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January 24, 2022

**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**

**Duke Energy Rate Design Study Quarterly Status Report**

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 (the "Commission") that the Companies were undertaking a 12-month comprehensive Rate Design Study covering a number of rate design topics as detailed in that filing pursuant to a stipulation approved by the North Carolina Utilities Commission ("NCUC"). The Companies also outlined their ongoing effort and goal of including South Carolina stakeholders in the process. On August 4, 2021 and October 25, 2021, the Companies filed updates with the Commission outlining the stakeholder process to date and providing a quarterly status report. For the Commission's information, attached is the Duke Energy Rate Design Study Quarterly Status Report for Q4 2021.

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

Kind regards,

Sam Wellborn

Enclosure

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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# Duke Energy Rate Design Study Quarterly Status Report

## Q4 2021

**1/21/2022**

**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 third of the NCUC-directed quarterly reports. The Q2 2021 report (filed on July 21, 2021) and the Q3 2021 report (filed on October 21, 2021), can be found at Docket E-7 Sub 1214 for DEC and Docket E-2 Sub 1219 for DEP. The reports are consistent for both companies.

Since the Q3 2021 report was filed, ICF hosted the second stakeholder forum, and 13 sessions were held by Duke and ICF across the four stakeholder Working Groups.

The following provides a short overview of stakeholder engagement activities conducted in Q4 2021 (all conducted virtually).

- The **Comprehensive Rate Review (CRR) Stakeholder Forum 2** was hosted by ICF on November 16, 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.
- **Four 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 13 discussion sessions during Q4. These sessions covered topics that were deemed a 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.
- **Regular digests** were distributed in between the release of CRR quarterly reports via email in October and December 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.

# 2. Q4 2021 Activities

## 2.1. Stakeholder Forum 2

### 2.1.1. Session Overview

The Stakeholder Forum 2 for the Comprehensive Rate Review (CRR) for the Carolinas was held on November 16, 2021 from 1:30 – 4:00 PM EST. During the session, Duke described their findings from and approach to the CRR, as well as rate design outcomes from the CRR process to date. ICF and stakeholder representatives reviewed the stakeholder engagement activities that had taken place since Forum 1. Thirty-three stakeholders attended the virtual event, and a breakdown of the attendees by category are listed in Table 1. The full Forum agenda is provided in Table 2.

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*Table 1. CRR Stakeholder Forum 2 Attendees by Category*

| Industry Category | Number of attendees |
|---|---|
| **Customers** | 6 |
| **Environmental** | 6 |
| **Government** | 3 |
| **Legal/Consulting** | 4 |
| **Renewable/DER** | 6 |
| **Utilities** | 3 |
| **High Education** | 0 |
| **Public Advocate** | 5 |
| **Other** | 0 |
| **Total** | **33** |

*Table 2. Duke Rate Design Forum 2 Agenda and Presenters*

| Agenda Item | Presenter/Facilitator |
|---|---|
| Welcome and overview of the forum | Maureen Quinlan (ICF – Manager, Distributed Grid Strategy) |
| Opening remarks<br>• CRR approach to date<br>• Findings to date | Lon Huber (Duke Energy – Vice President, Rate Design and Strategic Solutions) |
| Overview of CRR stakeholder engagement to date | Katie Van Horn (ICF – Consultant, Distributed Grid Strategy) |
| Summary of progress on WG1 (Fast Track) | David Neal (Southern Environmental Law Center (SELC)) |
| Summary of progress on WG2 (Hourly Pricing & Economic Development Rates) | Christina Cress (Carolina Industrial Group For Fair Utility Rates (CIGFUR)) |
| Summary of progress on WG3 (Residential Rates) | Benjamin Smith (North Carolina Sustainable Energy Association (NCSEA)) |
| Summary of progress on WG4 (Non-Residential Rates) | Justin Bieber (Energy Strategies, LLC.) |
| Update on rate design outcomes to date | Leland Snook (Duke Energy – Managing Director, Rate Design & Regulatory Solutions) |
| Upcoming opportunities for engagement | Katie Van Horn (ICF) |
| Q&A | Maureen Quinlan (ICF) |

### 2.1.2. Session Details

1. **Welcome and overview of the forum:** Maureen Quinlan (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 thoughts on the importance of the CRR and stakeholder participation in advancing and improving Duke's rate designs. He

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shared thoughts on the different ways that stakeholder ideas and innovative rate designs could be implemented as a result of the CRR.

3. **Overview of stakeholder engagement to date:** Katie Van Horn (ICF) gave a high-level overview of all CRR stakeholder engagement sessions and related initiatives hosted between Forum 1 and Forum 2, as well as planned upcoming sessions being hosted within the stakeholder working groups.
4. **Summary of progress on WG1 (Fast Track):** David Neal (SELC) reviewed Working Group 1 outcomes of time-of-use (TOU) period and net energy metering (NEM) discussions. He also details on Duke hosted subgroup sessions and ICF facilitated discussion sessions that covered residential and non-residential EV rate design.
5. **Summary of progress on WG2 (Hourly Pricing & Economic Development Rates):** Christina Cress (CIGFUR) reviewed stakeholder feedback on existing hourly pricing and real time pricing options within Duke's North Carolina service territories. Stakeholder feedback on potential new hourly and dynamic pricing rate options, as well as economic development and jobs retention riders, were also discussed.
6. **Summary of progress on WG3 (Residential Rates):** Benjamin Smith (NCSEA) reviewed residential working group activities to date including Duke's residential rates education presentation, as well as discussions on topic prioritization, modifications to rate availability, customer charges, and related analytics work.
7. **Summary of progress on WG4 (Non-Residential Rates):** Justin Bieber (Energy Strategies, LLC, on behalf of Kroger) reviewed the activities to date including case study presentations and stakeholder feedback on demand charges and cost of service, load factor rates, voltage differentiated rates, and demand response. Justin also laid out a plan for Duke led subgroups on outstanding non-residential rate topics that will continue into Q1 2022.
8. **Update on rate design outcomes to date:** Leland Snook (Duke) outlined how Duke and ICF are tracking the issues being explored in each working group, and the role of analytics in determining potential next steps for implementing rate changes. The September 2021 DEP TOU-Critical Peak Pricing (CPP) rate filing was highlighted as an example of Duke advancing rate changes in the near term as a result of this CRR process.
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 submit questions and comments through the forum chat or by unmuting and asking their question verbally. Questions spanned topics including:
    - Simplifying existing non-residential rates
    - Leveraging rate design materials across working groups
    - Simplifying rates to include riders

### 2.1.3. Key Themes and Takeaways

- All four working groups have met on multiple occasions and are making progress on their respective topics through stakeholder and Duke-led presentations and ICF-facilitated MURAL sessions.
- The Fast Track Working Group has completed their extensive NEM discussions and have transitioned to focus on EVs.
- A common theme across working groups was designing rates that will benefit participating customers while also allowing Duke to recover its full cost to serve and avoid shifting costs to non-participating customers.
- Surveys have been a useful tool to gauge stakeholder support for specific rate designs and will continue to be used in this process.

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## 2.2. Working Groups

### 2.2.1. 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.

### 2.2.2. 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** |
|---|---|---|
| | | Q4 2021 |
| EV Rates Subgroup Session A: Residential | 10/27 | In response to stakeholder case studies and reactions, Duke proposed 4 Residential EV rate options:<br>• TOU rates:<br>  • EV-only TOU rate option - Promotes TOU adoption for EV drivers by not requiring whole-home TOU adoption.<br>  • Off-peak credit program - Allows customers to stay on their standard residential rate, but offers a monthly credit when charging is limited to off-peak periods.<br>• Subscription rates:<br>  • Residential EV subscription rate – All-You-Can-Charge (unlimited charging at home with constraints)<br>  • Residential EV subscription rate – All-You-Can-*Managed*-Charge (unlimited charging with constraints + utility can ramp charging up or down based on grid needs)<br>Stakeholders provided feedback on Duke's proposals:<br>• TOU rates:<br>  • Stakeholders were interested in pursuing options that do not require a second meter due to added costs. They encouraged Duke to investigate smart panels or other measurement tools in order to disaggregate EV load.<br>  • Stakeholders were interested in understanding how attractive the proposed TOU solutions were to customers.<br>• Subscription rates:<br>  • Stakeholders emphasized that the utility should consider differences in efficiency and battery capacity of different EVs when thinking about the structure of EV subscription rates. |

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| | | • A few stakeholders seemed to prefer TOU rates and off-peak charging programs to subscription rates because of concerns about inefficient and wasteful usage, but specifically emphasized that subscription rates should not be introduced without a managed charging component. One stakeholder asked to see an example of an EV-specific pilot that did not include a subscription rate.<br>• In response to stakeholder concerns, Duke agreed to only propose a managed charging subscription pilot with a relatively small number of customers. In addition, Duke suggested putting a cap on monthly charging under the program to limit any wasteful usage. Duke stated that a managed charging subscription pilot would offer customers the most predictable cost for EV charging and may provide the most opportunity for learning about the various challenges presented by stakeholders. This pilot would also provide valuable learnings for other EV concepts supported by the Working Group, such as the EV-only TOU Rate Option or Off-Peak Credit programs. |
| EV Rates Subgroup Session B: Non-Residential | 11/4 | In response to stakeholder case studies and reactions, Duke presented several Non-Residential EV rate options:<br>• TOU Rates:<br>  • Duke presented how the new TOU periods could benefit EV charging by offering shorter peak periods and creating a discount TOU period.<br>• Transitional Relief:<br>  • Duke presented potential economic development options as a way of kickstarting the market.<br>• Low-Load Factor Rates:<br>  • One stakeholder indicated that LLF rates would only help in specific applications.<br>  • Another stakeholder expressed that there were pathways to creating permanent LLF rates.<br>• Hourly Pricing Rate:<br>  • One stakeholder indicated that current thresholds for participation in hourly rates should be revisited (as it has been discussed in WG #2)<br>  • Another stakeholder indicated that Duke might need to revisit the way that hourly pricing is included in cost-of-service studies if the rate's applicability is modified.<br>  • Another stakeholder indicated that this is a complex rate design<br>• Critical Peak Pricing (CPP):<br>  • One stakeholder was interested in learning exactly how high critical peak prices would be, so as not to discourage customers from charging in emergencies. Another stakeholder thought CPP prices should be very high, so as to encourage responsive behavior.<br>  • One stakeholder emphasized CPP rates should be optional. Duke indicated the rate would remain optional for EV customers. |

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| | | • One stakeholder indicated that fleets would be very willing to respond to CPP events as long as they are infrequent. |
| EV Rates Subgroup Session C: Residential | 11/10 | In response to feedback received during EV Rates Subgroup A, Duke reintroduced the TOU rate and off-peak credit options presented during Subgroup A and presented a modified version of the All-You-Can-*Managed*-Charge subscription rate proposal. Stakeholders provided the following feedback:<br>• TOU Rates:<br>  • EV-only TOU rate option - Duke asked for any final feedback on their EV-only TOU rate proposal. All stakeholders that were present indicated support for the proposal.<br>  • Off-peak credit program – Duke asked for any final feedback on their off-peak credit program proposal. There was no opposition to the proposal, though some stakeholders noted that the program would achieve roughly the same goals as the EV-only TOU rate proposal.<br>• Subscription Rates:<br>  • Since stakeholders indicated during EV Rates Subgroup A that they did not want to pursue a subscription rate that does not include managed charging, Duke stated that they would not pursue their "All-You-Can-Charge" option and instead were only continuing to explore the "All-You-Can-*Managed*-Charge" option. Duke reviewed the option with stakeholders (including an additional program aspect that was not discussed in Subgroup A which would pre-set customers opting into the program to charge during discount and off-peak TOU hours). While stakeholders appreciated the addition of the charging time pre-set to the program, some still had concerns about wasteful usage from customers who opted into the subscription rate.<br>  • Duke proposed reasonable program limitations to mitigate the risk of wasteful charging. Duke stated that the managed subscription concept would allow the company to evaluate different technologies to also enable the proposals widely supported by stakeholders including non-submetered versions of the EV-only TOU rate option or the Off-Peak Credit program. It would also enable Duke to obtain better customer usage profiles. Finally, Duke could evaluate the extent to which a subscription concept might yield even more beneficial charging behaviors. |
| EV Rates Subgroup Session D: Non-Residential | 11/17 | The final EV Rates Subgroup began with a presentation on rate design for medium and heavy-duty electric vehicles from the Environmental Defense Fund (EDF). The main message of the presentation was that Duke should perform targeted outreach to actual fleets to understand their operations and their rate design needs. Several stakeholders resonated with this message, and the following feedback was received during the follow-up discussion:<br>• Some stakeholders wanted Duke to pursue a commercial EV-specific TOU rate since most EVs use power differently from buildings. Stakeholders believed that the use cases were different enough to |

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| | | pursue separate rates. In particular, stakeholders were interested in extending the overnight discount period of the proposed TOU rate periods to accommodate longer EV charging periods. Duke indicated that they were willing to look into this option, but emphasized that extending the overnight hours would dilute discount period savings.<br>• A stakeholder shared that shorter discount periods could encourage fleets to install larger chargers, which could have greater impacts on the grid.<br>• Stakeholders emphasized the importance of balancing rate stability with accurate forecasts.<br>• A few stakeholders were interested in exploring the creation of a separate rate class for EV fleets.<br>• Stakeholders were interested in doing a deeper dive to understand the mechanics of hourly pricing and critical peak pricing rates. Duke indicated that they could provide that deeper dive for stakeholders at a future session. |

***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** |
|---|---|---|
| | | Q4 2021 |
| Subgroup C | 10/12 | • Duke presented a matrix of Economic Development Rider considerations based on CIGFUR's proposal from the 9/28 Subgroup B meeting and existing Duke programs.<br>  • Considerations highlighted by Duke included availability, customer qualification criteria, the credit structure, ramp up period, and linkages to other state/local development efforts.<br>• Duke presented dynamic pricing considerations for large business customers in response to UMS's proposal from the 9/28 Subgroup B meeting.<br>  • Duke put forth an on-peak, off-peak, and discount period structure with summer and non-summer seasons for non-res customers >75 kW. It would include tiered demand charges, and 20 critical peak pricing days/year.<br>• Stakeholders and Duke discussed expanding or modifying HP rates that would allow existing load onto the HP rate accompanied by more frequent Customer Baseline Load (CBL) adjustments. |
| Subgroup D | 10/19 | • Duke conducted a working session to solicit stakeholder feedback for HP rate solutions |



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| | | • Duke highlighted that expanding the existing HP/RTP rates in their current form would create cost shift concerns, but they are open to exploring new HP rate options with appropriate embedded and marginal cost recovery.<br>• Stakeholders discussed how fixed and variable costs are currently recovered in HP rates, and the price risk that customers take on when electing an HP rate.<br>• Duke solicited stakeholder feedback on improvements to the existing CBL setting process, such as more regular updates based on actual on-peak load.<br>• A stakeholder recommended moving away from the CBL structure altogether in favor of a dynamic pricing rate. Duke clarified that they are exploring both a CBL-based HP rate and a dynamic pricing rate, in line with the Commission's CRR guidance.<br>• A MURAL was created after the session to allow stakeholders to provide additional feedback. |
| Subgroup E | 11/2 | • Duke summarized the stakeholder objectives they've heard to date through the CRR on three rate design concepts:<br>• An expanded HP option with increased availability and simpler CBL process that allows existing and incremental loads to participate in marginal pricing; include a mechanism to reward price responsiveness.<br>• Duke clarified they are considering a new HP rate, not changing the existing HP rate.<br>• Stakeholders discussed how to align the CBL refresh cycle with other proceedings, and ensuring the kW threshold is set low enough to be inclusive of C&I customers.<br>• Stakeholders also discussed tradeoffs between setting CBLs below historical load, and need for cost recovery (i.e. creating new rate classes)<br>• A new dynamic pricing rate option with broad availability, fixed pricing, and no CBL.<br>• Duke views this as a rate for smaller C&I customers.<br>• This option received strong support from one stakeholder, and a neutral response from another as long as the existing RTP rate remains an option.<br>• A new Economic Development Rider with lower capacity thresholds, non-declining discount structure and longer up ramp period compared to existing options.<br>• Stakeholders encouraged Duke to consider how investments in energy efficiency upgrades that *decrease* load and renewable energy could be considered in this economic development construct. Duke noted they're developing renewables offerings for C&I customers and would consider if linking these efforts would be appropriate.<br>• Duke committed to following up with stakeholders on analytics for the economic development options. |

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| | | • Stakeholders were informed that a survey would follow to document stakeholder preferences on these concepts and confirm the rates designs that have broad stakeholder support. |
| Session 2 | 12/7 | • ICF summarized the topics covered over the course of the 8 working group meetings.<br>• Stakeholders were reminded to provide feedback via the survey distributed on 11/11.<br>• At the request of a stakeholder in the 11/2 Subgroup E meeting, Duke provided an overview of the current price derivation process for the existing HP and RTP rates, and how the CBL impacts fixed cost recovery.<br>• Stakeholders discussed the system benefits of dynamic pricing vs. moving existing load to HP/RTP vs. static TOU periods.<br>• Stakeholders raised concerns about how more frequent CBL adjustments on the HP rate would reduce benefits to participating customers. Duke clarified this would be a new rate; legacy customers could remain on existing HP rate and Duke could consider a transition plan down the road. Duke also envisions a mechanism for price responsive customers to get more benefits. |
| WG2 Survey | 11/11-12/17 | • Following the final subgroup meeting, ICF distributed a survey to WG2 members to confirm and solidify the rate design preferences of the group. Nine stakeholders responded:<br>  • Bailey & Dixon (representing CIGFUR)<br>  • Messer North America<br>  • Utility Management Services, Inc.<br>  • Southern Alliance for Clean Energy (SACE)<br>  • North Carolina Sustainable Energy Association<br>  • Linde Inc. (formerly Praxair)<br>  • Energy Strategies (representing Kroger/Harris Teeter)<br>  • Google<br>  • Meta (Facebook)<br>• **New/Expanded HP Rate Option**: The survey revealed that the highest priority for respondents is to maintain energy prices at marginal rates with embedded costs recovered elsewhere (56%).<br>• **Customer Baseline Loads:** Stakeholders expressed a desire for more options on how CBLs are set, and more flexibility to adjust CBLs over time. The survey revealed that there is interest from some stakeholders (22%) to divorce CBLs from historical load altogether.<br>• **Price Responsiveness**: The survey revealed that of the respondents who are customers on Duke's HP or RTP rates, 100% of them actively respond to price signals when prices are much higher than average. Respondents suggested price responsiveness could be improved by intra-year CBL adjustments, hourly price granularity, and integration with facility controls.<br>• **New Dynamic Pricing Rate**: The survey revealed that a plurality of respondents (44%) would prefer a modernized Optional Power Service with Voltage Differential (OPT-V) rate / Large General Service (LGS)-TOU rate rather than a dynamic pricing rate (11%) or |

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| | | an expanded HP rate (22%). (Note: some respondents did not indicate a preference.)<br>• **Economic Development**: The survey revealed that a majority of respondents are in favor of Duke expanding economic development riders in some form (only 11% expressed opposition). Suggested qualification criteria included eligibility for new and existing customers, job creation, job and load retention, load growth only, geographic location, and investments in energy efficiency and renewable energy.<br>• **Electric Vehicles**: The survey revealed that that 44% of respondents would benefit from a specific Economic Development Rider to support electric vehicle fleet growth. Several stakeholders commented that EV fleet growth should not be the primary focus of Duke's economic development rider (33%). |

***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 |
|---|---|---|
| | | Q4 2021 |
| Session 2 | 10/20 | • HB 951: Duke presented a summary of HB 951 highlights, acknowledging the regulatory impacts are still in flux.<br>• A stakeholder noted two disagreements with the bill:<br>  • PBR provisions in no way reflect best practices for MYRP, decoupling or PIMs that have been adopted in other states.<br>  • On-bill provision says nothing about only being available to low-income customers. It leaves open the possibility of a loan program being established, which may not be accessible to most low-income customers, nor renters.<br>• DEC recommended removing permanent foundation language in DEC residential tariffs to allow tiny home customers to be served on residential rates. No stakeholders expressed opposition to idea of Duke addressing this issue sooner rather than later.<br>• Several stakeholders noted their support of residential rate schedules designed for low-usage customers in the future.<br>• DEC recommended freezing Schedule RT due to TOU period misalignment.<br>• No objections were noted if DEC petitioned to freeze Schedule RT until the TOU windows are addressed in future proceedings, however, one stakeholder noted that doing so would reduce options for customers. |

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| | | • Fixed Charges and Analytics: Duke provided an overview of the current residential customer charge and how it is set.<br>• Stakeholders provided the following feedback:<br>  • Objectives of rate design should be considered; such as promote peak load reduction, promote equity and consider GHG emissions. Carbon reduction should be pervasive in everything that gets filed.<br>  • Rate designs will have to migrate more towards policy objectives because of HB 951 and the Company should start with a good representation of cost causation before evaluating policies.<br>  • One stakeholder expressed the opinion that minimum system method may not provide a good starting point. Need to be open to alternative methods to determining objective truth and cost causation.<br>  • Need to be sensitive to how the fixed charge effects other components of rate design and the ability to encourage efficiency and demand response.<br>• Some stakeholders expressed a belief that under decoupling, the general notion is that the periodic rate adjustments that occur under decoupling allow for/justify a sharp reduction in or even the elimination of the fixed charge. |
| Session 3 | 11/3 | DEP Analytics: Duke presented initial results of analytics work, including data sources, a cross-subsidies study and analysis of fixed charge impacts. |
| Session 4 | 12/10 | • Outstanding Questions on Marginal Cost<br>• Minimum Bill Analysis<br>  • Stakeholders asked to see results if there was a lower fixed charge instead of keeping the fixed charge at the same level, which Duke agreed to provide at a later date.<br>• DEC-NC RE - Declining Block Rate:<br>  • One stakeholder stated the key consideration is cost causation and Duke and staff noted that the utilities are now winter peaking or planning, which has implications for cost of service and rate design.<br>  • One stakeholder expressed a concern that declining block rates did not serve the public policy goal of encouraging energy efficiency and indicated that time varying rates are a better price signal than declining block rates.<br>• DEP-NC RES, Seasonal Price Difference:<br>  • One stakeholder indicated TOU rate designs seem the better place to address seasonal differences than Schedule RES. Or via “add-ons” like Peak Time Rebates or Critical Peak Pricing instead of TOU.<br>  • One stakeholder agreed with the idea of annualizing the seasonal rates and adding the variation to incentive behaviors like time of use instead of seasonality.<br>• All Electric Rate Design Option: |

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| | | • Duke noted that marginal cost in based on winter peak while embedded cost is based on summer peak.<br>• One stakeholder agreed that simplifying rates is desirable and the opportunity to incentivize efficient electric usage (i.e. heat pumps) may be better suited for an energy efficiency program than rate design.<br>• Stakeholders agreed that consideration must be given to vulnerable customers and their ability to adopt more efficient technology.<br>• Demand Charge TOU Options:<br>  • One stakeholder expressed concern of a demand charge's impact on electric vehicle charging if it is only available as a whole house rate.<br>  • Stakeholders agreed that options and choices are good, but two stakeholders indicated that a demand charge option is not necessarily cost-based and there may be better options for customers than a demand charge rate. |

***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 |
|---|---|---|
| | | Q4 2021 |
| Session 3 | 10/13 | • Stakeholders provided feedback on favorable and unfavorable demand charge design elements.<br>• Duke presented an overview of currently available demand response and interruptible/curtailable rates for non-residential customers.<br>• CIGFUR and Messer presented a case study of SCE's Time of Use Base Interruptible Program (TOU-BIP) and highlighted benefits to the utility and participating customers. |
| Subgroup C | 12/1 | • Kroger presented on the concept of load aggregation (aka conjunctive billing) and potential benefits to customers with load at multiple locations through reduced generation and transmission charges. Stakeholders discussed examples from other jurisdictions.<br>• CIGFUR and NCSEA presented on recent non-residential NEM changes in South Carolina:<br>  • Monthly netting<br>  • Excess credits compensated at avoided cost<br>  • Option for customers to purchase Renewable Energy Credits (RECs) |

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| | | |
|---|---|---|
| | | • Stakeholders discussed potential areas for North Carolina non-residential NEM reform:<br>• Compensation for excess credits<br>• Duplicative standby and demand charges<br>• Increasing system size cap<br>• Virtual NEM tariff vs. increasing availability of green source advantage program |

## 2.3. Regular Email Digests

At the request of a stakeholder seeking improved communications and transparency, Duke and ICF distribute regular email digests in to all CRR participants that include a written summary of activities across the working groups in the prior month and upcoming activities. This allows stakeholders to ensure awareness of the ongoing and future rate design topics, and in which venue they will be hosted. Digests were distributed on October 1 and December 14, 2021.

## 2.4. Regulatory Filings

**Net Energy Metering:** As a result of the CRR process, on November 29, 2021, DEC and DEP jointly filed a Petition for Approval of Revised Net Energy Metering Tariffs (Docket Nos. E-7, Sub 1214; E-2, Sub 1219 and E-2, Sub 1076). The agreement will align solar adopter compensation to utility system benefits and create long-term stability for the residential solar industry in North Carolina. The agreement was crafted by Duke Energy and NCSEA; the SELC on behalf of Vote Solar and SACE; Sunrun Inc. and the Solar Energy Industries Association, and must be approved by the NCUC.

**Residential Tariff Availability**: As a result of the CRR process and customer feedback, on December 16, 2021, DEC filed Proposed Revisions to Service Regulations and Rate Schedules (Docket No. E-7, Sub 1214). The proposed changes to the Availability provisions of certain residential tariffs removes the requirement that facilities be permanent, thus reflecting a more liberal application of residential rate provisions as part of the resolution of the "tiny homes" issue. The Company proposed revisions to its Service Regulations to allow eligible tiny homes to be billed on a residential schedule, which DEP Service Regulations currently allow. The proposed changes must be approved by the NCUC.

# 3. Future Activities

## 3.1. Comprehensive Rate Design Study Stakeholder Forum 3

ICF is planning a virtual rate design study forum (Forum 3) for February 10, 2022. The focus of Forum 3 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.

| Session Title/Subject | Date | Description |
|---|---|---|

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| | | |
|---|---|---|
| *Working Group 1: Fast Track Topics* | | |
| Residential EV Rates Final Survey | January 2022 | A survey was released to all stakeholders in the Fast Track Working Group to solicit final thoughts on the proposed residential EV rate options. Initial responses indicate stakeholder support for Duke's three proposals including a TOU rate, off-peak credit program, and EV subscription rate. The survey is open for responses until 1/24. |
| EV Rates Subgroup Session E: Non-Residential | January 2022 | Final Non-Residential EV Rates Discussions |
| *Working Group 2: Hourly Pricing and Economic Development* | | |
| N/A | N/A | Working group discussions are complete and no further sessions are scheduled. |
| *Working Group 3: Residential Rates* | | |
| Joint Meeting | January 2022 | A joint meeting will be held between the CRR Working Group 3 participants, the Low-Income Collaborative, and the DSM/EE Collaborative. |
| *Working Group 4: Non-Residential Rates*[1] | | |
| Subgroup D | 1/11 | Load factor rates |
| Subgroup E | 1/25 | TOU period modernization |
| Subgroup F | 2/15 | Review merit of current rates and customer class appropriateness |
| Subgroup G | TBD | TBD |

# 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. Duke will be scheduling a joint meeting in January with Working Group 3 participants, the Low-Income Collaborative and DSM/EE Collaborative.

- **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

[1] The topic schedule for the Non-Residential Subgroups may be adjusted as needed based upon on the availability of supporting analytics from Duke.

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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