

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION COMMISSION**

**APPLICATION OF DCP MIDSTREAM, LP
FOR AUTHORIZATION TO INJECT ACID
GAS INTO THE ARTESIA AGI #2 WELL,
SECTION 7, TOWNSHIP 18 SOUTH,
RANGE 28 EAST, NMPM,
EDDY COUNTY, NEW MEXICO.**

**CASE NO. 15127
ORDER NO. R-13861**

ORDER OF THE COMMISSION

THIS MATTER came before the Oil Conservation Commission ("Commission") on the application of DCP Midstream, LP ("DCP" or the "Applicant") for authority to inject treated acid gas. The Commission having conducted a public hearing on June 19, 2014, and having considered the testimony, the record, and the arguments of the parties, and being otherwise fully advised, enters the following findings, conclusions and order.

THE COMMISSION FINDS THAT:

1. Notice has been given of the application and the hearing of this matter, and the Commission has jurisdiction of the parties and the subject matter herein.
2. On February 19, 2014, DCP filed an administrative application (OCD Form C-108 and attachments) seeking authority to inject treated acid gas ("TAG") consisting of carbon dioxide and hydrogen sulfide, as well as produced wastewater, into the target injection zones located in the Lower San Andres, Glorieta and Upper Yeso formations through a deviated injection well, Artesia AGI No. 2, at a depth interval of approximately 3,600 feet to 4,300 feet below the surface, under a maximum allowable operating pressure of 1,704 pounds per square inch gauge (psig) for treated acid gas only and 916 psig for injection of wastewater only. The proposed well will be drilled at a surface location 1180 feet from the South line and 2035 feet from the East line (Unit O) of Section 7, Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico.
3. The Form C-108 Application was complete and contains all the information necessary to grant approval.
4. The purpose of the proposed Class II injection wells is to dispose of natural gas processing wastes consisting of carbon dioxide ("CO₂") and hydrogen sulfide ("H₂S") from the Applicant's Artesia gas processing plant ("Artesia Gas Plant") by

injecting TAG and produced wastewater into the target injection zones. The TAG will consist of approximately 30 percent H₂S and 70 percent CO₂.

5. The Artesia AGI No. 2 will be a deviated well and will have a bottomhole location approximately 690 feet from the South line and 745 feet from the East line of Section 7, Township 18 South, Range 28 East..

6. The bottomhole location will be approximately 1500 feet to the southeast of the surface location.

7. The proposed acid gas injection well will be located within the boundary of the Artesia Gas Plant's premises.

8. On March 24, 2014, DCP formally requested that its C-108 Application be set for hearing before the Commission on the May 22, 2014 docket. The Division requested, and DCP consented to, a continuance of the case to the June 19, 2014 Commission hearing docket.

9. DCP provided personal notice, via certified mail, return-receipt requested, of the submission of its application and the Commission hearing to all operators, surface owners, and lessees within a one-half mile radius of the bottomhole location for the proposed well.

10. Pursuant to Rule 19.15.4.9.B(3) NMAC, the Division provided public notice by publishing notice of DCP's application and the Commission hearing in a newspaper of general circulation in Eddy County.

11. In support of the application, DCP presented direct testimony from two witnesses: one fact witness, Russ Ortega, DCP's Asset Manager, and a technical witness, Alberto Gutiérrez, RG, President of Geolex, Inc.

12. The Oil Conservation Division filed an entry of appearance as an intervener and presented one witness, Phillip Goetze, who testified in support of the Division's recommended conditions of approval outlined in the Division's Prehearing Statement and as modified by agreement of the parties.

13. No objections to the application were filed.

14. Russ Ortega testified that the Artesia Gas Plant has a capacity to process up to 90 MMSCF of sour gas per day, resulting in approximately 2 MMSCFD of treated acid gas. The operation and reliability of the Artesia Gas Plant will be enhanced by approving the Artesia AGI No. 2. It will be operated as the primary injection well and the existing AGI well will be operated as a redundant or backup well as appropriate. The Artesia AGI No. 2 will be capable of operating concurrently with the existing AGI well or each well can operate independently, as appropriate. A second well will allow DCP to

provide more reliable service to producers, reduce flaring events in the field and at the Artesia Gas Plant, and reduce atmospheric emissions.

15. The proposed Artesia AGI No. 2 well is necessary to allow DCP to meet the Artesia Gas Plant's current operating capacity and to meet growing production demand for sour gas processing and waste disposal.

16. DCP's existing SWD No. 1 well, located on the Artesia Gas Plant premises, currently injects approximately 600 barrels per day of produced wastewater resulting from gas gathering and plant operations. The SWD No. 1 well disposes of the produced wastewater in the injection zone that is targeted by the Artesia AGI No. 2 well; consequently, the SWD No. 1 well will be plugged and abandoned before injection in the Artesia AGI No. 2 commences. DCP proposes to dispose of the produced wastewater with the TAG stream in Artesia AGI No. 2. However, DCP is evaluating whether it can locate another viable wastewater injection well to replace the SWD No. 1, or identify an alternative produced wastewater disposal method. DCP prefers to inject only TAG into the Artesia AGI No. 2 and if it can locate an acceptable disposal method for the produced wastewater, it will operate the Artesia AGI No. 2 well as a TAG-only injection well.

17. DCP technical witness Alberto Gutiérrez, RG, testified that injection of TAG through the proposed AGI well will be at a rate of 2.0 MMSCF per day, and at a maximum operating surface pressure of 1,704 psig for TAG only and 916 psig for wastewater only.

18. With a safety factor of 100 percent, or 4.0 MMSCF per day of TAG per well, the radius of influence for each well after injecting for thirty years will be approximately 0.4 miles. The actual projected radius of influence for each well, based on proposed injection volumes, will be approximately 0.25 miles after thirty years of TAG injection. The actual projected radius of influence will be 0.31 miles for wastewater and TAG injection.

19. Three wells penetrate the proposed injection zone within a one-half mile radius of the proposed AGI well. Two of the wells have casing and cement through the injection zones. The third well, DCP's existing SWD No. 1 well, will be plugged and abandoned before injection in the Artesia AGI No. 2 commences.

20. The proposed injection zone is laterally extensive with a high porosity, indicating that it will adequately contain the injected TAG and wastewater within the target injection zone and within the half-mile area of review.

21. The proposed injection zone provides a sufficient geologic seal to contain the injected TAG and wastewater and prevent its migration into other zones. The injection zone is sufficiently isolated from any protectable groundwater sources and there is no evidence injection will impair existing or potential hydrocarbon production in the area. *Nor are there any faulting or other geologic or manmade conduits that will allow the treated injected acid gas to migrate out of the injection zone.*

22. Freshwater will be protected by surface casing, which will extend to approximately 525 feet below the surface. Intermediate casing will extend to approximately 2,700 feet below the surface. Production casing will extend to approximately 4,750 feet measured depth and will include approximately 250 feet of corrosion resistant production casing between 3,400 feet to 3,650 feet to protect the packer and packer seat. All casing strings will be cemented to the surface and pressure tested. The casing and cement program will meet all Oil Conservation Division requirements. The entire production tubing will be lined with fiberglass to prevent corrosion. However, if DCP determines that the Artesia AGI #2 will strictly be a dry injection well, then the tubing may change from fiberglass lined to a standard dry well design using different corrosive resistant material. DCP will inform the Commission of this change prior to initiating the drilling of the well and will provide a revised tubing material design to the Oil Conservation Division.

23. The annular space will be filled with corrosion-inhibited packer fluid that also contains a biocide.

24. Annular and injection tubing pressures, temperatures, and flow rates will be continuously monitored and recorded, as will surface annular pressure, and bottomhole temperatures, and pressures, in the tubing and annulus of the well.

25. Injection of the proposed waste stream will protect the environment and human health, and will not cause waste or impair correlative rights.

26. Phillip Goetze, the Division's witness, presented testimony that the Division proposed several conditions of approval in its Prehearing Statement and that the Division and DCP had reached agreement on the proposed conditions.

27. DCP and the Division reached agreement on the conditions of approval proposed by the Division, as follows:

- a. DCP agrees to conduct a mechanical integrity test ("MIT") on the proposed AGI well every year.
- b. DCP agrees to conduct a step-rate test on the completed well prior to commencing operation.
- c. DCP agrees to incorporate a biocide component in the inert annular fluid of the well.
- d. DCP agrees to conduct continuous monitoring of surface injection pressure, temperature and rate, surface annular pressure and bottomhole temperatures and pressures inside the tubing and annulus of the proposed well.

- e. DCP agrees to keep a maintenance log of its annular fluid replacement activities in the annulus of the proposed well.
- f. DCP agrees to provide summary data on injection parameters monitored in item d. above, as requested by the Division in quarterly reports.
- g. DCP agrees to obtain approval of a H₂S Contingency Plan pursuant to Division Rule 11 that incorporates the activities and operations of the proposed Artesia Gas Plant and the AGI well operations, and to conduct and implement all required air monitoring and safety measures pursuant to that Plan.
- h. DCP agrees that thirty days prior to commencing injection, the operator shall coordinate with the Division to establish immediate notification parameters for annulus pressure and tubing and casing differential pressure at a set injection temperature.
- i. DCP agrees that ninety days after commencing injection, the operator shall review the pre-injection immediate notification parameters with the Division. If the Division determines that the parameters require modification, new immediate notification parameters shall be developed and implemented in coordination with the Division.
- j. DCP agrees that the immediate notification parameters shall be reviewed jointly by the operator and the Division periodically, but not less than once a year.
- k. DCP agrees to submit all logs and the estimated static bottomhole pressure to the Division's District II Office.
- l. DCP agrees to provide signage at active Grayburg wells within a one-mile radius of the proposed AGI well notifying workers that an acid gas injection well is operating within one mile of the posted well and alerting them that appropriate precautions should be taken.
- m. DCP agrees to provide a report following every tenth year of operation summarizing performance of the well and potential calibration of models due to information collected during the period.

THE COMMISSION CONCLUDES THAT:

- 1. The Commission has jurisdiction over the parties and the subject matter of this case.
- 2. Proper public notice has been given.

3. Proper individual notice has been given to all operators, surface owners, and lessees within a one-mile radius of the bottomhole location of the proposed injection well.

4. Under the conditions approved in this Order, DCP's injection of CO₂ and H₂S can be conducted in a safe manner without causing waste, impairing correlative rights, negatively impacting oil and gas producing zones, or endangering fresh water, public health, or the environment.

IT IS THEREFORE ORDERED THAT:

1. DCP's application is approved as provided in the Form C-108 as amended, and as modified by the conditions described below and in Finding Paragraph 27, above. Accordingly, DCP is hereby authorized to drill and operate the Artesia AGI No. 2 well at a surface location 1180 feet from the South line and 2035 feet from the East line (Unit O) of Section 7, Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico, to inject TAG consisting of carbon dioxide and hydrogen sulfide, as well as produced wastewater, into the target injection zones located in the Lower San Andres, Glorieta and Upper Yeso formations at a depth interval of approximately 3,600 feet to 4,300 feet below the surface. The Artesia AGI No. 2 will be a deviated well and will have a bottomhole location approximately 690 feet from the South line and 745 feet from the East line of Section 7, Township 18 South, Range 28 East, NMPM.

2. DCP's request for a maximum allowable operating pressure for injection of 1,704 psig for TAG only and 916 psig for wastewater only is approved.

3. The AGI wells shall be constructed substantially in accordance with the description in the Form C-108 filed by the Applicant in this case, as amended, and as modified at the hearing by the conditions agreed to by DCP and the Oil Conservation Division.

4. DCP shall be required to conduct a MIT in accordance with Division rules on the Artesia AGI No. 2 well once every year.

5. Prior to commencing injection, the operator shall prepare and secure approval by the Division's Environmental Bureau of a hydrogen sulfide contingency plan that complies with Division Rule 19.15.11.9 NMAC.

6. The casing-tubing annulus of the Artesia AGI No. 2 well shall be loaded with an inert fluid treated with corrosion inhibitors and biocides and equipped with a pressure gauge or approved leak-detection device to detect any leakage in the casing, tubing, or packer.

7. Thirty days prior to commencing injection, the operator shall coordinate with the Division to establish immediate notification parameters for annulus pressure and tubing and casing differential pressure at a set injection temperature.

8. Ninety days after commencing injection, the operator must review the pre-injection immediate notification parameters with the Division. If the Division determines that the parameters require modification, new immediate notification parameters shall be developed and implemented in coordination with the Division.

9. The immediate notification parameters shall be reviewed jointly by the operator and the Division periodically, but not less than once a year.

10. The operator shall record injection rates and pressures on a continuous basis and report these readings in a summary form on a quarterly basis to the Engineering Bureau in the Division's Santa Fe Office and to the Division's District II Office. Each such report shall include the well name, location, API Number and the number of this Order.

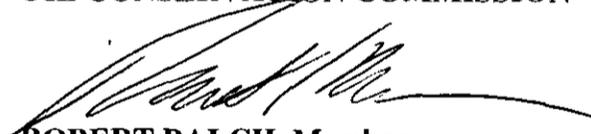
11. The operator shall provide the Division a report every ten years, once injection begins, that compares the reservoir pressures, volumes injected and projected TAG plume extent to those provided in the original Order, along with a summary of all the injection results to date. The report shall include an updated model of current and projected plume migration and shall use the modeling technology in standard use at the time of the report and any available information about plume migration.

12. DCP's existing SWD No. 1 well will be plugged and abandoned before injection in the Artesia AGI No. 2 well commences.

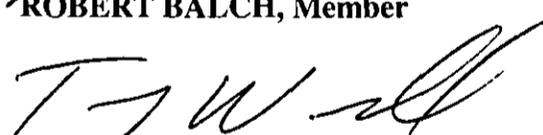
13. Compliance with this Order does not relieve the operator of the obligation to comply with other applicable federal, state, or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

DONE at Santa Fe, New Mexico, on this 17th day of July, 2014.

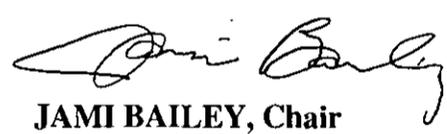
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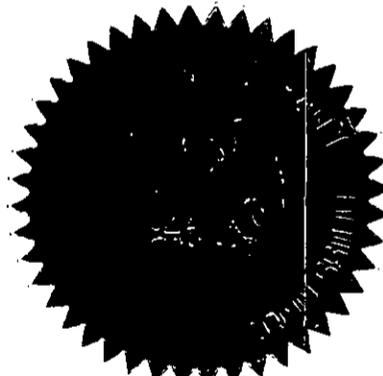
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