



**NORTH CAROLINA ENERGY POLICY COUNCIL
MEETING MINUTES
10:00 a.m., February 20, 2019
Archdale Building
Ground Floor Hearing Room
512 N. Salisbury Street, Raleigh, NC 27604**

Energy Policy Council Members Present:

Steven Walker
Sushma Masemore
Rachel Estes
Herb Eckerlin
Paolo Carollo
Bruce Barkley
Rick Feathers
John Hardin

CALL TO ORDER

Mr. Steven Walker called the Energy Policy Council (EPC) meeting to order at 10:00 a.m. on Wednesday, February 20, 2019. After welcoming the Council members, staff and the public to the meeting, Mr. Walker began the meeting by asking for a motion to approve the Energy Policy Council's meeting minutes from the August 15, 2018 meeting. Mr. Bruce Barkley made a motion to approve the meeting minutes, Mr. John Hardin seconded the motion for approval and the minutes were approved by the Council. Mr. Walker then allowed North Carolina Office of State Human Resources, Temporary Solutions staff members to have the floor.

Mr. Mike Peele and Mr. Eddie Edwards represented Temporary Solutions and discussed the requirements for all who serve on any NC Board, Commission or Council to complete applications for employment, Employment Eligibility Verification forms and W-4 forms. These requirements are due to an audit by the Internal Revenue Service and the Department of Homeland Security which found that we were out of compliance with the boards and commissions payments of per diems. EPC members were given the forms and allowed time to complete the forms and ask questions to Mr. Peele and Mr. Edwards. Members completed the required forms or shared that they had completed the forms prior to the meeting. After the members completed the forms, Mr. Walker promptly allowed the presenters to start.

PRESENTATIONS

Overview of Hurricane – Preparation, Response and Recovery and Kinston/RCC – East Energy Resiliency Assessment Study Discussion

Mr. Matt Kemnitz and Mr. Josh Modlin, North Carolina Emergency Management, Department of Public Safety

Mr. Matt Kemnitz started his presentation with a few preliminary comments about Hurricane Florence. Those comments included that a lot of unknowns are currently taking place and/or still ongoing such as: the lessons learned process; direct costs and detailed damage assessments; indirect and economic impacts; and the full scope of damage. The estimated cost of damages from Hurricane Florence is in excess of \$17 Billion. Mr. Kemnitz shared the timeline for Hurricane Florence events starting with the State of Emergency being declared on



September 7, 2018 through the present. During the worst of the storm, over 746,750 power outages were reported; 21,272 North Carolinians were in shelters; 220 roads were closed; 4 hospitals were operating on generator power; 4 rivers exceeded record flooding; wind gusts of 105 mph reported in three coastal area towns; and Emergency Declaration approved for all 100 counties. Mr. Kemnitz and Mr. Josh Modlin also discussed the extraordinary response to Hurricane Florence. They shared information about the search and rescue teams, disaster medical services; the number of law enforcement and aircrafts deployed for missions and rescue. They also covered results from the Eastern Branch Energy Resiliency study with three different options based on the costs for new generators, the resiliency and reliability of generators, disruptions to existing system and the time period for construction.

During the presentation, Mr. Rick Feathers asked about the North Carolina Office of Recovery and Resiliency (NCORR) which was established by the General Assembly after Hurricane Florence. Mr. Kemnitz responded that he knew of NCORR and that funding assistance was being made available for local governments in the affected areas. Ms. Rachel Estes asked if the Department of Public Safety had put together an estimate of costs going forward with Hurricanes such as Matthew and Florence occurring more frequently than the predictions of 100, 500, and even 1000-year flood events. Mr. Kemnitz stated that his Department could not give an answer to the costs going forward, but they predict that major events will occur more frequently even as often as every 5 years. Mr. Steven Walker commented that property values and damage totals after Hurricane Matthew and Florence for this year should be calm after the storms.

Duke Energy – Hurricane Preparation, Impacts and Response

Mr. Ron Showers and Mr. Rufus Jackson, Duke Energy

Mr. Ron Showers and Mr. Rufus Jackson started their presentation with information about Duke Energy service area. Mr. Showers shared that Duke Energy has 56,000 square miles of service territory, 3.4 million customers in 5 zones and has 65 Operation Centers. Duke Energy applies a disciplined approach to event responses and the organization of the Incident Command System was shared during the presentation. Mr. Showers and Mr. Jackson covered combined information for the 2018 storm season with Hurricane Florence and Michael. Duke Energy assembled a workforce of over 35,000 and mobilized across North Carolina, South Carolina and Florida during these events. A total of 3,102,018 outages were restored by Duke Energy during these two storms. The flooding and wind damage were unprecedented in any storm to ever hit Duke Energy. Over 90% of the outages were restored within the first three days of the storms passing their service territory.

Mr. Jackson went into more details about the planning process Duke Energy used during these storms. Their process included the planning team using weather prediction tool to determine the anticipated number of outages; outages prediction then drove resource calculations; Duke Energy acquired resources and staged them prior to landfall of storm; and they received support from many other States and also Canada. Because of their efforts during these storms, Edison Electric Institute recognized Duke Energy with the Emergency Recovery Award for efforts to restore power during Hurricane Florence.

During their presentation, Mr. Steven Walker asked if the number of outages mentioned in the presentation were for people or meters, and Mr. Showers answered that the number was based on meters. Mr. Bruce Barkley asked what has been the costliest storm for Duke Energy? Mr. Showers shared that over a \$1 billion was spent over the last few months. After the presentation, Ms. Sushma Masemore asked if wind or flooding caused the most damage during storms. Mr. Showers responded that it depends on the storm, but flooding caused the most damage during Hurricane Florence. Mr. John Hardin then asked what efforts were being made to mitigate the



need to respond to future events and whether the funding would come from the State or customers for these efforts. Mr. Showers answered that Duke Energy has a Grid Investment Plan which includes a conceptualizing system to allow for even quicker responses and more poles in the most vulnerable areas. No answer was provided on the funding. Mr. Walker wrapped up the questions to this presentation by stating that Duke Energy and the Electric Membership Cooperatives got power restored very quickly and that was very impressive.

NC Electric Membership Cooperatives – Hurricane Preparation, Impacts and Response and Tideland EMC Microgrid on Ocracoke Island Discussion

Mr. Lee Ragsdale, NC Electric Membership Cooperative

Mr. Lee Ragsdale started his presentation by sharing information about who the NC Electric Membership Cooperatives (NCEMC) are and who they serve. In North Carolina, there are 26 distinct member-owned, not-for-profit cooperatives; 1 million households and businesses served by NCEMC; and 93 counties across the State are served by NCEMC. He stated that the NCEMCs are positioned and ready to restore outages as soon as conditions are safe, and that they are assisted by hundreds of crews from peer cooperatives across the Southeast. Mr. Ragsdale shared that during Hurricane Michael, NCEMC had a total of 31,549 outages and during Hurricane Florence there was a historic high of 326,000 outages. The NCEMC worked tirelessly to restore 96% of the outages within one week. He shared that the NCEMC uses advanced metering infrastructure to identify and restore outages quicker. They also use social and electronic media to keep members informed about storm events as they occur.

Mr. Ragsdale shared information about NCEMC System Microgrid Projects which were developed due to the NCEMC priority of improving quality to rural areas. The two microgrid projects mentioned during the presentation were Ocracoke Island microgrid and Butler Farms microgrid. The Ocracoke Island microgrid serves a 9.6 square mile area off of NC Coastal Outer Bank Region and has a 3 MW diesel generator, 500 kW / 1 MWh Tesla battery storage and 15 kW rooftop solar components. The components of the Butler Farms microgrid project include 20 kW solar panels, 100 kW diesel generator, 185 kW biogas generator, 250 kW/735 kWh battery system and controller to integrate and manage all components. This microgrid serves 28 homes that are off of the farm.

During the presentation, Mr. Paolo Carollo asked if there were coordinated efforts between the Cooperatives. Mr. Ragsdale stated that each Cooperative plans individually. Dr. Herb Eckerlin asked whether or not the individual NCEMCs communicated with Duke Energy together or separately, and the answer was that they coordinated separately with Duke Energy. Ms. Sushma Masemore asked who maintains controls of the microgrids. Mr. Ragsdale answered that the NCEMC maintains controls and each microgrid also has operating control procedures in place.

Liquid Fuels – Preparation, Impacts and Response

Mr. David McGowan, NC Petroleum Council

Mr. David McGowan reviewed the petroleum industry's preparation, impact and response to Hurricane Florence. He gave an overview of the U.S. liquid fuel supply chain and then focused on the Colonial pipeline from Texas to North Carolina. His presentation showed the NC mainline operations include line-1(gasoline), line-2 (distillates of diesel fuel, kerosene, fuel oil and home heating oil), line-3 (mixed fuels) and line-4 (mixed fuels). These mainlines distribute product through NC to Apex, Selma, Raleigh-Durham Airport and Fayetteville. The NC Operations have tank farms in Charlotte and Greensboro, and service lines to the airports in Charlotte, Greensboro and Raleigh.



Mr. McGowan said that NC consumed 6.8 billion gallons of refined petroleum products in 2016 which represents approximately 3% of all U.S. refined petroleum consumption. NC is served by the Colonial Pipeline and the Plantation Pipeline through six major supply terminals. He stated that we have approximately 4,550 retail petroleum filling stations in our state. In response to Hurricane Florence, NC granted waivers for fuel transportation, tank trailer vapor tightness, Reid vapor pressure, terminal recovery unit, and dyed diesel. During the incident, his industry collaborated with the Governor's office, NC Emergency management, NC Division of Air Quality and other state officials to facilitate fuel availability. To address the fuel supply, they also coordinated with federal agencies, the NC Department of Transportation, the NC Petroleum & Convenience Store Marketers Association, and electricity providers.

After the presentation, Mr. Steven Walker asked if Western North Carolina is getting fuels from Tennessee. Mr. McGowan answered that Western NC gets fuels from Greenville, Spartanburg or Chattanooga, Tennessee lines and that they also receive fuels from Colonial and Dixie pipelines. Next, Ms. Rachel Estes asked how is the petroleum secured during destructive events. Mr. McGowan stated that each retail location stocks up ahead of the emergency events, and the NC Petroleum Council makes sure that retailers have whatever they will need in preparation. He also answered Ms. Estes by sharing that physical security is not a concern because the pumps will not work without power; therefore, no one can steal them. Ms. Estes then asked about the clean up after a major event. Mr. McGowan said that the NC Petroleum Council has learned a lot by listening after previous events, and that they keep a minimum amount of product during events to minimize clean up.

Renewables Resiliency

Mr. Ivan Urlaub, NC Sustainable Energy Association

Mr. Ivan Urlaub discussed Renewable Energy, Energy Assurance, and North Carolina Energy Policy. He stated that approximately 9.7% of NC's electric generation is from renewable energy sources such as solar, biomass, hydroelectric and wind. He cited several media sources that showed these resources as "largely unscathed" during Hurricane Florence and that "solar and wind were back on the next day." The 431 utility scale solar farms, according to Mr. Urlaub, had damage to only 5 of its systems during the hurricane. Firms representing 9MW of the 37MW rooftop solar installations reported no wind or flood damages, two tree falls on homes, and six inverter problems. Usually, rooftop system damage occurs if the roof is blown off in part or whole. The Amazon wind farm reported no flooding damage or noticeable water or drainage issues. Winds there were below U.S. DOE's 55 mph cut-off speed. Mr. Urlaub said that renewables passed the Florence test.

After the presentation, Mr. Steven Walker asked what is done on the wind farms when winds reach 55mph or more. Mr. Urlaub stated that the wind turbines are turned away from the wind and the blades and the wind turbines are feathered. Mr. Walker then asked if any schools were operating at net zero buildings. Mr. Urlaub stated that he did not have an answer and would check on the this for Mr. Walker. Next, Mr. Walker stated that it is good to see geothermal systems being used and asked if the biggest hurdle is transmission during emergencies. Mr. Urlaub answered that transmission is the biggest hurdle because the system has to be up. For clarity, Ms. Sushma Masemore asked if transmission or distribution was the issue for renewables. Mr. Urlaub answered that transmission is the issue.

Questions continued when Mr. Rick Feathers asked if all systems were just waiting for recovery once the systems were back up and Mr. Urlaub answered yes. Ms. Rachel Estes asked that since we are a coastal State, how can we harness wind during destructive events? Mr. Urlaub stated that there is some on-shore wind potential that has not been realized yet. He also answered that ordinances should be on 80-20 rules addressing this potential.



CLOSING COMMENTS

Mr. Steven Walker opened the floor for public comments and none were offered. He provided closing remarks and concluded the meeting. The motion to adjourn was made by Ms. Rick Feathers, seconded by Mr. John Hardin. The meeting adjourned at 11:55 a.m.

Approved by Energy Policy Council Members
On May 15, 2019
