

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,
Complainant,

DOCKET UG-170929

v.

CASCADE NATURAL GAS
CORPORATION,

Respondent.

CASCADE NATURAL GAS CORPORATION

EXHIBIT BR-8

BRIAN ROBERTSON

*CNGC's Supplemental Response to WUTC DR 67
issued in UG-152286*

March 23, 2018

CASCADE NATURAL GAS CORPORATION
Washington Utilities and Transportation Commission
General Rate Case
UG-152286

Request No. 67

Date prepared: 2/29/2016

Preparer: Brian Robertson

Contact: Michael Parvinen

Telephone: 509-734-4593

UTC STAFF DATA REQUEST NO. 67: Supplemental

Re: Weather Data Source

- a. Please identify the source of weather (heating degree days, or HDD) data used in the Company's weather sensitivity regression model.
- b. If the HDD data is from a source other than National Oceanic and Atmospheric Administration (NOAA), please explain the reasons for using the chosen data set.
- c. If the weather data is from a source other than NOAA, please include all relevant product descriptions provided by the vendor within the Company's possession, including its underlying data source, computation methods, etc.
- d. Please explain whether the HDDs used in the regression model are aggregated from daily averages of hourly temperatures or the averages of the daily maximum and minimum temperatures.
- e. Please explain in detail why the Company chose to use the HDD base point of 60 degrees Fahrenheit (HDD 60) rather than a base point of 65 degrees (HDD 65).

Response:

- a. The source of weather used in the Company's weather sensitivity regression model is Schneider Electric.
- b. There are a few reasons the company decided to switch from NOAA to Schneider Electric:
 - i. NOAA has published daily weather data with missing weather data.
 - ii. NOAA only publishes a 30 year "normal" every 10 years, which Cascade believes is an issue for the forecast model. For example, if Cascade used NOAA's current normals for the 2016 forecast we would be using 1981-2010 data while ignoring the most recent 2011-2015 weather data.
 - iii. Cascade also wanted to be consistent with MDU and IGC by using the same data.
- c. The contract from Schneider Electric, Confidential WUTC(c), which was formerly Telvent DTN, has been provided under confidential agreement. Schneider provides the daily maximum and minimum temperatures to Cascade and we calculate our own HDDs and "normals". Confidential WUTC-67

CASCADE NATURAL GAS CORPORATION
Washington Utilities and Transportation Commission
General Rate Case
UG-152286

Methodologies and Processes.pdf from Schneider Electric, has also been provided under confidential treatment.

- d. The HDDs used in the regression model are aggregated from daily averages of the daily maximum and minimum temperatures.
- e. As previously mentioned during the IRP Process Cascade decided to switch from a 65 to 60 degree reference temperature when calculating HDDs. Cascade found that changing the reference temperature increased the accuracy of the long term forecast. The main reason for this is because customers are generally not using gas until temperatures are below 60°F. Please refer to WUTC-DR 67(e).xlsx to see a month by month error and a mean absolute percentage error (MAPE) for the different reference temperatures. Below is an example of the improved regressions from the Acme CityGate:

