

OIL AND GAS DOCKET NO. 8A-0257317

THE APPLICATION OF XTO ENERGY INC. FOR AUTHORIZATION PURSUANT TO STATEWIDE RULE 36 TO INJECT FLUIDS CONTAINING HYDROGEN SULFIDE IN THE WASSON AND WASSON 72 FIELDS, YOAKUM COUNTY, TEXAS

HEARD BY: Donna K. Chandler

DATE OF HEARING: June 26, 2008

APPEARANCES:

Michelle Estes
Bud Thompson

REPRESENTING:

XTO Energy Inc.

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

XTO Energy Inc. requests authority pursuant to Statewide Rule 36 to inject fluids containing hydrogen sulfide in 70 wells on its Cornell Unit and 41 wells on its H. O. Mahoney lease in the Wasson Field and in 21 wells on its H. O. Mahoney lease in the Wasson 72 Field. XTO is making separate application with the Commission's Technical Permitting section for authority pursuant to Rule 46.

Statewide Rule 36(c)(10)(A)(i) states that injection of fluids containing hydrogen sulfide will be allowed only after public hearing when "... injection fluid is a gaseous mixture, or would be a gaseous mixture in the event of a release to the atmosphere, and where the 100 ppm radius of exposure is in excess of 50 feet and includes any part of a public area except a public road; or, if the 500 ppm radius of exposure is in excess of 50 feet and includes any part of a public road; or if the 100 ppm radius of exposure is 3,000 feet or greater."

This application was unopposed and the examiner recommends approval.

DISCUSSION OF THE EVIDENCE

The Wasson Field was discovered in 1937 and the Wasson 72 Field was discovered in 1941. The Wasson Field has been subject to waterflooding and carbon dioxide (CO₂) injection for many years. The Wasson 72 Field has only been waterflooded. Production

from the Wasson Field is from the San Andres at depths between 4,300 feet and 6,000 feet on the two leases. The Wasson 72 Field produces from the Clearfork and Wichita Albany between 6,300 feet and 8,300 feet on the Mahoney lease. The native gas in the two fields contains H₂S at an average concentration of 7,000 ppm.

Currently, pure CO₂ is purchased and injected into the two leases in the Wasson Field for its water-alternating gas tertiary project. XTO is constructing an NGL recovery plant (the Cornell-Mahoney plant). Produced gas from the subject three leases in the Wasson and Wasson 72 Fields will be processed to remove hydrocarbon gas. The sour CO₂ gas will be distributed back to the three leases for injection as part of the WAG projects in the two fields.

The Mahoney lease in the Wasson Field currently has 45 producing wells and 29 injection wells. Production from this lease is about 2,000 BOPD. The Cornell Unit in the Wasson Field has 103 producing wells and 64 injection wells. Production from this lease is approximately 1,700 BOPD. The Mahoney lease in the Wasson 72 Field (which has the same lease boundaries as in the Wasson Field) has 27 producing wells and 16 injection wells (water only). Production from this lease is approximately 900 BOPD.

The Commission's District Office has approved Form H-9 (Certificate of Compliance Statewide Rule 36) and the Contingency Plan submitted by XTO. The Contingency Plan includes all operations associated with the proposed injection, including the wells, gas plant, gathering lines and distribution lines. For each injection well, the 500 part per million (ppm) radius of exposure (ROE) is 522 feet and the 100 ppm ROE is 1,142 feet. These calculations are based on a maximum release of 6,913 MCFD. For the Cornell Unit, the 500 ppm ROE includes one residence and County Road 370. The 100 ppm ROE includes portions of County Road 340 and Ranch Road 1622. For the Mahoney lease in both fields, the 100 ppm ROE and the 500 ppm ROE do not include any residences, businesses, schools or public places where people may congregate. Public roads within the 500 ppm include County Road 355, County Road 365 and Ranch Road 213.

The ROE's for the gas plant do not include any public roadways or residences, businesses or schools. The ROE's for the plant are within the ROE's of the injection wells. For the gathering lines, the 100 ppm ROE is 1,798 feet and the 500 ppm ROE is 822 feet. The 500 ppm ROE includes two businesses and portions of State Hwy. 214, County Road 335, County Road 355 and County Road 255. For the 6" distribution line, the 500 ppm ROE includes two businesses and portions of State Hwy. 214, County Road 335, County Road 355 and County Road 255. The two businesses affected are Halliburton Energy Services and UAP Southwest.

The one residence within the 500 ppm of the No. 3116W injection well on the Cornell Unit is Mr. Tracey Moore. An H₂S alarm system is positioned between the well site and the Moore residence. Prior to injection into the well, an automated emergency shut-down valve will be installed to shut-in the well in the event of a drop in line pressure.

Signs are posted at each entrance to each lease and at the gas plant. Each lease entrance to a well site off a public road will also be marked. The gas plant will be fenced and isolated from the public.

All equipment associated with the injection program satisfies the requirements in the latest editions of NACE Standard MR1075 and API RP-14E. The gas plant will have a fully automated ESD system and will be equipped with a flare system. The compressors at the plant will have high and low pressure shutdowns set at approximately 2,110 psig and 1,500 psig. The gathering line and distribution line will have ESD valves placed ¼ mile on each side of State Highway 214 and will shut down on low pressure.

All XTO employees associated with the Cornell-Mahoney area receive hydrogen sulfide safety training regarding the proper response to an H₂S release. Each employee is trained on proper notification procedures in case of a release and are required to be familiar with the contingency plan. Employees also receive periodic training in hazardous material operations, respiratory equipment use, well control procedures and first aid.

FINDINGS OF FACT

1. Notice of this hearing was given to all persons entitled to notice at least ten (10) days prior to the subject hearing.
2. The Wasson Field was discovered in 1937 and the Wasson 72 Field was discovered in 1941. The Wasson Field has been subject to waterflooding and carbon dioxide (CO₂) injection for many years. The Wasson 72 Field has only been waterflooded.
3. Production from The Wasson Field is from the San Andres and the Wasson 72 Field produces from the deeper Clearfork and Wichita Albany. The native gas in the two fields contains H₂S at an average concentration of 7,000 ppm.
4. Under current operations in the Wasson Field, pure CO₂ is purchased and injected into the two leases. XTO is constructing an NGL recovery plant to remove hydrocarbon gas from the produced stream. The sour CO₂ gas will be distributed back to the three leases for injection as part of the WAG projects in the two fields.
5. The Commission's District Office has approved Form H-9 (Certificate of Compliance Statewide Rule 36) and the Contingency Plan submitted by XTO. The Contingency Plan includes all operations associated with the proposed injection, including the wells, gas plant, gathering lines and distribution lines.
6. For each injection well, the 500 part per million (ppm) radius of exposure (ROE) is 522 feet and the 100 ppm ROE is 1,142 feet. These calculations are based on a maximum release of 6,913 MCFD.
 - a. For the Cornell Unit, the 500 ppm ROE includes one residence and County Road 370. The 100 ppm ROE includes portions of County Road 340 and Ranch Road 1622.

- b. For the Mahoney lease in both fields, the 100 ppm ROE and the 500 ppm ROE do not include any residences, businesses, schools or public places where people may congregate. Public roads within the 500 ppm include County Road 355, County Road 365 and Ranch Road 213.
7. The ROE's for the gas plant do not include any public roadways or residences, businesses or schools. The ROE's for the plant are within the ROE's of the injection wells.
8. The one residence within the 500 ppm of the No. 3116W injection well on the Cornell Unit is Mr. Tracey Moore. An H₂S alarm system is positioned between the well site and the Moore residence. Prior to injection into the well, an automated emergency shut-down valve will be installed to shut-in the well in the event of a drop in line pressure.
9. The proposed injection meets the safety requirements of Rule 36 regarding warning and marker provisions, security provisions and materials and equipment.

CONCLUSIONS OF LAW

1. Proper notice was timely given to all parties entitled to be noticed pursuant to applicable statutes and rules.
2. All things have occurred and have been accomplished to give the Commission jurisdiction in this case.
3. XTO Energy Inc. has complied with the safety provisions of Statewide Rule 36 for injection of fluid containing hydrogen sulfide.

EXAMINER'S RECOMMENDATION

The examiner recommends approval of the application of XTO Energy Inc. to inject fluid containing hydrogen sulfide into all injection wells on its Cornell Unit and H. O. Mahoney lease in the Wasson Field and all injection wells on its H. O. Mahoney lease in the Wasson 72 Field.

Respectfully submitted,

Donna K. Chandler
Technical Examiner