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October 25, 2021

VIA ELECTRONIC FILING

The Honorable Jocelyn G. Boyd
Chief Clerk/Executive Director
Public Service Commission of South Carolina
101 Executive Center Drive, Suite 100
Columbia, SC 29210

Re: Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Notice of Rate Design Study Initiation
Docket No. ND-2021-12-E

Dear Ms. Boyd:

On April 30, 2021, Duke Energy Carolinas, LLC and Duke Energy Progress, LLC (collectively the "Companies") made an informational filing with the Public Service Commission of South Carolina ("Commission") that pursuant to a stipulation approved by the North Carolina Utilities Commission ("NCUC") the Companies were undertaking a 12-month comprehensive Rate Design Study covering a number of rate design topics as detailed in that filing. The Companies also outlined their ongoing effort and goal of including South Carolina stakeholders in the process. On August 4, 2021, the Companies filed an update with the Commission outlining the stakeholder process to date and providing the quarterly status report filed with the NCUC.

On October 21, 2021, the Companies filed the attached Duke Energy Rate Design Study Quarterly Status Q3 with the NCUC. This report was filed pursuant to the NCUC's March 31, 2021 Order Accepting Stipulations, Granting Partial Rate Increase, and Requiring Customer Notice in Docket No. E-7, Sub 1214 and its April 16, 2021 Order Accepting Stipulations, Granting Partial Rate Increase, and Requiring Customer Notice in Docket No. E-2, Sub 1219.

The Companies will continue to keep the Commission informed of additional status reports or other action in this matter.

Sincerely,

Heather Shirley Smith

Attachment

cc: Carrie Grube Lybarker, SC Department of Consumer Affairs (via email w/attachment)
Roger P. Hall, SC Department of Consumer Affairs (via email w/attachment)
Andrew Bateman, Office of Regulatory Staff (via email w/attachment)

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October 21, 2021

VIA ELECTRONIC FILING

Ms. A. Shonta Dunston
Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4300

RE: Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Rate Design Study Quarterly Report
Docket Nos. E-7, Sub 1214 and E-2, Sub 1219

Dear Ms. Dunston:

Pursuant to the North Carolina Utilities Commission's March 31, 2021 *Order Accepting Stipulations, Granting Partial Rate Increase, and Requiring Customer Notice* in Docket No. E-7, Sub 1214 and its April 16, 2021 *Order Accepting Stipulations, Granting Partial Rate Increase, and Requiring Customer Notice* in Docket No. E-2, Sub 1219, Duke Energy Carolinas, LLC and Duke Energy Progress, LLC (collectively "Duke Energy") enclose for filing in the above-referenced dockets Duke Energy's Rate Design Study Quarterly Status Report for Third Quarter 2021.

If you have any questions, please do not hesitate to contact me. Thank you for your attention to this matter.

Sincerely,

Jack E. Jirak

Enclosures

cc: Parties of Record

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CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Rate Design Study Quarterly Report, in Docket Nos. E-7, Sub 1214 and E-2, Sub 1219, has been served by electronic mail, hand delivery or by depositing a copy in the United States mail, postage prepaid, to parties of record.

This the 21st day of October, 2021.

Jack E. Jirak
Deputy General Counsel
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Duke Energy Rate Design Study Quarterly Status

Q3 2021

10/21/2021

Prepared by ICF on behalf of Duke Energy

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1. Executive Summary

Duke Energy (Duke) is conducting a Comprehensive Rate Design Study to provide new pricing options for its customers and explore the creation of a unified pricing theory to improve consistency between Duke Energy Carolinas (DEC) and Duke Energy Progress (DEP) across the Carolinas. On March 31, 2021, the North Carolina Utilities Commission (NCUC) approved Duke's recommendation to conduct the study. The Study will span 12 months and include quarterly status reports on the work of the Rate Design Study participants over the previous quarter, including objectives achieved and anticipated work to be undertaken. This is the second of the NCUC-directed quarterly reports. The first report, which was filed on July 21, 2021, can be found at Docket E-7 Sub 1214 for DEC and at Docket E-2 Sub 1219 for DEP. The report is consistent for both companies.

Since the Q2 2021 report was filed, ICF hosted the first stakeholder forum, and 18 sessions were held by Duke and ICF across the 4 stakeholder Working Groups. Stakeholders were also provided an opportunity to respond to a survey on Duke's rate offerings, issued by Duke in July.

The following provides a short overview of each stakeholder engagement session or opportunity hosted or initiated In Q3 2021. Each was conducted virtually.

- The **stakeholder interviews** concluded with the final interview conducted in July 2021.
- The **Comprehensive Rate Review (CRR) Stakeholder Forum 1** was hosted by ICF on August 25, 2021, and provided Duke, ICF, and stakeholders an opportunity to report out on the progress of the CRR process and rate design analytics to date. While the primary purpose of the forum was to report out on progress, stakeholders were invited to submit comments and questions throughout the session via chat.
- **4 stakeholder Working Groups** covering fast track topics (including time-of-use (TOU) rates, net energy metering (NEM), and electric vehicle (EV) rates), hourly pricing and economic development rates, residential rates, and non-residential rates, convened for around 20 discussion sessions during Q3. These sessions covered topics that were deemed priority by both stakeholders and the NCUC, and included presentations from Duke and stakeholders, as well as facilitated discussions and case studies on the topics at hand.
- A **Stakeholder survey** for collaborative participants and residential customers was distributed by Duke during July. The surveys solicited perspectives from a broad set of stakeholders and residential customers as a complement to the stakeholder interviews conducted during June – July 2021.
- A **monthly digest** was distributed beginning in September to provide stakeholders a written summary of activities across the working groups in the prior month, as suggested by one of the stakeholders to improve communication and transparency.

Stakeholders who were unable to attend the previously hosted sessions, or that are unable to attend the sessions scheduled going forward, are able to engage in the process by visiting Duke's Comprehensive Rate Review and Design Information Portal or by emailing Duke directly at RateReview@duke-energy.com.

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2. Q3 2021 Activities

2.1 Stakeholder Interviews

In July 2021, ICF conducted one additional stakeholder interview, bringing the interview total to seven stakeholder groups.

Through this process, ICF sought insights into interviewee thoughts and priorities regarding the Rate Design Study, the associated stakeholder process, and Duke rates more generally. Takeaways from the discussions are being used to structure future engagements including stakeholder technical Working Group sessions and broader stakeholder Forums. Table 1 displays the interviewed stakeholder parties.

Table 1. Duke Rate Design Study Stakeholder Interview Participants

Category
Large Industrial Customer Group
Solar/Storage Advocate
Regulatory
Large Industrial Customer
Solar/Storage Developer
Solar/Storage Advocate

Discussions between ICF and the participants were considered "off the record" and used to gain a broad, baseline understanding of stakeholder objectives, concerns, and views. Takeaways from the interviews were summarized in the Q2 Duke Energy Rate Design Study Quarterly Status Report and are inclusive of the feedback provided in the final interview.

2.2. Stakeholder Forum 1

2.2.1. Session Overview

The Stakeholder Forum 1 for the Comprehensive Rate Review (CRR) for the Carolinas was held on August 25, 2021 from 1:30 – 4:00 PM EDT. During the session, Duke described their approach to the CRR, findings from the stakeholder process to date, and the analytics work being conducted to support the rate design study. ICF and stakeholder representatives reviewed the stakeholder engagement activities that had taken place prior to the forum. 70 stakeholders attended the virtual event, and a breakdown of the attendees by category are listed in Table 2. The full Forum agenda is provided in Table 3.

Table 2. CRR Stakeholder Forum 1 Attendees by Category

Industry Category	Number of attendees
Customers	9
Environmental	4
Government	4
Legal/Consulting	6
Renewable/DER	12
Utilities	7
High Education	2
Public Advocate	16
Other	6
Total	**66**

Table 3. Duke Rate Design Kickoff Meeting Agenda and Presenters

Agenda Item	Presenter/Facilitator
Welcome and overview of the forum	Jake Berlin (ICF – Senior Manager, Distributed Grid Strategy)
Opening remarks • CRR approach to date • Findings to date	Lon Huber (Duke Energy – Vice President, Rate Design and Strategic Solutions)
Overview of CRR stakeholder engagement to date	Maureen Quinlan (ICF – Manager, Distributed Grid Strategy)
Summary of progress on WG1 (Fast Track)	Thad Culley (Sunrun – Senior Manager, Public Policy)
Summary of progress on WG2 (Hourly Pricing & Economic Development Rates)	Justin Bieber (Energy Strategies, LLC – Representing Kroger and Harris Teeter)
Summary of progress on WG3 (Residential Rates)	Katie Van Horn (ICF – Consultant, Distributed Grid Strategy)
Summary of progress on WG4 (Non-Residential Rates)	Christina Cress (Bailey & Dixon – Representing CIGFUR)
Update on analytics work to support rate design	Jonathan Byrd (Duke Energy – Managing Director, Rate Design and Strategic Solutions)
Upcoming opportunities for engagement	Katie Van Horn (ICF)
Q&A	Maureen Quinlan (ICF)

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2.2.3. Session Details

1. **Welcome and overview of the forum:** Jake Berlin (ICF) provided a safety briefing and reviewed the scope, deliverables, and timing of the stakeholder process.
2. **Opening remarks (including CRR approach and findings to date):** Lon Huber (Duke) discussed Duke's intention to create a CRR process that fosters open communication, is comprehensive and collaborative, and has a bias to action. Lon also reviewed the key themes Duke had heard from stakeholders to date.
3. **Overview of stakeholder engagement to date:** Maureen Quinlan (ICF) gave a high-level overview of all CRR stakeholder engagement sessions and related initiatives hosted prior to Forum 1, as well as planned upcoming sessions being hosted within the stakeholder working groups.
4. **Summary of progress on WG1 (Fast Track):** Thad Culley (Sunrun) reviewed Working Group 1 discussions on time-of-use (TOU) periods and net energy metering (NEM) that had occurred during both Duke hosted subgroup sessions and ICF facilitated discussion sessions.
5. **Summary of progress on WG2 (Hourly Pricing & Economic Development Rates):** Justin Bieber (Energy Strategies, LLC, on behalf of Harris Teeter and Kroger) reviewed the potential discussion areas for WG2 and plans for upcoming sessions.
6. **Summary of progress on WG3 (Residential Rates):** Katie Van Horn (ICF) reviewed potential focus areas for WG3 based on a stakeholder survey that was provided to Working Group members after the kick-off session hosted on 8/4, as well as plans for upcoming sessions.
7. **Summary of progress on WG4 (Non-Residential Rates):** Christina Cress (Bailey & Dixon, on behalf of CIGFUR) reviewed potential focus areas for WG3 based on a stakeholder survey that was provided to Working Group members after the kick-off session hosted on 7/9, as well as the Working Group's first session which covered the initial topic prioritization and high load factor rates. Christina also covered plans for upcoming sessions.
8. **Update on analytics work to support rate design:** Jonathan Byrd (Duke) outlined the objectives of Duke's CRR analytics work which included maturing from sample-based to population-level capabilities, expanding capabilities to support elements from NCUC order and Low- or Moderate-Income (LMI) collaborative, and enabling analysis of existing and proposed rate designs to support discussions in the Residential and Non-Residential Working Groups.
9. **Upcoming opportunities for engagement:** Katie Van Horn (ICF) reviewed the upcoming opportunities for engagement within each of the stakeholder Working Groups, the upcoming monthly digests reviewing stakeholder activities, and the RateReview@Duke-Energy.com email address.
10. **Q&A:** Maureen Quinlan (ICF) facilitated a Q&A session. Stakeholders were invited to submitted questions and comments through the forum chat. Questions spanned topics including:
    - How the work being completed in the Comprehensive Rate Review interacts and/or intersects with other stakeholder collaboratives;
    - Assumptions and data informing Duke's rate analysis, as well as the availability and use of AMI data; and
    - Potential stakeholder working group goals and outcomes.

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2.2.3. Key Themes and Takeaways

- All four working groups have been formed and initiated through kick off meetings. Working Group 1 ("Fast Track")[1] is actively exploring modifications to Duke's current TOU periods and NEM structure, while Working Group 4 is actively exploring how load factor is incorporated into non-residential rates. Working Groups 2 and 3 are assessing priority areas for the group.
- Duke's new analytical tools will enable evaluation of customer bill impacts from rate designs proposed in this process and aid in data-driven discussions.
- Some stakeholders expressed interest in alignment between North Carolina's greenhouse gas reduction goals and the rate designs proposed in this CRR.
- Stakeholders are keen to understand the underlying data and assumptions that Duke will be using to conduct its rate analysis and would like direct access to the customer meter data where possible.

2.3. Working Groups

2.3.1. Working Group Overview

ICF assembled four stakeholder Working Groups covering fast track topics (including TOU rates, NEM, and EV rates), hourly pricing and economic development rates, residential rates, and non-residential rates. Each Working Group has held multiple sessions to date and information on those sessions can be found below.

2.3.2. Working Group Sessions Recap

Working Group 1: Fast Track Topics

Scope includes existing and potential future rates that support innovation and meet the evolving needs of customers in DEC/DEP service territories. Topics may include, but are not limited to:

- TOU period refresh
- Net metering reform
- Electric vehicles

The activities of WG1 over the previous quarter are listed below.

Session Title/Subject	Date	Description
Q3 2021		
Kick-Off Session	7/9	• ICF presented on the rules, scope, and goals of the Fast Track Working Group. • Stakeholders were informed that WG1 would cover issues related to time-of-use (TOU) periods, net energy metering (NEM), and electric vehicle (EV) rate options.

[1] The Fast Track Working Group name implies coverage of rate design ideas and elements which are substantive and foundational to the extent they could best be addressed outside of the Residential and Non-Residential Working Groups. For example, TOU periods will impact rates for both Residential and Non-Residential customers and were, accordingly, more efficiently addressed in Working Group 1.

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Subgroup Session A: TOU Rates	7/22	• Duke presented on TOU period proposal and supporting analytics. Stakeholders shared the feedback listed below.
		  • One stakeholder thought that TOU windows should send more definitive signals about when EV fleets should be charging.
		  • Two stakeholders questioned the length of the proposed TOU peak periods and disagreed with basing peak periods off of a forward-looking model. The stakeholders also questioned the data used to inform new TOU windows.
		• Multiple stakeholders requested access to data that informed the selection of TOU periods, which Duke provided on 8/24 to parties who signed an NDA.

Subgroup Session B: NEM	7/29	• Duke provided a brief presentation with further details on their TOU period proposal.
		• Sunrun, SELC, NC WARN, and Appalachian Voices presented views on Duke's NEM proposal, which was based on the recent NEM settlement Duke reached in South Carolina. NC WARN and Appalachian Voices were joined by Advance Carolina and The Center for Biological Diversity who represented the concerns of disadvantaged communities. The presented perspectives are depicted below.
		  • **Joint Presentation from Sunrun and SELC:** Thad Culley (Sunrun) and David Neal (SELC) shared historical context surrounding NEM reform both nationwide and in the Carolinas. They then presented on the elements of South Carolina's Solar Choice NEM Settlement with Duke. The groups expressed a positive view of the settlement and using it as a starting point for NEM reform conversations in North Carolina.
		  • **Joint Presentation from NC WARN, Appalachian Voices, Advance Carolina, and The Center for Biological Diversity:** Matt Quinn and Bill Powers of NC WARN began by presenting on a variety of perceived issues with Duke's NEM stakeholder process and NEM reform more generally. The groups indicated that "fast tracking" the NEM process was inappropriate for the complexity and importance of the issues at hand and expressed a negative view of building NEM conversations in North Carolina off of South Carolina's Solar Choice NEM Settlement. The groups then highlighted several perceived issues with proposed NEM reform. These issues are highlighted below.

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		1) The groups questioned the need for a minimum monthly bill, stating that there was little to no evidence of cost socialization with NEM non-participants. 2) The stakeholders stated that they believe Duke's proposed TOU rate windows do not align with their peak periods and that basing peak periods off of a forward looking model is problematic because it disadvantages solar. The presenting stakeholders also questioned the data used to inform new TOU windows. 3) The groups believed that lack of incentives or separate provisions for solar and battery storage systems was problematic. 4) The groups believed that a separate program should be established for low-income customers. • After NC WARN's presentation, Matt Wasson of Appalachian Voices introduced Jazmyne Childs and La'Meshia Whittington of Advance Carolina, Jovita Lee of The Center for Biological Diversity,, and Yolanda Taylor of Legal Aid North Carolina. The groups shared perspectives of underrepresented stakeholders across North Carolina, with an emphasis on how NEM and community solar have an opportunity to increase access to the clean energy economy for disadvantaged communities.

Subgroup Session C: NEM	8/5	• Duke presented in detail on the mechanisms of their NEM proposal.
		• Stakeholders were provided an opportunity to present their views on the NEM presentations delivered at the 7/29 subgroup session B. During this time, the below input was received.
		  • One stakeholder asked to have separate discussions on C&I NEM constructs. Duke agreed and initiated discussions separately.
		  • One stakeholder requested that Duke provide data that informed the selection of TOU windows to stakeholders. Duke provided this data on 8/24 to parties who signed an NDA.
		  • One stakeholder voiced concerns that proposed NEM constructs could create barriers for disadvantaged communities looking to participate in the clean energy economy. In response, another stakeholder asked for examples of how NEM works in other states for disadvantaged communities. Another stakeholder was able to provide examples of NEM programs for low-

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		income customers in other jurisdictions and emphasized that NEM reform does not and should not prevent further programs that are geared towards LMI communities from being developed. Duke agreed that separate NEM programs for low-income customers should be discussed.

Session 1: TOU Rates and NEM Discussion	8/12	• Stakeholders shared thoughts on how Duke's proposed TOU periods would affect the economics of DER technologies.
		• Stakeholder discussion highlighted:
		  • Perspectives on NEM mechanisms, particularly on netting periods and minimum bills. In particular, multiple stakeholders were in favor of maintaining monthly or annual netting. Many stakeholders indicated that they've received complaints from customers concerning the annual reset of NEM credits. In addition, many stakeholders preferred the use of minimum bill to recover incurred costs to other mechanisms such as demand charges but were seeking more justification for the need for a minimum bill.
		  • A variety of Low-Income NEM program proposals including:
		  • On-tariff financing to support LMI investment in on-site solar
		  • Special NEM policies for third-party owned community solar
		  • NEM "adder" on top of export credit given to LMI NEM customers
		  • Eliminating "soft costs" such as interconnection for projects serving primarily LMI customers
		  • Pairing additional technologies, such as EE retrofits, to reduce overall costs
		  • "Donation" programs where customers with rooftop solar can donate overproduction credits to LMI customers

Subgroup Session D: NEM	8/19	• Duke presented the results of embedded and marginal cost studies to stakeholders. • Stakeholders asked questions about the analysis and participated in an offline Mural session to share additional feedback. The feedback received highlighted several open questions and concerns regarding the analysis, which Duke addressed during subgroup session F.

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Subgroup Session E: Forecast Data Review (NDA Only)	9/2	• Duke provided an opportunity for all eligible stakeholders to sign an NDA and view data related to their load forecasts. Duke provided data to NDA-signing stakeholders on 8/24/2021 and 9/7/2021. During this subgroup session, Duke provided an opportunity for NDA-signing stakeholders to ask questions and share additional feedback. Opportunities were also provided to share feedback via an offline Mural. No additional feedback was provided on the Mural.
Subgroup Session F: Final Discussion on Proposed NEM and TOU Filings	9/14	• Duke presented materials supplementing their original presentation on their bill impact and cross-subsidization analysis study before providing stakeholders an opportunity to ask questions on the topic. After the session, stakeholders were surveyed for final thoughts on the proposed TOU and NEM structures. The final results of that survey were analyzed on 9/23. • **NEM Proposal**: The survey revealed that 80% of residential NEM-focused organizations that responded to the survey were either very supportive or supportive with minor-to-moderate modifications of Duke's current NEM proposal, with 60% of organizations that responded to the survey indicating the highest level of support for the current proposal with minimal modifications. • **TOU Period Proposal**: The survey revealed that 91% of TOU-rate-interested organizations that responded to the survey were either very supportive or supportive with minor-to-moderate modifications of Duke's current TOU window proposal, with 55% of organizations that responded to the survey indicating the highest level of support for the current proposal with minimal modifications.

Session 2: EV Rates Discussion	9/29	• EV Rates: Duke presented on the scope of the EV rates discussion within the context of the Comprehensive Rate Review, as well as actions Duke has taken to date regarding EVs. Following Duke's presentation, 4 stakeholders provided presentations on EV rate designs and rate design principles. The presentations are outlined below:
		  • Principles of EV Rate Design (Bruce Edelston @ Alliance for Transportation Electrification)
		  • Effective Residential EV Rate Design (Melissa Whited @ Synapse on behalf of SELC)
		  • Residential Charging in Xcel Territory in Minnesota (Brian Lips @ NC Clean Energy Technology Center)
		  • PG&E EV Subscription Rate (Meredith Alexander @ Calstart)
		• Following each presentation, stakeholders were given an opportunity to provide feedback via Mural. Stakeholder comments are currently being evaluated and will be used to inform the topics of follow-up EV rates meetings.

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In accordance with the Commission's March 31, 2021 *Order Accepting Stipulations, Granting Partial Rate Increase, and Requiring Customer Notice* in Docket No. E-7 Sub 1214[2] ("Rate Case Order") and pursuant to North Carolina General Statutes § 62-126.4(b), the Fast Track Working Group has focused considerable efforts on covering all elements of net metering, including hearing from and providing data to stakeholders regarding the costs and benefits of customer-sited generation. Given that NEM discussions were intrinsically linked to TOU period updates, the entirety of the Fast Track Working Group has been dedicated to NEM issues except for the most recent session on 9/29, which focused on rate design as it relates to EVs.

Specifically, Duke provided details surrounding proposed TOU period reform in Subgroup Sessions A and B on 7/22 and 7/29 respectively. Though supporting information on TOU period reform was provided during the 7/29 session, a majority of the time was focused on stakeholder discussion of and presentations on NEM reform. NEM mechanisms were discussed in more detail during subsequent meetings on 8/5 and 8/12, including specific elements that could be included in a proposal for comprehensive net metering tariffs and how TOU periods would affect distributed energy technologies. Duke also provided data to stakeholders covering the results of embedded and marginal costs as well as a forecast of load data that supported modeling. Such analysis supports efforts to ensure that the net metering retail customer pays its full fixed cost of service, though a few stakeholders expressed that they would like to explore how non-traditional elements such as GHG emissions reduction, equity, and grid services could be accounted for in net metering design. Finally, Duke presented elements of a potential NEM tariff structure and surveyed stakeholders for final thoughts and support for moving forward with the proposal.

Overall, the collaborative process and discussions within the Fast Track Working Group allowed Duke and stakeholders to engage in two-way dialogue on important elements of the potential net metering rates prior to an actual filing. As a result, the stakeholder survey indicated broad support and consensus for the solution discussed. Accordingly, the Fast Track Working Group is turning its focus to EV rate solutions and Duke will work on advancing the filing of its NEM proposals.

Working Group 2: Hourly Pricing and Economic Development

The scope of this working group includes existing and potential future dynamic rates for customers in DEC/DEP service territory as well as rates and riders designed to support economic development goals. Topics may include, but are not limited to:

- Hourly pricing (HP) rate designs
- Dynamic pricing rate designs
- Economic development riders and programs

The activities of WG2 over the previous quarter are listed below.

Session Title/Subject	Date	Description
Q3 2021		
Kick-Off Session	7/21	• ICF presented on the rules, scope, and goals of the Hourly Pricing and Economic Development Working Group.

[2] The Commission's March 31, 2021 *Order Accepting Stipulations, Granting Partial Rate Increase, and Requiring Customer Notice* in Docket No. E-7 Sub 1214 states "…the Commission anticipates and expects that net metering will be considered in the Rate Design Study and that consistent with N.C.G.S. § 62-126.4(b), the Rate Design Study will address the costs and benefits of customer-sited generation."

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Session 1	9/15	• ICF presented a Real Time Pricing case study from Georgia Power and got stakeholder feedback on that rate design. Stakeholders provided feedback on existing Duke RTP/HP rates and alternative designs and structures, including current participation caps and Customer Baseline Load methodologies.
		  • Some stakeholders view the existing RTP/HP rates positively, as it allows customers to manage usage based on price signals. One stakeholder recommended replicating the DEP RTP rate in DEP.
		  • A stakeholder advocated for allowing broader access to the DEP RTP rate by allowing new customers to join and lowering the minimum demand threshold.
		  • Some stakeholders advocated for including existing load (not just incremental) as eligible for DEC's HP rate.
		  • A stakeholder recommended more flexibility for customers to reset their Customer Baseline Load and allow multiple methodologies.
		  • A stakeholder expressed that current CBLs are too complex, and should be simplified or moved away from.
		  • A stakeholder wanted greater transparency into how the prices were set for these rates and how they align with Duke's costs. Another stakeholder recommends basing the rate on wholesale market prices rather than Duke's costs.

Subgroup A	9/21	• Duke presented an update on their forthcoming marginal cost pricing analysis, and how it can be used to simplify and standardize pricing based on marginal cost.
Subgroup B	9/28	Stakeholder Presentations: • Carolina Industrial Group for Fair Utility Rates (CIGFUR) presented their proposals for new Economic Development and Jobs Retention Riders. In combination, the two riders would both grow and retain commercial and industrial loads for the benefit of all customers. • Utility Management Services (UMS) presented a case study on Virginia Electric and Power Company's Schedule 10 Large General Service rate, highlighting beneficial rate design elements and customer benefits. This dynamic pricing rate that could allow for participation from a greater number of customers without the complexity of daily pricing changes or CBL calculations, both of which are important element of the present HP and RTP rates. • After the meeting, working group members used MURAL to provide feedback and questions on the presentations.

Working Group 3: Residential Rates

The scope of this working group includes existing and potential future rates for residential customers in DEC/DEP service territory. Topics may include, but are not limited to:

- Evaluation of existing residential tariffs

- Rate availability
- Further segmentation of rates (e.g. all-electric rates)
- Consideration of new dynamic features and minimum bills
- Other new rate designs

The activities of WG3 over the previous quarter are listed below.

Session Title/Subject	Date	Description
		Q3 2021

Kick-Off Session	8/4	• ICF presented on the rules, scope, and goals of the Residential Working Group.
		• Survey deployed after the session to aid in working group topic prioritization. Survey results indicated the following tentative stakeholder priorities:
		  • Analysis of existing rates
		  • Analysis of proposed rate designs (e.g., time-of-use rate windows)
		  • Rate design segmentation (e.g., rate designs for mobile homes, multifamily, etc.)
		  • Low-income rate analysis - effect of rate design mechanisms on LMI customers

Residential Rate Overview	9/20	• Duke presented tariff structure & billing basics, and an overview of existing DEC and DEP residential rates and riders.

Session 1: Existing Rates and TOU Proposal Review	9/27	• Duke presented on the residential rate analytics that stakeholders would have an opportunity to view.
		  • Stakeholders expressed interest in seeing outputs in histogram format, not just averages, which Duke intends to produce.
		• ICF gathered feedback on Working Group focus areas.
		  • Stakeholders indicated that fixed charges should be discussed in this working group.
		  • Stakeholders expressed interest in discussing the impact of proposed rate designs on LMI customers.
		• ICF led a discussion on Duke's existing residential rates and solicited feedback on those rates from stakeholders.
		  • Stakeholders noted that high fixed charges are not desired, questioned the differences between DEP and DEC inclining vs. declining block rates, and expressed that on-peak demand charges are more favorable to non-coincident demand charges for the TOU options, although demand charges can be hard for residential customers to understand.
		• ICF concluded with a recap of the work done on TOU rates during the Fast Track Working Group.

Rate Analytics Set-Up	Ongoing	• Analytics being set up by Duke to support analysis of current and proposed designs.

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Working Group 4: Non-Residential Rates

The scope of this working group includes existing and potential future rates for non-residential customers in DEC/DEP service territory. Topics may include, but are not limited to:

- Evaluation of existing non-residential tariffs
- Rate availability
- Consideration of new rate design features
- Consideration of new non-residential rate designs (e.g. high load factor (HLF) rate options)

The activities of WG4 over the previous quarter are listed below.

Session Title/Subject	Date	Description
		Q3 2021

Kick-Off Session	7/14	• ICF presented on the rules, scope, and goals of the Non-Residential Working Group.
		• Survey deployed after the session to aid in working group topic prioritization. Survey results indicated the following tentative stakeholder priorities:
		  • load factor rates
		  • demand charges
		  • demand response
		  • interruptible/curtailable rates

Session 1	8/11	• ICF presented the results of the WG topic priority survey and collected feedback, including interest in small group discussion on additional topics.
		• Stakeholders provided feedback on Duke's existing non-residential rates, and load-factor based rate designs from other jurisdictions:
		Demand Charges
		  • Stakeholders want to see alignment to the extent possible between demand charges and Duke's cost of service to ensure full recovery
		  • Some stakeholders want to avoid minimum demand charges
		  • Some stakeholders want to see time differentiated demand charges tied to system peak.
		  • Some stakeholders want to discuss the frequency of resetting demand charges
		  • Concerns were expressed about the impact of demand charges on fleet EV charging
		Demand Response
		  • Some stakeholders commented that the existing DR interruptible programs are easy to understand and should be preserved.
		  • A stakeholder suggested creating a limited response (15 min) DR/interruptible rate option that can be used by customers on the DEC Hourly Pricing rate
		  • One stakeholder notes that the CPP rate is of limited value because they cannot access their interval data in Duke's Customer Connect portal.

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		• Stakeholders are seeking clarity on the scope for DR rate designs and how it would differ from interruptible/curtailable rate offerings **Interruptible/curtailable rates** • Stakeholders suggested example rates from other jurisdictions that Duke should consider implementing– SCE's TOU Base Interruptible Program (emergency DR) and Northern Indiana PSC Interruptible Service Rider • A stakeholder wants to see interruptible rates based on market costs (vs utility costs), and ability to sell dropped load into the secondary market **Load Factor (LF) Rates** • A stakeholder recommended that new load factor thresholds should be established rather than current DEC structure • Stakeholders raised concerns that load factor-based rates may create disincentives for EE and be difficult for customers for track. There were also concerns that LF rates would shift costs from energy charges into demand charges, which could push more risk onto the customer. • One stakeholder notes that HLF and Low Load Factor (LLF) rates must be designed to recover the cost of service for those customers **Duke Indiana Case Study–** • Stakeholders shared positive reactions to the high load factor offering. They specifically noted the 5 voltage levels with their own demand and energy charge as a positive feature, and an opportunity to align voltage differentiation amongst Duke's rates. • Concerns voiced about HLF customers subsidizing LLF customers • One stakeholder would like to see any new load factor rate design to be in addition to the existing OPT-V rate with voltage differentials, rather than replacing that rate. • One stakeholder recommended that a high efficiency offering for LLF customers should incorporate TOU/seasonal components **Georgia Power Case Study–** • Stakeholders shared positive reactions to the high load factor offering • A stakeholder voiced support for rate eligibility based on annual load factor rather than monthly. • A stakeholder showed Interest in the 5 hour on-peak window rather than the current 7-8 hour on-peak window for Duke's OPT rate. **Time of Use Rates for HLF/LLF customers–**

		• Stakeholders expressed neutral to positive reactions to TOU being offered as an option for HLF/LLF customers. • Stakeholders want to maintain the existing HP rate and would not want the TOU option to replace the HP rate.

Session 2	9/8	• Continued discussion from Session 1 on load factor-based rates, focusing on consensus rate design elements that Duke should pursue.
		• ICF provided an overview of demand charges purpose and key elements.
		• Duke previewed the non-residential rate analytics that stakeholders will have the opportunity to review
		• Kroger presented a case study of Public Service Company of Colorado's C&I rate design structure and how it aligns with cost of service.
		• Stakeholders provided feedback on Duke's existing demand charges:
		  • **Demand period –** A stakeholder commented that a 30-min demand is a preferable structure to a 15-min demand.
		  • **Seasonality**
		  • A stakeholder suggested Duke consider a shoulder month structure (e.g. October/April) informed by the cost of service methodology. Duke noted that months like May can be difficult to categorize in a winter/summer framework, so they could consider adding shoulder months but would be a tradeoff with simplicity.
		  • A stakeholder suggested seasonality should be regional (coast vs. mountains)
		  • **Forecast data transparency** - A stakeholder asked if Duke would be able to provide customers with its load forecast and peak time projections.
		  • **Fixed costs vs. energy costs** - A stakeholder wants to understand how much "fixed costs" are currently recovered via the CBL and HP energy rates that should be recovered via demand charges.
		  • **TOU**
		  • A stakeholder was interested in seeing a super-off peak period with even lower rates to better align customer costs with cost to serve.
		  • A stakeholder would like to see a seasonally consistent and longer overnight off-peak window for EV charging. Duke noted that the summer vs. winter overnight off peak is driven by system costs.
		  • **Flexibility** - A stakeholder wants customers to have more flexibility to set and change their Customer Baseline Load

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Subgroup A	9/14	• Small subgroup discussion on non-residential NEM policies and potential modification ideas from stakeholders.
Subgroup B	9/15	• Small subgroup discussion on aggregation of loads including ideas from stakeholders and examples from other utilities.

2.4. Stakeholder Surveys

2.4.1. Stakeholder Survey Overview

A stakeholder survey for CRR participants and residential customers was distributed by Duke during July. The surveys aimed to solicit perspectives from a broad set of stakeholders and residential customers as a complement to the stakeholder interviews conducted in June 2021. ICF conducted a review of the survey results and provided summary takeaways to Duke including recommendations for next steps in the stakeholder process and the CRR more broadly. Survey takeaways are outlined below.

2.4.2. Stakeholder Survey Takeaways

Low-Income Customers Advocates

A subset of stakeholders who responded to the CRR survey had particular interest in representing the perspectives of low-income customers. Those perspectives are depicted below.

- There was a large emphasis on increasing access to energy efficiency (EE) programs for LMI customers amongst all stakeholders.
- Low-income customer advocates generally thought that rate designs allowing low-income customers to access or support clean energy would be of high interest.
- Some stakeholders indicated that increasing rate design options that allow low-income customers to control their energy and costs would be beneficial. These options could include demand response, demand side management, and TOU opportunities. Others expressed a greater need for consistency in monthly rates, stating that fixed payments would be desirable, but there could be issues with an annual or seasonal true-up since the "surprise payment" could be challenging for LMI customers.
- Many advocates asked Duke to consider adding Percentage of Income Payment Plan (PIPP) rates for low-income customers.
- One stakeholder asked Duke to consider adding a rate structure similar to the California CARE rates.
- Advocates asked that Duke reach out to actual community members who are having difficulties paying their bills to understand their needs.
- Many stakeholders said they were unaware of Duke's Supplemental Security Income (SSI) discount in DEC; stakeholders that were aware thought the discount was too small and not well publicized.

Other Advocates

A subset of stakeholders who responded to the CRR survey had particular interest in advocacy of clean energy and energy efficiency technologies. Those perspectives are depicted below.

- Stakeholders are seeking less complexity in rates.

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- Stakeholders indicated that they would like to see rates that promote energy efficiency and clean energy adoption.
    - One stakeholder listed the following as hindrances to the successful deployment of clean energy:
        - Hourly Pricing, the only "Real Time Pricing" option for DEC Customers, discounts incremental load only. Benefits a very small select group of "growing" businesses.
        - Standby charges for net-metering customers, as well as potentially high fixed charges.
        - DEC's pilot dynamic pricing (DP) & critical peak pricing (CPP) rates for Customers under 75kW may need to be altered to promote new technologies and/or clean energy.
- One stakeholder stated that they would like to see Duke offer an EV fleet specific rate as well as winter demand side management (DSM) programs.
- One stakeholder stated that they would like to see DP, CPP, or real-time pricing (RTP) options for customers taking service over 75kW.
- One stakeholder prioritized ensuring that rates reflect cost causation and promote efficient peak demand, while avoiding discrimination against self-generation and EE.
- One stakeholder pointed out challenges with Duke's Customer Connect billing system roll out.
- Some stakeholders see alignment between DEC and DEP rates as a pro for business. Others emphasized that they don't want to see alignment of rates between DEC and DEP reduce options for customers by eliminating existing options in one jurisdiction in order to align across the two.
- One stakeholder had concerns that substantial change to Duke's rates would not come out of the rate design study.

Municipalities

A subset of stakeholders who responded to the CRR survey provided municipality perspectives. Those perspectives are depicted below.

- One stakeholder thought that DEC's Energy Efficiency Rider was too expensive and should not apply to their accounts based on high usage.
- One stakeholder indicated that while the DEC Large General Service (LGS) and the Small General Service (SGS) rates are okay in terms of cost, the structure is very confusing and should have fewer steps. The stakeholder stated that anyone should be able to write a simple Excel spread-sheet formula within one cell to calculate any total bill given KW & kWh's.
- One stakeholder indicated that OPT-V is a great rate in DEC.

Retail (Commercial & Industrial (C&I) Customers)

A subset of stakeholders who responded to the CRR survey represented the perspectives of C&I customers. Those perspectives are depicted below.

- Stakeholders are looking for the same level of complexity or less when it comes to rate structures.
- Stakeholders are neutral on aligning DEC and DEP rate structures across the territories.
- Stakeholder priorities are fair cost apportionment, stability, and reflecting cost causation. Stakeholders want to avoid rates that use large industrials to subsidize other rate classes.
- One stakeholder wanted to see Duke offer a Mandatory Emergency Interruptible Demand Response option whereby Dukes provides a monthly bill credit in exchange for having a call-option to have the load interrupted so that power can be used to maintain reliability for other customers.

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- One stakeholder seeking a rate option to allow them to meet their corporate renewable and sustainability goals found that Green Source Advantage limitations did not work for their load and requirements.
- On the DEC OPT-V rate with a TOU voltage differential, one stakeholder wanted to see less fixed cost recovery in energy charges and more in demand charges.

Mass Market (Residential Customers)

Residential customers were invited to fill out the CRR survey directly to provide feedback on Duke's rates. Takeaways from residential customers are listed below. Some residential customer feedback could shift with increased education on emerging rate design and technology options.

- Customers prioritized cost, bill certainty, and power quality/reliability above clean energy, but seemed to welcome rate designs that allow for support of clean energy causes.
- A majority of customers that answered the survey indicated that they value the following:
    - Certainty on electric bills;
    - The ability to support clean energy, either through direct installations or a small payment on their bill;
    - Peak time rebates (more than critical peak pricing or TOU rates) - customers supported TOU prices more when discount periods were added in addition to the higher-priced peak times.
- A majority of customers that answered the survey indicated that they were not interested in:
    - Utility control of their smart thermostat or appliances;
    - TOU rates with higher prices during peak times;
    - Prepay options.

2.5. Monthly Digests

Duke will distribute monthly digests to all CRR participants that include a written summary of activities across the working groups in the prior month and upcoming activities. This will allow stakeholders to ensure awareness of the ongoing and future rate design topics, and in which venue they will be hosted. The first of these digests was distributed on September 3, 2021. Such digests were created at the request of a stakeholder seeking improved communications and transparency.

3. Future Activities

3.1. Comprehensive Rate Design Study Stakeholder Forum 2

ICF is planning a virtual rate design study forum (Forum 2) for November 9, 2021. The focus of Forum 2 will be report outs from the working groups regarding progress to date, as well as Duke's related actions and analytic efforts. While ICF will be facilitating the forum, the team will engage stakeholders to present and report out during the event.

3.2 Working Groups

The upcoming activities for each working group are listed below.

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Session Title/Subject	Date	Description
Working Group 1: Fast Track Topics		
TBD	TBD	• EV Rates Discussions
Working Group 2: Hourly Pricing and Economic Development		
Subgroup C	10/12	• Explore stakeholder proposals for Economic Development Rider and possible large customer dynamic pricing rate
Subgroup D	10/19	• Review of possible new or expanded hourly pricing rates
Session 2	Nov. TBD	• Summarize output of working sessions; bill impact estimates; gauge stakeholder support for proposals
Working Group 3: Residential Rates		
Session 2	10/20	• Initial Results of analytics, HB 951 highlights, DEC permanent foundation language, DEC Schedule RT time of use periods and customer charge rate design
Session 3	11/3	• TBD
Session 4	12/10	• TBD
Working Group 4: Non-Residential Rates		
Session 3	10/13	• Demand charges • Demand response, interruptible/curtailable rates

4. Related Efforts

- **Low-Income Collaborative:** Duke kicked off the Low-Income Collaborative on July 29, 2021. This Collaborative has several tasks including 1) Assessing Affordability Challenges, 2) Defining Affordability, 3) investigating the current state of programs that can help low-income or vulnerable customers, 4) Develop recommendations for both existing and new programs. Rate Schedules will not be examined in the Low-Income Collaborative, as Working Group 3 in the Rate Design Study will look at how different features in residential rate schedules affect different customer groups, including low-income and vulnerable customers. On the other hand, any low-income discounts or programs will be considered in the Low-Income Collaborative rather than the rate design study, as these typically are layered on top of, rather than replace, the base rate schedule.

- **Electric Transportation Stakeholder Collaborative:** Duke continues to engage in a collaborative stakeholder process to provide input and feedback on future electric vehicle (EV) programs and pilots. The collaborative process was ordered by the NCUC in November 2020, along with the partial approval of Phase I pilot programs designed to help North Carolina increase the number of registered, zero-emission vehicles to 80,000 by 2025 as directed by Governor Roy Cooper's Executive Order 80: North Carolina's Commitment to Address Climate Change and Transition to a Clean Energy Economy. With the support of the group, Phase II pilot programs were filed in May 2021. The Phase II pilot programs will, among other objectives, increase EV charging options along state highways, expand EV options in low- to moderate-income communities, and provide support to school systems to purchase up to 60 electric school buses. The collaborative stakeholder meetings will continue on a quarterly basis to allow stakeholders to receive updates on Phase I pilots and the status of the Phase II pilot application.

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