

**STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION**

**Meeting Minutes
Regular Meeting
October 7, 8 and 9, 2015
Porter Hall
Wendell Chino Building
1220 S. St. Francis Drive
Santa Fe, New Mexico 8705**

MEMBERS PRESENT:

David R. Catanach Chair, Oil Conservation Division
Robert Balch Designee, Energy, Minerals and Natural Resources Department
Patrick Padilla Designee, New Mexico State Land Commissioner

OTHERS PRESENT:

Bill Brancard, Counsel for the Commission

The meeting was called to order by Chair Catanach at 1:00 p.m. on October 7, 2015.

Item 1. Roll Call.

Roll was taken; a quorum was present.

Item 2. Approval of Agenda.

Action: Commissioner Padilla moved adoption of the agenda. Commissioner Balch seconded the motion. The motion passed unanimously.

Item 3. Approval of minutes of September 10-11, 2015 meeting.

Action: Commissioner Padilla moved to approve the minutes. Commissioner Balch seconded the motion. The motion passed unanimously.

Item 4. Approve and adopt an order in Re-opened Case 15193, application of Frontier Field Services for Authorization to Inject, Lea County, New Mexico.

Action: Chair Catanach announced that all Commissioners had reviewed and approved a draft order in this case. Commissioner Balch moved to approve and adopt the order. Commissioner Padilla seconded the motion. The motion passed unanimously. Order No. R-13443-C in re-opened Case 15193 was signed by all Commissioners.

Cases 15357 and 15365 have been consolidated by order of the Commission, and the Commission has entered procedures for the consolidated hearing. The consolidated cases were partially heard at the September 10-11, 2015 Commission meeting and continued to the October 7, 2015 Commission meeting.

Item 5. Case 15357, Applications 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.

Item 6. Application of Lightning Dock Geothermal HI-01, LLC to place Well No. 63a-7 on injection, Geothermal Resources Area, Hidalgo County, New Mexico.

Action: Appearances were made by Michelle Henrie and Pat Rogers for Lightning Dock Geothermal HI-01, LLC (Lightning Dock); Allison Marks for the Oil Conservation Division (OCD); Charles Lakins for AmeriCulture, Inc. (AmeriCulture); and Meira Gault for the Hidalgo County Soil & Water Conservation District (HSWCD). Ms. Marks stated that she had filed a Motion of Errata and Motion to Correct Record of the September 10-11 Commission Meeting. She said there was an error on page 201 of the second day's meeting transcript in which a comment she made had been attributed to Ms. Henrie. She asked the Commission to take the appropriate steps to correct the error. Commissioner Balch moved to correct the error. Commissioner Padilla seconded the motion. The motion passed unanimously.

Proposed Findings of Fact and Conclusions of Law were presented to the Commission by Mr. Rogers for Lightning Dock and by Ms. Marks for OCD. Mr. Lakins presented a Proposed Order.

A statement was made by Scott Richens, a local businessman in Hidalgo County, in support of Lightning Dock's applications. He presented letters for the record from community businesses in support of Lightning Dock.

AmeriCulture's first witness was Daniel Hand, Engineer/Owner of Sustainable Engineering in Puyallup, Washington, with consulting experience in the geothermal area. He discussed hydraulic conductivity and described a closed geothermal system. He said there is no hydraulic path for water injected into the alluvial to get to the deeper production level. He discussed AmeriCulture's proposed small geothermal power plant. He pointed out the harm to AmeriCulture that a drop in temperature will cause. Ms. Marks, Ms. Henrie, Ms. Gault, Commissioner Balch, Commissioner Padilla and Chair Catanach cross-examined the witness, and he was excused.

The next witness for AmeriCulture was James Witcher, Consultant and Principal of Witcher and Associates in Las Cruces, New Mexico. He described his experience at taking various tests on the Lightning Dock system. He said he had reviewed reports, published articles and literature on the Lightning Dock project. He expressed his concern that geothermal fluids injected into a shallow aquifer will not go back into the geothermal reservoir. At this time Ms. Henrie and Ms. Marks objected to Mr. Witcher making a power point presentation, Exhibit B, because the revised exhibit was only submitted at the beginning of today's meeting. Counsel Brancard recommended that the witness be allowed to walk through the exhibit and have the Commission decide afterwards if it should be admitted. After a motion by Chair Catanach and a second to the motion by Commissioner Padilla, the Commission voted unanimously to close the meeting pursuant

to NMSA 1978, Section 10-15-1-H to deliberate on the matter. After a motion by Commissioner Padilla and a second by Commissioner Balch, the Commission voted unanimously to go back into open session. Chair Catanach announced that the objection to Exhibit B, the power point presentation, was the only matter discussed during the closed session. Counsel Brancard compared the original Exhibit B with the new exhibit proposed today, and it was determined that the differences were fairly significant and only the original exhibit will be accepted. Mr. Wichter gave an overview of the geology in the Animas Valley. He provided a summary of the subsurface geology including structural elements. He discussed geophysical faults, isotopic composition and permeability. The witness was excused.

The meeting was recessed at 5:05 p.m. on October 7, 2015.

The meeting was reconvened at 8:40 a.m. on October 8, 2015. James Wichter continued his testimony. He discussed water flow from one basin to another. He identified several sources of fluoride. He explained mounding of shallow groundwater. He discussed geohydrology, conductive heat loss and heat flow. He described the components of geothermal systems. Mr. Lakins agreed to supplement the record to provide the source of data presented in Exhibit BB. Ms. Marks, Ms. Henrie, Ms. Gault, Commissioner Padilla, Chair Catanach and Commissioner Balch cross-examined the witness, and he was excused.

AmeriCulture's next witness was Damon Seawright, President of AmeriCulture, Inc. in Animas, New Mexico. He described AmeriCulture's business and how it operates. He explained the use of his wells and the connecting pipelines to the facility. He said that injecting into the shallow aquifer will have a critical impact on his operations. He discussed the hydraulic connection between AmeriCulture wells and Lightning Dock wells. He listed the statutes and regulations that he believes will be violated by the approval of the Lightning Dock injection wells. He said the injection of cold water into the geothermal resource will decrease the temperature. He asked the Commission to take administrative notice of Order No. R-13675-B. He discussed the small power plant proposed by AmeriCulture to be used for self-sufficiency. He advised the Commission of the permitting by OCD and the State Engineer of AmeriCulture's power plant. He discussed the lease granted by the State Land Office (SLO) including provisions regarding the power plant. He talked about the Joint Operating Agreement between Lightning Dock and AmeriCulture. He stated that Lightning Dock does not have the water rights to provide AmeriCulture with water under the agreement. He said that AmeriCulture's correlative rights and water rights will be impaired by the injection proposed by Lightning Dock. Ms. Marks, Ms. Henrie, Ms. Gault, Chair Catanach, Commissioner Balch, Commissioner Padilla and Counsel Brancard cross-examined the witness, and he was excused.

A discussion was held regarding the calling of rebuttal witnesses.

The meeting was recessed at 5:20 p.m. on October 8, 2015.

The meeting was reconvened at 8:40 a.m. on October 9, 2015. Ms. Henrie made a statement withdrawing the application of one of the proposed

injection wells, No. 63A-7. She said an application for another injection well further away from the AmeriCulture property will be submitted. Mr. Lakins objected to the calling of rebuttal witnesses to testify to anything other than new or unexpected testimony presented by previous witnesses. Ms. Marks asked if the Commission order resulting from this hearing could include findings and orders to address the hearing requirements for other hearings regarding this matter. She was in favor of allowing rebuttal witnesses to testify. Counsel Brancard said it is appropriate rebuttal and it was allowed.

The first rebuttal witness for Lightning Dock was Roger Bowers, Project Geologist with Cyrq Energy in Salt Lake City, Utah. His testimony related to the temperature of the Lightning Dock wells, mud logs, and the effect of casing down to 500 feet. Mr. Lakins, Chair Catanach, Commissioner Balch and Commissioner Padilla cross-examined the witness and he was excused.

Lightning Dock's second rebuttal witness was Monte Morrison, with Cyrq Energy in Fallon, Nevada, whose testimony related to increased injection rates for four injection wells and Lightning Dock's injection plan. Mr. Lakins, Ms. Gault, Commissioner Balch, Commissioner Padilla and Chair Catanach cross-examined the witness and he was excused.

The third rebuttal witness for Lightning Dock was Dr. John Shomaker. His testimony related to velocity of flow and volume of production and injection activities proposed by Lightning Dock. Mr. Lakins, Commissioner Balch, Commissioner Padilla, Chair Catanach and Counsel Brancard cross-examined the witness, and he was excused.

Commissioner Balch recalled Roger Bowers to answer questions about the alluvial thickness under the area and silicified sediment as a potential marker bed. The witness was excused.

Closing statements were made by Ms. Henrie, Mr. Lakins and Ms. Gault. Counsel Brancard discussed the procedure of going into deliberations. Chair Catanach announced that an e-mail would be sent to all parties by 2:00 or 3:00 in the afternoon advising when the Commission will come back into open session. After a motion by Commissioner Balch and a second to the motion by Commissioner Padilla, the Commission voted unanimously to close the meeting at 11:15 a.m. pursuant to NMSA 1978, Section 10-15-1-H to deliberate on consolidated Cases 15357 and 15365. After a motion by Commissioner Balch and a second by Commissioner Padilla, the Commission voted unanimously to go back into open session at 2:30 p.m. Chair Catanach announced that consolidated Cases 15357 and 15365 were the only matters discussed during the closed session. Counsel Brancard stated the Commission's decision as follows:

After considering the testimony, applications and evidence presented by all parties, the Commission unanimously agrees to approve the three injection wells subject to certain conditions, including:

1. Intermediate casing in all three wells shall go to 150 feet below the base of the shallow aquifer as demonstrated by the silicified sediment marker bed, and

2. The Commission shall provide more specific conditions of approval based on the conditions submitted by OCD and will tailor the conditions that are currently provided in Order No. R-13675-B.

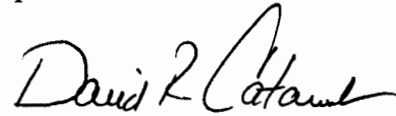
Counsel Brancard explained that these conditions require a water quality sampling to be submitted which will be made public. He said that a fourth injection well application can be administratively approved by the OCD if it is located south of the current Well 55-7. He said any further applications for action on geothermal injection wells consistent with this order shall be subject to Division approval and will not require Commission approval; however, the Commission reserves jurisdiction over approvals for wells in the northwest quarter of Section 7 directly overlying the upwell zone of the deep geothermal aquifer.

Counsel Brancard said he would prepare a draft order based on the Commission's decision and the proposed orders and findings provided by the parties. Chair Catanach announced that the record in these cases will be left open pending review of the draft order.

Item 8. Next meeting: November 5, 2015

Item 9. Adjournment

The chair adjourned the meeting at 2:40 p.m.



DAVID R. CATANACH, Chair