

Before the Standing House Energy, Utilities, and Telecommunications Committee
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Comments of KCC Staff on Induced Seismicity

By

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Chair Seiwart, Vice Chair Schreiber, Ranking Minority Member Kuether, and members of the committee, thank you for the opportunity to discuss the topic of induced seismicity with you.

The invitation requested updates on seismicity concerns in the counties of Harper, Reno, and Sedgwick. I will address each of those areas in that order.

Harper County

In 2015, in response to the increased seismic activity, the KCC issued an Emergency Order in Docket 15-CONS-770-CMESC that established county-wide disposal volume limits, required 23 wells to be plugged back up into the Arbuckle formation, reduced daily maximum volumes for five areas gradually to 8,000 barrels per day, and required the monthly reporting of injection of daily injection volumes for all Arbuckle saltwater disposal wells permitted for more than 5,000 barrels per day. The Commission extended the provisions of the Emergency Order later in 2015 and issued a Second Order Reducing Injection Rates. The Second Order established a maximum daily disposal volume of 16,000 barrels per day for specific areas outside of the original five areas. In September of 2019, the KCC found the emergency conditions that led to the opening of the docket no longer existed and made the decision to close the docket. In closing the docket, the KCC found the prior Orders precedential which requires those conditions established above to be continuing for the areas within the Orders.

While the concerning seismic activity in the Harper County area has subsided, KCC Staff is still active in the region in several ways. KCC Staff has provided information and discussed potential regulatory actions with its counterparts from the Oklahoma Corporation Commission (OCC) in response to a magnitude 4.2 earthquake that occurred three miles south of the Kansas border. No regulatory action was necessary on the Kansas side of the border based on injection activity but KCC Staff will continue to monitor the area and share data with the OCC. One tool that will make this type of effort easier is the development of a well and seismic mapping tool. KCC Staff and the KDHE have approached the contractor who developed the OCC version of this tool. Work has begun on a prototype and when the tool is finished, it will provide the KCC and KDHE the ability to review areas in response to earthquakes and to review seismicity in the area

of a proposed well prior to permitting. Currently, both of these tasks require pulling data from various sources so having it all in one tool will greatly enhance reaction time. As part of the development of this tool, KCC Staff is reviewing injection regulations to determine if there is a subset of wells whose data should be collected more frequently to make the tool most useful.

Reno County

In February 2020, the KCC opened an investigatory docket (20-CONS-3218-CINV) to keep the public and the Commission apprised of the investigation of Commission Staff into the causes of increased seismic activity occurring in Reno County and provide a forum by which the Commission may take any advisable action as it relates to increased seismic activity in Reno County. Commission Staff has monitored the situation in Reno County, both from a volume standpoint and an earthquake standpoint. Staff has filed quarterly reports providing this information to the Commission. In short, there has been very little change in the Class II Arbuckle disposal volume for the 25 wells within the 15-mile investigative radius. In fact, the Class II Arbuckle disposal volumes were just over 2.7 million barrels less in 2020 for the same wells as 2015. Further, there has been very little seismicity since the opening of the docket. For those reasons, KCC staff has not made any recommendations for regulatory action in this matter.

It is important to note that Reno County is different than the Harper County area covered by prior Commission dockets in that it also contains Class I disposal wells regulated by the Kansas Department of Health and Environment. During the past year, communication between the two agencies has dramatically improved. The joint effort regarding the well and seismic mapping tool mentioned previously is a prime example of the improved communications.

Sedgwick County

After the earthquakes started in the Wichita area in November of 2020, KCC Staff reached out to Class II Arbuckle or deeper disposal well operators within six miles of the original epicenters to obtain volume disposal data. There were four wells within the original 6-mile search area. KCC Staff provided this data to the KGS and the KDHE. At that time, the nature of the earthquakes combined with injection data suggested natural cause for the earthquakes. In January of 2021, the KGS notified KCC Staff that the earthquakes could no longer be considered non-natural without further information. KCC Staff has provided volumes for 61 Class II Arbuckle wells within 15 miles of the original epicenters. Most recently, KCC Staff has asked operators for further detailed information and will provide it as soon as possible so that we can attempt to understand any potential causes to the recent earthquakes.

Thank you for the opportunity to speak to you today. I will gladly stand for questions.