

Memorandum

To: Commissioners Christmann, Haugen-Hoffart and Fedorchak

From: Victor Schock, Director of Public Utilities

VS

Date: September 19, 2023

Re: Public Service Commission, Kessler Shadow Flicker, Investigation, Case No. PU-23-308

On February 2, 2023, Keith Kessler (701-891-8164) contacted me noting excessive shadow flicker at 2640 57th Ave SW, Beulah, ND. At that time, he noted that the shadow flicker had already stopped for that part of the year but would start again later in the fall. I asked him to contact me when or preferably before that occurs.

On September 7, 2023, Keith Kessler called to advise the shadow flicker should be starting the following week.

On September 13, 2023, Rob Frank and I visited the location to document the shadow flicker and relevant details. We arrived before sunrise at approximately 7:10am central time and left after the shadow flicker had ceased at approximately 9:00 am.

The house/receptor site is located in the NW1/4 of Section 15, Township 141N, Range 87W at approximately 47.034623, -101.691589 elevation 685 meters. Alternate tools also registered elevation of 2367ft.

Shadow flicker on the house began at approximately 8:40am (Central time) on September 13, 2023, and ended at approximately 8:55am on September 13, 2023. The shadow flicker was observed visually and recorded on video.

The shadow flicker was caused by tower B442, but it became apparent at the site that multiple towers were within range and elevation to produce shadow flicker depending on the time of year. With that in mind, data was collected for towers B439 through B443.

B439 47.025196, -101.697003 705.7 meters, Alternate tools also registered elevation of 2503ft.

B440 47.027686, -101.691386 696.0 meters, Alternate tools also registered elevation of 2557ft.

B441 was not erected at the time of visit. Tower sections were sitting on crates on the ground.

B442 47.033618, -101.683455 701.7 meters, Alternate tools also registered elevation of 2459ft.

B443 47.037261, -101.679180 693.1 meters, Alternate tools also registered elevation of 2419ft.

Normally staff would review the shadow flicker modeling that was submitted with the original siting application for a project to review for any differences from that model. In this case, this house/receptor site was not included in the original modeling, so we do not have a reference point to begin with.

I have been in contact with David Moeller with Allete about this shadow flicker issue. His last communication indicated that Allete is willing to voluntarily curtail the shadow flicker for this receptor. I will be providing the details in this memorandum to Allete and will await their answer as to when and to what degree their voluntary curtailment will begin.

Staff will provide another update to the Commission after receiving responses from Allete and Mr. Kessler.