

***Text of e-mail sent by Jim Windsor to Council in response to report on Perche Creek capacity 10/7/19***

A simple reading of the report to Council titled "Capacity of Perche Creek Substation" would give the impression that "existing substation capacity should be adequate for up to 10 years."

This is accomplished by redirecting the discussion to the "system" rather than focusing on Perche Creek Substation. Based on my work experience, I know that customer growth rate and load forecasts have never been tracked at the substation level and is a totally different issue. The report is further misleading because recent years were compared to the last system peak year when the difference in temperature isn't mentioned (105 for historic peak was mentioned but the comparative temperature of 97 for Quanta report was not).

The original issue is that Perche Creek Substation is connected by only one transmission path, and during recent years when temperatures reached 97 degrees, both transformers were loaded at 80% of their capacity. Loads can not be switched to the other transformer if a failure occurs. Currently, Westbury Village is under construction and all the load will be added to Perche Creek Substation. In addition, it should not be assumed that summer temperatures will remain at or below 97 degrees. *{Historic Columbia temperature records - 94 days of 100 degrees or higher; 45 days of 105 degrees or higher; 14 days of 110 degrees or higher}* Looking forward, the Climate Adaptation Plan projects higher temperatures and the "electrification" of current use of natural gas and motor fuels.

This is a poor quality report and the Council should ask that staff do better. Possible improvements:

**Look at Perche Creek Substation only:**

1. Collect annual customer growth information for each substation transformer at Perche Creek back to the last system peak (2011). This should be possible because the information is computerized - service installation date; distribution transformer and circuit information.
2. Based on Westbury Village plans, estimate customer and load information currently under construction.
3. Using substation level load and customer data, forecast substation transformer loading under record temperature scenerios.

Other missing information that Council should expect in the report that isn't included:

1. Age of transformers at Perche Creek Substations?
2. Last time that a substation transformer failed...date and under what level of load?
3. What level of loading is present in the "adjacent" substations that are mentioned as possible if a Perche Creek transformer fails? This should be at circuit level to determine if transfer is actually possible or if a new "express" feeder would have to be installed to complete the transfer.
4. Estimate how long black-outs (report uses "load shedding" terminology) would be necessary to replace a substation transformer or install an express feeder, if there was a failure at Perche Creek.

Ratepayers, particularly those along Scott Blvd, deserve better information than what is in the report sent to Council. More transpacy is needed on this critical issue.

Jim Windsor - Ratepayer