

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

**APPLICATION OF LIGHTNING DOCK  
GEOTHERMAL HI-01, LLC FOR APPROVAL  
TO INJECT INTO A GEOTHERMAL AQUIFER  
THROUGH THREE PROPOSED GEOTHERMAL  
INJECTION WELLS AT THE SITE OF THE  
PROPOSED LIGHTNING DOCK GEOTHERMAL  
POWER PROJECT, HIDALGO COUNTY, NEW  
MEXICO**

**CASE NO. 15357**

**APPLICATION OF LIGHTNING DOCK  
GEOTHERMAL HI-01, LLC TO PLACE WELL  
NO. 63A-7 ON INJECTION-GEOTHERMAL  
RESOURCES AREA, HIDALGO COUNTY, NEW  
MEXICO**

**CASE NO. 15365**

**OIL CONSERVATION DIVISION'S PROPOSED  
FINDINGS OF FACT AND CONCLUSIONS OF LAW**

The Oil Conservation Division ("OCD") submits its Proposed Findings of Fact and Conclusions of Law to the Oil Conservation Commission ("Commission"), pursuant to the Procedural Order dated October 2, 2015<sup>1</sup> with respect to the LDG's four geothermal injection applications. These Proposed Findings and Conclusions, along with those submitted by other parties, will help the Commission expedite a process that has extended far longer than anticipated. Accordingly, OCD submits its Proposed Findings and Conclusions as to limited matters, as OCD believes other parties that have put on extensive testimony will submit other proposed findings and conclusions to the Commission.

**I. PROPOSED FINDINGS OF FACT**

1. LDG applied to the OCD to drill new geothermal injection wells for the following wells: LDG 63A-7, LDG 15-8, LDG 76-7, and LDG 13-7. LDG filed the applications for LDG 15-8 and 76-7 with the OCD on or about June 9, 2015. LDG filed the application for LDG 13-7 on or about June 16, 2015, and LDG filed its application for LDG 63A-7 on July 1, 2015

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<sup>1</sup> AmeriCulture, Inc. ("AmeriCulture"). Lightning Dock Geothermal, HI-01, LLC ("LDG"), and OCD also agreed at the September 11, 2015 Commission hearing to submit proposed findings of fact and conclusions of law to the Commission when the Commission hearing reconvened on October 7, 2015. Counsel for the Hidalgo Soil & Water Conservation District (the "District"), intervener in this matter, while present at the start of the hearing on September 10, was not present on September 11, 2015, and, therefore, the District's position was unknown.

(collectively, the “Applications”). LDG made application to the OCD pursuant to 19.14.52.8 NMAC, 19.14.55.8 NMAC, and 19.14.93.8 NMAC and submitted all requisite documents to OCD.

2. AmeriCulture objected to the Applications within 20 days of LDG’s submittal of said Applications to OCD.

3. AmeriCulture, by and through its counsel, Lakins Law Firm, P.C., on August 12, 2015, filed an Application for Hearing and noted its protest to the Applications and requested a hearing. The Commission had already set the matter for hearing, since AmeriCulture had previously filed an objection to the Applications.

4. After the OCD Director, pursuant to NMSA 1978, Section 71-5-6 (B) initially set three of the Applications for hearing in August and one for hearing in September, the Commission dockets were consolidated and all Applications were set for hearing on September 10, 2015. Notice of the hearing was posted on the OCD’s website and published in the Hidalgo County Herald.

5. AmeriCulture, LDG, and OCD all filed pre-hearing statements in this matter. The District filed a Notice of Intervention. The OCD attached to its pre-hearing statement proposed conditions of approval OCD asked the Commission to attach to the approval of LDG’s Applications.

6. All parties appeared at the September 10, 2015, hearing through counsel.

7. The Commission “has jurisdiction over all matters relating to the conservation of geothermal resources...[and all] things necessary or proper to enforce effectively the provisions of the Geothermal Resources Conservation Act or any other law of this state relating to the conservation of geothermal resources and the prevention of waste of potash as a result of geothermal operations.” NMSA 1978, § 71-5-6 (A).

8. LDG proposed to locate LDG 76-7 1896 feet from the South line and 1128 feet from the East line (Unit I) of Section 7 in Township 25 South, Range 19 West NMPM, Hidalgo County, New Mexico.

9. LDG proposed to locate LDG 13-7 1537 feet from the North line and 504 feet from the West line (Unit E) of Section 7 in Township 25 South, Range 19 West NMPM, Hidalgo County, New Mexico.

10. LDG proposed to locate LDG 15-8 2141 feet from the South line and 345 feet from the West line (Unit L) of Section 8 in Township 25 South, Range 19 West NMPM, Hidalgo County, New Mexico.

11. LDG proposed to locate LDG 63A-7 1934 feet from the North line and 1403 from the East line (Unit G) of Section 7 in Township 25 South, Range 19 West NMPM, Hidalgo County, New Mexico.

12. The evidence shows the proposed locations of LDG 76-7, LDG 13-7, LDG 15-8, and LDG 63A-7 (collectively, “the Wells”) meet the location requirements of 19.14.23 NMAC.
13. All of the Wells are located within Federal Lease NM-34970 in the Lightning Dock Known Geothermal Resource Area (the “Geothermal Resource Area”).
14. The evidence supports OCD’s proposed conditions of approval with respect to drilling of the Wells.
15. The evidence supports OCD’s proposed conditions of approval with respect to placing the Wells on injection.
16. The evidence demonstrated that certain dissolved constituents exist naturally at concentrations far in excess of the state’s water quality standards. The constituent levels of any monitoring plan should be based on 20.6.2.3103 NMAC, with the exception of fluoride, sulfate, and total dissolved solids. The evidence shows that the Geothermal Resource Area has naturally occurring elevated levels of fluoride, sulfate, and total dissolved solids and, therefore, 20.6.2.3103 NMAC is not an appropriate baseline level for any monitoring plan for those constituents. Further, the evidence demonstrated that any monitoring plan should require LDG to immediately notify OCD if fluoride concentrations exceed 17 mg/l, sulfate exceeds 1200 mg/l, total dissolved solids exceed a concentration of 2200 mg/l, or other constituents not otherwise listed exceed 20.6.2.3103 NMAC.
17. The evidence demonstrated that water quality appears to be variable in the Geothermal Resource Area, both laterally and vertically.
18. The evidence demonstrated that geothermal resources behave in a complex manner with shallow and deep groundwater interaction via highly variable permeability.
19. Evidence demonstrated that LDG never introduces a regulated constituent into the groundwater at any point during its operations.
20. Evidence demonstrated that the OCD and Commission have a duty to comply with the spirit and intent of the Geothermal Resources Conservation Act.
21. Pursuant to the Geothermal Resources Conservation Act, NMSA 1978, Section 71-5-2 (A), the state of New Mexico has a “direct and primary interest in the development of geothermal resources.” The Commission reviewed the Applications and considered all evidence in light of all purposes of the Geothermal Resources Conservation Act set forth in § 71-5-2.
22. LDG’s production and injection will continue from the same reservoir from which it currently develops geothermal resources.

## **II. PROPOSED CONCLUSIONS OF LAW**

1. Requisite notice of the Commission hearing of the Applications was properly made, and the Commission has jurisdiction of the subject matter and the parties hereof.

2. The conditions proposed by the OCD are reasonable and will afford reasonable protection to the environment and health as required by statute.
3. LDG's Applications comply with the statutory requirements of the Geothermal Resources Conservation Act and the associated rules.
4. The Water Quality Act, NMSA 1978, Section 74-6-2.G provides that the Water Quality Act does not apply when other laws confer power on the Commission to prevent or abate water pollution. The "other laws", referred to in the Water Quality Act, apply to this case, as the Commission (and the OCD), under the Geothermal Resources Conservation Act, regulates any geothermal activity related to the prevention or abatement of water pollution.
5. Neither the Water Quality Act nor Water Quality Control Commission regulations apply to Class V geothermal injection wells, as New Mexico's application for primacy under the federal Underground Injection Control program provides that geothermal resources are regulated under the Geothermal Resources Conservation Act. As LDG's Applications are solely for injection wells, the Applications are governed exclusively by the Geothermal Resources Conservation Act.
6. LDG's current operations involve the use of ground water over two hundred fifty degrees Fahrenheit and meets the statutory requirements of NMSA 1978, § 71-5-2.1, and, therefore, a permit from the state engineer is not required. The permitting of the injection wells has shown continued conformity with NMSA 1978, § 71-5-2.1 and will not require a permit from the state engineer. The Commission has exclusive jurisdiction over the Applications.
7. Any LDG production and/or injection within the area within the boundaries of the current and proposed LDG wells (the "Area") shall be subject to the findings and conclusions of this Commission order and the parties shall be collaterally estopped from raising these issues again before the Commission and OCD with respect to any applications within the Area.

Respectfully submitted,

OIL CONSERVATION DIVISION

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