of fluids:"

a. Which are brought to the surface in connection with natural gas storage operations, or conventional oil or natural gas production and may be commingled with wastewaters from gas plants which are an integral part of production operations, unless those waters are classified as a hazardous waste at the time of injection.

b. For enhanced recovery of oil or natural gas.

c. For storage of hydrocarbons which are liquids at standard temperature and pressure.[20]

Requirements for operating an underground injection well include permitting and construction requirements, but there is no apparent provision for continuous monitoring, pressure testing, or other means to detect the existence of any leak or spill.[21] Testing for mechanical integrity is required "at least once every five years."[22] The Oil and Gas Division states that, subsequent to the Zenergy spill, its field inspectors are now required to identify saltwater wells where there may be vulnerability to a spill (there is no regulatory guidance as to what might constitute evidence of vulnerability), and then the Oil and Gas Division directs operators to do pressure tests and metering, although these activities are not permit conditions. The Oil and Gas Division says it has no compliance problems with this "gentlemen's handshake" regulatory regime, but there is little documentation of compliance activities and no penalty for failure to comply.

The lack of explicit monitoring requirements, standards for regular pressure tests and metering, and clear penalties for noncompliance are clear flaws in the current regulations that should be remedied as soon as possible.

c. Application to North Dakota Practices

SDWA may provide some support for source water protection where a municipal drinking water source risks contamination by oil and gas extraction activities. However, private wells aren't protected by SDWA. Since oil and gas extraction most commonly creates

[19] Source: http://www.epa.gov/safewater/uic/wells_class2.html (visited 7/19/10).
[20] NDAC Article 33-25.
[21] *See* NDCC § 43-02-05-04 and 43-02-05-06.
[22] NDCC § 43-02-05-07.

point source pollution, it would normally be regulated under CWA through the NPDES program. Followup with state drinking water officials to inquire about contamination related to the oil and gas industry might provide useful information about possible application of SDWA. A survey of municipal drinking water authorities would be a helpful tool in determining whether signs of oil and gas contamination, such as increased salinity, are showing up in public drinking source water.

3. Oil Pollution Act of 1990

a. Jurisdiction

Case law suggests that another potentially relevant federal law, the Oil Pollution Act of 1990 (OPA), may have inadequate jurisdiction to address inland spills.[23] OPA was enacted in 1990 in response to the *Exxon Valdez* oil spill in Prince William Sound, Alaska. It represents Congress's attempt to provide a comprehensive framework in the area of marine oil pollution.[24] OPA focuses on oil discharges in the nation's oceanic fishing grounds, oceans, waterways, bays, and coastlines.[25] The statute's introductory policy statement reads:

> … Notwithstanding any other provision or rule of law, and subject to the provisions of this Act, each responsible party for a vessel or a facility from which oil is discharged, or which poses the substantial threat of a discharge of oil, into or upon the navigable waters or adjoining shorelines or the exclusive economic zone is liable for the removal costs and damages specified in subsection (b) that result from such incident.[26]

Excluded discharges are those: "(1) permitted by a permit issued under Federal, State, or local law; (2) from a public vessel; or (3) from an onshore facility which is subject to the Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1651 et seq.)."[27] The jurisdiction of the statute for inland discharges therefore turns on the definition of "navigable waters," defined by OPA as "the waters of the United States, including the territorial sea…".[28]

In *Rice v. Harken Exploration Co.*, Texas ranch owners sued an oil exploration company alleging damages caused by discharge of pollutants onto ranch lands and into ground and surface waters. The court granted summary judgment to the defendants based on their argument that the affected waters were not "navigable waters" under the definition created by the Oil Pollution Act. The Rices had alleged the following facts:

> …Harken has discharged hydrocarbons and continues to discharge hydrocarbons, produced brine, and other pollutants onto the Big Creek Ranch and into a small

[23] *See* Oil Pollution Act of 1990, 33 U.S.C.S. § 2700 et seq.
[24] 136 Cong. Rec. H6933-02, H6944.
[25] *General Electric Co. v. U.S. Department of Commerce,* 327 U.S. App. D.C. 33, 128 F.3d 767, 770 (D.C. Cir. 1997).
[26] 33 U.S.C.S. § 2702(a).
[27] 33 U.S.C.S. § 2702(c).
[28] 33 U.S.C.S. § 2701(21).

> seasonal creek on Plaintiffs' property known as "Big Creek," "unnamed tributaries of Big Creek," and other "independent ground and surface waters." Plaintiffs allege that through production operation discharges Harken has damaged and continues to damage the land, contaminated and continues to contaminate surface waters and groundwater, threatened and continues to threaten surface waters and groundwater, killed 10 head of their cattle, and damaged and continues to damage their surface vegetation.[29]

The precise connection of the Rices' surface and groundwater to navigable waters of the United States would become the key facts of the case. According to the published decision,

> Big Creek, the tributaries of Big Creek, and the surface waters and groundwater on Big Creek Ranch flow into the Canadian River. The Canadian River is the southern boundary of the Ranch, and is downgradient from Harken's oil and gas flowlines, tank batteries, and other production equipment. The Canadian River flows into the Arkansas River, the Arkansas River flows into the Mississippi River, and the Mississippi River flows into the Gulf of Mexico.[30]

The Rices claimed damages in excess of $38 million. To remedy the damage, the Rices asked the court:

> to enter a declaratory judgment that: (a) Harken is a responsible party under the Oil Pollution Act; (b) Harken is liable for the removal of the oil and oil-related pollutants on the property; (c) Harken is liable for the cleanup, restoration, and remediation of the property; (d) Plaintiffs' removal costs incurred through trial are consistent with the OPA's National Contingency Plan; (e) Plaintiffs' proposed removal actions and activities are consistent with the OPA's National Contingency Plan; and (f) they ask the Court to order Plaintiffs' removal and remediation plan be implemented as proposed by Plaintiffs' environmental consultant.

The court held that it had no jurisdiction over the Rices' various OPA claims, stating in summary of its jurisdictional findings:

> The Panhandle of Texas is hundreds of miles from coastal waters or ocean beaches. Discharges of oil and salt water onto land in the Panhandle of Texas are not the type of oil and waste-water spills targeted by the OPA. While pollution into Big Creek and

[29] Rice v Harken Exploration Co. (1999, ND Tex) 89 F Supp 2d 820, 154 OGR 165, affd (2001, CA5 Tex) 250250 F3d 264, 52 Envt Rep Cas 1321, 31 ELR 20599, reh, en banc, den (2001, CA5 Tex) 263 F3d 167 and (criticized in United States v Lamplight Equestrian Ctr., Inc. (2002, ND Ill) 54 Envt Rep Cas 1217) and (criticized in Carabell v United States Army Corps of Eng'rs (2003, ED Mich) 257 F Supp 2d 917) and (criticized in United States v Hummel (2003, ND Ill) 2003 US Dist LEXIS 5656) and (criticized in N.C. Shellfish Growers Ass'n v Holly Ridge Assocs., LLC (2003, ED NC) 278 F Supp 2d 654, 57 Envt Rep Cas 1429, 33 ELR 20248) and (criticized in *United States v. Thorson* (2004, WD Wis) 58 Envt Rep Cas 1700) and (criticized in *United States v. Adam Bros. Farming, Inc.* (2004, CD Cal) 2004 US Dist LEXIS 27909.
[30] *Id.* at 821.

> the tributaries of Big Creek, into groundwater under Plaintiffs' land, and perhaps eventually into the Canadian River may affect interstate commerce, Plaintiffs have no Oil Pollution Act cause of action under the facts of this case.[31]

In summary, although OPA has language that appears relevant to discharges of oil and brine into navigable waters, an attempt to split the 5th and 8th Circuits on this question would likely be an uphill battle and could result in a bad ruling from the 8th Circuit.

b. Application to North Dakota Practices

Since the 1999 *Rice* case went no further than the U.S. Court of Appeals for the 5th Circuit, the ruling is not binding on federal courts in North Dakota or the 8th Circuit. In light of changing attitudes around oil spills and resource extraction contamination in the intervening decade, it may be possible to bring an OPA claim based on a North Dakota spill to navigable waters. This possibility would require a separate legal analysis based on the facts of a potential claim.

B. North Dakota Water Quality Law Relating to Oil and Gas Extraction and Transport

North Dakota has delegated authority from the U.S. Environmental Protection Agency to implement and enforce the Clean Water Act (CWA). The Century Code includes a policy statement with regard to protection of state waters:

> It is hereby declared to be the policy of the state of North Dakota to act in the public interest to protect, maintain, and improve the quality of the waters in the state for continued use as public and private water supplies, propagation of wildlife, fish and aquatic life, and for domestic, agricultural, industrial, recreational, and other legitimate beneficial uses, to require necessary and reasonable treatment of sewage, industrial, or other wastes and to cooperate with other agencies in the state, agencies of other states, and the federal government in carrying out these objectives.[32]

The Century Code creates explicit prohibitions on various forms of water pollution, covering all “waters of the state”, not just CWA-jurisdictional “navigable waters”:

> 1. It shall be unlawful for any person:
>
> a. To cause pollution of any waters of the state or to place or cause to be placed any wastes in a location where they are likely to cause pollution of any waters of the state; and
> b. To discharge any wastes into any waters of the state or to otherwise cause pollution, which reduces the quality of such waters below the water quality standards established therefor by the department.

[31] *Id.* at 827.
[32] NDCC § 61-28-01.

> 2. It is unlawful for any person to carry on any of the following activities unless the person holds a valid permit for the disposal of all wastes which are, or may be, discharged thereby into the waters of the state:
>
> a. The construction, installation, modification, or operation of any disposal system or part thereof or any extension or addition thereto without plans and specifications previously approved by the department.
> b. Cause a material increase in volume or strength of any wastes in excess of the permissive discharges specified under existing approved plans.
> c. The construction, installation, or operation of any industrial, commercial, or other establishment or any extension or modification or addition thereof, the operation of which would cause an increase in the discharge of wastes into the waters of the state or would otherwise alter the physical, chemical, or biological properties of any waters of the state in any manner not already lawfully authorized.
> d. The construction or use of any new outlet for the discharge of any wastes into the waters of the state.[33]

The ND Department of Health holds exclusive authority to petition for injunctive relief to stop such pollution.[34] The citizen suit clause that has been so effective for CWA enforcement is missing from North Dakota's water pollution statute. North Dakotans still have citizen suit rights under CWA, but such claims would be subject to more limited "navigable waters" jurisdiction.

Oil and gas pollutant discharges might also be approached from the angle of state water quality standards and degradation of existing water quality. Water quality monitoring data exists from water bodies around the state should be tracked over time to ensure that contaminants from oil and gas extraction activities are not degrading state waters.

C. North Dakota Oil and Gas Extraction and Transportation Law Related to Protection of Water Resources

The North Dakota Century Code chapter governing "Control of Oil and Gas Resources" commences with a policy statement relevant to protection of water resources:

> It is hereby declared to be in the public interest to foster, to encourage, and to promote the development, production, and utilization of natural resources of oil and gas in the state in such a manner as will prevent waste; to authorize and to provide for the operation and development of oil and gas properties in such a manner that a greater ultimate recovery of oil and gas be had *and that the correlative rights of all owners be fully protected*; and to encourage and to authorize cycling, recycling, pressure maintenance, and secondary recovery operations in order that the greatest possible economic recovery of oil and gas be obtained within the state to the end that the landowners, the royalty owners, the producers, and the general public *realize and*

[33] NDCC § 61-28-06(1) and (2).
[34] NDCC § 61-28-06(3).

> *enjoy the greatest possible good from these vital natural resources* (emphasis added).[35]

The statute defines owner as "the person who has the right to drill into and produce from a pool and to appropriate the oil or gas he produces therefrom either for himself or others or for himself and others," yet the policy statement breaks down the category of owner into landowners, royalty owners and producers, suggesting a broader interpretation for purposes of the policy statement at least.[36] It is therefore North Dakota's stated legislative policy that ownership rights be fully protected, and that all affected parties, including landowners and the general public, "enjoy the greatest possible good" to be derived from the economic recovery of oil and gas resources. State regulation of the recovery process attempts to achieve this end in a variety of ways.

The state Industrial Commission ("Commission"), comprised of the Attorney General, Commissioner of Agriculture, and Governor, has certain explicit statutory authority to regulate oil and gas recovery practices. The Commission has the authority to require:

> The drilling, casing, operation, and plugging of wells in such manner as to prevent the escape of oil or gas out of one stratum into another, the intrusion of water into oil or gas strata, the pollution of freshwater supplies by oil, gas, or saltwater, and to prevent blowouts, cavings, seepages, and fires.[37]

The Commission also has the authority to regulate "(d)isposal of saltwater and oil field wastes" and "(t)o adopt and to enforce rules and orders to effectuate the purposes and the intent of this chapter and the commission's responsibilities under chapter 57-51.1." [38] This authority is more than discretionary. The Century Code also assigns the Commission the "duty, to make such investigations as it deems proper to determine whether waste exists or is imminent or whether other facts exist which justify action by the commission."[39]

The state's comprehensive oil and gas regulation preempts nearly all attempts at regulation by subsidiary governmental units such as counties and municipalities. A February 5, 2010 opinion by North Dakota Attorney General Wayne Stenehjem clarifies that counties have only the most limited authority to require filing of basic information on well sites in case a need for emergency services arises. According to the A.G.'s opinion, the forum in which landowner concerns may be addressed is before the Commission.[40]

State law also provides for compensation of surface owners for damages caused by oil and gas exploration and recovery. The legislative findings are:

> 1. It is necessary to exercise the police power of the state to protect the public welfare

[35] NDCC § 38-08-01.
[36] NDCC § 38-08-02(9).
[37] NDCC § 38-08-04(1)(c).
[38] NDCC § 38-08-04(2)(e) and (5).
[39] NDCC § 38-08-4.
[40] Citing N.D.C.C. § 38-08-07(3).

> of North Dakota which is largely dependent on agriculture and to protect the economic well-being of individuals engaged in agricultural production.
> 2. Exploration for and development of oil and gas reserves in this state interferes with the use, agricultural or otherwise, of the surface of certain land.
> 3. Owners of the surface estate and other persons should be justly compensated for injury to their persons or property and interference with the use of their property occasioned by oil and gas development.[41]

The statute explicitly directs courts and agencies to interpret its provisions "to provide the maximum amount of constitutionally permissible protection to surface owners and other persons from the undesirable effects of development of minerals."[42] Damages to water supplies are included:

> If the domestic, livestock, or irrigation water supply of any person who owns an interest in real property within one-half mile [804.67 meters] of where geophysical or seismograph activities are or have been conducted or within one mile [1.61 kilometers] of an oil or gas well site has been disrupted, or diminished in quality or quantity by the drilling operations and a certified water quality and quantity test has been performed by the person who owns an interest in real property within one year preceding the commencement of drilling operations, the person who owns an interest in real property is entitled to recover the cost of making such repairs, alterations, or construction that will ensure the delivery to the surface owner of that quality and quantity of water available to the surface owner prior to the commencement of drilling operations. Any person who owns an interest in real property who obtains all or a part of that person's water supply for domestic, agricultural, industrial, or other beneficial use from an underground source has a claim for relief against a mineral developer to recover damages for disruption or diminution in quality or quantity of that person's water supply proximately caused from drilling operations conducted by the mineral developer. Prima facie evidence of injury under this section may be established by a showing that the mineral developer's drilling operations penetrated or disrupted an aquifer in such a manner as to cause a diminution in water quality or quantity within the distance limits imposed by this section.[43]

The statute includes protection of downstream landowners:

> A tract of land is not bound to receive water contaminated by drilling operations on another tract of land, and the owner of a tract has a claim for relief against a mineral developer to recover the damages proximately resulting from natural drainage of waters contaminated by drilling operations.

Regulations implementing North Dakota's oil and gas recovery statutes provide further guidance.[44] The regulations require proper disposal of all waste associated with recovery

[41] NDCC § 38-11.1-01.
[42] NDCC § 38-11.1-02.
[43] NDCC § 38-11.1-06.
[44] NDAC § 43-02-03.

activities, although these regulations have from time to time been ignored.[45] Saltwater handling facilities are subject to the following conditions:

> 1. All saltwater liquids or brines produced with oil and natural gas shall be processed, stored, and disposed of without pollution of freshwater supplies. At no time shall saltwater liquids or brines be allowed to flow over or pool on the surface of the land or infiltrate the soil.
>
> 2. Underground injection of saltwater liquids and brines shall be in accordance with chapter 43-02-05.
>
> 3. Surface facilities are acceptable provided that:
>
> > a. They are devoid of leaks and constructed of materials resistant to the effects of produced saltwater liquids, brines, or chemicals that may be contained therein. The above materials requirement may be waived by the director for tanks presently in service and in good condition. Unusable tanks and injection equipment must be removed from the site or repaired and placed into service, within a reasonable time period, not to exceed one year.
> >
> > b. Dikes must be erected and maintained around saltwater tanks at any saltwater handling facility built or rebuilt on or after July 1, 2000. Dikes must be erected around saltwater tanks at any new facility within thirty days after the well has been completed. Dikes must be erected and maintained around saltwater tanks at saltwater handling facilities built prior to July 1, 2000, when deemed necessary by the director. Dikes as well as the base material under the dikes and within the diked area must be constructed of sufficiently impermeable material to provide emergency containment. Dikes must be of sufficient dimension to contain the total capacity of the largest tank plus one day's fluid production. The required capacity of the dike may be lowered by the director if the necessity therefor can be demonstrated to the director's satisfaction. Discharged saltwater liquids or brines must be properly removed and may not be allowed to remain standing within or outside of any diked areas.
>
> 4. The operator shall take steps to minimize the amount of solids stored at the facility.[46]

The regulations currently in place for oil and gas recovery operations provide reasonable tools for enforcement, if enforcement is pursued. However the rules lack consistent standards for every operation and monitoring requirements that would prevent undetected, catastrophic spills like the one on Charbonneau Creek.

IV. Conclusion

[45] NDAC § 43-02-03-19.2.
[46] NDAC § 43-02-03-53.

The time has come for a comprehensive pipeline safety regulatory scheme in North Dakota. There are numerous examples to draw on, from the Canadian regulatory structure to those in other states such as Iowa. The legislature would be wise to engage a pipeline safety engineer or an entity such as the Pipeline Safety Trust in its drafting process. Appropriate siting, construction, operation, maintenance, monitoring, emergency response, and abandonment provisions will ultimately create greater certainty for developers and ease the regulatory process. The benefits to the public, in terms of greater safety of operation, lowered risk of catastrophic spills, and timely, safe shutdown of pipelines at the end of their useful lives, without cost to the host landowner, will be great.

To track possible contamination related to oil and gas activities, the state should also track water quality data from water bodies across the state and from municipal drinking water authorities, watching for signs that contaminant levels are rising. In light of the level of oil and gas activity currently happening in North Dakota, this proactive approach will act as another warning system of contamination that is otherwise undetected.

There are a few potential routes available to citizens who wish to pursue legal action to ensure enforcement of state and federal law. These are mentioned in this memorandum, but would require further analysis of the facts of any given claim.

Appendix
Iowa Code Chapter 479
Pipelines and Underground Gas Storage

479.1 Purpose - applicability.
It is the purpose of the general assembly in enacting this law to confer upon the utilities board the power and authority to supervise the transportation or transmission of any solid, liquid, or gaseous substance, except water, within or through this state by pipeline, whether specifically mentioned in this chapter or not, and the power and authority to supervise the underground storage of gas, to protect the safety and welfare of the public in its use of public or private highways, grounds, waters, and streams of any kind in this state. However, this chapter does not apply to interstate natural gas or hazardous liquid pipelines, pipeline companies, and underground storage, as these terms are defined in chapters 479A and 479B.

479.2 Definitions.
As used in this chapter:
1. *"Board"* means the utilities board within the utilities division of the department of commerce.
2. *"Pipeline"* means a pipe, pipes, or pipelines used for the transportation or transmission of a solid, liquid, or gaseous substance, except water, within or through this state. However, the term does not include interstate pipe, pipes, or pipelines used for the transportation or transmission of natural gas or hazardous liquids.
3. *"Pipeline company"* means a person engaged in or organized for the purpose of owning, operating, or controlling pipelines for the transportation or transmission of any solid, liquid, or gaseous substance, except water, within or through this state. However, the term does not include a person owning, operating, or controlling interstate pipelines for the transportation or transmission of natural gas or hazardous liquids.
4. *"Underground storage"* means storage of gas in a subsurface stratum or formation of the earth.

479.3 Conditions attending operation.
No pipeline company shall construct, maintain or operate any pipeline or lines under, along, over or across any public or private highways, grounds, waters or streams of any kind in this state except in accordance with the provisions of this chapter.

479.4 Dangerous construction - inspection.
The board is vested with power and authority and it shall be its duty to supervise all pipelines and underground storage and pipeline companies and shall from time to time inspect and examine the construction, maintenance and the condition of said pipelines and underground storage facilities and whenever said board shall determine that any pipeline and underground storage facilities or any apparatus, device or equipment used in connection therewith is unsafe and dangerous it shall immediately in writing notify said pipeline company, constructing or operating said pipeline and underground storage facilities, device, apparatus or other equipment to repair or replace any defective or unsafe part or portion of said pipeline and underground storage facilities, device,

apparatus or equipment.
All faulty construction, as determined by the inspector, shall be repaired immediately by the contractor operating for the pipeline company and the cost of such repairs shall be paid by said contractor. If such repairs are not made by contractor, the board shall proceed to collect under the provisions of section 479.26.

479.5 Application for permit.
A pipeline company doing business in this state shall file with the board its verified petition asking for a permit to construct, maintain and operate its pipeline or lines along, over or across the public or private highways, grounds, waters and streams of any kind of this state. Any pipeline company now owning or operating a pipeline in this state shall be issued a permit by the board upon supplying the information as provided for in section 479.6.
A pipeline company doing business in this state and proposing to engage in underground storage of gas within this state shall file with the board its verified petition asking for a permit to construct, maintain and operate facilities for the underground storage of gas to include the construction, placement, maintenance and operation of machinery, appliances, fixtures, wells, pipelines, and stations necessary for the construction, maintenance and operation of the gas underground storage facilities.
A pipeline company shall hold informational meetings in each county in which real property or property rights will be affected at least thirty days prior to filing the petition for a new pipeline. A member of the board or a person designated by the board shall serve as the presiding officer at each meeting, shall present an agenda for the meeting which shall include a summary of the legal rights of the affected landowners, and shall distribute and review the statement of individual rights required under section 6B.2A. A formal record of the meeting shall not be required.
The meeting shall be held at a location reasonably accessible to all persons, companies, or corporations which may be affected by the granting of the permit.
The pipeline company seeking the permit for a new pipeline shall give notice of the informational meeting to each person determined to be a landowner affected by the proposed project and each person in possession of or residing on the property. For the purposes of the informational meeting, *"landowner"* means a person listed on the tax assessment rolls as responsible for the payment of real estate taxes imposed on the property and *"pipeline"* means a line transporting a solid, liquid, or gaseous substance, except water, under pressure in excess of one hundred fifty pounds per square inch and extending a distance of not less than five miles or having a future anticipated extension of an overall distance of five miles.
The notice shall set forth the name of the applicant; the applicant's principal place of business; the general description and purpose of the proposed project; the general nature of the right-of-way desired; the possibility that the right-of-way may be acquired by condemnation if approved by the utilities board; a map showing the route of the proposed project; a description of the process used by the utilities board in making a decision on whether to approve a permit including the right to take property by eminent domain; that the landowner has a right to be present at such meeting and to file objections with the board; and a designation of the time and place of the meeting. The notice shall be served by certified mail with return receipt requested not less than thirty days previous to the

time set for the meeting, and shall be published once in a newspaper of general circulation in the county. The publication shall be considered notice to landowners whose residence is not known and to each person in possession of or residing on the property provided a good faith effort to notify can be demonstrated by the pipeline company.
A pipeline company seeking rights under this chapter shall not negotiate or purchase any easements or other interests in land in any county known to be affected by the proposed project prior to the informational meeting.

479.6 Petition.
Said petition shall state:
1. The name of the individual, firm, corporation, company, or association asking for said permit.
2. The applicant's principal office and place of business.
3. A legal description of the route of said proposed line or lines, together with a map thereof.
4. A general description of the public or private highways, grounds and waters, streams and private lands of any kind along, over or across which said proposed line or lines will pass.
5. The specifications of material and manner of construction.
6. The maximum and normal operating pressure under which it is proposed to transport any solid, liquid, or gaseous substance, except water.
7. If permission is sought to construct, maintain and operate facilities for the underground storage of gas said petition shall include the following information in addition to that stated above:
a. A description of the public or private highways, grounds and waters, streams and private lands of any kind under which such storage is proposed, together with a map thereof.
b. Maps showing the location of proposed machinery, appliances, fixtures, wells and stations necessary for the construction, maintenance and operation of such gas underground storage facilities.
8. The possible use of alternative routes.
9. The relationship of the proposed project to the present and future land use and zoning ordinances.
10. The inconvenience or undue injury which may result to property owners as a result of the proposed project.
11. By affidavit, that informational meetings were held in each county which the proposed project will affect and the time and place of each meeting.

479.7 Hearing - notice.
Upon the filing of said petition the board shall fix a date for hearing thereon and shall cause notice thereof to be published in some newspaper of general circulation in each county through which said proposed line or lines or gas storage facilities will extend; said notice to be published for two consecutive weeks.
Where a petition seeks the use of the right of eminent domain over specific parcels of real property, the board shall prescribe the notice to be served upon the owners of record and

parties in possession of the property over which the use of the right of eminent domain is sought. The notice shall include the statement of individual rights required pursuant to section 6B.2A.

479.8 Time and place.
The hearing shall not be less than ten days nor more than thirty days from the date of the last publication and where the proposed new pipeline would operate under pressure exceeding one hundred fifty pounds per square inch and exceed five miles in length, shall be held in the county seat of the county located at the midpoint of the proposed line or lines or the county in which the proposed gas storage facility would be located.

479.9 Objections.
Any person, corporation, company or city whose rights or interests may be affected by said pipeline or lines or gas storage facilities may file written objections to said proposed pipeline or lines or gas storage facilities or to the granting of said permit.

479.10 Filing.
All such objections shall be on file in the office of said board not less than five days before the date of hearing on said application but said board may permit the filing of said objections later than five days before said hearing, in which event the applicant must be granted a reasonable time to meet said objections.

479.11 Examination - testimony.
The said board may examine the proposed route of said pipeline or lines and location of said gas storage area, or may cause such examination to be made by an engineer selected by it. At said hearing the said board shall consider said petition and any objections filed thereto and may in its discretion hear such testimony as may aid it in determining the propriety of granting such permit.

479.12 Final order - condition.
The board may grant a permit in whole or in part upon terms, conditions, and restrictions as to safety requirements and as to location and route as determined by it to be just and proper. Before a permit is granted to a pipeline company, the board, after a public hearing as provided in this chapter, shall determine whether the services proposed to be rendered will promote the public convenience and necessity, and an affirmative finding to that effect is a condition precedent to the granting of a permit.

479.13 Costs and fees.
The applicant shall pay all costs of the informational meetings, hearing, and necessary preliminary investigation including the cost of publishing notice of hearing, and shall pay the actual unrecovered costs directly attributable to construction inspections conducted by the board or the board's designee.

479.14 Inspection fee.
A pipeline company shall pay an annual inspection fee of fifty cents per mile of pipeline or fraction thereof for each inch of diameter of the pipeline located in the state, the inspection fee to be paid to the board for the calendar year in advance between January 1 and February 1 of each year.

479.15 Failure to pay.
It shall be the duty of the board to collect all inspection fees provided in this chapter, and failure to pay any such inspection fee within thirty days after the time the same shall become due shall be cause for revocation of the permit.

479.16 Receipt of funds. REPEALED EFFECTIVE JULY 1, 2011
All moneys received under this chapter shall be remitted monthly to the treasurer of state and credited to the department of commerce revolving fund created in section 546.12 as provided in section 476.10.

479.17 Rules.
The said board shall have full authority and power to promulgate such rules as it deems proper and expedient to insure the orderly conduct of the hearings herein provided for and also to prescribe rules for the enforcement of this chapter.

479.18 Permit.
The board shall prepare and issue any permit granted in accordance with section 479.12. Said permit shall show the name and address of the pipeline company to which it is issued and identify by reference thereto the decision and order of the board under which said permit is issued. It shall be signed by the chairperson of the board and the official seal of the board shall be affixed thereto.

479.19 Limitation on grant.
No exclusive right shall ever be granted to any pipeline company to construct, maintain, and operate its pipeline or lines along, over or across any public highway, grounds or waters and no such permit shall ever be granted for a longer period than twenty-five years.

479.20 Sale of permit.
No permit shall be sold until the sale is approved by the board.

479.21 Transfer of permit.
If a transfer of such permit is made before the construction for which it was issued is completed in whole or in part such transfer shall not be effective until the person, company or corporation to whom it was issued shall file in the office of said board a notice in writing stating the date of such transfer and the name and address of said transferee.

479.22 Records.
The board shall keep a record of all permits granted and issued by it, showing when and to whom issued and the location and route of said pipeline or lines or gas storage area covered thereby. When any transfer of such permit has been made as provided in this chapter the said board shall also note upon its record the date of such transfer and the name and address of such transferee.

479.23 Extension of permit.
A pipeline company may petition the board for the extension of a permit granted under this chapter by filing a petition containing the information required by section 479.6, subsections 1 through 4, 6, and 7, and section 479.26.

479.24 Eminent domain.
A pipeline company granted a pipeline permit under this chapter shall be vested with the right of eminent domain* to the extent necessary and as prescribed and approved by the board, not exceeding seventy-five feet in width for right-of-way and not exceeding one acre in any one location in addition to right-of-way for the location of pumps, pressure apparatus, or other stations or equipment necessary to the proper operation of its pipeline. The board may grant additional eminent domain rights where the pipeline company has presented sufficient evidence to adequately demonstrate that a greater area is required for the proper construction, operation, and maintenance of the pipeline or for the location of pumps, pressure apparatus, or other stations or equipment necessary to the proper operation of its pipeline.
A pipeline company having secured a permit for underground storage of gas shall be vested with the right of eminent domain to the extent necessary and as prescribed and approved by the board in order to appropriate for its use for the underground storage of gas any subsurface stratum or formation in any land which the board shall have found to be suitable and in the public interest for the underground storage of gas, and may appropriate other interests in property, as may be required to adequately examine, prepare, maintain, and operate the underground gas storage facilities. This chapter does not authorize the construction of a pipeline longitudinally on, over or under any railroad right-of-way or public highway, or at other than an approximate right angle to a railroad track or public highway without the consent of the railroad company, the state department of transportation, or the county board of supervisors, and this chapter does not authorize or give the right of condemnation or eminent domain for such purposes.

479.25 Damages.
A pipeline company operating a pipeline or a gas storage area shall have reasonable access to the pipeline or gas storage area for the purpose of constructing, operating, maintaining, or locating pipes, pumps, pressure apparatus or other stations, wells, devices, or equipment used in or upon the pipeline or gas storage area; shall pay the owner of the land for the right of entry and the owner of crops for all damages caused by entering, using, or occupying the land; and shall pay to the owner all damages caused by the completion of construction of the pipeline due to wash or erosion of the soil at or along the location of the pipeline and due to the settling of the soil along and above the pipeline. However, this section shall not prevent the execution of an agreement between

the pipeline company and the owner of land or crops with reference to the use of the land.

479.26 Financial condition of permittee - bond.
Before any permit is granted under this chapter the applicant must satisfy the board that the applicant has property within this state other than pipelines, subject to execution of a value in excess of two hundred fifty thousand dollars, or the applicant must file and maintain with the board a surety bond in the penal sum of two hundred fifty thousand dollars with surety approved by the board, conditioned that the applicant will pay any and all damages legally recovered against it growing out of the construction or operation of its pipeline and gas storage facilities in the state of Iowa. When the pipeline company deposits with the board security satisfactory to the board as a guaranty for the payment of the damages, or furnishes to the board satisfactory proofs of its solvency and financial ability to pay the damages, the pipeline company is relieved of the provisions requiring bond.

479.27 Venue.
In all cases arising under this chapter, the district court of any county in which property of a pipeline company is located shall have jurisdiction.

479.28 Orders - enforcement.
If said pipeline company fails to obey an order within a time prescribed by the said board the said board may commence an equitable action in the district court of the county where said defective, unsafe, or dangerous portion of said pipeline, device, apparatus or equipment is located to compel compliance with its said order. If, after due trial of said action the court finds that said order is reasonable, equitable and just, it shall decree a mandatory injunction compelling obedience to and compliance with said order and may grant such other relief as may be just and proper. Appeal from said decree may be taken in the same manner as in other actions.

479.29 Land restoration.
1. The board shall, pursuant to chapter 17A, adopt rules establishing standards for the restoration of agricultural lands during and after pipeline construction. In addition to the requirements of section 17A.4, the board shall distribute copies of the notice of intended action and opportunity for oral presentations to each county board of supervisors. Any county board of supervisors may, under the provisions of chapter 17A, and subsequent to the rulemaking proceedings, petition under those provisions for additional rulemaking to establish standards for land restoration after pipeline construction within that county. Upon the request of the petitioning county, the board shall schedule a hearing to consider the merits of the petition. Rules adopted under this section shall not apply to land located within city boundaries unless the land is used for agricultural purposes. Rules adopted under this section shall address, but are not limited to, all of the following subject matters:
a. Topsoil separation and replacement.
b. Temporary and permanent repair to drain tile.
c. Removal of rocks and debris from the right-of-way.
d. Restoration of areas of soil compaction.

e. Restoration of terraces, waterways, and other erosion control structures.
f. Revegetation of untilled land.
g. Future installation of drain tile or soil conservation structures.
h. Restoration of land slope and contour.
i. Restoration of areas used for field entrances and temporary roads.
j. Construction in wet conditions.
k. Designation of a pipeline company point of contact for landowner inquiries or claims.

2. The county board of supervisors shall cause an on-site inspection for compliance with the standards adopted under this section to be performed at any pipeline construction project in the county. A professional engineer familiar with the standards adopted under this section and licensed under chapter 542B shall be responsible for the inspection. A county board of supervisors may contract for the services of a licensed professional engineer for the purposes of the inspection. The reasonable costs of the inspection shall be borne by the pipeline company.

3. If the inspector determines that there has been a violation of the standards adopted under this section, of the land restoration plan, or of an independent agreement on land restoration or line location executed in accordance with subsection 10, the inspector shall give oral notice, followed by written notice, to the pipeline company and the contractor operating for the pipeline company and order corrective action to be taken in compliance with the standards. The costs of the corrective action shall be borne by the contractor operating for the pipeline company.

4. An inspector shall adequately inspect underground improvements altered during construction of pipeline. An inspection shall be conducted at the time of the replacement or repair of the underground improvements. An inspector shall be present on the site at all times at each phase and separate activity of the opening of the trench, the restoration of underground improvements, and backfilling. The pipeline company and its contractor shall keep an inspector continually informed of the work schedule and any schedule changes. If proper notice is given, construction shall not be delayed due to an inspector's failure to be present on the site.

5. If the pipeline company or its contractor does not comply with the requirements of this section, with the land restoration plan, or with an independent agreement on land restoration or line location executed in accordance with subsection 10, the county board of supervisors may petition the board for an order requiring corrective action to be taken. In addition, the county board of supervisors may file a complaint with the board seeking imposition of civil penalties pursuant to section 479.31.

6. The pipeline company shall allow landowners and the inspector to view the proposed center line of the pipeline prior to commencing trenching operations to insure that construction takes place in its proper location.

7. An inspector may temporarily halt the construction if the construction is not in compliance with this chapter and the standards adopted pursuant to this chapter, the land restoration plan, or the terms of an independent agreement with the pipeline company regarding land restoration or line location executed in accordance with subsection 10, until the inspector consults with the supervisory personnel of the pipeline company.

8. The board shall instruct inspectors appointed by the board of supervisors regarding the content of the statutes and rules and the inspectors' responsibility to require construction conforming with the standards provided by this chapter.

9. Petitioners for a permit for pipeline construction shall file with the petition a written land restoration plan showing how the requirements of this section, and of rules adopted pursuant to this section, will be met. The petitioners shall provide copies of the plan to all landowners of property that will be disturbed by the construction.
10. This section does not preclude the application of provisions for protecting or restoring property that are different than those prescribed in this section, in rules adopted pursuant to this section, or in the land restoration plan, if the alternative provisions are contained in agreements independently executed by the pipeline company and landowner, and if the alternative provisions are not inconsistent with state law or with rules adopted by the board. Independent agreements on land restoration or line location between the landowner and pipeline company shall be in writing and a copy provided to the county inspector.
11. For purposes of this section, *"construction"* includes the removal of a previously constructed pipeline.
12. The requirements of this section shall apply only to pipeline construction projects commenced on or after June 1, 1999.

479.30 Entry for land surveys.
After the informational meeting or after the filing of a petition if no informational meeting is required, a pipeline company may enter upon private land for the purpose of surveying and examining the land to determine the direction or depth of a pipeline by giving ten days' written notice by restricted certified mail to the landowner as defined in section 479.5 and to any person residing on or in possession of the land. The entry for land surveys authorized in this section shall not be deemed a trespass and may be aided by injunction. The pipeline company shall pay the actual damages caused by the entry, survey, and examination.

479.31 Civil penalty.
A person who violates this chapter or any rule or order issued pursuant to this chapter shall be subject to a civil penalty levied by the board not to exceed ten thousand dollars for each violation. Each day that the violation continues shall constitute a separate offense. However, the maximum civil penalty shall not exceed five hundred thousand dollars for any related series of violations. Civil penalties collected pursuant to this section shall be credited to and are appropriated for the Iowa energy center created in section 266.39C.
Any civil penalty may be compromised by the board. In determining the amount of the penalty, or the amount agreed upon in compromise, the appropriateness of the penalty to the size of the business of the person charged, the gravity of the violation, and the good faith of the person charged in attempting to achieve compliance, after notification of a violation, shall be considered. The amount of the penalty, when finally determined, or the amount agreed upon in compromise, may be deducted from any sums owed by the state to the person charged, or may be recovered in a civil action.

479.32 Rehearing - judicial review.
Rehearing procedure for any person, company or corporation aggrieved by the action of the board in granting or failing to grant a permit under the provisions of this chapter shall

be as provided in section 476.12. Judicial review may be sought in accordance with the terms of the Iowa administrative procedure Act, chapter 17A.

479.33 Authorized federal aid.
The board may enter into agreements with and receive moneys from the United States department of transportation for the inspection of pipelines to determine compliance with applicable standards of pipeline safety, and for enforcement of the applicable standards of pipeline safety as provided by Pub. L. No. 103-272, as codified in 49 U.S.C. § 60101 - 60125.

479.34 Cancellation.
A person seeking to acquire an easement or other property interest for the construction, maintenance or operation of a pipeline shall:
1. Allow the landowner or a person serving in a fiduciary capacity in the landowner's behalf to cancel an agreement granting an easement or other interest by certified mail with return requested to the company's principal place of business if received by the company within seven days, excluding Saturday and Sunday, of the date of the contract and inform the landowner or such fiduciary in writing of the right to cancel prior to the signing of the agreement by the landowner or such fiduciary.
2. Provide the landowner or a person serving in a fiduciary capacity in the landowner's behalf with a form in duplicate for the notice of cancellation.
3. Not record any agreement until after the period for cancellation has expired.
4. Not include in the agreement any waiver of the right to cancel in accordance with this section. The landowner or a person serving in a fiduciary capacity in the landowner's behalf may exercise the right of cancellation only once for each pipeline project.

479.41 Arbitration agreements.
If an easement or other written agreement between a landowner and a pipeline company provides for the determination through arbitration of the amount of monetary damages sustained by a landowner and caused by the construction, maintenance, or repair of a pipeline, and if either party has not appointed its arbitrator or agreed to an arbitrator under the agreement within thirty days after the other party has invoked the arbitration provisions of the agreement by written notice to the other party by restricted certified mail, the landowner or the pipeline company may petition a judicial magistrate in the county where the real property is located for the appointment of an arbitrator to serve in the stead of the arbitrator who would have been appointed or agreed to by the other party. Before filing the petition the landowner or pipeline company shall give notice of the petitioning of the judicial magistrate by restricted certified mail to the other party and file proof of mailing with the petition. If after hearing, the magistrate finds that the landowner or pipeline company has not been diligent in appointing or reasonable in agreeing to an arbitrator, the magistrate shall appoint an impartial arbitrator who shall have all of the powers and duties of an arbitrator appointed or agreed to by the other party under the agreement.
For purposes of this section only, *"landowner"* means the persons who signed the easement or other written agreement, their heirs, successors, and assigns.

479.42 Subsequent pipelines.
A pipeline company shall not install a subsequent pipeline upon its existing easement when a damage claim from the installation of its previous pipeline on that easement has not been resolved, unless the damage claim is under litigation, arbitration, or a proceeding pursuant to section 479.46.
With the exception of claims for damage to drain tile and future crop deficiency, for this section to apply, landowners and tenants must submit in writing their claims for damages caused by installation of the pipeline within one year of final cleanup on the real property.

479.43 Damage agreement.
A pipeline company shall not install a pipeline until there is a written statement on file with the board as to how damages resulting from the construction of the pipeline shall be determined and paid, except in cases of eminent domain. The company shall provide a copy of the statement to the landowner.

479.44 Negotiated fee.
In lieu of a one-time lump sum payment for an easement or other property interest allowing a pipeline to cross the property, a landowner and the pipeline company may negotiate an annual fee, to be paid over a fixed number of years. Unless the easement provides otherwise, the annual fee shall run with the land and shall be payable to the owner of record.

479.45 Particular damage claims.
1. Compensable losses shall include, but are not limited to, all of the following:
a. Loss or reduced yield of crops or forage on the pipeline right-of-way, whether caused directly by construction or from disturbance of usual farm operations.
b. Loss or reduced yield of crops or yield from land near the pipeline right-of-way resulting from lack of timely access to the land or other disturbance of usual farm operations, including interference with irrigation.
c. Fertilizer, lime, or organic material applied by the landowner to restore land disturbed by construction to full productivity.
d. Loss of or damage to trees of commercial or other value that occurs at the time of construction, restoration, or at the time of any subsequent work by the pipeline company.
e. The cost of or losses in moving or relocating livestock, and the loss of gain by or the death or injury of livestock caused by the interruption or relocation of normal feeding.
f. Erosion on lands attributable to pipeline construction.
g. Damage to farm equipment caused by striking a pipeline, debris, or other material reasonably associated with pipeline construction while engaged in normal farming operations as defined in section 480.1.
2. A claim for damage for future crop deficiency within the easement strip shall not be precluded from renegotiation under section 6B.52 on the grounds that it was apparent at the time of settlement unless the settlement expressly releases the pipeline company from claims for damage to the productivity of the soil. The landowner shall notify the company in writing fourteen days prior to harvest in each year to assess crop deficiency.

479.46 Determination of installation damages.

1. The county board of supervisors shall determine when installation of a pipeline has been completed in that county for the purposes of this section. Not less than ninety days after the completion of installation, and if an agreement cannot be made as to damages, a landowner whose land was affected by the installation of the pipeline or a pipeline company may file with the board of supervisors a petition asking that a compensation commission determine the damages arising from the installation of the pipeline.
2. If the board of supervisors by resolution approves the petition, the landowner or pipeline company shall commence the proceeding by filing an application with the chief judge of the judicial district of the county for the appointment of a compensation commission as provided in section 6B.4.
The application shall contain the following:
a. The name and address of the applicant and a description of the land on which the damage is claimed to have occurred.
b. A description of the nature of the damage claimed to have occurred and the amount of the damage claimed.
c. The name and address of the pipeline company claimed to have caused the damage or the name and address of the affected landowner.
3. After the commissioners have been appointed, the applicant shall serve notice on the pipeline company or the landowner stating the following:
a. That a compensation commission has been appointed to determine the damages caused by the installation of the pipeline.
b. The name and address of the applicant and a description of the land on which the damage is claimed to have occurred.
c. The date, time, and place when the commissioners will view the premises and proceed to appraise the damages and that the pipeline company or the landowner may appear before the commissioners.
If more than one landowner petitions the county board of supervisors, the application to the chief judge, notice to the pipeline company, and appraisement of damages shall be consolidated into one application, notice, and appraisement. The county attorney may assist in coordinating the consolidated application and notice, but does not become an attorney for the landowners by doing so.
4. The commissioners shall view the land at the time provided in the notice and assess the damages sustained by the landowner by reason of the installation of the pipeline and they shall file their report with the sheriff. The appraisement of damages returned by the commissioners is final unless appealed. After the appraisement of damages has been delivered to the sheriff by the compensation commission, the sheriff shall give written notice by ordinary mail to the pipeline company and the landowner of the date the appraisement of damages was made, the amount of the appraisement, and that any interested party may appeal to the district court within thirty days of the date of mailing. The sheriff shall endorse the date of mailing of notice on the original appraisement of damages. At the time of appeal, the appealing party shall give written notice to the adverse party or the party's attorney and the sheriff.
5. Chapter 6B applies to this section to the extent it is applicable and consistent with this section.
6. The pipeline company shall pay all costs of the assessment made by the commissioners and reasonable attorney fees and costs incurred by the landowner as

determined by the commissioners if the award of the commissioners exceeds one hundred ten percent of the final offer of the pipeline company prior to the determination of damages; if the award does not exceed one hundred ten percent, the landowners shall pay the fees and costs incurred by the pipeline company. The pipeline company shall file with the sheriff an affidavit setting forth the most recent offer made to the landowner. Commissioners shall receive a per diem of fifty dollars and actual and necessary expenses incurred in the performance of their official duties. The pipeline company shall also pay all costs occasioned by the appeal, including reasonable attorney fees to be taxed by the court, unless on the trial of the appeal the same or a lesser amount of damages is awarded than was allowed by the commission from which the appeal was taken.
7. As used in this section, *"damages"* means compensation for damages to the land, crops, and other personal property caused by the construction activity of installing a pipeline and its attendant structures but does not include compensation for a property interest, and *"landowner"* includes a farm tenant.
8. The provisions of this section do not apply if the easement provides for any other means of negotiation or arbitration.

479.47 Subsequent tiling.
All additional costs of new tile construction caused by an existing pipeline shall be paid by the pipeline company. To receive compensation under this section, the landowner or agent of the landowner shall either present an invoice specifying the additional costs caused by the presence of the pipeline which is accompanied by a written verification of the additional costs by the county engineer or soil and water conservation district conservationist or reach an agreement with the pipeline company on the project design and share of the cost to be paid by the pipeline company during the planning of the tiling project.

479.48 Reversion on nonuse.
1. If a pipeline right-of-way, or any part of a pipeline right-of-way, is wholly abandoned for pipeline purposes by the relocation of the pipeline, is not used or operated for a period of five consecutive years, or if the construction of the pipeline has been commenced and work has ceased and has not in good faith resumed for five years, the right-of-way may revert as provided in this section to the person who, at the time of the abandonment or nonuse, is the owner of the tract from which such right-of-way was taken. For purposes of this section, a pipeline or a pipeline right-of-way is not considered abandoned or unused if it is transporting product or is being actively maintained with reasonable anticipation of a future use.
2. To effect a reversion on nonuse of right-of-way, the owner or holder of purported fee title to such real estate shall serve notice upon the owner of such right-of-way easement and, if filed of record, successors in interest and upon any party in possession of the real estate. The written notice shall accurately describe the real estate and easement in question, set out the facts concerning ownership of the fee, ownership of the right-of-way easement, and the period of abandonment or nonuse, and notify the parties that such reversion shall be complete and final, and that the easement or other right shall be forfeited, unless the parties shall, within one hundred twenty days after the completed service of notice, file an affidavit with the county recorder of the county in which the real

estate is located disputing the facts contained in the notice.
3. The notice shall be served in the same manner as an original notice under the Iowa rules of civil procedure, except that when notice is served by publication an affidavit shall not be required before publication. If an affidavit disputing the facts contained in the notice is not filed within one hundred twenty days, the party serving the notice may file for record in the office of the county recorder a copy of the notice with proofs of service attached and endorsed, and when so recorded, the record shall be constructive notice to all persons of the abandonment, reversion, and forfeiture of such right-of-way.
4. Upon reversion of the easement, the landowner may require the pipeline company to remove any pipe or pipeline facility remaining on the property. Provisions of this chapter relating to damages shall apply when the pipeline is removed.
5. Unless otherwise agreed to in writing by the landowner and the pipeline company, if a pipeline right-of-way is abandoned for pipeline use, but the pipe is not removed from the right-of-way, the pipeline company shall remain subject to section 479.49, shall remain responsible for the additional costs of subsequent tiling as provided for in section 479.47, shall mark the location of the line in response to a notice of proposed excavation in accordance with chapter 480, and shall remain subject to the damage provisions of this chapter in the event access to or excavation relating to the pipe is required. The landowner shall provide reasonable access to the pipeline in order to carry out the responsibilities of this subsection.

479.49 Farmland improvements.
A landowner or contractor may require a representative of the pipeline company to be present on site, at no charge to the landowner, at all times during each phase and separate activity related to a farmland improvement within fifty feet of either side of a pipeline. If the pipeline company and the landowner or contractor constructing the farmland improvement mutually agree that a representative of the pipeline company is not required to be present, the requirements of this section are waived in relation to the farmland improvement which would have otherwise made the requirements of this section applicable. A farmland improvement includes, but is not limited to, the terracing of farmland and tiling.