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March 28, 2017

**VIA ELECTRONIC FILING**

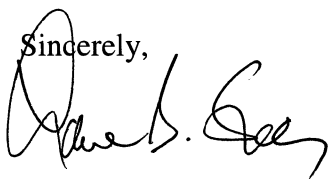
M. Lynn Jarvis  
Chief Clerk  
North Carolina Utilities Commission  
4325 Mail Service Center  
Raleigh, North Carolina 27699-4300

**RE: Duke Energy Progress, LLC Western Carolinas Modernization  
Project Annual Progress Report  
Docket No. E-2, Sub 1089**

Dear Ms. Jarvis:

Pursuant to the Commission's March 28, 2016 *Order Granting Application in Part, with Conditions, and Denying Application in Part* (the "Order"), I enclose the Annual Progress Report of Duke Energy Progress, LLC ("DEP") for the two 280 MW combined cycle natural gas-fueled electric generating units at the Company's existing Asheville Steam Electric Generating Plant in Buncombe County, for filing in connection with this matter. In compliance with ordering paragraph No. 5 of the Order, DEP reports on the progress of construction activities and the current cost estimate. In compliance with ordering paragraph No. 6 of the Order, DEP reports accomplishments to date on efforts to work with customers in the Western Region to reduce peak load through demand-side management, energy efficiency and other measures and on DEP's efforts to site solar and storage capacity in the Western Region.

Thank you for your attention to this matter. If you have any questions, please let me know.

Sincerely,  
  
Lawrence B. Somers

Enclosures

cc: Parties of Record

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Mar 28 2017

Duke Energy Progress, LLC  
Western Carolinas Modernization Project  
Annual Progress Report for the Asheville Combined Cycle Project and  
Community Engagement for Demand-Side Management, Energy Efficiency and  
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**I. Construction**

The Asheville Combined Cycle Project ("ACC Project") is a nominal 560 MW dual-fuel generation facility construction project comprised of two separate 1x1 combined cycle units (280 MW each) authorized to be constructed and placed in service by the end of 2019 as a component of the larger Western Carolinas Modernization Project ("WCMP"). Progress on the ACC Project over the past year since the Certificate of Public Convenience and Necessity ("CPCN") Order on March 28, 2016 ("CPCN Order") has focused on design criteria and work scope finalization, contract execution, detailed engineering, procurement activities for balance of plant equipment, remaining permitting activities, site preparation ("site prep"), and planning for construction contractor mobilization to site.

On August 3, 2016, Duke Energy Progress, LLC ("DEP") executed an Engineering, Procurement and Construction Agreement with CB&I North Carolina, Inc. ("CB&I") to design, engineer, procure balance of plant equipment, and construct the new generating facility, including incorporation and installation of DEP-furnished major equipment (turbines, heat recovery steam generators, generator step-up transformers, and control systems). Separately, on August 25, 2016, DEP executed an On-Site Construction Services Agreement with Glover Construction Company, Inc. to complete site earthwork activities required to prepare the site for construction of the new combined cycle generating facility. These site earthwork activities began on October 3, 2016, and include decommissioning of the site's 1982 Ash Basin Dam, clearing and grading of areas for material laydown, installation of stormwater drainage and erosion/sedimentation control features, placement and compaction of suitable fill material to prepare for construction, and demolition of certain structures and objects. Since execution of these agreements, progress on these design, engineering, procurement, site prep, and planning activities has been maintained, and as a result, project milestone dates are still on track to achieve targeted completion by the end of 2019. A summary of key project milestone dates, including their current status are provided in Attachment A to this report.

DEP continues to monitor actual expenditures and forecast the project's cost at completion on a monthly basis. At this point in time, the project's cost at completion is forecasted to be within the \$893.2 million cost estimate filed in DEP's CPCN application and found to be appropriate by the Commission in its CPCN Order. This authorized estimate includes all required engineering, procurement, construction, and commissioning costs as well as required oversight costs from DEP as owner, transmission interconnect costs, and AFUDC.

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In the upcoming year, DEP will continue to work with CB&I, the major equipment suppliers, and other key stakeholders to complete the majority of detailed engineering, complete site prep work, effectively mobilize to the site, and begin equipment foundation construction for the facility. Deliveries of major equipment to the site is planned for the end of 2017 and into early 2018.

**II. Community Engagement, Demand-Side Management/Energy Efficiency and Technology**

This report represents progress since the CPCN Order was issued. The update focuses on three areas:

- Community Engagement: Marketing, outreach and organization
- Programs: Energy efficiency and demand-side management
- Technology: Solar, storage and microgrid development

**Community Engagement: Marketing, Outreach and Organization**

DEP, the City of Asheville and Buncombe County co-convened the Energy Innovation Task Force (“EITF”), following approval of the WCMP. The task force consists of members from the governmental, environmental, business, low-income assistance, development, tourism and green building sectors. Each was appointed by the City of Asheville and Buncombe County through a joint resolution, passed during the spring of 2016.

To launch this community-driven effort, a group of stakeholders attended the Rocky Mountain Institute’s eLab Accelerator in April of 2016. During the accelerator session, the group began forming overarching objectives and strategies for the EITF to carry forward. Those objectives include:

1. Avoid or delay the construction of the contingent combustion turbine (“CT”) unit, proposed by DEP in its original filing in Docket No. E-2, Sub 1089.
2. Transition Buncombe County and the City of Asheville to a smarter and cleaner energy future.

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The EITF was first convened in May 2016 and has met monthly since. The EITF leadership created smaller working groups to focus attention in specific areas in support of the group's objectives, including:

1. Baseline and peak reduction working group – This group has identified the annual peak reduction targets required to delay/avoid construction of the peaker unit. They've determined that, based on current available data, each 17 megawatts of peak demand mitigated will push the need for the peaking plant out by one year.
2. Programs working group – This group is focused on ways to increase participation in existing DEP programs and propose new and/or enhanced program offerings for the company to consider. The group is also doing a similar review and analysis of the portfolio of programs currently offered by Buncombe County and the City of Asheville that relate to weatherization, heating/cooling bill assistance and energy efficiency.
3. Technology working group – This group is focused on identifying cost-effective technologies that can have the greatest impact on reducing/minimizing peak demand. Some of the technologies being considered would be implemented by DEP while others would be more applicable to individual customers.
4. Community engagement working groups – The group is charged with helping customers understand the role they play in achieving the EITF's goals. This group will work with a branding and communications firm to develop a branded umbrella campaign for this work, communications templates, and communications strategies – leveraging significant public engagement in the process.

These four work groups have done an enormous amount of work over the last year, which will inform a broader work plan for the EITF, being finalized in 2017.

In Aug. 2016, the EITF leadership group jointly enlisted the project management, process development and analytical support of the Rocky Mountain Institute ("RMI"). RMI has brought structure and process to this ongoing effort. Going forward, they will continue to work closely with the Programs and Technology working groups to refine recommendations that will directly help achieve the goals of the EITF in a cost-effective way. Their participation in this process has been and will continue to be fundamental to its success.

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The EITF has hired the Shelton Group to create a public outreach, communications and marketing plan to help drive customer participation in an over-arching campaign. Local experts and other resources will partner with Shelton to create the campaign by the end of 2017. Implementation of the campaign will follow, beginning in late 2017 and continuing into 2018.

**Programs: Energy Efficiency (“EE”) and Demand-Side Management (“DSM”)**

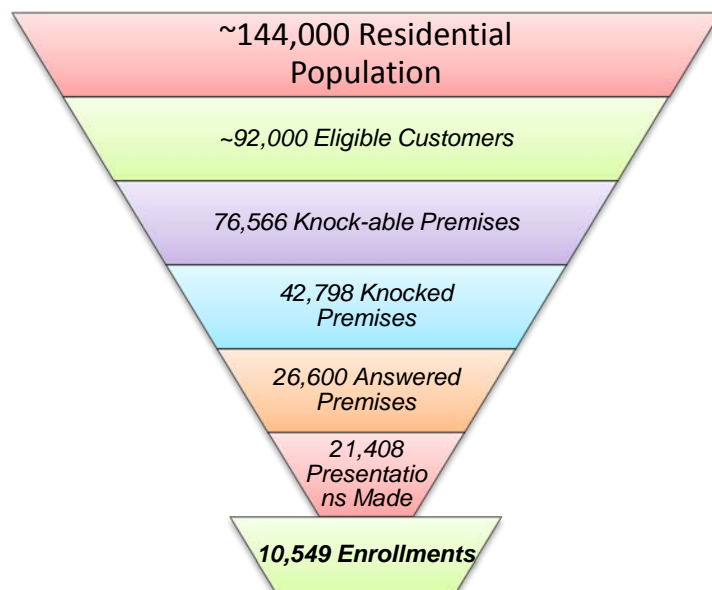
The Programs working group has met routinely over the past year and done significant work to analyze existing company programs as well as benchmarked regional and national programs that could benefit customers in the DEP-West Region.

Two examples of regional programs reviewed/evaluated by the working group are eScore and the Knoxville Extreme Energy Makeover. These are programs offered and/or funded by the Tennessee Valley Authority in the Knoxville, TN area. The eScore program is a central portal for customer engagement around program offerings. The Knoxville Extreme Energy Makeover is a whole-home EE program, targeted at low-income customers.

In the coming months, RMI will work closely with DEP’s EE team to further analyze the program committee recommendations to determine potential cost-effective solutions for DEP and the EITF to consider, whether as potential new utility programs or community-based efforts. Any new programs considered would require NCUC approval.

Complementary to the efforts of the EITF, DEP has ramped up program and product marketing to help drive customer participation in peak-reduction DSM and EE programs. These campaigns/efforts include:

- EnergyWise Home (residential) is where the company has significantly increased its marketing and outreach efforts over the last year. This DSM program specifically helps reduce peak energy use, and goes directly to achieving the stated goal of the EITF.
  - Out of approximately 144,000 residential customers, 92,000 are eligible. Of the 92,000 eligible,



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76,566 are “knockable.” In 2016, we knocked on 42,798 premises and 26,600 answered the door. Company vendors gave 21,408 presentations after the “knock” was answered. This resulted in 10,549 enrollments.

- 10,549 customer enrollments = 14,915 program enrollments, because customers can enroll in both winter and summer programs.
- On average from 2010 to 2015, the summer program average was 1,600 customers (3.4 megawatts). In 2016, because of canvassing efforts, we signed up 4,186 customers (8.8 megawatts). This represents a 160% increase in summer program participation.
- On average from 2010 to 2015, the winter program participation average was 1,200 customers (1.6 megawatts). In 2016, because of canvassing efforts, we signed up 4,186 customers (2.0 megawatts). This represents a 70% increase in participation and a 25% reduction in megawatts toward the winter peak.
- Home Energy House Call (February 2016) – Program was launched to all DEP customers in 2016 and was communicated/marketed more than seven times through direct mail, bill inserts/messages, and paid media. We currently have 176 participants in the Asheville area.
- EnergyWise DSM program for small and medium business. Program was launched in January 2016. Since its launch, we’ve made 464 customer calls and have gone door-to-door canvassing 1,987 customers. Currently there are 13 enrollments (2.8% rate) through outbound calls and 417 enrollments through door-to-door canvassing (21% rate). Door-to-door canvassing has helped increase customer participation significantly.
- Asheville Retail Lighting Event (September 2016) – This event increased awareness of how the Retail Lighting Program specifically benefits Western North Carolina (“WNC”) and increased LED bulb sales. The event was promoted through direct mail to 14,438 customers within a 10-mile radius of The Home Depot on Fairview Rd. Emails were also sent to 8,000 customers in close proximity to the store. We saw a 26% open rate and a 1% click-through-rate for e-mail. The email call-to-action was ‘come to the one-day event,’ so success of e-mail is indicated through the open rate.

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- Residential New Construction (“RNC”) e-mail campaign (October 2016) – This was designed to increase awareness of RNC program-qualified homes in the Asheville Parade of Homes and drive customers to the Parade of Homes. This email was sent to 8,500 customers in Buncombe and Henderson counties, with a target household income of \$60,000+.
- Smart Saver Direct Mail Campaign (November 2016) – The campaign was designed to increase awareness of HVAC rebates to WNC customers. There were 25,000 targeted customers in Buncombe and Henderson counties. This campaign led to 19 sessions on the DEP program website landing page; 22 customers used the promo code provided in the direct mail campaign (19 of those were via the call center), and to 2 sold jobs (participation).

**Technology working group**

The Technology working group has also been meeting regularly and learning about various technologies to help the EITF achieve its goals. They have engaged with local, regional, state level and/or national experts around technologies such as: battery storage, high-efficiency heating and cooling technologies including geothermal, a variety of solar technologies and applications including advanced solar thermal water heating, advanced metering infrastructure (“AMI”) and electric vehicles/charging stations as grid assets.

DEP, in close partnership with the Technology working group, has been working on ways to comply with the CPCN Order. Below is a summary of progress toward that commitment.

- Solar – The CPCN Order states, “15 MW built at Asheville [coal unit] site or, “if the Asheville site configuration does not allow the construction of 15 MW or more of solar generation, it will supplement the on-site solar facility with a combination of rooftop, community, or other utility-scale solar facilities at other locations in the Asheville area.”
  - First, DEP plans to maximize the land, to be available at the Asheville Plant, once the 1964 ash basin is excavated and the new combined cycle units are complete. Additionally, we are focused on maximizing other company-owned lands in the region.



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- During 2016, DEP evaluated over 30 sites in partnership with customers and the community, with a focus on ground mount, but rooftop is some places too.
- Storage – The CPCN Order states, “...deploy at least 5 MW of energy storage in the DEP-West region.”
  - DEP proposes to deploy up to 10 batteries (total capacity is over 5 MW but final amount to be determined) throughout the DEP-West region, beginning with deployments in 2018.
  - DEP will site and configure each battery to serve multiple functions, such as frequency regulation and/or back-up power for local customers.
  - The aggregated storage deployment will support the deferral of the 186-megawatt CT unit by freeing up existing generation capacity to then serve the winter peak.
  - This approach was developed by convening an internal energy storage work team (30+ members). The team then completed circuit-level and bulk system analysis to identify optimal locations and use-cases for battery energy storage. They also met with the EITF’s Technology working to discuss opportunities for deployment.
- Microgrid – Mt. Sterling Microgrid Project, currently before the Commission for consideration in Docket No. E-2, Sub 1127. Through a partnership with the Great Smoky Mountains National Park, DEP identified an opportunity to deploy a microgrid, consisting of an approximately 10 kW solar PV facility and approximately 95 kWh zinc-air battery storage at Mt. Sterling (Haywood County, NC). This first-of-its-kind project will allow DEP to make a smart and deliberate investment in renewable energy and storage and advance WNC regional goals while returning 13 acres of utility right-of-way to wilderness status, benefiting the customer and millions of park visitors. The existing feeder requires high-cost upgrades and is only accessible by ATV, helicopter, or on foot, justifying the investment in the microgrid in lieu of maintaining the traditional service. Construction is expected to begin in April 2017, pending final regulatory and customer approvals.

DEP and our stakeholders have engaged in a lot of collaborative work within the community over the past year to position the region for a cleaner and smarter energy future, but much work remains. With the continued commitment of DEP, community,



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elected, business, environmental, and non-profit leaders, 2017 will be a pivotal year to craft the comprehensive strategy required to avoid/delay the contingent CT and chart a smarter and cleaner energy future.

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ATTACHMENT A

Project Milestone Dates

Milestone	Baseline	Current Plan
Receipt of Air Permit	03/15/2017	01/09/2017 (received)
82 Basin Dam Decommissioning	07/01/2017	07/01/2017
Site Prep/Fill Completion	09/15/2017	09/15/2017
Full Notice to Proceed to EPC	11/01/2017	11/01/2017
Transmission Complete for Backfeed	12/01/2018	12/01/2018
Backfeed	01/01/2019	01/01/2019
EPC Contractor Mechanical Completion	05/01/2019	05/01/2019
Commercial Operation Date	11/01/2019	11/01/2019

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Mar 28 2017

## CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Progress, LLC's Annual Progress Report, in Docket No. E-2, Sub 1089, has been served by electronic mail, hand delivery or by depositing a copy in the United States mail, postage prepaid to the following parties:

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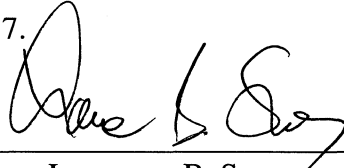
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This is the 28<sup>th</sup> day of March, 2017.

By:



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