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North Dakota Industrial Commission

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ADMINISTRATIVE RULES COMMITTEE HEARING

TESTIMONY OF BRUCE E. HICKS - March 9, 2010

Chairman Klein and Committee Members:

Following please find my written testimony concerning the adoption of administrative rules by the Oil and Gas Division of the North Dakota Industrial Commission. The items listed are pursuant to Mr. John Walstad's (Code Revisor for the Legislative Council) request.

1. **Statutory changes:** The Legislative Assembly passed House Bill No. 2095 which established rules for the geologic storage of carbon dioxide. This bill was at the request of the Industrial Commission therefore there are no sponsors of the bill to be notified of our proposed rule.
2. **Federal changes:** The rule changes are not related to any federal statute or regulation.
3. **Procedure:** The rulemaking procedure consisted of the following:
 - Sep 10, 2009---Received approval from Industrial Commission to adopt rules
 - Sep 16, 2009---Filed rules with Legislative Council
 - Sep 18, 2009---Reg analysis written for rules impacting industry > \$50,000
 - Sep 18-24, 2009---Public notices were published in each county
 - Note: The proposed rules do not affect any sponsored bill from past legislation
 - Sep 18, 2009---Wrote small entity regulatory analysis & small entity impact statement
 - Oct 15, 2009---Hearing held on rules
 - Nov 19, 2009---Wrote responses to all comments received
 - Nov 25, 2009---Received approval from Industrial Commission to adopt rules
 - Jan 4, 2010---Received Attorney General's opinion that rules are legal
 - Jan 8, 2010---Filed rules with Legislative Council
 - Feb 17, 2010---Notified all parties of Adm Rules Comm hearing & posted on web
 - Mar 9, 2010---Administrative Rules Committee hearing
 - Apr 1, 2010---Rules become effective
 - 203 days---Agency approval to effective date of rules
4. **Oral and written comments:** Comments were received from 2 parties at the hearing and written comments were received from 5 parties during the 10-day comment period. A summary of the comments is attached (see pages 3-4) along with the consideration of comments explaining our rationale and action for either modifying the proposed rules or leaving them as proposed (see pages 5-49).

The following rules received comments:

<u>NDAC Sec.</u>	<u>Description</u>	<u>Page</u>	<u>Change Made</u>
43-02-03-16	Permit to Drill	27	Leave as proposed
43-02-03-16.3	Recovery of a risk penalty	28	Leave as proposed
43-02-03-18	Drilling Units	31	Modified
43-02-03-19	Reserve Pit	33	Leave as proposed
43-02-03-19.3	Earthen Pits and Open Receptacles	35	Modified
43-02-03-21	Casing, Tubing, and Cementing	36	Leave as proposed
43-02-03-27	Perforating, Fracturing, and Treating	38	Leave as proposed
43-02-03-30	Notification of Fires, Leaks, Spills	38	Modified
43-02-03-31	Well Log, Completion, and Workover Reports	39	Leave as proposed
43-02-03-55	Temporary Abandonment of Wells	42	Leave as proposed
43-02-03-90.2	Official Notice	43	Leave as proposed
43-05-01	Create Chapter f/Storage of Carbon Dioxide	47	130 Modifications
43-05-01-05	Storage Facility Permit	49	Leave as proposed
43-05-01-06	Storage Facility Permit Transfer	53	Leave as proposed
43-05-01-12	Amending Carbon Dioxide Storage Wells	60	Leave as proposed
43-02-12-04	Seismic Permit Expiration	44	Leave as proposed

5. **Cost:** The approximate cost of giving public notice and holding a hearing on the rules was \$1,258.40. This does not include staff time for developing and adopting the rules.
6. **Justification of changes:** The full notice explains the subject matter of the rules and the reasons for adopting the rules (see attached pages 50-52).
7. **Regulatory analysis:** A regulatory analysis was not requested by the Governor or an agency. An analysis was done on the following rule that was expected to have an impact on the regulated community in excess of \$50,000 (see attached pages 53-54):

<u>NDAC Sec.</u>	<u>Description</u>
43-05-01	Storage of Carbon Dioxide

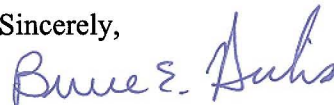
8. **Small entity regulatory analysis and impact statement:** A small entity regulatory analysis was done on each proposed rule and an impact statement was done on the following rule that will have an adverse impact on small entities (see attached pages 55-60):

<u>NDAC Sec.</u>	<u>Description</u>
43-05-01	Storage of Carbon Dioxide

9. **Constitutional takings assessment:** A constitutional takings assessment was not required.
10. **Emergency rules:** None of the rules changes were emergency rules.

Thank you for consideration of the Oil and Gas Division's rule changes.

Sincerely,



Bruce E. Hicks
Assistant Director

SUMMARY OF COMMENTS ON PROPOSED 2010 RULES - NDIC - DEPT OF MINERAL RESOURCES - OIL AND GAS DIVISION

NDAC	PROPOSED AMENDMENT	COMMENT RECEIVED	ACTION TAKEN	RATIONALE
43-02-03 GENERAL RULES				
43-02-03-16 Permit To Drill	Include pad layout including cut and fill diagrams	WWC Opposes—they believe the cut and fill diagrams are burdensome, will require the purchase of special software, and is unnecessary for most wells	The proposed amendments will be adopted without any further modifications.	The purpose of the proposed amendment is to eliminate ambiguity in the rule. The Commission currently has the jurisdiction to require such information and the information on cut and fill is extremely valuable. In cases where the pad has very little relief
43-02-03-16.3 Recovery of a Risk Penalty	Remove allowance for invitation to be < 30 days in "unusual circumstances"	MIO does not oppose any proposed changes, although suggests additional amendments to require a payout statement showing money to be recovered and also an amendment to clarify the risk penalty percentage allowed against unleased mineral interest owners and	The proposed amendments will be adopted without any further modifications.	Ms. Fuller failed to provide evidence into the record for the Commission to conclude a problem exists with the current language in the rule. The Commission believes the operator of each well is providing a list of the actual costs to the working interest
	Removes allowance for invitation to be sent/accepted via fax followed by mail			
	Clarify that invitation must be rec'd by inviter within 30 days			
43-02-03-18 Drilling Units	Removes allowance to issue 320H permits administratively; will require hearing	F&B Opposes—they believe proposed amendment should apply to only horizontal wells projected to a depth deeper than the Mission Canyon Formation	The proposed amendment will be modified to affect only horizontal wells projected to a depth deeper than the Mission Canyon Formation.	The Commission's main concern in amending this rule was to eliminate issuing an administrative 320 acre drilling unit in the Bakken Pool, since it appears several operators in the Bakken play find them economically unattractive which may result in tracts
43-02-03-19 Reserve Pit	Clarify rule: Director may require site sloped to divert surface drainage	WWC Opposes—they believe the amendment conflicts with Federal law and the site should actually be sloped to encourage drainage into the reserve pit	The proposed amendments will be adopted without any further modifications.	The Commission has experienced that communication between the surface owner and the company reclaiming a site can be very valuable. Requiring an operator to provide the owner of the surface a copy of the proposed reclamation work will alert the surface owner
	Operator must provide reclaim plan (w/topsoil) to surface owner 10 days prior to reclaiming	WWC Opposes—they believe the amendment will add time and cost to the operator—note it appears WWC is confused that the operator will have to provide a copy of the reclamation plan to the surface owner 20 days prior to performing work, not 10 days as is		
	Comm must send approved reclaim plan to surface owner	WWC Opposes—they believe the surface owner should request the reclamation plan if desired and it adds time and cost to the operator—note it appears WWC is confused that the operator would be responsible to send the plan to the surface owner, rather than		
43-02-03-19.3 Earthen Pits and Open Receptacles	Pit must be sufficiently impermeable to temporarily contain fluids	CRI does not oppose the amendments but believes a diked area at the surface level, not penetrating below the surface, should not be considered a pit and to eliminate ambiguity should be defined as such,	The proposed amendment will be modified to address both earthen pits and open receptacles.	The rule addresses earthen pits and open receptacles, both of which are used in well servicing, plugging operations, and flaring casinghead gas. It is necessary to ensure that such pits and receptacles are sufficiently impermeable to provide adequate containment
	Saltwater, drill mud, oil & wastes must be removed within 24hrs of discovery date	WWC opposes the amendment and believes the change adds undue cost and time. They believe allowing seven days for the removal of saltwater, drilling mud, crude oil, waste oil, or other waste from flare pits should be allowed.		
43-02-03-21 Casing, TBG, Cement	Requires the compressive strength of the filler cement to reach at least two hundred fifty pounds per square inch within forty-eight hours and at least five hundred pounds per square inch within ninety-six hours	WWC opposes the amendment and believes the requirements are too lenient. They believe cement should be required to reach a compressive strength of at least two hundred fifty pounds per square inch within twelve hours and at least five hundred pounds per	The proposed amendment will be adopted without any further modifications.	Some operators have performed single-stage cement jobs from the terminus of a long horizontal lateral. It is difficult and risky to perform such cementing jobs under the current regulations. Allowing relaxed compressive strength requirements will allow
43-02-03-27 Perf, Frac, Treat	Allows the Director to require the pre-treatment of casing and for the operator to notify the Director immediately upon causing damage to the casing or casing seat.	WWC opposes the amendment and believes the language is too vague and should refer to fracturing, not perforating and chemical treatments.	The proposed amendments will be adopted without any further modifications.	The amendments allow the Director to require the pre-treatment of casing when in his opinion deemed necessary. Perforating and chemical treatments performed vary widely throughout the state and in some instances may be performed while exerting significant

NDAC	PROPOSED AMENDMENT	COMMENT RECEIVED	ACTION TAKEN	RATIONALE
43-02-03-30 Notification of Fires, Leaks, Spills or Blowouts	Requires the operator to notify the surface owner of any incident that occurs or travels onto their land and requires the operator to provide a copy of any written report to the surface owner.	CRI opposes the amendment. They believe it would increase administrative workloads and would be burdensome since it would require constant tracking and updating surface ownership. WWC opposes the amendment. They believe requiring the surface owner to be	The proposed amendment will be modified to require the operator to notify the surface owner of the spill and send a copy of the written report within a reasonable time.	The Commission believes the surface owner should be notified of spills reportable to the Commission and companies would not have to maintain surface ownership records, but rather could search the County Recorder's Office for such documentation.
43-02-03-31 Well Log, Completion and Workover Reports	Clarify rule: Geologic reports must be submitted if compiled.	WWC opposes the proposed amendment. They believe that due to the size of the reports and the associated costs associated with filing the report, only a one-page summary of the geologic report should be required to be submitted.	The proposed amendments will be adopted without any further modifications.	The Commission notes numerous company acquisitions have occurred in the recent past. Companies use the information contained within the geologic report to assist in evaluating such potential acquisitions.
43-02-03-55 Abandonment of Wells	Eliminates the need for the \$100 temporarily abandon renewal fee to actually accompany the request.	WWC did not oppose any of the proposed changes, although suggests the language in reference to fees be deleted.	The proposed amendments will be adopted without any further modifications.	The proposed amendment will provide an economic benefit to the regulated community. Further amendments to this rule should not be considered at this time.
43-02-03-90.2 Official Notice	Includes the certified directional surveys into the evidence of each case heard by the Commission, unless excluded by the hearing officer.	WWC did not oppose the proposed change, although believes the language is poorly worded. They believe it will cause confusion since operators may interpret the change as requiring certified directional surveys on all wells.	The proposed amendments will be adopted without any further modifications.	The proposed amendment will provide the Commission valuable horizontal well information into the hearing record when determining if correlative rights are being protected in case involving directional or horizontal wells. The proposed amendment does not
43-02-12 GEOPHYSICAL EXPLORATION REQUIREMENTS				
43-02-12-04 Exploration Permit - Application	Provides the exploration permit expires one year after issued if not commenced	WWC opposes the proposed amendment and feels the requirement is too onerous and wasteful. They believe the geophysical exploration permit should not expire until two years after being issued.	The proposed amendments will be adopted without any further modifications.	Typically permits for oil and gas operations are valid for a period of one year and it is appropriate to be consistent between geophysical exploration permits and the oil and gas regulations, which are related fields. The Commission notes there are provi
43-05-01 CREATE NEW ARTICLE & CHAPTER				
43-05-01 GEOLOGIC STORAGE OF CARBON DIOXIDE	Create new article & chapter	Workgroup supports the proposed rules but offered 134 general observations, specific recommendations, and suggested wording changes.	The proposed rules will be modified in response to 130 of the comments.	The proposed rules will be modified in response to 130 of the comments.
43-05-01-06 Storage Facility Permit Transfer	Requires the storage operator and proposed transferee to include a description of the land upon which the storage facility is situated.	Workgroup suggests eliminating the description of the land since the Commission will already have information about the project since it currently exists.	The proposed amendments will be adopted without any further modifications.	The term land is meant to be broad to describe all land uses. All commission notices currently require explicitly identified well or facility location for ease of publication. The criteria to be used by the commission are intentionally broad and should n
	Requires Commission approval to transfer a permit.	Workgroup suggests describing the criteria the Commission will consider in making the decision to approve the transfer.	The proposed amendments will be adopted without any further modifications.	
43-05-01-05 Storage Facility Permit	Outlines information necessary to complete an application for a permit.	Workgroup suggests removing the bonding and processing fee language from the proposed rule and creating a separate section in the rules.	The proposed amendments will be adopted without any further modifications.	The bond requirement and mechanism for paying the application fee is part of the permit application process and should remain here to make it easier for the reader.
43-05-01-12 Amendment to Carbon Dioxide Storage Facility Well Permits	Requires an amendment to change injection formation or maximum allowable injection rate.	Workgroup believes a change in injection formation should require a project permit amendment, not just a well permit amendment.	The proposed amendments will be adopted without any further modifications.	A reservoir can contain multiple formations. The original proposed language would result in a review of the storage facility permit and require amendment if necessary.

CONSIDERATION OF ORAL AND WRITTEN COMMENTS

The following is a written record of the Industrial Commission's consideration of all oral and written comments received regarding its proposed 2010 additions to and revisions of the North Dakota Administrative Code (NDAC) Chapters 43-02-03, 43-02-04.1 and 43-02-12. The purpose of this record is to comply with North Dakota Century Code (NDCC) § 28-32-11.

I.

INTRODUCTION

On October 15, 2009, a public hearing was held pursuant to NDCC § 28-32-11. Notice of the hearing was published between September 18, 2009 and September 24, 2009, both inclusive, in the Ashley Tribune, Golden Valley News, Billings County Pioneer, The Bismarck Tribune, Bottineau Courant, Burke County Tribune, Bowman County Pioneer, Towner County Record-Herald, Foster County Independent, Cavalier Chronicle, Griggs County Courier, The Journal, Devils Lake Journal, Dickinson Press, Carson Press, Grant County News, Dickey County Leader, Fargo Forum, Steele County Press, McLean County Independent, Walsh County Record, Grand Forks Herald, Herald-Press, Hazen Star, Adams County Record, Jamestown Sun, Dunn County Herald, LaMoure Chronicle, Lakota American, Cavalier County Republican, Emmons County Record, Ransom County Gazette, Mandan News, Traill County Tribune, McClusky Gazette, The Teller, Benson County Farmers Press, Minot Daily News, Renville County Farmer, Napoleon Homestead, The Herald, New Rockford Transcript, Turtle Mountain Star, Pierce County Tribune, Mountrail County Promoter, Steele Ozone & Kidder County Press, Mouse River Journal, Valley City Times-Record, The Daily News, Center Republican, McKenzie County Farmer, and the Williston Daily Herald. The hearing was properly noticed pursuant to said rule.

Two persons gave oral testimony regarding the proposed rules at the hearing on October 15, 2009. Note Ron Ness also submitted oral comments in written form at the hearing. Oral comments were received from the following:

Ron Ness	– North Dakota Petroleum Council (NDPC)
Sandi Tabor	– North Dakota Lignite Energy Council (NDLEC)
Sandi Tabor	– North Dakota Carbon Dioxide Work Group (Workgroup)

In addition to the oral comments, written comments were received from the following:

Sandi Tabor	– Workgroup
Lawrence Bender	– Counsel for Continental Resources, Inc. (CRI)
Lawrence Bender	– Fredrikson & Byron, P.A. (F&B)
James Cron	– Ward-Williston Company (WWC)
Sue Fuller	– Mineral Interest Owner (MIO)

The comments received and the responses to those comments are as follows:

II.

COMMENTS

GENERAL RULES AND REGULATIONS CHAPTER 43-02-03

Note: The NDPC appeared in this matter and indicated their membership has no objection to the rule changes as proposed in Chapter 43-02-03.

NDAC § 43-02-03-16. APPLICATION FOR PERMIT TO DRILL AND RECOMPLETE.

The proposed amendment clarifies the proposed pad layout, including cut and fill diagrams, must be submitted with the application for a permit to drill a well.

Comments: WWC Opposes the proposed amendment and believes the cut and fill diagrams are burdensome, will require the purchase of special software, and is unnecessary for most wells.

Action Taken: The Commission's proposed amendments will be adopted without any further modifications.

Rationale: The purpose of the proposed amendment is to eliminate ambiguity in the rule. The Commission currently has the jurisdiction to require such information and the information on cut and fill is extremely valuable. In cases where the pad has very little relief, cut and fill diagrams could be hand-drawn with little to no additional cost to the applicant. In cases where construction of the pad will require large volumes of cut and fill, it is critical the Commission receives credible details and the use of special software may benefit the applicant.

NDAC § 43-02-03-16.3. RECOVERY OF A RISK PENALTY.

The proposed amendment eliminates the allowance of delivering the invitation less than thirty days in unusual circumstances. It also eliminates the allowance of delivery by facsimile transmission followed within one business day by mailing. It also clarifies an election to participate must be received by the owner giving the invitation within thirty days of the participating party's receipt of the invitation.

Comments: Sue Fuller, a MIO, did not oppose any of the proposed changes, although suggests additional amendments to require a payout statement showing the amount of money to be recovered before the risk penalty has been satisfied and also an amendment to clarify the risk penalty percentage allowed against unleased mineral interest owners versus lessees.

Action Taken: The Commission's proposed amendments will be adopted without any further modifications.

Rationale: Ms. Fuller failed to provide evidence into the record for the Commission to conclude a problem exists with the current language in the rule. The Commission believes the

operator of each well is providing a list of the actual costs to the working interest owners and there is no ambiguity in the current rule considering risk penalty percentages between unleased mineral interest owners versus lessees. Further amendments to this rule should not be considered at this time.

NDAC § 43-02-03-18. DRILLING UNITS – WELL LOCATIONS.

The proposed amendment eliminates the Commission's ability to issue a 320-acre drilling unit administratively.

Comments: F&B opposes this proposed amendment and believes it should only apply to horizontal wells projected to a depth deeper than the Mission Canyon Formation.

Action Taken: The Commission's proposed amendment will be modified to affect only horizontal wells projected to a depth deeper than the Mission Canyon Formation.

Rationale: The Commission's main concern in amending this rule was to eliminate issuing an administrative 320-acre drilling unit in the Bakken Pool, since it appears several operators in the Bakken play find them economically unattractive which may result in tracts remaining undrilled. The Commission believes the creation of such 320-acre drilling units, after notice and hearing, will assist the Commission in determining units that will allow the most efficient develop of the Bakken Pool.

NDAC § 43-02-03-19. RESERVE PIT FOR DRILLING MUD AND DRILL CUTTINGS – RECLAMATION OF SURFACE.

The proposed amendments allow the Director to require the drill site to be sloped and diked to divert surface drainage, requires the operator to provide the surface owner at least ten days notice prior to commencing reclamation work, and requires the Commission to mail a copy of the approved reclamation notice to the surface owner.

Comments: CRI opposes the amendment to provide a copy of the proposed reclamation plan to the surface owner. They believe it is burdensome and providing a copy of the "proposed" plan suggests the surface owner could veto the plan.

WWC opposes the drill site to be sloped and diked to divert surface drainage to prevent pollution. They believe it will result in undue costs and conflicts with federal law, although no federal law is cited. They also oppose providing a copy of the proposed reclamation plan to the surface owner since it will add cost and additional time to the project. They also oppose including the top soil redistribution in the proposed plan since it adds additional time and cost to a project.

Action Taken: The Commission's proposed amendments will be adopted without any further modifications.

Rationale: The Commission has experienced that communication between the surface owner and the company reclaiming a site can be very valuable. Requiring an operator to provide the owner of the surface a copy of the proposed reclamation work will alert the surface owner that reclamation work may commence in the near future. The Commission does not intend, nor believe

intent is insinuated, that a surface owner will have veto power over any proposed reclamation work submitted to the Commission. It is critical that regional surface drainage be diverted from the drill site and the Director should have the authority to require such, to prevent pollution of the land surface and freshwaters. Top soil redistribution is a very important aspect of reclamation and it should be addressed in the reclamation plan.

NDAC § 43-02-03-19.3. EARTHEN PITS AND OPEN RECEPTACLES.

The proposed amendment clarifies a flare pit must be sufficiently impermeable to provide adequate temporary containment of fluids and requires saltwater, drilling mud, crude oil, waste oil, or other waste to be removed from a flare pit within twenty-four hours after being discovered.

Comments: CRI does not oppose the amendments but believes a diked area at the surface level, not penetrating below the surface, should not be considered a pit and to eliminate ambiguity should be defined as such.

WWC opposes the amendment and believes the change adds undue cost and time. They believe allowing seven days for the removal of saltwater, drilling mud, crude oil, waste oil, or other waste from flare pits should be allowed.

Action Taken: The Commission's proposed amendment will be modified to clarify that pits and receptacles must be sufficiently impermeable to provide adequate temporary containment of fluids.

Rationale: The rule addresses earthen pits and open receptacles, both of which are used in well servicing, plugging operations, and flaring casinghead gas. It is necessary to ensure that such pits and receptacles are sufficiently impermeable to provide adequate temporary containment of fluids. The modification will treat both pits and receptacles as one in the same, therefore, there is no need to define "pit". Fluids introduced into the flare pit can cause safety and environmental concerns and should be removed as soon as possible after their discovery. The Commission does not believe requiring the removal of such fluids to be onerous to the operator.

NDAC § 43-02-03-21. CASING, TUBING, AND CEMENTING REQUIREMENTS.

The proposed amendment provides guidelines for evaluating cement utilized during cementing operations of horizontal wells where a single-stage cement job is performed on a long horizontal lateral. The proposed amendment requires the compressive strength of the filler cement to reach at least two hundred fifty pounds per square inch within forty-eight hours and at least five hundred pounds per square inch within ninety-six hours.

Comments: WWC opposes the amendment and believes the requirements are too lenient. They believe cement should be required to reach a compressive strength of at least two hundred fifty pounds per square inch within twelve hours and at least five hundred pounds per square inch within forty-eight hours.

Action Taken: The Commission's proposed amendments will be adopted without any further modifications.

Rationale: Some operators have performed single-stage cement jobs from the terminus of a long horizontal lateral. It is difficult and risky to perform such cementing jobs under the current regulations. Allowing relaxed compressive strength requirements will allow operators to retard the cement, yet still provide effective compressive strengths. WWC's suggested modification is more stringent than the current regulations and would eliminate the possibility of any operator performing a single-stage cement job on a long horizontal lateral.

NDAC § 43-02-03-27. PERFORATING, FRACTURING, AND CHEMICALLY TREATING WELLS.

The proposed amendments allow the Director to require the pre-treatment of casing and for the operator to notify the Director immediately upon causing damage to the casing or casing seat.

Comments: WWC opposes the amendment and believes the language is too vague and should refer to fracturing, not perforating and chemical treatments.

Action Taken: The Commission's proposed amendments will be adopted without any further modifications.

Rationale: The amendments allow the Director to require the pre-treatment of casing when in his opinion deemed necessary. Perforating and chemical treatments performed vary widely throughout the state and in some instances may be performed while exerting significant pressure on casing strings, therefore, it is necessary for the Director to have the authority to require the pre-treatment of casing prior to all treatment operations.

NDAC § 43-02-03-30. NOTIFICATION OF FIRES, LEAKS, SPILLS, OR BLOWOUTS.

The proposed amendment requires the operator to notify the surface owner of any incident that occurs or travels onto their land and requires the operator to provide a copy of any written report to the surface owner.

Comments: CRI opposes the amendment. They believe it would increase administrative workloads and would be burdensome since it would require constant tracking and updating surface ownership.

WWC opposes the amendment. They believe requiring the surface owner to be notified of such incidents could cause unneeded stress and litigation. They suggest the surface owner should be provided notice only upon the incident travelling offsite, the size of the spill should be taken into consideration, and the notice to surface owner timeframe is not addressed.

Action Taken: The Commission's proposed amendment will be modified to require the operator to notify the surface owner within a reasonable time after the incident is discovered and also provide a copy of the written report to the surface owner within a reasonable time.

Rationale: The Commission believes the surface owner should be notified of spills reportable to the Commission and companies would not have to maintain surface ownership records, but rather could search the County Recorder's Office for such documentation.

NDAC § 43-02-03-31. WELL LOG, COMPLETION, AND WORKOVER REPORTS.

The proposed amendment clarifies that geologic reports must be submitted to the Commission if compiled.

Comments: WWC opposes the proposed amendment. They believe that due to the size of the reports and the associated costs associated with filing the report, only a one-page summary of the geologic report should be required to be submitted.

Action Taken: The Commission's proposed amendments will be adopted without any further modifications.

Rationale: The Commission notes numerous company acquisitions have occurred in the recent past. Companies use the information contained within the geologic report to assist in evaluating such potential acquisitions.

NDAC § 43-02-03-55. ABANDONMENT OF WELLS – SUSPENSION OF DRILLING.

The proposed amendment eliminates the need for the \$100 temporarily abandon renewal fee to actually accompany the request.

Comments: WWC did not oppose any of the proposed changes, although suggests the language in reference to fees be deleted.

Action Taken: The Commission's proposed amendments will be adopted without any further modifications.

Rationale: The proposed amendment will provide an economic benefit to the regulated community. Further amendments to this rule should not be considered at this time.

NDAC § 43-02-03-90.2. OFFICIAL NOTICE.

The proposed amendment will include the certified directional surveys into the evidence of each case heard by the Commission, unless excluded by the hearing officer.

Comments: WWC did not oppose the proposed change, although believes the language is poorly worded. They believe it will cause confusion since operators may interpret the change as requiring certified directional surveys on all wells.

Action Taken: The Commission's proposed amendments will be adopted without any further modifications.

Rationale: The proposed amendment will provide the Commission valuable horizontal well information into the hearing record when determining if correlative rights are being protected in case involving directional or horizontal wells. The proposed amendment does not require directional surveys to be run, but rather simply allows those on file with the Commission to be included in the evidence of each case.

GEOLOGIC STORAGE OF CARBON DIOXIDE
CHAPTER 43-02-04.1
(create new chapter)

Note: The NDPC appeared in this matter and indicated their membership supports the comments of the Workgroup on the Geologic Storage of Carbon Dioxide.

Comments: The Workgroup supports the proposed rules but offered 134 general observations, specific recommendations, and suggested wording changes.

Action Taken: The Commission's proposed rules will be modified in response to 130 of the comments.

Action Taken: The Commission's proposed rules will not be modified in response to the following 4 comments:

Comment: 43-02-04.1-04 (1) b. "Description of the land" is too ambiguous. Would a description of "farmland" suffice? In addition the Commission will have information about the project and its location, so it seems unnecessary to include the location in the notice.

Action Taken: The original proposed language will be used.

Rationale: The term land is meant to be broad to describe all land uses. All commission notices currently require explicitly identified well or facility location for ease of publication.

Comment: 43-02-04.1-04 (3). It may be useful to describe the criteria the Commission will consider in making the decision to approve the transfer.

Action Taken: The original proposed language will be used.

Rationale: The criteria to be used by the commission are intentionally broad and should not be limited until experience in this area is acquired.

Comment: Section 43-02-04.1-04.1 is a very long section. It is comprised of subsections 1, 2, and 3. For purposes of making it easier to follow the Workgroup suggests considering two changes. First, consider whether subsection 1 is necessary. Second, subsection 3 should or at least could be in a stand alone section.

Action Taken: Section 3 will remain in this section. The bonding and processing fee will remain in this section.

Rationale: The bond requirement and mechanism for paying the application fee is part of the permit application process and should remain here to make it easier for the reader.

Comment: 43-02-04.1-06.3 (1). There may be an inconsistency in this subsection. Doesn't a change in injection formation trigger §43-02-04.1-4.2(1)(b) which states that any use of a reservoir not specified in the storage project permit requires an amendment to the permit. This subsection

suggests that a change in the injection formation requires only an amendment to the well permit. Does "formation" mean something other than "reservoir?"

Action Taken: The original proposed language will be used.

Rationale: A reservoir can contain multiple formations. The original proposed language would result in a review of the storage facility permit and require amendment if necessary.

Following are the detailed 130 general observations, specific recommendations, and suggested wording changes offered by the Workgroup.

A. The Legislative Council's drafting manual prohibits the use of abbreviations and acronyms in legislation and that rule should be followed in administrative rules as well. As such the Workgroup suggests using "carbon dioxide" rather than "CO₂" in the final rule.

Action Taken: The Commission's proposed rules will be modified to use "carbon dioxide" rather than "CO₂".

Rationale: The modified proposed rules will be consistent with Legislative Council's drafting manual.

B. In order to avoid confusion, perhaps a new chapter 43-05 should be created for the new rules. Article 43-02 deals with "Mineral Exploration and Development" and has little to do with carbon dioxide storage.

Action Taken: The Commission's proposed rules will be modified to create a new chapter 43-05.

Rationale: The modified proposed rules can be separated from rules for Mineral Exploration and Development while remaining consistent with and referring to them as necessary.

C. In light of the fact that the chapter deals with carbon dioxide storage, there is probably no need to use "CO₂" before defined terms, i.e. "CO₂ flow lines", "CO₂ storage project", etc. If "CO₂" is deleted before the defined terms, the terms will need to be re-alphabetized.

Action Taken: The use of "CO₂" before defined terms will be deleted.

Rationale: The modified proposed rules are being separated from rules for Mineral Exploration and Development and the entire chapter will deal with carbon dioxide so the repeated use of the term is not necessary.

D. Generally if a term is defined in the governing statute, it need not be defined in the regulation as well. Some agencies chose to repeat the definitions from the statute in the regulations to make it easier for the reader. If definitions are repeated, however, the definitions in the regulations must mirror the statutory definitions in order to avoid confusion. While this is a general comment, specific examples of consistency in definitions between the statute and proposed rule are cited below.

Action Taken: The modified proposed rules will be changed to eliminate duplicate definitions and mirror the statutory definitions.

Rationale: The modified proposed rules will be consistent with statute and existing department of mineral resources rules.

43-02-04.1-01. DEFINITIONS. ~~The Terms used in throughout~~ this chapter have the same meaning as in chapter 43-02-03 and North Dakota Century Code chapter 38-08, ~~except:~~ Further, in this chapter:

1. "CO₂" means carbon dioxide of sufficient purity and quality as to not compromise the safety and efficiency of the reservoir to effectively contain the CO₂. [This should be revised to make it the same as the statutory definition.]
2. ~~"CO₂ storage project c~~Closure period" means that period of time ~~(ten years unless otherwise designated by commission)~~ from the permanent cessation of carbon dioxide active CO₂ storage project injection operations until the commission issues a certificate of project completion ~~expiration of the CO₂ storage project performance bond, unless monitoring efforts following the operational period demonstrate to commission that a different time frame is appropriate.~~
3. "Commission" means industrial commission ~~the state agency designated by the state for purposes of these regulations. [The Commission is defined in the statute so it does not need to be included in the rules. However, if it remains in the rules, the definition should be moved to the correct alphabetical position.]~~
4. "CO₂ flow lines" means the pipeline transporting the CO₂ from the CO₂ facility injection facilities to the wellhead. [It is not clear how an "injection facility" is different from the "well?" Will there be instances when an "injection facility" will be some distance from the injection well requiring flow lines in between?]
5. "Formation fracture pressure" means the pressure, measured in pounds per square inch, which, if applied to a subsurface formation, will cause that formation to physically fracture. [Delete the word "physically" unless there are other types of fractures.]
6. "Freshwater" means an underground source of drinking water unless otherwise defined by the commission.
7. "Geologic Storage" means the permanent or short term underground storage of carbon dioxide in a reservoir. [This should be revised to make it the same as the statutory definition.]
8. "CO₂ injection well" means a well used to inject CO₂ into or withdraw CO₂ from a reservoir.
9. "Minerals" means coal, oil and natural gas.
10. ~~"CO₂ storage project o~~Operational period" means the period of time ~~in~~ during which injection occurs.

11. ~~"CO₂ storage project permit"~~ means the permit issued by the state or province to operate a CO₂ storage project. [This should be revised to make it the same as the statutory definition.]
12. ~~"CO₂ storage project post closure period"~~ means that period of time after the commission has issued a certificate of project completion ~~release of the CO₂ storage project performance bond.~~
13. "Reservoir" means ~~for the purposes of these rules~~ any subsurface sand, stratum, formation, or cavity or void (whether natural or artificially created) including oil and natural gas reservoirs, saline formations and coal seams, suitable for or capable of being made suitable for the injection and safe and efficient storage of CO₂ therein. [This should be revised to make it the same as the statutory definition.]
14. "CO₂ facility" means all surface and subsurface infrastructure including wellhead equipment, downhole well equipment, compression facilities and CO₂ flow lines from injection facilities to wells within the geological storage unit, monitoring instrumentation, injection equipment, and offices. CO₂ facility does not include the main transportation pipeline to the geological storage unit and pump stations along that pipeline. [This definition is almost the same as the statutory definition of "storage facility." For consistency this term should be changed to "storage facility" and revised to make it the same as the statutory definition.]
15. ~~"CO₂ storage project operator"~~ means any person, corporation, partnership, limited liability company, or other entity authorized by the commission to operate a storage facility and required by commission to hold the permit. [This should be revised to make it the same as the statutory definition.]
16. "Geological storage unit" means the reservoir used by an entity that holds the commission permit authorizing CO₂ injection activities. [The statute includes a definition for "storage reservoir" and it appears to be the same as the definition for "geological storage unit." For consistency perhaps "geological storage unit" should be deleted and the term "storage reservoir" should be used. The term is more descriptive and there are a number of places in the rules where "storage reservoir" is used. In addition "Geological storage unit" should be replaced throughout the rules with "storage reservoir."]
17. "Subsurface observation well" means a well used to observe ~~either completed or recompleted for the purpose of observing~~ subsurface phenomena, including the presence of CO₂, pressure fluctuations, fluid levels and flow, temperature, and in situ water chemistry.

18. "Underground source of drinking water" means an aquifer or any portion of an aquifer that ~~thereof which~~ supplies drinking water for human consumption, or in which the ground water contains fewer than ten thousand milligrams per liter total dissolved solids and ~~which~~ is not an exempted aquifer. [It is not clear under what authority an aquifer is exempted. The phrase needs to address by what or by whom an aquifer is exempted, i.e. "... is not an exempted aquifer pursuant to ...".]

Action Taken: The language will be modified to reference the commission's aquifer exemption authority and criteria.

Rationale: The modified proposed language is more readable and understandable.

5. "CO₂ storage project" means CO₂ storage project in entirety including CO₂ facility and geological storage unit. . [Generally, terms are not defined by including the term itself in the definition. In this case, the definition for CO₂ storage project seems almost the same as the definition for CO₂ facility. Rather than the term "CO₂ storage project" is there a different term that may prove to be more useful in the draft rules? Perhaps the a term like "project area" should be included and defined as "means the storage reservoir and all above, including the surface, and all below." The comments below incorporate the "project area" concept. If the Commission agrees with the concept, the definition needs to be added to this section.]

43-02-04.1-02. SCOPE OF CHAPTER. This chapter ~~The following rules and regulations shall governs the geologic storage of CO₂. These rules apply to all CO₂ storage operations occurring within the territorial jurisdiction of the state of North Dakota.~~

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

~~**43-02-04.1-03. SITE ACCESS.** The commission shall, at all times, have access to and may inspect all CO₂ storage operations and records for the purpose of determining that performance is being conducted in accordance with the CO₂ storage project permit, or the requirements pursuant to sections 43-02-04.1-03 through 43-02-04.1-09, or in accordance with the orders of commission approving CO₂ storage operations. [The Commission's access is addressed in §38-22-03(3). Unless there is some issue regarding the division's authority that needs to be clarified, i.e. to access a storage facility, there is no reason to include this section and it should be deleted.]~~

Action Taken: This section will be modified and renumbered to be consistent with the books and records sections in the department's underground injection control rules.

Rationale: The period of time that records must be kept and commission access to them regardless of where they are kept is not included in 38-22-03.

43-02-04.1-04.1. CO₂ STORAGE PROJECT PERMIT. [In light of the general theory that rules should avoid periods, i.e. "04.1" this section should be renumbered to "05" and the remaining sections renumbered accordingly. However, if the section on transferring permits is moved to a position farther back in the rules, this section should be renumbered to "04."]

Action Taken: This section will be renumbered.

Rationale: The modified proposed rules can be separated from rules for Mineral Exploration and Development while remaining consistent with and referring to them as necessary.

[This section is very long section. It is comprised of subsections 1, 2, and 3. For purposes of making it easier to follow the Workgroup suggests considering two changes. First, consider whether subsection 1 is necessary. Second, subsection 3 should or at least could be in a stand alone section.]

Action Taken: Section 3 will remain in this section.

Rationale: The mechanism for paying a fee is part of the permit application process and should remain here to make it easier for the reader.

Subsection 1 has two paragraphs. Paragraph "b" states that a project can not go forward without a permit, but this requirement is in statute so it does not need to be restated in the rule. Paragraph "a" begins by stating that the operator has to have in place all needed property rights to run the project. The question is why does the Commission need to regulate whether the operator has in place the surface rights to run flow lines, build buildings and roads, locate wells and storage tanks, etc? It seems obvious that if the operator does not control the surface rights the actual surface owner will make the fact known to the Commission during the permit hearing. As such, the first sentence of "a" is overbroad and should be deleted.

What the Commission should be concerned about is the authority to use pore space and to drill through oil and gas reservoirs and coal seams. On this matter the statute provides the direction and as such the rules do not need to be duplicative. In particular, §38-22-08(5) and (6) require the Commission when considering a permit application to find that the operator has made a good faith attempt to get all pore space owners consent and that at a minimum it will obtain consent from a minimum of 60% of those owners. Section 38-22-10 empowers the Commission to amalgamate, that is, to include all non-consenting pore space owners into the project. In sum, these statutory provisions seem sufficient to address the issue that seems to be addressed in the second sentence of paragraph "a." Further, the sentence seems poorly drafted. It says that the operator will be deemed to hold all needed property rights if it has "initiated amalgamation proceedings." The sentence suggests that the operator will acquire the property rights by merely initiating a proceeding which is simply not the case.

Finally, the third sentence of paragraph "a" states that an intent to employ amalgamation must be included in the public notice. This requirement is substantively correct, but should be located in the section that addresses public notice (§43-02-04.1-5).

Action Taken: Subsection 1 will be deleted.

Rationale: The necessary requirements are contained in statute.

~~1. No CO₂ storage project shall be constructed or operated without:~~

~~———— a. The CO₂ storage project operator holding the necessary and sufficient property rights for construction and operation of the CO₂ storage project. The CO₂ storage project operator is deemed to be holding such rights for any individual property to the extent that the applicant has initiated amalgamation proceedings related to that property and thereby gained the right of access to the property. The intention of the CO₂ storage project operator to employ amalgamation to acquire property rights shall be included in public notice as defined in section 43-02-04.1-05; and~~

~~———— b. Obtaining a permit from the commission.~~

12. An Application for a CO₂ storage project permit must shall be submitted to the commission as required and shall include the following:

a. A current site map showing the boundaries of the geological storage reservoir and unit, the location of all proposed wells and well number of all proposed CO₂ injection wells, including any subsurface observation wells and the location of all other wells including cathodic protection boreholes and the location of all pertinent surface facilities within the boundary of the CO₂ storage project; [It is unclear if this requires the map to show just proposed project wells or proposed project wells and existing wells. Since subsection 3 (b) below seems to require information on existing wells, it seems that this provision is directed at proposed wells and the Workgroup suggested edits to reflect that conclusion.]

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more clear and understandable.

b. A technical evaluation of the proposed CO₂ storage project including but not limited to the following:

(1) The name of the geological storage unit; [Is there a reason to request the name of the storage reservoir in (1) when (2) asks for the name of the reservoir to be used for storage? Or is (2) asking for something different? Is (1) asking for the name of the entire project? If so, the Workgroup believes it can be deleted for a couple of reasons. First, the applicant is going to name it something and the name will be prominently posted throughout the application and supporting documents. Second, subpart (b) is seeking a "technical evaluation of the project" and the project name is not a criteria for a technical evaluation. If there is a need to keep (1) consider revising it to state: "The name of the project area." or "The name of the storage project."]

Action Taken: The language will be deleted as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (2)The name, description, and average depth of the storage reservoir or
~~reservoirs to be utilized for geologic CO₂ storage;~~

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (3)A geologic and hydrogeologic evaluation of the project area geological storage
~~unit~~, including an evaluation of all existing information on all geologic strata
overlying the geological storage reservoir unit including the immediate
caprock containment characteristics and all ~~designated~~-subsurface zones to
be used for monitoring zones. The evaluation must ~~shall~~ include any
available geophysical data and assessments of any regional tectonic activity,
local seismicity and regional or local fault zones, and a comprehensive
description of local and regional structural or stratigraphic features. The
evaluation must describe the ~~shall focus on the proposed CO₂ storage~~
~~reservoir's or reservoirs and a description of mechanisms of geologic~~
~~confinement, including but not limited to rock properties, regional pressure~~
~~gradients, structural features, and adsorption characteristics with regard to~~
~~the ability of that confinement to prevent migration of CO₂ beyond the~~
~~proposed storage reservoir. The evaluation must shall also identify any~~
~~productive existing or potential mineral oil and natural gas zones occurring~~
~~stratigraphically above, below or within the project area geological storage~~
~~unit and any freshwater-bearing horizons known to be developed in the~~
~~project area and within one mile of its outside boundary immediate vicinity~~
~~of the geological storage unit. The evaluation must shall include exhibits and~~
plan view maps showing the following:

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (a) All wells, including but not limited to, water, oil, and natural gas exploration and development wells, and other man-made subsurface structures and activities, including coal mines, within the project area and within one mile of its ~~the outside boundary of the geological storage unit~~;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (b) All manmade surface structures that are intended for temporary or permanent human occupancy within the project area ~~geological storage unit~~ and within one mile of it's ~~the outside boundary of the geological storage unit~~;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (c) Any regional or local faulting;
- (d) An isopach map of the proposed CO₂ storage reservoir ~~or reservoirs~~;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (e) An isopach map of the primary and any secondary containment barrier for the storage reservoir;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (f) A structure map of the top and base of the storage reservoir ~~or reservoirs~~;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (g) Identification of all structural spill points or stratigraphic discontinuities controlling the isolation of stored CO₂ and ~~or~~ associated fluids;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (h) ~~An~~ Evaluation of the potential displacement of in situ water and the potential impact on groundwater resources, if any; and
- (i) Structural and stratigraphic cross-sections that describe the geologic conditions at the reservoir. [In other provisions in this subsection the phrase "or reservoirs" is included after the word "reservoir," but it is not included here creating an inconsistency. The Workgroup questions whether there is a need to include "or reservoirs." Applicants will know that if they propose using more than one reservoir for storage they will have to present all the technical info for each one of the reservoirs. Also notice that in (i) the word "reservoir" is used, but in other provisions above the phrase "storage reservoir" is used even though the rule is discussing the same thing. We encourage the Division to closely review these provisions to make sure that the terminology is consistent.]

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more consistent and understandable.

- (4) A review of the data of public record for all wells within the ~~CO₂ storage project area permit~~, which penetrate the storage reservoir or primary or secondary seals overlying the reservoir ~~designated as the CO₂ storage reservoir~~, and all these wells within the project area and that penetrate the geologic CO₂ storage reservoir within one mile, or any other distance as deemed necessary by the commission, of the project area's boundary of the geological storage unit. This review must ~~shall~~ determine if all abandoned wells have been plugged in a manner that prevents the carbon dioxide movement of CO₂ or associated fluids from escaping from the geologic CO₂ storage reservoir. The review required under this paragraph shall be conducted by a geologist or engineer; [In the first sentence of this provision there are two references to "the reservoir" and single references to "the CO₂ storage reservoir," "the geologic CO₂ storage reservoir," and "the geological storage unit." To remedy the resulting confusion the term "project area" was inserted.]

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (5) The proposed calculated maximum volume and areal extent for the ~~proposed geological storage reservoir unit~~ using a method acceptable to and filed with the commission;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (6) ~~The proposed maximum bottom hole injection pressure to be utilized at the storage reservoir. The maximum allowed injection pressure, measured in psig, shall be no greater than ninety percent or other injection pressures approved by the commission of the formation fracture pressure as determined by a step rate test or other method approved by the commission. The geological storage unit shall not be subjected to injection pressures in excess of the calculated fracture pressure even for short periods of time. Higher operating pressures may be allowed if approved by the commission. The application, if approved by the commission, shall be subject to any conditions established by the commission. The application, if approved by the commission, shall be subject to any conditions established by the commission.~~

[The Workgroup believes the following language should be deleted: “no greater than ninety percent or other injection pressures approved by the commission of the formation fracture pressure as determined by a step rate test or other method approved by the commission. The geological storage unit shall not be subjected to injection pressures in excess of the calculated fracture pressure even for short periods of time. Higher operating pressures may be allowed if approved by the commission. The application, if approved by the commission, shall be subject to any conditions established by the commission;”]

Replace with “approved by the commission and specified in the permit. In approving a maximum injection pressure limit, the commission shall consider the results of well tests and other studies that assess the risks of tensile failure and shear failure. The commission shall approve limits that, with a reasonable degree of certainty, will avoid initiating a new fracture or propagating an existing fracture in the confining zone or cause the movement of injection or formation fluids into an underground source of drinking water.” With these changes the section will read as follows:]

- (6) The proposed maximum bottom hole injection pressure to be utilized at the reservoir. The maximum allowed injection pressure, measured in psig, shall be approved by the commission and specified in the permit. In approving a maximum injection pressure limit, the commission shall consider the results of well tests and other studies that assess the risks of tensile failure and shear failure. The commission shall approve limits that, with a reasonable degree of certainty, will avoid initiating a new fracture or propagating an existing fracture in the confining zone or cause the movement of injection or formation fluids into an underground source of drinking water.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

(7) ~~The proposed maximum long-term geological storage reservoir unit pressure and the necessary technical data to support the proposed geological storage unit storage pressure request. [The Workgroup recommends that this language be deleted in its entirety.]~~

Action Taken: The language will be deleted as recommended.

Rationale: The information required by the deleted proposed language is already governed by the commission decision in section 6.

- c. The extent of the CO₂, determined by utilizing all available geologic and reservoir engineering information, and the projected response and storage capacity of the geological storage unit; [It is not clear what "extent of the carbon dioxide" means. It appears that the Division is referring to the migration of the CO₂ in the storage reservoir. If this is true, the language needs to be clarified. Suggested language is included below.]

The extent of the CO₂, determined by utilizing all appropriate geologic and reservoir engineering information and reservoir analysis, which may include but is not limited to various computational models if appropriate for reservoir characterization, and the projected response and storage capacity of the geologic storage unit.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- d. A detailed description of the storage proposed CO₂ facility's public safety and emergency response plan. The plan must ~~shall~~ detail the safety procedures concerning the facility and residential, commercial, and public land use within one mile [1.61 kilometers], or any other distance set ~~as deemed necessary~~ by the commission, of the outside boundary of the ~~CO₂ storage project area~~ permit. The public safety and emergency response procedures must ~~shall~~ include contingency plans for CO₂ leakage from any well, flow lines or other ~~permitted facility and~~ and - ~~The public safety and emergency response procedures shall also identify specific contractors and equipment vendors capable of providing necessary services and equipment to respond to such CO₂ injection well leaks and or loss of containment from CO₂ injection wells or the CO₂ storage reservoir. These emergency response procedures must should be reviewed and updated annually as necessary throughout the operational life of the permitted storage facilities;~~

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- e. A detailed worker safety plan that addresses CO₂ safety training and safe working procedures at the storage CO₂ facility;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- f. A corrosion monitoring and prevention plan for all wells and surface facilities;
- g. A ~~CO₂-facility~~ leak detection and monitoring plan for all wells and surface facilities. The ~~approved leak detection and monitoring plan~~ must shall address:

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (1) ~~Identify~~ the of potential for release to the atmosphere;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (2) ~~Identify~~ Identification of potential degradation of groundwater resources with particular emphasis on underground sources of drinking water; and

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (3) ~~Identify~~ Identification of potential migration of carbon dioxide CO₂ into any mineral zone in the project area ~~overlying oil and natural gas reservoirs~~.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- h. A ~~geological storage unit~~ leak detection and monitoring plan utilizing subsurface observation wells to monitor any movement of the CO₂ ~~volume~~ outside of the ~~permitted geological storage reservoir unit~~. This may include the collection of baseline information of CO₂ background concentrations in groundwater, surface soils, and chemical composition of in situ waters within the project area and the geological storage reservoir and within one mile of the project area's outside boundary unit. [Does the state need baseline data from outside the storage reservoir in order to determine if the CO₂ is migrating beyond the project boundary? If so, the "one mile" language is suggested to provide the data.] Provisions in the The approved subsurface leak detection and monitoring plan will shall be dictated by the site characteristics as documented by materials submitted in support of the permit application but must with regard to CO₂ containment and address:

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable, and will provide better baseline data.

- (1) Identify the ~~Identification of~~ potential for release to the atmosphere;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (2) Identify ~~Identification of~~ potential degradation of groundwater resources with particular emphasis on underground sources of drinking water; and

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (3) Identify ~~Identification of~~ potential migration of carbon dioxide CO₂ into any mineral zone in the project area ~~overlying oil and natural gas reservoirs~~.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- i. The proposed well casing and cementing program detailing compliance with section 43-02-04.1-06;
- j. ~~A performance bond covering the surface facility to the commission in an amount as established by the commission. The amount of the bond shall be sufficient to provide financial assurance to the commission to cover the abandonment of the CO₂ storage project or remediation of facility leaks should the CO₂ storage project operator not perform as required or cease to exist. The CO₂ storage project bond shall be maintained for ten years after closure of the facility in accordance with section 43-02-04.1-09;~~
- ~~k. A performance bond for each CO₂ injection and subsurface observation well to the commission in an amount as established by the commission. The amount of the bond shall be sufficient to provide financial assurance to the commission to cover the plugging and abandonment or the remediation of a CO₂ injection or subsurface observation well should the CO₂ storage project operator not perform as required in accordance with the permit or cease to exist;~~
[Rather than two sections on bonding, the Workgroup is suggesting the following language. In addition, in an effort to shorten this section, the Division should consider moving the bonding requirements to a stand alone section or combine them with a new section on application fees, thereby putting all the "money" issues in one section.]
- j. A performance bond in an amount and under terms set by the commission to provide it with funds sufficient to satisfy any regulatory obligation that the storage operator fails to fulfill. If the commission uses a part of the bond, the storage operator shall immediately replenish the bond or secure a new bond to ensure that the full bond amount set by the commission is maintained.
- k. Any other information that the commission requires; and
- l. A closure plan.

[As suggested above, this could be part of separate section.]

Action Taken: The bonding and processing fee will remain in this section.

Rationale: The bond requirement and mechanism for paying the application fee is part of the permit application process and should remain here to make it easier for the reader.

3. Any person filing a permit application establishing a new CO₂ storage project or an application to amending an existing a CO₂ storage project permit shall pay a processing an application fee and a processing fee to be deposited in the carbon dioxide storage administration fund. [§38-22-05 states that the applicant is to pay a fee in an amount set by Commission rule and based on the anticipated cost of processing the application. As such there does not seem to be authority to charge an application fee. In light of this, this subsection needs to be renumbered.]

Action Taken: The language will be deleted as recommended.

Rationale: The modified proposed language is consistent with the authorizing statute.

- a. ~~Application fee. A nonrefundable filing fee of one hundred fifty dollars must be submitted with the permit application.~~
- b. ~~Processing fee. The applicant shall pay a processing fee will be based on actual processing costs, including computer data processing costs, incurred by the commission, the cost of which would exceed one hundred fifty dollars as determined by the commission. The following procedures and criteria will be utilized in establishing the fee:~~
 - (1) A record of all application permit processing costs incurred must be maintained by the commission.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (2) Promptly after receiving an application, Upon request, the commission, in consultation with the applicant, shall will prepare and submit to the applicant an estimate of the processing fee and a payment the billing schedule that will be utilized in processing the application. If the applicant chooses, the applicant may withdraw the application at this point without paying any processing fees.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (3) After the commission's work on the application has concluded, final determinations on the application have been made, a final statement will be sent to the applicant containing the remaining actual processing costs incurred by the department. The full processing fee must be paid before the commission issues its final decision on an application.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (4) The applicant must pay the processing fee regardless of whether a permit to ~~construct~~ is issued or, denied, or the application withdrawn.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

2. The commission has one year from the date an application is deemed complete to issue a final decision regarding the application.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language sets a reasonable time frame within which stakeholders can expect a decision.

43-02-04.1-04. CO₂ STORAGE PROJECT PERMIT TRANSFER.

[It seems like the issue of transferring a permit should be considered in the rules after the provisions for applying and securing a permit. As such, this section should be moved.]

Action Taken: The section will be moved as recommended.

Rationale: The modified proposed order is more logical.

1. ~~Transfer n~~Notification by transferor. The CO₂ storage project operator shall notify the commission, in writing, ~~in such form as commission may direct, of any proposed permit the sale, assignment, transfer, conveyance, exchange, or other disposition of the CO₂ storage project by the operator of the CO₂ storage project as soon as is reasonably possible, but in no event later than the date that the sale, assignment, transfer, conveyance, exchange, or other disposition becomes final. The operator shall not be relieved of responsibility for the CO₂ storage project until commission approves the sale, assignment, transfer, conveyance, exchange, or other disposition, in writing, and the person or entity acquiring the CO₂ storage project is in compliance with all appropriate requirements. [The preceding sentence should be deleted because its substance is obvious and seems out of place. This provision is talking about the notice to the Commission. If the permit holder's continued responsibilities need to be addressed it should be done in a different section of the rule.] The operator's notice shall contain all of the following:~~

Action Taken: The language will be deleted as recommended.

Rationale: The necessary elements are can be addressed in the requirement for commission approval.

- a. The name and address of the person ~~or entity~~ to whom the permit is to be CO₂ storage project ~~was or will be sold, assigned, transferred, conveyed, exchanged, or otherwise disposed.~~

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- b. The name of the permit subject to transfer and location of the CO₂ storage project, and a description of the land upon which the CO₂ storage project is situated. ["Description of the land" is too ambiguous. Would a description of "farmland" suffice? In addition the Commission will have information about the project and its location, so it seems unnecessary to include the location in the notice.]

Action Taken: The original proposed language will be used.

Rationale: The term land is meant to be broad to describe all land uses. All commission notices currently explicitly identify the well or facility location for ease of publication.

- c. The date that the storage operator desires the proposed transfer to occur. ~~sale, assignment, transfer, conveyance, exchange, or other—disposition becomes final.~~

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- d. ~~The date when possession was or will be relinquished by the operator as a result of that disposition. [Is this information necessary? It seems like the date of the permit transfer would be the date when possession and responsibility occur. In addition this also seems like an issue the Commission would address in its order approving the transfer.]~~

Action Taken: The language will be deleted as recommended.

Rationale: The proposed language is not necessary because the date will be determined by commission order.

2. ~~Transfer n~~Notification by transferee. Every person ~~or entity~~ who seeks to ~~acquires a permit from a storage operator shall the right to operate a CO₂ storage project, whether by purchase, transfer, assignment, conveyance, exchange, or other disposition, shall, as soon as it is reasonably possible, but not later than the date when the acquisition of the CO₂ storage project becomes final, notify the commission in writing, of that intent the person's or entity's operation. The notice must include acquisition of a CO₂ storage project shall not be recognized as complete by commission until the new operator provides all of the following material:~~

- a. The name and address of the current person or entity from whom the CO₂ storage operator project was acquired.

- b. The name of the permit subject to transfer and location of the CO₂ storage project, and a description of the land upon which the CO₂ storage project is situated.
- c. The date when the transferee desires the proposed transfer to occur ~~acquisition becomes final.~~
- d. ~~The date when possession was or will be acquired.~~
- ed. Performance bonds required by section ~~Geologic CO₂ storage regulations 43-02-04.1-04.1.~~

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

[Overall it seems unnecessary to require both the transferor and the transferee to file notices. To streamline the process consider requiring the transferor to file the notice with the information contained in subsection 2, or require the notice to be submitted and signed jointly by the storage operator and the proposed transferee.]

Action Taken: The section will be modified to provide for a joint notification as recommended.

Rationale: The modified proposed language is more streamline and understandable.

3. Commission review. The commission shall review the proposed transfer to ensure that the purposes of North Dakota Century Code Chapter 38-22 are not compromised but are promoted. For good cause the commission may deny a transfer request, delay acting on it and place conditions on its approval. [It may be useful to describe the criteria the Commission will consider in making the decision to approve the transfer.]

Action Taken: The original proposed language will be used.

Rationale: The criteria to be used by the commission are intentionally broad and should not be limited until experience in this area is acquired.

4. Commission approval required. A permit transfer can occur only upon the commission's written order. [This clarifies the final action required for the transfer to be effective.]

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

**43-02-04.1-04.2. [Eliminate the “.2” and renumber according to prior comments.] AMENDING
AMENDMENT TO CO₂ STORAGE PROJECT PERMIT.**

1. The following changes to ~~a the original CO₂ storage project permit conditions will~~ require compliance with all the provisions of section 43-02-04.1-04.1 [This needs to be changed consistent with earlier changes in numbering].

Action Taken: The section will be re-numbered as recommended.

Rationale: The modified proposed order is more readable and understandable.

- a. Any change in the ~~original~~ areal extent of the CO₂ storage project permit;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- b. Using a Utilization of other reservoirs not specified in the ~~original CO₂ storage project permit~~;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- c. Any ~~proposed~~ increase in the ~~permitted~~ CO₂ storage volume; and

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- d. Any change in the chemical composition of the injected CO₂ ~~from the CO₂ composition at the time of permitting.~~

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

2. ~~Other~~ Significant changes to approved operational methods and procedures parameters contained in the ~~original CO₂ storage project permit or upon which the permit was based~~ permit will require compliance with section 43-02-04.1-04.1.(2) This needs to be changed consistent with earlier changes in numbering].

Action Taken: The section will be re-numbered as recommended.

Rationale: The modified proposed order is more readable and understandable.

43-02-04.1-05 This needs to be changed consistent with earlier changes in numbering]

Action Taken: The section will be re-numbered as recommended.

Rationale: The modified proposed order is more readable and understandable.

AMALGAMATION OF SUBSURFACE RIGHTS TO OPERATE GEOLOGICAL STORAGE UNIT.

1. ~~Each application required under section 43-02-04.1-04.1 shall include a public hearing before the commission for the purposes of joining the necessary property ownership rights, as defined by the state. [This is required in §38-22-06(1) so it does not need to be included in the rule.]~~

Action Taken: The section will be deleted as recommended.

Rationale: The language is unnecessary because it is contained in the statute.

2. On or before the date a permit application is filed with the commission, the ~~Each applicant for a CO₂ storage project shall give the following notice that it has filed the of the filing of an application on or before the date the application is filed with the commission by mailing notice via first class mail to the following: [The method of service is described in §38-22-06(6) so it does not need to be included in the rule.]~~

Action Taken: The section will be deleted as recommended.

Rationale: The language is unnecessary because it is contained in the statute.

- a. ~~Each operator of mineral hydrocarbon or other mineral extraction activities, or mineral lessee of record within one-half mile outside of the project area external to the boundary of the proposed CO₂ storage project permit;~~

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- b. Each mineral lessee of record within the project area and within one-half mile of its outside boundary.
- c b. Each owner of record of the surface property and minerals within the project area and one-half mile of its outside boundary ~~boundaries of the proposed CO₂ storage project permit;~~

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

d. Each owner of record of minerals within the project area and within one-half mile of its outside boundary.

ee. Each owner and each lessee of record of the pore space within the storage reservoir and within one-half mile of the reservoir's boundary; surface property and minerals within one-half mile [.80 kilometer] external to the boundary of the proposed CO₂ storage project permit; and

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

d. Any other persons ~~parties~~ as required by the commission.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

3. The ~~above~~ notice must ~~shall~~ contain:

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

a. A a legal description of the land overlying the proposed CO₂ storage reservoir project permit along with the date, time and place of the hearing before the commission and include notice of the right to file comments.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

b. The date, time and place that the commission will hold a hearing on the permit application.

c. A statement that a copy of the permit application may be obtained from the commission.

d. A notice of the right to file comments.

4. ~~In addition to mail notice of the above parties, p~~Public notice via publication shall be required. [Language should be inserted clarifying whether the applicant or the commission is responsible for publication.] The public notice must state ~~shall indicate~~ that an application has been filed with the commission for permission to store carbon dioxide a CO₂ storage project and describe ~~indicate~~ the location of the proposed project area and the date, time and place of the hearing before the commission at which time the merits to determine issuance of the application will be considered. Publication shall be in a newspaper of statewide circulation as selected by the commission, and in the county newspaper of each county in which the CO₂-storage project is located. The notice shall indicate that objections may be filed within fifteen days of the date of publication.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is consistent with current commission practice.

5. Objections received by the commission shall be in writing and specify the nature of the objection.
6. ~~Upon review of the application submitted in accordance with section 43-02-04.1 04.1 and following the public hearing specified in this section, authorization to commence construction of the CO₂ storage project shall be issued following approval by the commission. [This seems obvious and of little value to the rule.]~~

Action Taken: The section will be deleted as recommended.

Rationale: The language is unnecessary.

43-02-04.1-06. CO₂ STORAGE PROJECT WELL PERMIT APPLICATION REQUIREMENTS

1. Following receipt of a permit ~~authorization to commence the CO₂ storage project issued by the commission in accordance with section 43-02-04.1 04.1,~~ the storage operator applicant shall submit applications to drill deepen, convert operate or, upon demonstration of mechanical integrity, re-enter a previously plugged and abandoned well for the CO₂ storage purposes.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

2. Application for permits to drill, deepen, convert, operate or re-enter ~~(drill out a previously plugged well) or operate~~ a well must ~~shall~~ be submitted on a form as prescribed by the commission and must ~~shall~~ include at a minimum:

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- a. A plat prepared by a licensed land surveyor showing the location of the proposed CO₂ injection or subsurface observation well. The plat ~~must shall~~ be drawn to the scale of one inch [25.4 millimeters] equals one thousand feet [304.8 meters], unless otherwise directed stipulated by the commission and ~~must shall~~ show distances from the proposed well to the nearest ~~geological~~ storage reservoir unit boundary. The plat ~~must shall~~ show the latitude and longitude of the well in decimal degrees to five significant digits. The plat ~~must shall~~ also show the location and status of all other wells that have been drilled within one-fourth mile [402.34 meters], or any other distance deemed necessary by the commission, of the proposed CO₂ injection or subsurface observation well;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- b. ~~A prognosis specifying +~~ The drilling, completion, or conversion procedures for the proposed CO₂ injection or subsurface observation well;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- c. A well bore schematic showing the name, description, and depth of the storage ~~proposed~~ reservoir and the depth of the deepest underground source of drinking water; a description of the casing in the CO₂ injection or subsurface observation well, or the proposed casing program, including a full description of cement already in place or as proposed; and the proposed method of testing casing before use of the CO₂ injection well;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- d. A geophysical log, if available, through the storage reservoir to be penetrated by the proposed CO₂ injection well or if ~~an~~ CO₂ injection or subsurface observation well is to be drilled, a complete log through the reservoir from a nearby well is permissible. Such log ~~must shall~~ be annotated to identify the estimated location of the base of the deepest underground source of drinking water, showing the stratigraphic position and thickness of all confining strata above the reservoir and the stratigraphic position and thickness of the reservoir.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

3. No later than the conclusion of well drilling and completion activities, a permit application shall be submitted to operate an CO_2 injection well and must ~~shall~~ include at a minimum:

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- a. A schematic diagram of the surface injection system and its appurtenances;
- b. A final well bore diagram showing the name, description, and depths of the storage reservoir and the base of the deepest underground source of drinking water; a diagram of the CO_2 ~~injection~~ well depicting the casing, cementing, perforation, tubing, and plug and packer records associated with the construction of the CO_2 -~~injection~~ well;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- c. The well's ~~A~~-complete dual induction or equivalent log through the storage reservoir ~~of the CO_2 injection well~~. Such ~~a~~ log ~~for wells drilled for CO_2 injection operations~~ shall be run prior to the setting of casing through the CO_2 storage reservoir. Logs must ~~shall~~ be annotated to identify the estimated location of the base of the deepest underground source of drinking water, showing the stratigraphic position and thickness of all confining strata above the storage reservoir and the reservoir's stratigraphic position and thickness ~~of the reservoir~~ unless that information has been previously submitted. When approved in advance by the commission, this information can be demonstrated with a dual induction or equivalent log run in a nearby well or by such other method acceptable to the commission;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- d. An affidavit specifying the chemical constituents of the injection stream other than carbon dioxide CO_2 and their relative proportions;

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- e. Proof that the long string of casing of the ~~CO₂-injection~~ well is cemented adequately so that the carbon dioxide CO₂ is confined to the geological storage reservoir unit. Such proof must ~~shall~~ be provided in the form of a cement bond log or the results of a fluid movement study or such other method specified by the commission; and

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- f. The results of a mechanical-integrity test, if applicable to well type, of the casing in accordance with the pressure test requirements, of this section, if a test was run within one calendar year preceding the request for ~~issuance~~ of a conversion permit for a previously drilled well.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

43-02-04.1-06.1. [Renumber in accordance with prior comments regarding the use of “.” in section numbering]. CO₂ STORAGE PROJECT WELL PERMIT ISSUANCE.

Action Taken: The section will be re-numbered as recommended.

Rationale: The modified proposed order is more readable and understandable.

1. Upon review and approval of the application to drill, deepen, convert, re-enter (~~drill-out a previously plugged well~~) or operate an CO₂-injection well, submitted in accordance with section 43-02-04.1-06, the commission shall issue permits to drill and operate.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

2. A permit shall expire twelve months from the date of issued ~~issuance~~ if the permitted well has not been drilled, deepened, re-entered, operated, or converted.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

43-02-04.1-06.2. [Renumber in accordance with prior comments regarding the use of “.” in section numbering]. CO₂ STORAGE PROJECT WELL OPERATIONAL STANDARDS.

Action Taken: The section will be re-numbered as recommended.

Rationale: The modified proposed order is more readable and understandable.

1. Surface casing in all newly drilled CO₂ injection and subsurface observation wells drilled below the underground source of drinking water must ~~shall~~ be set fifty feet below the base of the Fox Hills formation and cemented pursuant to section 43-02-03-21.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

2. The long string casing in all CO₂ injection and subsurface observation wells must ~~shall~~ be cemented pursuant to section 43-02-03-21.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

3. Any liner set in the wellbore must ~~shall~~ be cemented with a sufficient volume of cement to fill the annular space ~~to the surface~~.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

4. All cements used in the cementing of casings in CO₂ injection and subsurface observation wells must ~~shall~~ be of sufficient quality to maintain well integrity in the CO₂ injection environment.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

5. All casings must ~~shall~~ meet the standards specified in either of the following documents, which are hereby adopted by reference:

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- a. "The most recent American petroleum institute bulletin on performance properties of casing, tubing, and drill pipe; or
- b. "Specification for casing and tubing (United States customary units)," American petroleum institute specification 5CT, as published by the American petroleum institute in October 1998; or

c. Section 43-02-03-21 other casing as approved by the commission. [This requirement needs to be clarified since it does not make sense as written.]

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

6. All casings used in new wells must ~~shall~~ be new casing or reconditioned casing of ~~a~~ equivalent quality equivalent to new casing and that has been pressure-tested in accordance with the requirements of subsection (5) of section 43-02-04.1-06.2. For new casings, the pressure test conducted at the manufacturing mill or fabrication plant may be used to fulfill the requirements of subsection (5).

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

7. The location and amount of cement behind casings must ~~shall~~ be verified by a cement bond log, cement evaluation log, or any other evaluation method approved by the commission.
8. All CO₂ injection wells must ~~shall~~ be completed with and injection must ~~shall~~ be through tubing and packer.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

9. All tubing strings must ~~shall~~ meet the standards contained in subsection (5) of section 43-02-04-1.06.2. All tubing must ~~shall~~ be new tubing or reconditioned tubing of ~~a~~ quality ~~equivalent~~ quality to new tubing and that has been pressure-tested. For new tubing, the pressure test conducted at the manufacturing mill or fabrication plant may be used to fulfill this requirement.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

10. All wellhead components, including the casinghead and tubing head, valves, and fittings, must ~~shall~~ be made of steel having operating pressure ratings sufficient to exceed the maximum injection pressures computed at the wellhead and to withstand the corrosive nature of carbon dioxide CO₂. Each flow line connected to the wellhead must ~~shall~~ be equipped with a manually operated positive shutoff valve located on or near the wellhead.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

11. All packers, packer elements, or similar equipment critical to the containment of carbon dioxide CO_2 must ~~shall~~ be of a quality to withstand exposure to carbon dioxide CO_2 .

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

12. All injection wells must have at all times ~~Aan accurate, operating pressure gauge or pressure recording device shall be available at all times, and all injection wells shall be equipped for installation and operation of such gauge or device.~~ Gauges must ~~shall~~ be calibrated as required by the commission and evidence of such calibration must ~~shall~~ be available to the commission upon request.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

13. All newly drilled wells must ~~shall~~ establish internal and external mechanical integrity as specified by the commission and demonstrate continued mechanical integrity through periodic testing as determined by the commission. All other ~~existing~~ wells to be used as CO_2 injection wells must ~~will~~ demonstrate mechanical integrity as specified by the commission prior to use for CO_2 -injection and be tested on an ongoing basis as determined by the commission using these methods:

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- a. Pressure tests. CO_2 ~~injection~~ wells, equipped with tubing and packer as required, must ~~shall~~ be pressure tested as required by the commission. A testing plan must ~~shall~~ be submitted to CO_2 the commission for prior approval. At a minimum, the pressure must ~~shall~~ be applied to the tubing casing annulus at the surface for a period of thirty ~~30~~ minutes and must ~~shall~~ have no decrease in pressure greater than ten ~~10~~ percent of the required minimum test pressure. The packer must ~~shall~~ be set at a depth at which the packer will be opposite a cemented interval of the long string casing and must ~~shall~~ be set no more than fifty ~~50~~ feet above the uppermost perforation or open hole for the CO_2 storage reservoir; and

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- b. The commission may require additional testing such as a bottom hole temperature and pressure measurements, tracer survey, temperature survey, gamma ray log, neutron log, noise log, casing inspection log, or a combination of two or more of these surveys and logs, to demonstrate mechanical integrity.

14. ~~Supervision of mechanical integrity testing.~~ The commission has the right to may witness all mechanical integrity tests conducted by ~~each CO₂ the~~ storage project operator ~~for regulatory purposes.~~

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

15. If ~~an~~ CO₂ injection well fails to demonstrate mechanical integrity by an approved method, the storage operator ~~of the well~~ shall immediately shut in the well, report the failure to the commission, and commence isolation and repair of the leak. The operator shall, within ninety days or as otherwise directed by the commission, perform one of the following:

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- a. Repair and retest the well to demonstrate mechanical integrity;
- b. Plug the well ~~in accordance with state requirements;~~ or
- c. Comply with alternative plan ~~as approved by the commission.~~

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

16. All CO₂ injection wells must ~~shall~~ be equipped with ~~down hole safety shutoff valves~~ shutoff systems designed to alert the operator and shut in wells when necessary.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

17. Additional requirements may be required by the commission to address specific circumstances and types of projects ~~not specified in these rules.~~

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

43-02-04.1-06.3. [Renumber in accordance with prior comments regarding the use of "." in section numbering] AMENDMENT TO CO₂ STORAGE PROJECT WELL PERMITS.

Action Taken: The section will be re-numbered as recommended.

Rationale: The modified proposed order is more readable and understandable.

1. An amendment to ~~a the CO₂ storage project~~ well permit for: (1) a change in injection formation, or (2) ~~modifying~~ a modification of ~~the~~ maximum allowable injection rate and pressure, ~~must shall~~ comply with the provisions of section 43-02-04.1-04.1. [There may be an inconsistency in this subsection. Doesn't a change in injection formation trigger §43-02-04.1-4.2(1)(b) which states that any use of a reservoir not specified in the storage project permit requires an amendment to the permit. This subsection suggests that a change in the injection formation requires only an amendment to the well permit. Does "formation" mean something other than "reservoir?"]

Action Taken: The original proposed language will be used.

Rationale: A reservoir can contain multiple formations. The proposed language would result in a review of the storage facility permit and require amendment if necessary.

2. ~~Modifying Modification~~ of well construction ~~must shall~~ comply with the ~~provisions of~~ section 43-02-04.1-06.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

43-02-04.1-07. CO₂ STORAGE PROJECT OPERATIONAL SAFETY PLANS. Each ~~storage operator of a CO₂ storage project~~ shall implement the commission-approved CO₂ ~~storage~~ facility public safety and emergency response plan and the worker safety plan proposed in section 43-02-04.1-04.1. This plan ~~must shall~~ include emergency response and security procedures. The plans, including revision of the list of contractors and equipment vendors, ~~must shall~~ be updated as necessary or as the commission requires. Copies of the plans ~~must shall~~ be available at the CO₂ ~~storage~~ facility and at the ~~storage operator's~~ nearest operational office ~~of the holder of the CO₂ storage project permit~~.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

43-02-04.1-07.1. . [Renumber in accordance with prior comments regarding the use of "." in section numbering] **CO₂ STORAGE PROJECT OPERATIONAL LEAK DETECTION AND REPORTING.**

Action Taken: The section will be re-numbered as recommended.

Rationale: The modified proposed order is more readable and understandable.

1. Leak detectors or other approved leak detection methodologies ~~must shall~~ be placed at the wellhead of all CO₂ injection and subsurface observation wells. Leak detectors ~~must shall~~ be integrated, where applicable, with automated warning systems and ~~must shall~~ be inspected and tested on a semi-annual basis and if defective, shall be repaired or replaced within 10 days. Each repaired or replaced detector ~~must shall~~ be retested if required by the commission. An extension of time for repair or replacement of a leak detector may be granted upon a showing of good cause by the ~~storage operator of the CO₂ storage project~~. A record of each inspection, which ~~must shall~~ include the inspection results, ~~must shall~~ be maintained by the operator for at least five years and ~~must shall~~ be made available to the ~~commission state oil and natural gas regulatory agency~~ upon request.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

2. The ~~storage operator of a CO₂ storage project~~ ~~must shall~~ immediately report to the commission any leaks detected at any well or other the surface facility and associated well equipment specified in section 43-02-04.1-07.1(1).

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

3. The ~~storage operator of a CO₂ storage project~~ ~~must shall~~ immediately report to the commission any pressure changes or other monitoring data from subsurface observation wells that indicate the presence of leaks in the geological storage reservoir unit indicating the lack of confinement within the reservoir of the CO₂.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

4. The ~~storage operator of a CO₂ storage project~~ ~~must shall~~ immediately report to the commission any other indication that the storage facility is not containing carbon dioxide, whether the of-lack of containment concerns of CO₂ to the storage reservoir, not associated with wells, and surface equipment or any other aspect of the storage facility.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

43-02-04.1-07.2. . [Renumber in accordance with prior comments regarding the use of ". " in section numbering] CO₂ STORAGE PROJECT OTHER GENERAL REQUIREMENTS.

Action Taken: The section will be re-numbered and divided as recommended.

Rationale: The modified proposed order is more readable and understandable.

[For ease of finding the information contained in this section, the Workgroup suggests that it be divided into three separate sections ... one dealing with the corrosion plan; the second dealing with signs; and the third dealing with fees.]

1. Each operator shall ~~be required to~~ conduct a corrosion monitoring and prevention program approved by the commission.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

2. Identification signs must ~~shall~~ be placed at each storage facility in a centralized location and at each well site and show the name of the operator, the facility name and the emergency response number to contact the operator.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

3. Each storage operator shall pay the commission a fee of \$0.01 on each ton of carbon dioxide injected for storage, ~~to be deposited in the carbon dioxide storage facility administrative fund.~~ [The statute directs where the fees are deposited so it is not necessary to address in the rule.]

Action Taken: The section will be deleted as recommended.

Rationale: The language is unnecessary because it is contained in the statute.

4. Each storage operator shall pay the commission a fee of \$0.07 on each ton of carbon dioxide injected for storage, ~~to be deposited in the carbon dioxide storage facility trust fund.~~

43-02-04.1-08. QUARTERLY AND ANNUAL REPORTING REQUIREMENTS.

1. The storage operator shall file with the commission quarterly, or more frequently if the commission requires, a report on the volume of carbon dioxide CO₂ injected into or withdrawn since the last reporting, the average injection rate, average composition of the carbon dioxide CO₂ stream, wellhead and downhole temperature and pressure data or other pertinent operational parameters as required by the commission shall be reported quarterly or as required by the commission.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

2. The quarterly report is due thirty days after the end of the quarter.

23. The storage operator ~~These quarterly reports~~ shall file with the commission an annual report that summarizes the quarterly reports and that ~~be compiled and summarized annually to~~ provides updated projections of the response and storage capacity of the geological storage reservoir unit. The projections must ~~shall~~ be based on actual reservoir geological storage unit operational experience, including all new geologic data and information. All anomalies in predicted behavior as indicated in ~~the most current~~ permit conditions or in the assumptions upon which the permit was issued ~~must~~ shall be explained and, if necessary, the permit conditions amended in accordance with section 43-02-04.1-04.2. The annual report is due forty-five days after the end of the year.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

43-02-04.1-09. CO₂ STORAGE PROJECT CLOSURE.

1. Prior to the conclusion of the operational period, and at a the time set ~~period to be determined by the commission~~, the CO₂ storage operator must ~~project permit holder shall~~ provide an assessment of the operations conducted during the operational period, including but not limited to the volumes injected, extracted, ~~any and~~ all chemical analyses conducted, summary of all monitoring efforts, etc. The report must ~~shall~~ also document the stored carbon dioxide's location ~~position and characteristics of the areal extent of the CO₂ and predict how it might move a prediction of the extent and movement of the CO₂ volume anticipated during the CO₂ storage project closure period.~~

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

2. The storage operator ~~permittee~~ shall submit a monitoring plan for the CO₂ storage ~~project closure period~~ for approval by the commission, including but not limited to a proposal specifying review and final approval ~~of which wells will be plugged and which wells will remain unplugged to be used as CO₂ storage project closure and post closure period subsurface observation wells.~~

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

3. Following well plugging and removal of all associated surface equipment, the surface must be reclaimed to the commission's specifications that will, in general, return the land, to its original contours and features shall be removed and the well site returned to its original land use to the extent possible.

Action Taken: The language will be modified to be consistent with reclamation in 43-02-03-19.

Rationale: The modified proposed language is more consistent with commission practices.

4. The well casing must shall be cut off at a depth of five 5 feet below the surface and a steel plate welded on top identifying well name and that it was used for CO₂ injection.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

5. The commission shall develop in conjunction with the storage operator permittee a continuing monitoring plan for the CO₂ storage project post closure period including but not limited to a review and final approval of which wells to shall be plugged. The commission shall have full control of and responsibility for the remaining unplugged wells to be used by the commission as CO₂ storage project post closure period subsurface observation wells or for other purposes as deemed necessary by the commission. [In light of §38-22-17(6)(a) and (b) the last sentence is not necessary.]

Action Taken: The language will be deleted as recommended.

Rationale: The proposed language is not necessary since all of the requirements are contained in 38-22-17.

6. Upon CO₂ storage project closure all wells so-designated by the commission must shall be properly plugged and abandoned, all storage CO₂ facility equipment, appurtenances and structures and facilities shall be removed, and the CO₂ storage project area site reclaimed to the in accordance with commission's specifications that will, in general, return the land, to its original contours and features shall be removed and the well site returned to its original land use to the extent possible.

Action Taken: The language will be modified to be consistent with reclamation in 43-02-03-19.

Rationale: The modified proposed language is more consistent with commission practices.

7. All subsurface observation and groundwater monitoring wells as approved in the CO₂ storage project closure period monitoring plan must shall remain in place for continued monitoring during the CO₂ storage project closure period.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

8. ~~Before the Upon termination of the CO₂ storage project closure period ends and at a time set by the commission, the storage operator permittee shall provide a final assessment of the stored carbon dioxide's location subsurface position and the characteristics and its of the CO₂ volume within the geological storage unit including the future movement and location position of the CO₂ volume within the geological storage reservoir unit.~~

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

9. Wells other than those deemed as subsurface observation wells per subsection (5) of section 43-02-04.1-09, shall be plugged by the permittee in accordance with subsection (6) of section 43-02-04.1-09.
10. ~~At the conclusion of the CO₂ storage project closure period, the commission shall issue a Certificate of Completion of Injection Operations, upon a showing by the CO₂ storage project operator that the reservoir is reasonably expected to retain mechanical integrity and remain emplaced, the CO₂ storage project performance bond maintained by the CO₂ storage project operator shall be released and continued monitoring of the site, remediation of any well leakage, including wells previously plugged and abandoned by the CO₂ storage project operator, shall become the responsibility of designated state or federal agency program and the CO₂ storage project operator and generator of the CO₂ shall be released from further commission regulatory liability relating to the CO₂ facility. : [In light of §38-22-17 this subsection is not necessary.]~~

Action Taken: The language will be deleted as recommended.

Rationale: The proposed language is not necessary since all of the requirements are contained in 38-22-17.

43-02-04.1-10. DETERMINING STORAGE AMOUNTS.

1. The commission, after notice and hearing shall issue an order determining the amount of injected carbon dioxide stored in a reservoir that has been or is being used for an enhanced oil or gas recovery project, or in a storage reservoir that has been or is being used for storage under a permit issued pursuant to chapter 38-22 of the North Dakota Century Code.

Action Taken: The language will be modified as recommended.

Rationale: Although unlikely a storage operator may request a determination in order to utilize carbon credits or for other purposes.

2. Any person ~~making application applying~~ for a storage amount determination shall pay an application fee and a processing fee ~~to be deposited in the carbon dioxide storage administration fund.~~ [The statute designates where the fee is deposited so there is not need to repeat it in the rule.]

Action Taken: The section will be deleted as recommended and made consistent with 43-05-05.

Rationale: The language is unnecessary because it is contained in the statute.

- a. Filing Application fee. A nonrefundable filing fee of one hundred fifty dollars must be submitted with the permit application.
- b. Processing fee. The applicant shall pay a processing fee based on the commission's actual processing costs, including computer data processing costs, ~~incurred by the commission,~~ the cost of which would exceed one hundred fifty dollars as determined by the commission. The following procedures and criteria will be utilized in establishing the fee:

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (1) A record of all application ~~permit~~ processing costs incurred must be maintained by the commission.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (2) Upon request, the commission, in consultation with the applicant, will prepare an estimate of the processing fee and the billing schedule that will be utilized in processing the application. If the applicant chooses, the applicant may withdraw the application at this point without paying any processing fees.
- (3) After the commission's work on the application has concluded, ~~final determinations on the application have been made,~~ a final statement will be sent to the applicant. The full processing fee must be paid before the commission issues its decision on the application containing the remaining actual processing costs incurred by the department.

Action Taken: The language will be modified as recommended.

Rationale: The modified proposed language is more readable and understandable.

- (4) The applicant must pay the processing fee even if the application is ~~regardless of whether a permit to construct is issued, denied, or withdrawn.~~

Action Taken: The language will be modified as recommended except to remove the overstrike of denied.

Rationale: The modified proposed language is more readable and understandable. Substantial expenses may be incurred even when a permit is denied.

History: Amended effective
General Authority
NDCC 38-22

Law Implemented
NDCC 38-22-23

GEOPHYSICAL EXPLORATION REQUIREMENTS

CHAPTER 43-02-12

Note: The NDPC appeared in this matter and indicated their membership has no objection to the rule changes as proposed in Chapter 43-02-12.

NDAC § 43-02-12-04. EXPLORATION PERMIT – APPLICATION.

The proposed amendment provides that an exploration permit expires one year after the date it was issued, unless geophysical exploration activities have commenced.

Comments: WWC opposes the proposed amendment and feels the requirement is too onerous and wasteful. They believe the geophysical exploration permit should not expire until two years after being issued.

Action Taken: The Commission's proposed amendments will be adopted without any further modifications.

Rationale: Typically permits for oil and gas operations are valid for a period of one year and it is appropriate to be consistent between geophysical exploration permits and the oil and gas regulations, which are related fields. The Commission notes there are provisions in the rules to allow for the suspension of a geophysical exploration permit.

FULL NOTICE OF INTENT TO ADOPT AND AMEND ADMINISTRATIVE RULES

TAKE NOTICE that the North Dakota Industrial Commission, Department of Mineral Resources, Oil and Gas Division, will hold a public hearing to address proposed amendments and additions to the North Dakota Administrative Code (NDAC) at 9am on October 15th, 2009 in the Conference Room of the Oil & Gas Division Building, 1016 E. Calgary Avenue, Bismarck, North Dakota. The proposals are summarized below:

The purpose of the proposed amendment to NDAC § 43-02-03-16 is to eliminate ambiguity in the rule. The proposed amendment clarifies the proposed pad layout, including cut and fill diagrams, must be submitted with the application for a permit to drill a well. The proposed amendment is not expected to have an impact on the regulated community in excess of \$50,000.

The purpose of the proposed amendments to NDAC § 43-02-03-16.3 is to eliminate ambiguity in the rule. The proposed amendment eliminates the allowance of delivering the invitation less than thirty days in unusual circumstances. It also eliminates the allowance of delivery by facsimile transmission followed within one business day by mailing. It also clarifies an election to participate must be received by the owner giving the invitation within thirty days of the participating party's receipt of the invitation. The proposed amendment will provide an economic benefit to the regulated community.

The purpose of the proposed amendment to NDAC § 43-02-03-18 is to require public notice before a company can obtain a 320-acre drilling unit. The proposed amendment eliminates the Commission's ability to issue a 320-acre drilling unit administratively. The proposed adoption is expected to have an impact on the regulated community in excess of \$50,000.

The purpose of the proposed amendments to NDAC § 43-02-03-19 is to prevent the pollution of the drill site and to inform surface owners of proposed reclamation operations. The proposed amendments allow the Director to require the drill site to be sloped and diked to divert surface drainage, requires the operator to provide the surface owner at least ten days notice prior to commencing reclamation work, and requires the Commission to mail a copy of the approved reclamation notice to the surface owner. The proposed amendment is not expected to have an impact on the regulated community in excess of \$50,000.

The purpose of the proposed amendment to NDAC § 43-02-03-19.3 is to eliminate ambiguity in the rule. The proposed amendment clarifies a temporary pit must be sufficiently impermeable to provide adequate temporary containment of fluids and requires saltwater, drilling mud, crude oil, waste oil, or other waste to be removed from the pit within twenty-four hours after being discovered. The proposed amendment is not expected to have an impact on the regulated community in excess of \$50,000.

The purpose of the proposed amendment to NDAC § 43-02-03-21 is to provide guidelines for evaluating cement utilized during cementing operations of horizontal wells where a single-state cement job is performed on a long horizontal lateral. The proposed amendment requires the compressive strength of the filler cement to reach at least two hundred fifty pounds per square inch within forty-eight hours and at least five hundred pounds per square inch within ninety-six hours. The proposed amendment will provide an economic benefit to the regulated community.

The purpose of the proposed amendment to NDAC § 43-02-03-25 is to eliminate the need for survey contractors to submit a paper copy of directional surveys on directional wells and require such electronic surveys to be submitted timely. The proposed amendment eliminates the need for survey contractors to submit a paper copy of directional surveys on directional wells and requires such electronic surveys to be submitted within thirty days of reaching total depth in the well. The proposed amendment will provide an economic benefit to the regulated community.

The purpose of the proposed amendments to NDAC § 43-02-03-27 is to prevent the pollution of potable water due to casing leaks. The proposed amendments allow the Director to require the pre-treatment of casing and for the operator to notify the Director immediately upon causing damage to the casing or casing seat. The proposed amendment is not expected to have an impact on the regulated community in excess of \$50,000.

The purpose of the proposed amendments to NDAC § 43-02-03-30 is to inform surface owners of leaks and spills that travel onto their land. The proposed amendment requires the operator to notify the surface owner of any incident that occurs or travels onto their land and requires the operator to provide a copy of any written report to the surface owner. The proposed amendment is not expected to have an impact on the regulated community in excess of \$50,000.

The purpose of the proposed amendment to NDAC § 43-02-03-31 is to eliminate ambiguity in the rule. The proposed amendment clarifies that geologic reports must be submitted to the Commission if compiled. The proposed amendment is not expected to have an impact on the regulated community in excess of \$50,000.

The purpose of the proposed amendment to NDAC § 43-02-03-49 is to eliminate ambiguity in the rule. The proposed amendment clarifies that the base material under the dike and the area within the dikes must be constructed of sufficiently impermeable material to provide emergency containment of fluids. The proposed amendment is not expected to have an impact on the regulated community in excess of \$50,000.

The purpose of the proposed amendment to NDAC § 43-02-03-53 is to eliminate ambiguity in the rule. The proposed amendment clarifies that the base material under the dike and the area within the dikes must be constructed of sufficiently impermeable material to provide emergency containment of fluids. The proposed amendment is not expected to have an impact on the regulated community in excess of \$50,000.

The purpose of the proposed amendment to NDAC § 43-02-03-55 is to eliminate ambiguity in the rule. The proposed amendment eliminates the need for the \$100 temporarily abandon renewal fee to actually accompany the request. The proposed amendment will provide an economic benefit to the regulated community.

The purpose of the proposed amendment to NDAC § 43-02-03-90.2 is to provide the Commission valuable horizontal well information when determining if correlative rights are being protected. The proposed amendment will include the certified directional surveys into the evidence of each case heard by the Commission, unless excluded by the hearing officer. The proposed amendment will provide an economic benefit to the regulated community.

The purpose of the adoption of NDAC Chapter 43-02-04.1 is to provide for rules and regulations pertaining to the geologic storage of carbon dioxide. The proposed rules provide for definitions, a scope of the chapter, site access, the transfer of carbon dioxide storage project permits, carbon dioxide project permits, amendments to project permits, subsurface rights of the operator, well permit applications, permit expiration, well operational standards, amendments to well permits, safety plans, leak detection and reporting, project requirements (including an administrative fee of \$0.01 and a liability fee of \$0.07 on each ton injected), reporting requirements, the project closure, and the determination of storage amounts. The proposed adoption is expected to have an impact on the regulated community in excess of \$50,000.

The purpose of the adoption of NDAC § 43-02-12-01.1 is to outline the need for geophysical exploration requirements. The proposed addition clarifies that an exception to the rules can be granted after notice and hearing and also generally states the chapter contains general rules to govern geophysical exploration. The proposed adoption is not expected to have an impact on the regulated community in excess of \$50,000.

The purpose of the proposed amendment to NDAC § 43-02-12-04 is to provide an expiration for the geophysical exploration permit if it is not used. The proposed amendment provides that an exploration permit expires one year after the date it was issued, unless geophysical exploration activities have commenced. The proposed adoption is not expected to have an impact on the regulated community in excess of \$50,000.

The purpose of the proposed amendment to NDAC § 43-02-12-06 is to require a public hearing to prior to considering an operator's request to suspend a geophysical exploration project in which charges have been placed. The proposed amendment limits the Director's authority to suspend a project to ninety days unless all charges are detonated. The proposed adoption is not expected to have an impact on the regulated community in excess of \$50,000.

The proposed rules may be reviewed at the office of the Oil & Gas Division at 1016 East Calgary Avenue, Bismarck, ND, or online at <https://www.dmr.nd.gov/oilgas/>. A copy of the proposed rules and/or a regulatory analysis may be requested by writing the above address or calling (701) 328-8038. Written and oral comments on the proposed rules sent to the above address and phone number and received by 5pm, October 26th, 2009, will be fully considered.

If you plan to attend the public hearing and will need special facilities or assistance relating to a disability, please contact the North Dakota Industrial Commission at (701) 328-8038, or write the Oil & Gas Division at the above address, no later than October 1, 2009.

Dated this 16th day of September, 2009.

Bruce E. Hicks
Assistant Director

**REGULATORY ANALYSIS PURSUANT TO
NORTH DAKOTA CENTURY CODE 28-32-08
FOR AMENDMENT OF NDAC SECTION 43-02-03-18
DRILLING UNITS – WELL LOCATIONS**

I. CLASS OF PERSONS AFFECTED BY THE AMENDMENT

The classes of persons who probably will be affected by the adoption of the proposed rules are companies who plan to drill horizontal wells on 320-acre drilling units in North Dakota in search of oil and gas. The proposed amendment will benefit the State, oil and gas companies that do not plan to drill on 320-acre drilling units, and mineral owners in the state that are adjacent to such drilling units.

II. PROBABLE IMPACT

The probable impact of the adoption of the proposed rules will be that operators desirous of drilling horizontal wells on 320-acre drilling units will have to apply to the Commission for a hearing to consider the matter. It is anticipated that the cost of the proposed rules to the regulated community may exceed \$50,000.

III. COST TO AGENCY AND EFFECT ON STATE REVENUES

There will be an additional cost to the agency to implement the adoption of the proposed rules. Costs will include notice publication and staff involvement during hearings and preparing orders for the Commission. The cost to enforce the proposed rules should not exceed \$5,000 annually, although it should have a negligible effect on state revenues since the majority of such costs will be staff man-hours.

IV. ALTERNATIVE METHODS

North Dakota Century Code Chapter 38-22 was recently created by the 61st North Dakota Legislative Assembly which gives the Commission jurisdiction over the geologic storage of carbon dioxide and requires storage operators to pay a fee on each ton of carbon dioxide injected for storage, in the amount set by Commission rule to defray the Commission's expenses in regulating active facilities. The chapter further requires storage operators to pay a fee on each ton of carbon dioxide injected for storage, in the amount set by Commission rule to defray the Commission's expenses in regulating closed facilities. No alternate methods were seriously considered since the Commission was required to implement rules.

**REGULATORY ANALYSIS PURSUANT TO
NORTH DAKOTA CENTURY CODE 28-32-08
FOR ADOPTION OF CHAPTER 43-02-04.1
GEOLOGIC STORAGE OF CARBON DIOXIDE**

I. CLASS OF PERSONS AFFECTED BY THE AMENDMENT

The classes of persons who probably will be affected by the adoption of the proposed rules are companies who plan to operate carbon dioxide storage projects. There are not any current carbon dioxide storage projects in the State, but the adoption of the proposed rules will affect operators that plan to construct and operate projects to store carbon dioxide, most likely, oil and gas or coal fired electrical generator operators. The proposed amendment will benefit the State and surety companies that issue well bonds.

II. PROBABLE IMPACT

The probable impact of the adoption of the proposed rules will be that operators will have to obtain a bond prior to initiating a project and apply to the Commission for approval of each project and every individual well they propose to utilize in the project. It is anticipated that the cost of the proposed rules to the regulated community may exceed \$50,000.

III. COST TO AGENCY AND EFFECT ON STATE REVENUES

There will be an additional cost to the agency to implement and enforce the adoption of the proposed rules, although North Dakota Administrative Code Section 43-02-04.1-07.2 of the proposed rules provides that each storage operator shall pay the Commission a fee of \$0.01 on each ton of carbon dioxide injected for storage, which can be used by the Commission to offset administrative costs. The initial cost to implement the proposed rules will be negligible, although the commencement of one or more carbon dioxide storage projects will be burdensome to our present staff since other regulated activities are currently at historic high levels.

IV. ALTERNATIVE METHODS

North Dakota Century Code Chapter 38-22 was recently created by the 61st North Dakota Legislative Assembly which gives the Commission jurisdiction over the geologic storage of carbon dioxide and requires storage operators to pay a fee on each ton of carbon dioxide injected for storage, in the amount set by Commission rule to defray the Commission's expenses in regulating active facilities. The chapter further requires storage operators to pay a fee on each ton of carbon dioxide injected for storage, in the amount set by Commission rule to defray the Commission's expenses in regulating closed facilities. No alternate methods were seriously considered since the Commission was required to implement rules.

**SMALL ENTITY REGULATORY ANALYSIS
PURSUANT TO NORTH DAKOTA CENTURY CODE 28-32-08.1**

None of the proposed amendments or rules created under North Dakota Administrative Code Chapters 43-02-03 or 43-02-04.1 were mandated by Federal law.

SECTION 43-02-03-16 APPLICATION FOR PERMIT TO DRILL AND RECOMPLETE.

This amendment clarifies the proposed pad layout, including cut and fill diagrams, must be submitted with the application for a permit to drill a well and will not have an adverse impact on small entities.

SECTION 43-02-03-16.3 RECOVERY OF A RISK PENALTY.

This amendment eliminates the allowance of delivering the invitation less than thirty days in unusual circumstances. It also eliminates the allowance of delivery by facsimile transmission followed within one business day by mailing. It also clarifies an election to participate must be received by the owner giving the invitation within thirty days of the participating party's receipt of the invitation and will not have an adverse impact on small entities.

SECTION 43-02-03-18 DRILLING UNITS – WELL LOCATIONS.

This amendment eliminates the Commission's ability to issue a 320-acre drilling unit administratively, subsequently a hearing would be required. The proposed adoption is expected to have an impact on the regulated community in excess of \$50,000.

The following methods were considered for reducing impact on small entities:

1. Establishment of less stringent compliance or reporting requirements for small entities.

The purpose of the amendment is to give due notice to offsetting interest owners when an application for a 320-acre unit is requested. Less stringent compliance to the hearing process would possibly cause harm to owners of leasehold interests, which could include small entities. The amendment does not require additional reporting requirements.

2. Establishment of less stringent schedules or deadlines for compliance or reporting requirements for small entities.

The amendment does not require additional reporting requirements.

3. Consolidation or simplification of compliance or reporting requirements for small entities.

The amendment does not require additional reporting requirements.

4. Establishment of performance standards for small entities to replace design or operational standards required in the proposed rule.

The amendment does not address design or operational standards.

5. Exemption of small entities from all or any part of the requirements contained in the proposed rules.

Small entities should not be exempt from this amendment since less stringent compliance to the hearing process would possibly cause harm to owners of leasehold interests, which could include small entities.

The adoption of the proposed rules will have an adverse economic impact on small entities, therefore, a Small Entities Economic Impact Statement was prepared.

SECTION 43-02-03-19 RESERVE PIT FOR DRILLING MUD AND DRILL CUTTINGS - RECLAMATION OF SURFACE.

The proposed amendments allow the Director to require the drill site to be sloped and diked to divert surface drainage, requires the operator to provide the surface owner at least ten days notice prior to commencing reclamation work, and requires the Commission to mail a copy of the approved reclamation notice to the surface owner. The amendments will not have an adverse impact on small entities.

SECTION 43-02-03-19.3 EARTHEN PITS AND OPEN RECEPTACLES.

This amendment clarifies a temporary pit must be sufficiently impermeable to provide adequate temporary containment of fluids and requires saltwater, drilling mud, crude oil, waste oil, or other waste to be removed from the pit within twenty-four hours after being discovered. The amendment will not have an adverse impact on small entities.

SECTION 43-02-03-21 CASING, TUBING, AND CEMENTING REQUIREMENTS.

This amendment requires the compressive strength of the filler cement to reach at least two hundred fifty pounds per square inch within forty-eight hours and at least five hundred pounds per square inch within ninety-six hours. The proposed amendment relaxes current requirements and will provide an economic benefit to small entities.

SECTION 43-02-03-25 DEVIATION TESTS AND DIRECTIONAL SURVEYS.

This amendment eliminates the need for survey contractors to submit a paper copy of directional surveys on directional wells and requires such electronic surveys to be submitted within thirty days of reaching total depth in the well. The proposed amendment will provide an economic benefit to small entities.

SECTION 43-02-03-27 PERFORATING, FRACTURING, AND CHEMICALLY TREATING WELLS.

This amendment allows the Director to require the pre-treatment of casing and for the operator to notify the Director immediately upon causing damage to the casing or casing seat. The amendment is in the best interest of public safety and welfare and will not have an adverse impact on small entities.

SECTION 43-02-03-30 NOTIFICATION OF FIRES, LEAKS, SPILLS, OR BLOWOUTS.

This amendment requires the operator to notify the surface owner of any incident that occurs or travels onto their land and requires the operator to provide a copy of any written report to the surface owner and will not have an adverse impact on small entities.

9-18-2009

SECTION 43-02-03-31 WELL LOG, COMPLETION, AND WORKOVER REPORTS.

The amendment clarifies that geologic reports must be submitted to the Commission if compiled and will not have an adverse impact on small entities.

SECTION 43-02-03-49 OIL SPILLS, PRODUCTIN EQUIPMENT, DIKES, AND SEALS.

The amendment clarifies that the base material under the dike and the area within the dikes must be constructed of sufficiently impermeable material to provide emergency containment of fluids and will not have an adverse impact on small entities.

SECTION 43-02-03-53 SALTWATER HANDLING FACILITIES.

The amendment clarifies that the base material under the dike and the area within the dikes must be constructed of sufficiently impermeable material to provide emergency containment of fluids and will not have an adverse impact on small entities.

SECTION 43-02-03-55 ABANDONMENT OF WELLS-SUSPENSION OF DRILLING.

This amendment eliminates the need for the \$100 temporarily abandon renewal fee to actually accompany the request. The proposed amendment will provide an economic benefit to small entities.

SECTION 43-02-03-90.2 OFFICIAL NOTICE.

This amendment will include the certified directional surveys into the evidence of each case heard by the Commission, unless excluded by the hearing officer and will not have an adverse impact on small entities.

CHAPTER 43-02-04.1 GEOLOGIC STORAGE OF CARBON DIOXIDE.

The adoption of the proposed rules provide for definitions, a scope of the chapter, site access, the transfer of carbon dioxide storage project permits, carbon dioxide project permits, amendments to project permits, subsurface rights of the operator, well permit applications, permit expiration, well operational standards, amendments to well permits, safety plans, leak detection and reporting, project requirements (including an administrative fee of \$0.01 and a liability fee of \$0.07 on each ton injected), reporting requirements, the project closure, and the determination of storage amounts. The proposed adoption is expected to have an impact on the regulated community in excess of \$50,000.

It is unlikely that a small entity would undertake the geologic storage of carbon dioxide, but nevertheless, the following methods were considered for reducing impact on small entities:

1. Establishment of less stringent compliance or reporting requirements for small entities.

The CO₂ volume injected, withdrawn, injection pressure, composition and temperature are required to be reported quarterly. Also leaks and indications of the lack of containment must immediately be reported. Less stringent compliance to small entities may result in compromising the general public's health, safety and welfare.

2. Establishment of less stringent schedules or deadlines for compliance or reporting requirements for small entities.

Quarterly reports are required to be filed. Reporting less frequently would harm the Commission's ability to monitor reports to detect leaks within the injection project. Less stringent schedules or deadlines for small entities may result in compromising the general public's health, safety and welfare.

9-18-2009

3. Consolidation or simplification of compliance or reporting requirements for small entities.

Quarterly reports are required to be filed reporting the volume injected, withdrawn, injection pressure, composition and temperature of each well. The consolidation of wells would harm the Commission's ability to monitor reports to detect leaks within the injection project. Such consolidation for small entities may result in compromising the general public's health, safety and welfare.

4. Establishment of performance standards for small entities to replace design or operational standards required in the proposed rule.

The design and operational standards established by the proposed rules are for the protection of potable waters and the confinement of injections into the permitted reservoir. Establishing different performance standards for small entities to replace design or operational standards required in the proposed rule may result in compromising the general public's health, safety and welfare.

5. Exemption of small entities from all or any part of the requirements contained in the proposed rules.

Small entities should not be exempt from this amendment since exempting small entities from all or any part of the requirements contained in the proposed rules would make it extremely difficult to determine if environmental damage was occurring from such operations and may result in compromising the general public's health, safety and welfare.

The adoption of the proposed rules will have an adverse economic impact on small entities, therefore, a Small Entities Economic Impact Statement was prepared.

SECTION 43-02-12-01.1 SCOPE OF CHAPTER.

The proposed addition clarifies that an exception to the rules can be granted after notice and hearing and also states the chapter contains general rules to govern geophysical exploration. The proposed amendment will provide an economic benefit to small entities.

SECTION 43-02-12-04 EXPLORATION PERMIT - APPLICATION.

The proposed amendment provides that an exploration permit expires one year after the date it was issued, unless geophysical exploration activities have commenced. The amendment will not have an adverse impact on small entities.

SECTION 43-02-12-06 NOTIFICATION OF WORK PERFORMED.

The proposed amendment limits the Director's authority to suspend a project to ninety days unless all charges are detonated. The amendment will not have an adverse impact on small entities.

**SMALL ENTITY IMPACT STATEMENT
PURSUANT TO NORTH DAKOTA CENTURY CODE 28-32-08.1**

SECTION 43-02-03-18 DRILLING UNITS – WELL LOCATIONS.

Find the following information as required by NDCC Section 28-32-08.1:

1. The small entities subject to the proposed rule.

The classes of persons who probably will be affected by the adoption of the proposed rules are companies who plan to drill or participate in horizontal wells drilled on 320-acre drilling units.

2. The administrative and other costs required for compliance with the proposed rule.

Administrative costs associated with the adoption of this rule will be minimal. Costs required for compliance will include notice publication and man-hours to attend the hearings and write decisions. It is anticipated that the cost of the proposed rule to the regulated community may exceed \$50,000, although the Commission has reduced the cost of the hearing process to the regulated community by allowing witness participation via telephone.

3. The probable cost and benefit to private persons and consumers who are affected by the proposed rule.

There is no cost to private persons and consumers affected by the amendment. The amendment will provide a benefit to all mineral and leasehold interest owners adjacent to proposed 320-acre drilling units, since they will have the ability to comment on such applications through the hearing process.

4. The probable effect of the proposed rule on state revenues.

There will be a minimal cost to the agency and a negligible effect on state revenues.

5. Any less intrusive or less costly alternative methods of achieving the purpose of the proposed rule.

The only less intrusive or less costly alternative would be to withdraw the proposed amendment. No alternate methods were seriously considered since the purpose is to give notice to stakeholders that would be affected by requests to drill horizontal wells on 320-acre drilling units.

CHAPTER 43-02-04.1 GEOLOGIC STORAGE OF CARBON DIOXIDE.

Find the following information as required by NDCC Section 28-32-08.1:

1. The small entities subject to the proposed rule.

The classes of persons who probably will be affected by the adoption of the proposed rules are companies who plan to operate carbon dioxide storage projects. There are not any current carbon dioxide storage projects in the State, but the adoption of the proposed rules will affect operators that plan to construct and operate projects to store carbon dioxide, most likely, oil and gas or coal fired electrical generator operators. The proposed amendment will benefit the State and surety companies that issue well bonds.

2. The administrative and other costs required for compliance with the proposed rule.

Administrative costs associated with the adoption of this rule will be minimal. Costs required for compliance will include obtaining a bond to operate injection wells. It is anticipated that the cost of the proposed rule to the regulated community may exceed \$50,000, although no carbon dioxide storage projects currently exist in the State. The carbon dioxide storage projects must be regulated and since the process is very similar to enhanced recovery projects, which the Commission already regulates, the Commission can provide the most cost-effective regulation.

3. The probable cost and benefit to private persons and consumers who are affected by the proposed rule.

There is no cost to private persons and consumers affected by the amendment. There is an environmental value to storing carbon dioxide in underground reservoirs since this will reduce the emissions into the atmosphere which will provide a benefit to all private persons and consumers.

4. The probable effect of the proposed rule on state revenues.

There will be an additional cost to the agency to implement and enforce the adoption of the proposed rules. The initial cost to implement the proposed rules will be negligible, although the commencement of one or more carbon dioxide storage projects will be burdensome to our present staff since other regulated activities are currently at historic high levels.

5. Any less intrusive or less costly alternative methods of achieving the purpose of the proposed rule.

The only less intrusive or less costly alternative would be to withdraw the adoption of the proposed rules and not regulate the geologic storage of carbon dioxide, which may result in compromising the general public's health, safety and welfare. No alternate methods were seriously considered since the Interstate Oil and Gas Compact Commission, of which the North Dakota Commission is a very active participant, recommends each State adopt the proposed rules.