

THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

BEFORE COMMISSIONERS: Pat Apple, Chairman
Shari Feist Albrecht
Jay Scott Emler

In the Matter of the Application of Quail Oil
& Gas, LC to authorize injection of saltwater
Into the Arbuckle formation at the Sly 2-6
SWD well, located in the NE NE SE of
Section 6, Township 17S, Range 6E in
Morris County, Kansas

Docket No. 17-CONS-3484-CUIC

CONSERVATION DIVISION

License No. 33185

TESTIMONY OF CINDY HOEDEL ON BEHALF OF PROTESTANTS

May 22, 2017

Q. Please state your name

A. Cindy Hoedel

Q. Where do you reside?

A. Matfield Green, Kansas

Q. Is your home in the Flint Hills region?

A. Yes.

Q. As the crow flies, how far is your home from the Quail Injection well site?

A. Approximately, 32 miles.

Q. Are you one of the protestants in this matter?

A. Yes.

Q. What is the purpose of your testimony?

A. My testimony focuses on some of the financial consequences of damages caused by earthquakes.

More specifically, I am concerned about the losses incurred by individual homeowners. I also discuss the benefits derived from the state policy that restricts development of utility-scale wind turbines in the Flint Hills and how injection wells in the region may deter tourism in the Flint Hills.

Q. What is your concern regarding financial consequences stemming from earthquakes that pertain to individual homeowners?

A. The investment in my residence is the most significant financial obligation I have. It's important that I protect and preserve that investment in all reasonable ways. However, after experiencing the so-called

Pawnee earthquake on September 3, 2016, that caused my house to shake, the prospect of further seismic activity caused by Quail's proposed underground injection well causes me concerns that my house will incur earthquake damage that undermines its value.

Q. Are you familiar with earthquake damage in Cushing, Oklahoma?

A. Yes. Based on media accounts I understand that damage was common to residential structures, businesses and public buildings.

Q. What is your understanding regarding the cause of the earthquakes that have caused damage in Cushing?

A. I understand that the earthquakes in the Cushing area are caused by the use of injection wells.

Q. Do you currently have insurance coverage for damage to your residence caused by earthquakes?

A. No.

Q. Why do you not have insurance coverage for earthquake damage?

A. It is an expense and coverage that I did not believe I needed prior to the 2016 Pawnee Earthquake and the March 2017 U.S. Geological Survey (USGS) report that linked high-pressure injection wells with seismic activity.

Q. Please explain the basis for your decision to not purchase earthquake damage insurance.

A. USGS reports that, historically, this part of the United States has not been prone to earthquakes. However, the USGS report indicates a sharp increase in induced earthquakes with a magnitude greater than 2.7 in the area of northern Oklahoma and southern Kansas in recent years. I understand that purchasing insurance coverage for damages caused by natural disasters such as tornado and hail damage

to my residence makes sense. However, induced earthquakes, such as those caused by injecting wastewater into geologic formations characterized by a network of faults, are caused by human activity and are not the product of natural phenomena or accidents. But human-induced earthquakes are events that, prior to a few years ago, did not exist in this part of the United States. Hence, in the past I did not need earthquake damage insurance coverage because seismic activity was nearly non-existent in the Flint Hills region.

Q. Why do you not purchase insurance coverage for human-induced earthquakes?

A. As a matter of principle, it is unfair for me to pay for insurance coverage to cover damage that is completely foreseeable and preventable by the operators of injection wells. Additionally, while insurance coverage is a recognized means to share risks, in the context of this injection well application, insurance is a subsidy to the injection well owner.

Q. Please explain.

A. Insurance coverage for induced earthquake damage allows the injection well operator to avoid the expense of siting in a location that is not as significantly affected by extant faults, such as the area where Quall gas chosen to site the well. Avoiding this expense is a subsidy to the injection well owner at the expense of others affected by induced earthquakes. My understanding is that there are certain geological formations that are more stable because fewer faults characterize the substrata. These areas are, as I understand, less prone to induced earthquakes.

Q. Do you have concerns about earthquake damage to stone and masonry buildings in the area of the proposed injection well?

A. Yes. In particular, I am concerned about the impacts of earthquakes on important historical

structures at the Tallgrass National Preserve (only approximately 14 miles from the proposed injection well site), Council Grove, Strong City and Cottonwood Falls. Based on the damage experienced in Cushing, Oklahoma it is reasonable to project similar earthquake damage to stone and masonry buildings in the Flint Hills area. Such damage would likely require extensive and costly repairs and undermine the area's value as a tourist destination.

Q. Are you categorically opposed to injection wells?

A. I am not inherently opposed to the use of injection wells as long as such are located in areas that are not characterized by faults the movement of which can cause earthquakes. However, when injection well operators deliberately select a location characterized by extensive faults and therefore, earthquake prone, it is their responsibility to compensate for damages caused by operation of their wells. Insurance coverage allows injection well operators to shift responsibility for their damage to property owners and/or their insurers. In effect, irresponsible injection well operators are effectively encouraged to continue to site wells in areas that are earthquake prone irrespective of the damage such cause.

Q. Are you familiar with a policy advanced by the State of Kansas related to protecting the Flint Hills from certain kinds of development?

A. Yes. I understand that the state has a policy that prohibits development of utility-scale wind turbines in 11,000 square miles of the Flint Hills.¹

Q. What is your understanding of the rationale of this policy?

A. The policy is intended to enhance the Flint Hills as a destination for tourists and for economic benefits that such activities bring to the region. The policy makes protection of the Flint Hills' natural attributes a

¹ <http://www.kansas.com/news/article1064178.html>

priority that is above development of wind energy.

Q. What does this policy have to do with the UIC application in this matter?

A. Just as large utility-scale wind generators have the potential to detract from the inherent natural attributes of the Flint Hills so too can injection wells. Along with the specter of earthquakes there is the increased noise, traffic and dust that are inevitable parts of the drilling and operation of an injection well. These consequences are not conducive to developing the Flint Hills as a tourist destination.

Q. What are you requesting the Commission to do in this matter?

A. First, I request that the Commission determine that operation of the proposed injection well represents an imminent hazard to the health and well-being of the residents of the Flint Hills. Second, the Commission should adopt a policy that prohibits operation of injection wells in areas that are characterized by faults that represent increased risks for induced earthquakes when compared to areas without such faults.

Q. Does this conclude your testimony?

A. Yes.

VERIFICATION

STATE OF KANSAS

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COUNTY OF LYON)

ss:

Cindy Hoedel, of lawful age, being first duly sworn upon oath, deposes and states: That she is responsible for the testimony to which this verification is attached, that she has read the above and foregoing and that the statements therein contained are true and correct according to her knowledge, information and belief.

Cindy Hoedel

Cindy Hoedel

Subscribed and sworn to before me this 22 day of May, 2017.

My appointment expires: 6-8-19

Erica Tanner
Notary Public

