



Lawrence B. Somers
Deputy General Counsel

Mailing Address:
NCRH 20 / P.O. Box 1551
Raleigh, NC 27602

o: 919.546.6722
f: 919.546.2694

bo.somers@duke-energy.com

June 1, 2018

VIA ELECTRONIC FILING

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

**RE: Duke Energy Carolinas, LLC's Proposed Stipulations and Settlement
Agreements
Docket No. E-7, Sub 1146**

Dear Ms. Jarvis:

I enclose a Stipulation and Settlement Agreement among Duke Energy Carolinas, LLC ("DEC" or the "Company") and the Environmental Defense Fund, the Sierra Club, and the North Carolina Sustainable Energy Association regarding the Company's Power/Forward Carolinas grid modernization initiative ("Power/Forward Agreement"), and a Stipulation and Settlement Agreement by and among DEC and the Commercial Group, an ad hoc association consisting of Food Lion, LLC, Ingles Markets, Inc., JC Penney Corp., Inc., Sam's East, Inc., and Wal-Mart Stores East, LP, for filing in connection with the referenced matter.

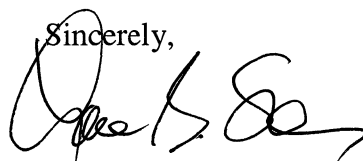
In the enclosed proposed settlements, DEC and its counterparties have addressed several of the concerns and issues raised by parties regarding the Power/Forward Carolinas program in the recent evidentiary hearing in this matter. In the proposed settlements, the Company has agreed to limit the scope, duration, and investment in the Power/Forward program over the next three years and has agreed to specific procedures and stakeholder engagement protocols to ensure information regarding the program is provided and evaluated in a principled and timely manner. The proposed settlements also address many of the additional items that intervenors asked to be included in the Power/Forward Carolinas initiative such as Integrated Volt/Var Control,

integrated system planning, enhanced energy storage, electric vehicle charging integration, and advanced access to usage information for customers. If the Commission approves the Power/Forward Agreement in this matter, Duke Energy Progress, LLC (“DEP”) and the counterparties to that agreement have also agreed to file a similar settlement agreement with the same general terms and conditions in DEP’s next general rate case.

Finally, in order to help mitigate the impact of the rate adjustment on low income customers and to support job training, Duke Energy will make a shareholder-funded contribution totaling \$4 million to the following programs: \$1.5 million to the Helping Home Fund program for income qualified customers; \$1.5 million to the Share the Warmth energy assistance fund; and \$1 million to the Duke Energy/Piedmont Natural Gas Community College Apprenticeship Grant Program.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Lawrence B. Somers", written over a horizontal line.

Lawrence B. Somers

Enclosures

cc: Parties of Record

CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Carolinas, LLC's Proposed Stipulations and Settlement Agreements, in Docket No. E-7, Sub 1146, has been served by electronic mail, hand delivery or by depositing a copy in the United States mail, postage prepaid to the following parties:

David Drooz, Chief Counsel
Dianna Downey, Counsel
Lucy Edmondson, Counsel
Public Staff
North Carolina Utilities Commission
4326 Mail Service Center
Raleigh, NC 27699-4326
david.drooz@psncuc.nc.gov
dianna.downey@psncuc.nc.gov
lucy.edmondson@psncuc.nc.gov

Ralph McDonald
Warren Hicks
Bailey & Dixon, LLP
Counsel for CIGFUR
PO Box 1351
Raleigh, NC 27602-1351
rmcdonald@bdixon.com
whicks@bdixon.com

Jennifer T. Harrod, Special Deputy Attorney General
Margaret Force, Assistant Attorney General
Teresa L. Townsend, Assistant Attorney General
NC Department of Justice
P O Box 629
Raleigh, NC 27602-0629
pforce@ncdoj.gov
ttownsend@ncdoj.gov
jharrod@ncdoj.gov

Peter H. Ledford
NC Sustainable Energy Association
4800 Six Forks Road, Suite 300
Raleigh, NC 27609
peter@energync.org

Sharon Miller
Carolina Utility Customers Assoc.
1708 Trawick Road, Suite 210
Raleigh, NC 27604
smiller@cucainc.org

Robert Page
Counsel for CUCA
Crisp, Page & Currin, LLP
4010 Barrett Drive, Ste. 205
Raleigh, NC 27609-6622
rpage@cpclaw.com

John Runkle, Attorney
Counsel for NC WARN
2121 Damascus Church Rd.
Chapel Hill, NC 27516
jrunkle@pricecreek.com

Alan R. Jenkins
Jenkins At Law, LLC
2950 Yellowtail Ave.
Marathon, FL 33050
aj@jenkinsatlaw.com

Glen C. Raynor
Young Moore and Henderson, PA
P.O. Box 31627
Raleigh, NC 27627
gcr@youngmoorelaw.com

Michael Colo
Christopher S. Dwight
Counsel for ASU
Poyner Spruill LLP
P.O. Box 353
Rocky Mount, NC 27802
mscolo@poynerspruill.com
cdwight@poynerspruill.com

F. Bryan Brice, Jr.
Catherine Cralle Jones
Law Offices of F. Bryan Brice, Jr.
127 W. Hargett St., Ste. 600
Raleigh, NC 27602
bryan@attybryanbrice.com
cathy@attybryanbrice.com

Thomas Batchelor
Haywood Electric Membership Corp.
376 Grindstone Road
Waynesville, NC 28785
tom.batchelor@haywoodemc.com

Mona Lisa Wallace
John Hughes
Marlowe Rary
Wallace & Graham PA
525 N. Main St.
Salisbury, NC 28144
mwallace@wallacegraham.com
jhughes@wallacegraham.com
mrary@wallacegraham.com

Douglas W. Johnson
Blue Ridge EMC
1216 Blowing Rock Blvd, NE
Lenoir, NC 28645-0112
djohnson@blueridgeemc.com

Sarah Collins
NC League of Municipalities
PO Box 3069
Raleigh, NC 27602
scollins@nclm.org

B. L. Krause
Appalachian State Univ.
PO Box 32126
Boone, NC 28608
krausebl@appstate.edu

Stephen Hamlin
Piedmont EMC
PO Drawer 1179
Hillsborough, NC 27278
steve.hamlin@pemc.coop

Ben M. Royster
Royster & Royster
851 Marshall Street
Mt. Airy, NC 27030
benroyster@roysterlaw.com

H. Julian Philpott, Jr.
NC Farm Bureau Federation, Inc.
PO Box 27766
Raleigh, NC 27611
Julian.philpott@ncfb.org

Nickey Hendricks, Jr.
City of Kings Mountain
P.O. Box 429
Kings Mountain, NC 28086
nickh@cityofkm.com

Kurt J. Boehm
Jody Kyler Cohn
Boehm, Kurtz & Lowry
36 E. Seventh St., Suite 1510
Cincinnati, OH 45202
kboemn@BKLawfirm.com
jkyler@BKLawfirm.com

Jim W. Phillips
Brooks, Pierce, McLendon, Humphrey &
Leonard, LLP
230 N. Elm Street
Greensboro, NC 27401
jphillips@brookspierce.com

Bridget Lee
Dorothy Jaffe
Sierra Club
50 F Street NW, Floor 8
Washington, DC 20001
bridget.lee@sierraclub.org
dori.jaffe@sierraclub.org

John J. Finnigan, Jr.
Environmental Defense Fund
128 Winding Brook Lane
Terrace Park, OH 45174
jfininigan@edf.org

Bob Pate
City of Concord
PO Box 308
Concord, NC 28026
bpage@ci.concord.nc.us

David Neal
Gudrun Thompson
Southern Environmental Law Center
601 W. Rosemary Street, Suite 220
Chapel Hill, NC 27516
dneal@selcnc.org
gthompson@selcnc.org

Marcus Trathen
Brooks, Pierce, McLendon, Humphrey
& Leonard, LLP
150 Fayetteville St., Suite 1700
Raleigh, NC 27601
mtrathen@brookspierce.com

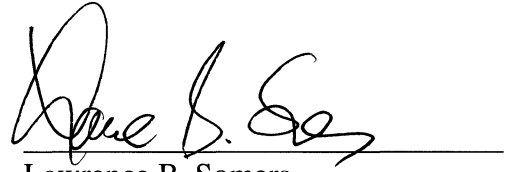
Karen M. Kemerait
Deborah Ross
Smith Moore Leatherwood LLP
434 Fayetteville St., Suite 2800
Raleigh, NC 27601
karen.kemerait@smithmoorelaw.com
deborah.ross@smithmoorelaw.com

Joseph H. Joplin
Rutherford EMC
PO Box 1569
Forest City, NC 28-43-1569
jjoplin@remc.com

Daniel Whittle
Environmental Defense Fund
4000 Westchase Blvd, Suite 510
Raleigh, NC 27607-3965
dwhittle@edf.org

Sherri Zann Rosenthal
City of Durham
101 City Hall Plaza
Durham, NC 27701
Sherrizann.rosenthal@durhamnc.gov

This the 31st day of May, 2018.

A handwritten signature in black ink, appearing to read "Lawrence B. Somers", is written over a horizontal line.

Lawrence B. Somers
Deputy General Counsel
Duke Energy Corporation
P.O. Box 1551/NCRH 20
Raleigh, North Carolina 27602
(919) 546-6722
bo.somers@duke-energy.com

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1146

In the Matter of:)	
)	
Application of Duke Energy Carolinas, LLC)	PILOT GRID RIDER
For Adjustment of Rates and Charges)	AGREEMENT AND
Applicable to Electric Service in North)	STIPULATION AMONG
Carolina)	CERTAIN PARTIES

Applicant Duke Energy Carolinas, LLC (“DE Carolinas” or the “Company”), and intervenors Environmental Defense Fund (“EDF”), Sierra Club (“Sierra Club”), and North Carolina Sustainable Energy Association (“NCSEA”); (each individually a “Stipulating Party” or “Party,” and all collectively, the “Stipulating Parties” or “Parties”), through counsel and pursuant to N.C. Gen. Stat. § 62-69, respectfully submit the following Pilot Grid Rider Agreement and Stipulation (“Pilot Grid Rider Stipulation,” “Agreement,” or “Stipulation”) for consideration by the North Carolina Utilities Commission (the “Commission”) in the above-captioned Docket.

Statement of Purpose

In February 2017, the Company unveiled a grid modernization initiative called Power/Forward Carolinas¹ (“Power/Forward” or “P/F”), and, in this Docket, sought the Commission’s approval for a rider mechanism to pay for certain costs associated with the Power/Forward initiative’s North Carolina-related activities within the Duke Energy Carolinas, LLC territory. Power/Forward and its associated rider were the focus of substantial testimony in the recently-concluded expert witness hearings in this Docket, as well as post-hearing briefing

¹ Power/Forward Carolinas was introduced as a comprehensive grid strengthening and grid investment plan. Power/Forward Carolinas included proposed investments in both the DE Carolinas territory and also the Duke Energy Progress LLC (“DE Progress”) service territory. While P/F was intended to be implemented across both the DE Carolinas and DE Progress territories, DE Carolinas sought cost recovery via rider in this Docket for only investments projected to occur in the DE Carolinas territory.

submitted by numerous parties to the Docket. Since the submission of post-hearing briefs, the Stipulating Parties have had the opportunity to confer regarding certain issues related to the proposed rider, and have set forth a resolution in this Agreement. As detailed herein, this Pilot Grid Rider Stipulation provides for a pilot rider (“Rider”) for a three-year initial term, subject to extension by the Commission upon the terms and conditions stated herein, and applies to work done on DE Carolina’s system in North Carolina.² The Company and the Stipulating Parties acknowledge and agree that if the Commission approves this Stipulation, the Company will still bear the burden of proof to show that its proposed activities for which it seeks recovery under the Rider or otherwise are reasonable and prudent and that if this Stipulation is approved, the Commission maintains all its authority to determine whether costs incurred and actions taken under this Stipulation were reasonable and prudent.

Wherefore, the Stipulating Parties and the Company agree and stipulate as follows:

Agreement

1. Beginning in June 2018, a Pilot Grid Recovery Rider will be created and be kept in place for a 3-year initial period (the “Initial Term”), subject to review by the Commission in a separate Commission docket dedicated to the review of this Rider each year.³

² For clarity, work done in North Carolina includes distribution-related investments which are assigned to specific retail jurisdictions based on geographic location, and a portion of transmission-related investments which are allocated among retail and wholesale jurisdictions.

³ The Initial Term would consist of three annual riders, and, as described herein, would exclude TUG, Pole Replacement, and Cable and Conductor Replacement Programs. The Year One Rider revenue requirement, to be effective beginning with the date of new general base rates becoming effective, would be based on estimated in-service capital for the period of June 1, 2018 through August 31, 2019. The Year Two Rider revenue requirement, to be effective beginning September 1, 2019, would be based on the Year One Rider adjusted to true-up to actual capital in-service amounts, plus the revenue requirement on estimated in-service capital from September 1, 2019 through August 31, 2020. The estimated in-service capital from September 1, 2019 through August 31, 2020 would be filed during March 2019, and subject to Commission review. The Year Three Rider revenue requirement, to be effective beginning September 1, 2020, would be based on the Year One Rider and Year Two Rider amounts adjusted to true-up to actual capital in-service amounts, plus the revenue requirement on estimated in-service capital from September 1, 2020 through August 31, 2021. The estimated in-service capital from September 1, 2020 through August 31, 2021 would be filed by March 2020, and subject to Commission review.

Intervenors, including but not limited to the Stipulating Parties, may file with the Commission testimony and comments in such proceedings.

2. During the Initial Term, the annual Rider will exclude Targeted Undergrounding (“TUG”), Pole Replacement, and Cable and Conductor Replacement Programs, along with project O&M for these items. Targeted Undergrounding, Pole Replacement, and Cable and Conductor Replacement Programs costs will be deferred for recovery in future base rate proceedings, subject to other requirements as listed herein.⁴ However, the Company may undertake and recover through the Rider five total agreed-to TUG projects (herein the “Pilot Grid Recovery Rider TUG Projects”)⁵ during the Initial Term as Rider recovery demonstration projects, and at the end of the Initial Term, DE Carolinas will file and review the results of these demonstration projects with intervenors and the Commission in an effort to determine whether TUG project costs can or should be reasonably recovered through a rider in the future. The Pilot Grid Recovery Rider TUG Projects will be limited in eligible cost recovery to an amount not exceeding \$50M in total for all five projects. This cost recovery limitation is limited to these five TUG projects commenced within the Initial Term and, should the Commission determine that new TUG project costs may be recoverable via an extension of this rider after the Initial Term, then further cost recovery limitations, if any, shall be determined following such determination by the Commission and any such cost recovery will also be subject to review by the Commission.

⁴ Construction-related O&M (including income and general taxes) and capital-related costs (depreciation and return) and carrying charge on the deferred cost balance.

⁵ The five agreed-to TUG demonstration projects will be agreed to and submitted to the Commission for informational purposes no later than 90 days from approval of this Agreement.

3. During the Initial Term, cumulative amounts related to DE Carolinas' North Carolina Power/Forward costs (both the highest annual amount of revenue requirements through the Rider and cumulative deferred cost balance) will not exceed 4.5% of the total annual electric service revenue requirement approved by the Commission in the Company's most recent general rate case, Docket E-7, Sub 1146. An illustrative example of such calculation is included as Attachment C to this Agreement.
4. The Company may petition the Commission for extension of the Rider. In seeking any such extension, DE Carolinas will provide a report to the Commission with input and submissions from intervenors on any issues or problems seen during the Initial Term. Additionally, intervenors, including but not limited to the Stipulating Parties, retain their right to dispute whether such extension should be granted and may file with the Commission testimony and comments providing additional information for the Commission's consideration regarding any extension of the Rider. Unless the Commission grants an extension of the Rider, at the end of the Initial Term ending August 31, 2021, no additional projects will be added to the Rider. The Year 3 Rider, the revenue requirements of which will be adjusted to true-up to actual capital in-service amounts for the period ending August 31, 2021, will continue until the Company's next general rate case proceeding.⁶
5. The Company must prove that any costs recovered through the Rider, or for which related expense is deferred, is incremental to and over-and-above normal system work with objective evidence, that will be filed with the Commission and provided to intervenors, in

⁶ The Company requests authority to continue deferral of costs related to the P/F program incurred subsequent to the end of the Initial Term, to be addressed in its next general rate case proceeding. Any such deferred costs will be subject to the 4.5% spending cap set forth in Paragraph 3 herein.

order for such expense to be recoverable from customers. The Stipulating Parties and any other intervenors retain their right to dispute whether or not the Company has met its burden in this regard.

6. During the Initial Term, reasonable cost effectiveness analyses, both qualitative and quantitative, will be provided for all P/F work each year at least fourteen (14) days in advance of the annual North Carolina stakeholder engagement meeting referenced herein and will be filed with the Commission. The Stipulating Parties and any other intervenors retain their right to dispute whether or not the Company has met its burden in this regard.
7. During the Initial Term, annual stakeholder engagement meetings will be held with an agreed-to set of information from the Company provided in advance on forthcoming work and will follow an agreed-to agenda that will be developed with the Stipulating Parties and other intervenors. During the first year of the Initial Term, these stakeholder engagement meetings will be held quarterly in North Carolina at a time and place agreed upon by the majority of the Parties along with the Company. Should any party not be able to attend a stakeholder meeting, they will be provided all documents and materials disseminated at said stakeholder meeting in a timely fashion by the Company following the conclusion of the meeting.
8. Notwithstanding the five TUG demonstration projects discussed in Paragraph 2 above, all other Targeted Undergrounding work performed in DE Carolinas' North Carolina service territory during the Initial Term must be pre-approved by the Commission and DE Carolina's pre-approval filing must include a detailed work scope and a reasonable cost effectiveness analysis, both qualitative and quantitative, for all TUG projects. The

Stipulating Parties and any other intervenors retain their right to dispute whether or not the Company has met its burden in this regard.

9. DE Carolinas will deploy Integrated Volt/Var control (“IVVC”) capability in at least 75 of its system substations (or on approximately 20% of DEC’s system distribution circuits) in North Carolina by the end of 2021 as part of its North Carolina Power Forward grid modernization initiative, and the costs for such work shall be eligible for recovery in the Rider during the Initial Term. The Company will also file with the Commission voltage reduction reports in a form similar to those that Duke Energy Indiana and Duke Energy Ohio file with regulators in their respective states as part of this IVVC deployment. Additionally, the Company will provide information to the Stipulating Parties and to customers seeking to interconnect to the Company’s grid as to where this IVVC work will be done on DEC’s system, including the location of line voltage regulator (“LVR”) devices, so that parties wishing to interconnect to DEC’s system will not come into conflict with such work. The Company agrees that after the Section 4.2 Scoping Meeting as described in the NC Interconnection Standards has been completed and where the known and planned future locations of LVR devices have been communicated, the Company will not use any additional planned or future locations of LVR devices as a screen during the interconnection study process. However, the Stipulating Parties do not concede that the use of LVR devices as a screen during the interconnection study process constitutes “good utility practice,” as that term is defined in the North Carolina Interconnection Standard approved by the Commission’s May 15, 2015 order in Docket No. E-100, Sub 101. The Company further agrees to work collaboratively with any such parties to avoid LVR conflicts and impairments to their interconnection requests.

10. Including any energy storage projects reflected in DE Carolinas' Integrated Resource Plan as approved on April 16, 2018, DE Carolinas will deploy no less than 300 MW of total energy storage projects on its system in North Carolina by no later than May 2026 as part of its Power Forward grid modernization initiative, and the Company will deploy at least 200 of those 300 MWs by May, 2023. The Company shall file an annual report with the Commission detailing the amount of installed storage in the previous year, the total MWs of energy storage installed as of the date of the annual report, and the amount of remaining energy storage necessary to achieve the 300 MW requirement referenced herein. The costs for such work performed during the Initial Term shall be eligible for recovery in the Rider during the Initial Term. Nothing in this Agreement shall limit DE Carolinas' right to install or integrate more energy storage on the grid beyond the amounts set forth herein. For purposes of this section, "energy storage" does not include pumped hydroelectric energy storage.
11. As part of its Power Forward grid modernization initiative, DE Carolinas commits to deploying no less than \$25 million of investment in electric vehicle charging stations in DEC's service territory in North Carolina by 2021 under the terms and conditions set forth in Attachment A, and the costs for such work shall be eligible for recovery in the Rider during the Initial Term.
12. As part of its Power Forward grid modernization initiative in North Carolina, DE Carolinas will deploy the *Green Button-Download My Data* functionality or functionality that is materially similar into its systems in DE Carolinas' service territory in North Carolina by May 2019, and the costs for such work performed during the Initial Term shall be eligible for recovery in the Rider during the Initial Term. DE Carolinas will

deploy the *Green Button-Connect My Data* functionality or functionality that is materially similar into its systems as part of its ongoing Power/Forward grid modernization initiative so long as the Commission approves, in advance, the addition of this functionality in a filing that DE Carolinas must make no later than 180 days after approval of this settlement and with the caveat that such functionality will be deployed in a manner that:

1. Avoids any customer confusion between the Company and third-party providers that may receive customer usage data from the Company, to include adequate consumer protection warnings and protections for the Company;
2. Deploys cyber security protection for the Company's system;
3. Provides the functionality only to customers who opt-in to the program; and
4. That allows any relevant third-party provider, including Duke Energy affiliates, to participate in the program with equal access to customer-authorized data through the use of a standardized disclosure and consent form for all such providers, including Duke Energy affiliates, and without providing any commercial advantage or disadvantage to any provider.

The Stipulating parties retain their right to argue how costs for this functionality should be allocated between customers in the aforementioned proceeding before the Commission, recognizing that such costs may be immaterial or de minimis and thus would not be subject to dispute between the Stipulating Parties. The Stipulating Parties and the Company agree that should the Commission approve of the *Green Button-Connect My Data* functionality or functionality that is materially similar, then the Company will cease deployment of *Green Button-Download My Data* functionality or functionality that is materially similar and move to *Green Button-Connect My Data* as soon as reasonably possible following the Commission's order related thereto. The Company will deploy *Green Button-Connect My Data* functionality or functionality that

- is materially similar within one (1) year of the issuance of an order by the Commission approving of such data access technology.
13. DE Carolinas agrees that Integrated System Operations Planning (“ISOP”) that takes into consideration the Company’s generation, transmission, and distribution system is needed and the Company will deploy ISOP as part of this Stipulation. The Company agrees to deploy ISOP on its system in the manner set forth on Attachment B to this Stipulation.
 14. The Stipulating Parties and DE Carolinas agree that during the Initial Term, they, their affiliates, subsidiaries, and parent companies, or other Duke Energy subsidiaries or affiliates, will not lobby, or influence the North Carolina Utilities Commission, the North Carolina General Assembly, or any federal government entity or branch on the issue of a Grid Rider.⁷ Nor will DE Carolinas take any action to impair or modify any requirement or obligation in Paragraphs 10, 12, and 13 that extends beyond the Initial Term. Any such action will be considered a material breach of this Agreement and subject to Paragraph 15 herein.
 15. A Stipulating Party and DE Carolinas have the responsibility to present any alleged breach of the Agreement or other dispute regarding this Agreement to the alleged breaching party prior to filing a written notice to the Commission of any such alleged breach of or dispute regarding this Agreement. The alleged breaching party must then timely respond to the alleged breach or dispute and the alleged breaching party has the right to reasonably cure or correct such breach or dispute. Any alleged breach or dispute that is not resolved by the breaching party or otherwise corrected in such a manner as to satisfy the complaining party(ies) within ninety (90) days of the complaining party(ies’)

⁷ During the Initial Term, however, DE Progress may petition the Commission for approval of a Pilot Grid Rider with terms and conditions consistent with this Agreement.

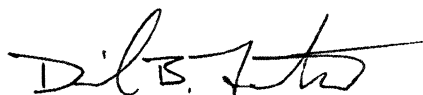
original written notice of dispute to the breaching parties undersigned counsel may then be presented to the Commission by the complaining party(ies). The Stipulating Parties and the Company agree to attempt to resolve any and all disputes in good faith prior to requesting Commission review. The Commission may solicit feedback regarding the alleged breach or dispute from the Stipulating Party(ies), the Company, or any other entities that the Commission deems appropriate; review the alleged breach or dispute and evidence related thereto; and determine whether the alleged breach occurred that has not been reasonably cured or corrected. If the Commission determines that a material breach has occurred and has not been reasonably cured or corrected, the Commission may take action within its authority including, but not limited to, cancellation of the Rider. The Stipulating Parties and the Company agree that neither Party will be responsible or liable for monetary damages (direct, indirect, consequential, etc.) as a result of any breach of this Agreement. The Stipulating Parties and the Company acknowledge and agree that monetary damages are not available as a remedy in the event the obligations of this Agreement are breached.

16. For the terms, requirements, and obligations of this settlement to become binding and effective, this Agreement must be approved by the Commission, without material modification, in its entirety and incorporated in an Order issued by the Commission.
17. This Stipulation is the product of negotiation and compromise of a complex set of issues, and no portion of this Stipulation is or will be binding on any of the parties unless the entire Pilot Grid Rider Agreement and Stipulation is accepted by the Commission.
18. If the Commission rejects any part of this Stipulation or approves this Stipulation subject to any change or condition, or if the Commission's approval of this Stipulation is rejected or

conditioned by a reviewing court, the Stipulating Parties and the Company agree to meet and discuss the applicable Commission or court order within five (5) business days of its issuance and to attempt in good faith to determine if they are willing to modify the Stipulation consistent with the Order. No party shall withdraw from the Stipulation prior to complying with the foregoing sentence. If any party withdraws from the Stipulation, each party retains the right to seek additional procedures before the Commission with respect to issues addressed by the Stipulation and shall not be bound or prejudiced by the terms and conditions of the Stipulation.

19. It is not the intent of the Stipulating Parties or the Company to bind any party related to the South Carolina Power/Forward initiative, and the purpose of this Stipulation is to address the concerns expressed by North Carolina stakeholders and intervenors. It is the intent of the Stipulating Parties and the Company to limit this pilot rider recovery to DE Carolinas notwithstanding the fact that some of the programs in this Agreement may provide ancillary benefits to DE Progress, and DE Progress is not allowed to avail itself to rider recovery for Power Forward work under this Agreement.
20. This Stipulation may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute on and the same instrument. Execution by facsimile signature shall be deemed to be, and shall have the same effect as, execution by original signature.

The foregoing is agreed and stipulated this 31st day of May, 2018.



David B. Fountain
North Carolina President
Duke Energy Carolinas, LLC



By: _____

Date: 5/30/2018

Name: Dionne Delli-Gatti

Title: SE Clean Energy Director

By:  _____


Date: 5/31/2018

Name: Dorothy H. Jaffe

Title: Senior Attorney
Sierra Club

OFFICIAL COPY

Jun 01 2018



Ivan Urlaub
Executive Director
North Carolina Sustainable Energy Association

Attachment A: North Carolina Electric Transportation Pilot

The NC Electric Transportation Pilot will deploy infrastructure starting in 2018 for a period of three years to facilitate adoption of electric transportation technologies. The main goals of the Pilot are:

- Install a foundational level of fast charging infrastructure across North Carolina.
- Study the effects of charging multiple types of electric vehicles.
- Develop procedures to ensure cost-effective integration of vehicle charging by actively managing charging loads.
- Support electrification of public transit and associated cost savings for public agencies.
- Ensure electrification projects benefit all customers, including those in Low- Income Communities, communities that have historically experienced heightened vehicle air pollution impacts , and those who do not own electric vehicles. A “Low-Income Community” includes areas that meet state and/or federal definitions or guidelines for poverty.
- Provide cost share to Volkswagen Settlement Environmental Mitigation Trust funding and reduce the upfront capital premium of electric transit and school bus deployments.
- Coordinate with NC Department of Environmental Quality on the Volkswagen Settlement Environmental Mitigation Trust funding, to the extent practicable, in order to leverage multiple funding streams for electrification projects.

The Pilot is designed to determine best practices for realizing the significant potential benefits of increased electric transportation adoption including:

- Customer benefits from increased electric system utilization.
- Economic benefits from retaining fuel cost savings in state, improving the state energy trade balance, and deploying cutting-edge vehicle technology.
- Environmental and customer benefits of improving local air quality by eliminating harmful vehicle emissions.

General Pilot Terms

- DE Carolinas will report operational data and results to the NCUC on an annual basis, and at the conclusion of the three-year term will prepare a final report in conjunction with proposing a permanent transportation electrification program, or explaining why a permanent program is not warranted.

- For the full term of the pilot, DE Carolinas shall collect and report data including, but not limited to, the following: program participation by pilot segment; total number and total cost of rebates or incentives issued by pilot segment; installation costs on a project-by-project basis; charging technology type(s) selected and/or installed; outage incidents by equipment provider; load profiles; load growth; electricity prices paid by EV drivers; market education and outreach efforts; and site host acquisition strategies.
- DE Carolinas shall conduct a Request For Proposal process in selecting EVSE hardware and network solution providers for each Pilot segment to create a competitive process open to all electric vehicle supply equipment (“EVSE”) vendors.
- Level 2 EVSE shall be network ready and able to communicate with a network management system (NMS) and use Open Charge Point Protocol (OCPP 1 .6 or later). EVSE vendors must provide a certified OpenADR 2.0b Virtual End Node (VEN or Client) that can interface with an OpenADR 2.0b server to interpret signals and manage charging.

DE Carolinas shall establish dedicated program funding in the following minimum amounts:

- \$4 million – Residential EV Rebate Program
- \$4 million – Multi-use Dwelling Program
- \$7.7 million – Direct Current Fast Charging (“DCFC”)
- \$3.5 million – School Bus Battery and Charging
- \$3.4 million – Transit Bus Charging
- \$2 million – Market Education and Outreach
- \$1.1 million – Administrative costs

Segments	Goal
Residential EV Charging Load Management	Establish customer charging behavior and utility charging load management capabilities.
Multi-Unit Dwelling	Support deployment of charging stations in Multi-Unit Dwellings with 15% of such deployments in Low-Income Communities.
School Bus Battery and Charging	Demonstrate electric school bus capabilities for load balancing and backup power applications.
Transit Bus Charging	Establish transit bus charging behavior and load management capabilities and prioritize Low-Income communities with lower air quality in deciding where to invest in electric transit buses.
DC Fast Charging	Provide a foundational network of DC Fast Charging in North Carolina, 10% of which will be located in Low-Income Communities.

Pilot Structure	
Residential EV Charging Rebate and Load	<ul style="list-style-type: none"> • Residential customer receives \$750 rebate in exchange for installation of qualified L2 EVSE with

Management Program	<p>load management/communication capabilities.</p> <ul style="list-style-type: none"> • 1,500 customer participation target. • Customer agrees to provide charging load data and participate in DR events. The purpose of the Rebate is to compensate EV drivers for installing a smart, networked Level 2 EVSE and participating in the Load Management Program. The Load Management Program will consist of different methods of charging load management including, but not limited to, delayed charging, modulation of charging power levels, and Demand Response events to demonstrate the value and ability of customer participation in charging load management programs. Charging load management events will occur on a regular basis and be communicated to participant customers via text and/or smartphone app, and customers may opt out of up to 3 events per month. • Ongoing quarterly payments amount to another \$500 over the course of the three-year pilot term in order to incent continued participation in the program. • DE Carolinas shall compile and make available a list of qualified electricians for installation. • The results of the Load Management Program, including its effectiveness and value, will be used to develop a Permanent EV Charging Load Management Program for residential customers, which will be proposed upon conclusion of the pilot program, if deemed appropriate. The Permanent Program may feature any combination of delayed charging, demand response, direct load control, EV-specific TOU rate, or other charging load management methods.
Multi-unit dwellings	<ul style="list-style-type: none"> • DE Carolinas installs, owns and operates Level 2 charging infrastructure. • 275-port deployment goal. • End-use customers are charged an existing, Commission-approved DE Carolinas electricity rate for charging service. In the event a new electricity rate is necessary, DE Carolinas agrees to file such a rate for Commission approval within 60 days of the approval of this settlement.
School Bus Battery and Charging	<ul style="list-style-type: none"> • DE Carolinas provides a \$175,000 incentive for 20 electric school buses and associated charging infrastructure in exchange for all charging data and ability to dispatch battery during off hours for load balancing, backup power (such as Vehicle-to-Grid capability), or other uses. • DE Carolinas retains right to repurpose school bus

	<p>battery at the end of its useful life for 2nd life application as a grid asset.</p>
Transit Bus Charging	<ul style="list-style-type: none"> • DE Carolinas provides a \$75,000 incentive for 45 electric transit buses and associated charging infrastructure in exchange for all charging data from transit bus operation and ability to perform load management assuming no adverse impacts to bus duty cycle. • After one year, DE Carolinas will analyze the charging data to determine which (if any) load management methods are appropriate, such as existing commercial time of use tariffs.
DC Fast Charging	<ul style="list-style-type: none"> • DE Carolinas installs, owns, and operates public-access DCFC depots throughout DE Carolinas NC territory. • DE Carolinas shall install next-generation, future-proofed DCFC charging stations with a power level of 120-160kW. • 60 DCFC stations shall be installed along highway corridors. Each site will be configured with 2 charging stations per site and additional “Make Ready” work to accommodate an additional 4 DCFC of 120-160kW . • End-use customers are charged a rate composed of the cost of electricity, plus an additional amount used to offset total Pilot Program costs. The final rate will be designed to preserve significant cost savings versus gasoline while approaching market rates charged by other providers of public DCFC stations. Such market rates will be determined by sampling publicly available DCFC in NC on a quarterly basis. DE Carolinas agrees to propose such a rate for Commission approval within 60 days of approval of this settlement.

Attachment B

1. DE Carolinas will include in its 2019 Integrated Resource Plan (IRP) the recent analysis it has performed on its Edneyville and Nix Road substations and associated eight circuits that it has examined as part of that analysis. In that filing, the Company will include: peak and hourly loading data; descriptions of customer types on the aforementioned circuits; the presence of any distributed energy resources and non-wires applications; and all scenario analysis considered in the Company's evaluation.
2. DE Carolinas will include a hosting capacity analyses with its 2020 IRP. Such hosting capacity analysis will include both peak and as-available hourly loading data for all available circuits and details on existing distributed energy resources and non-wires applications.
3. DE Carolinas will include in its 2021 IRP details about how both existing and new distributed energy resources and non-wires applications will be examined in its Integrated System Operations Planning (ISOP) as means to defer traditional capital investments in the system.
4. DE Carolinas will fully implement ISOP by January 1, 2022.
5. If any events occur that are beyond DE Carolinas' control and that interfere with DE Carolinas' compliance with the requirements of this Attachment, DE Carolinas may petition the Commission for a reasonable modification or extension of time of such requirements as may be appropriate given the particular facts and circumstances or, if agreed to in writing by the Stipulating Parties, may invoke such reasonable modification or extension of time without petitioning the Commission.
6. DE Carolinas will reasonably include the Stipulating Parties for input and feedback at material points in its selection process as it identifies the tools and capabilities necessary for ISOP implementation. DE Carolinas will also reasonably consider and, where appropriate, incorporate input from the Stipulating Parties with regard to the parameters that ISOP will use to assess issues such as distribution investment needs; the use of existing and future distributed energy resources and non-wires applications; load forecasts; pricing assumptions; and modeling inputs, keeping in mind the overall objective of developing investment plans that meet customer needs and preferences by capturing efficiencies from being a vertically integrated electric utility.
7. For purposes of this Attachment, "distributed energy resources" includes but is not limited to distributed solar photovoltaic generation, distributed energy storage, distributed natural gas generation, and customer-sited advanced energy management solutions and "non-wires applications" includes but is not limited to any methods used to meet the operational needs of the distribution system beyond the construction and operation of conventional grid assets.

Attachment C : Illustration of DEC North Carolina Grid Rider Proposed Revenue Requirement Cap

Estimated Rate Impacts

Rider

	<u>Rider Yr 1</u>	<u>Rider Yr 2</u>	<u>Rider Yr 3</u>
Residential	1.7%	3.7%	6.1%
Commercial	0.9%	1.9%	3.1%
Industrial	0.5%	1.0%	1.7%
Lighting	0.3%	0.6%	0.9%
Avg Retail	1.1%	2.4%	4.0%

Deferral

	<u>Rider Yr 1</u>	<u>Rider Yr 2</u>	<u>Rider Yr 3</u>
Residential	0.2%	0.5%	0.8%
Commercial	0.1%	0.2%	0.3%
Industrial	0.0%	0.1%	0.1%
Lighting	0.0%	0.1%	0.1%
Avg Retail	0.1%	0.3%	0.5%

Total Combined

	<u>Rider Yr 1</u>	<u>Rider Yr 2</u>	<u>Rider Yr 3</u>
Residential	2.0%	4.1%	6.9%
Commercial	1.0%	2.1%	3.4%
Industrial	0.5%	1.1%	1.8%
Lighting	0.3%	0.6%	1.1%
Avg Retail	1.3%	2.7%	4.4%

Proposed Revenue Requirement Cap

Avg Retail	4.5%	4.5%	4.5%
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Within Proposed Cap? Yes or No

Yes Yes Yes

NOTES:

Estimated rate impacts shown above are directional only and subject to change based upon base settlement assumptions

Estimated rate impacts are measured against 2016 Revenue including Riders as reflected in Pirro Exhibit 2 column (e)

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1146

In the Matter of)
Application of Duke Energy Carolinas, LLC)
For Adjustment of Rates and Charges Applicable) **Settlement Agreement**
To Electric Service in North Carolina)

This settlement agreement is entered into this 31st day of May, 2018 by and among Duke Energy Carolinas, LLC (“DE Carolinas” or the “Company”) and the Commercial Group, an ad hoc association consisting of Food Lion, LLC, Ingles Markets, Inc., JC Penney Corp., Inc., Sam’s East, Inc., and Wal-Mart Stores East, LP, (collectively, the “Settling Parties”).

WHEREAS, on August 25, 2017, DE Carolinas filed an application for a general rate increase with the North Carolina Utilities Commission in Docket No. E-7, Sub 1146 (the “Docket”) that included a proposal for a Grid Reliability and Resiliency Rider (“GRR Rider”);

WHEREAS, the Commercial Group has intervened in the Docket and in its pre-filed testimony, the Commercial Group addressed, with respect to the proposed GRR Rider, the rate design for recovering GRR Rider costs from customers on the Option Power Service, Time of Use with Voltage Differential (“OPT-V”) rate schedule;

WHEREAS, on May 31, 2018, DE Carolinas and the Environmental Defense Fund, Sierra Club, and North Carolina Sustainable Energy Association filed a Pilot Grid Rider Agreement and Stipulation Among Certain Parties as to certain GRR Rider issues in the Docket (“Pilot Grid Agreement”); and

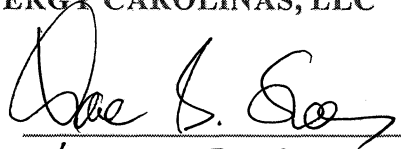
WHEREAS, the Commercial Group and DE Carolinas now desire to resolve and settle additional issues that would narrow further the number of issues in controversy in the Docket.

NOW, THEREFORE, for and in consideration of the foregoing, the mutual commitments and promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Settling Parties hereby agree to resolve issues among them regarding the Docket on the following terms:

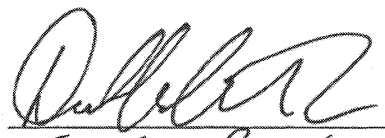
1. The Commercial Group and DE Carolinas agree that any GRR Rider (or as described in the Pilot Grid Settlement, pilot rider) costs allocated to OPT-V customers shall be recovered via OPT-V demand charges.
2. Since the Commercial Group did not address in its testimony any other GRR Rider issues (other than the potential impact adoption of the GRR Rider might have on the Company's return on equity, which issue the Pilot Grid Settlement does not address), the Commercial Group does not oppose nor expressly support the terms of the Pilot Grid Settlement, except as stated below.
3. The Commercial Group agrees that paragraphs 10 through 12 of the Pilot Grid Settlement are reasonable provisions with the following clarification concerning paragraph 10, that DE Carolinas will work with interested commercial customers to evaluate customer-sited opportunities to deploy energy storage that address distribution and transmission system issues (and to the extent that energy storage deployment by Duke Energy Progress, LLC is included in the Pilot Grid Settlement or any side agreement to that settlement, Duke Energy Progress, LLC shall also work with interested commercial customers to evaluate customer-sited opportunities to deploy energy storage that address distribution and transmission system issues).
4. The Settling Parties will support this Settlement Agreement and use their best efforts to implement and achieve its provisions.
5. This Settlement Agreement shall be binding upon the parties upon the execution hereof but its substantive terms shall be effective only upon both the approval of the Settlement Agreement, in its entirety, by the Commission in the Docket. In the event this condition fails to occur, the Settling Parties agree that the Stipulation shall not be binding upon the Settling Parties.

IN WITNESS WHEREOF, the Parties have signed and executed as of the date set forth above.

DUKE ENERGY CAROLINAS, LLC

By: 
Lawrence B. Somers, Deputy General Counsel

THE COMMERCIAL GROUP

By: 
For Glenn Pugh