

Duke Energy Carolinas, LLC & Duke Energy Progress, LLC  
Docket NO. M-100, Sub 163  
PSDR No. 2-14. Company View of Pending Storm – Wind and Cold Weather Event  
Period: December 19, 2022 through December 24, 2022

Duke Meteorology Weather

**Wednesday, December 21<sup>st</sup>:**

*Regarding the temperature forecasts:*

The daily weather forecast discussion was sent at 6:08am on 12/21:

A powerful cold front will move quickly across the region early Friday, producing very strong and gusty winds followed by an arctic air mass for the holiday weekend. Temperatures will be falling through the day, with the Carolinas-West region dropping into the upper 20s by mid-afternoon and the Carolinas-East region by early evening. Minimum wind chills Friday afternoon/night will be sub-zero in the mountains/foothills and the single digits to lower teens elsewhere.

The arctic cold front is expected to surge through the area Friday morning, ushering cold and dry air along with gusting winds. Expecting wind gusts 45-55 mph across higher elevations, 35-45 mph elsewhere. The hourly temperature curve on Friday will be quite challenging. Our forecast reflects a blend of the model guidance. For DEC, have the sys avg in the mid-30s at daybreak, then falling into the low-mid 20s by mid-morning and holding nearly steady there through late afternoon. For DEP, have the sys avg in the upper 40s at daybreak, then falling into the mid-upper 30s mid-morning, then upper 20s and lower 30s early afternoon and mid/upper 20s late afternoon. On Friday afternoon, wind chills will be in the teens and upper single digits across the DEC region, and teens to middle 20s across the DEP region.

The main story is the arctic air mass that will prevail across the eastern US Saturday – Monday. Sunny skies on Saturday. The forecasts for Sat AM have trended 3 deg colder since yesterday. Now looking at DEC lows in the low-mid teens (sys avg 13) and DEP lows in the mid-upper teens (sys avg 16). Highs in the upper 20s and lower 30s. Sunny skies on Sunday. Lows in the mid-upper teens (DEC avg 16, DEP avg 17). Highs in the low-mid 30s west, upper 30s east.

Note: At this time, Duke Meteorology is forecasting a DEC system average temperature of 13 degrees on the morning of Saturday 12/24 and a DEP system average temperature of 16 degrees on the morning of Saturday 12/24. For Sunday 12/25, Duke Meteorology is forecasting a DEC system average low temperature of 16 degrees and a DEP system average low temperature of 17 degrees.

*Regarding the threat of outage-producing winds on Friday:*

The daily weather outlook was sent at 7:12am on 12/21:

Very strong and gusty winds are expected in association with this cold front passage on Friday morning. Model guidance continues to indicate wind gusts of 45 to 55 mph across the higher elevations and wind

gusts of 35 to 45 mph elsewhere. Significant power outages are likely, beginning prior to daybreak on Friday and continuing through the afternoon hours.

East of the mountains/foothills, it looks like the strongest wind gusts will occur with the frontal passage, but then gusty conditions will persist through the remainder of the day. With this in mind, the greatest risk of wind gusts 40-45 mph will occur along and northwest of I-85 2am-7am, between I-85 and I-95 6am-10am and east of I-95 9am-1pm. Cannot rule out a few gusts up to 50 mph for locations southeast of I-85. Once this threat of peak wind gusts passes, wind gusts are expected to be generally 30-40 mph through the afternoon hours.