

**BEFORE THE NORTH CAROLINA UTILITIES COMMISSION  
DOCKET NO. E-7, SUB 1164**

<b>In the Matter of:</b>	)	
<b>Application of Duke Energy Carolinas,</b>	)	
<b>LLC for Approval of Demand-Side</b>	)	<b>NCSEA’S POST-HEARING</b>
<b>Management and Energy Efficiency Cost</b>	)	<b>BRIEF</b>
<b>Recovery Rider Pursuant to N.C. Gen. Stat.</b>	)	
<b>§ 62-133.9 and Commission Rule R8-69</b>	)	

**NCSEA’S POST-HEARING BRIEF**

Pursuant to Rule R1-25 of the North Carolina Utilities Commission (“Commission”) and Commissioner Brown-Bland’s directive at the June 5, 2018 hearing, the North Carolina Sustainable Energy Association (“NCSEA”), by and through the undersigned counsel, hereby submits this post-hearing brief regarding Duke Energy Carolinas, LLC’s (“DEC” or the “Company”) Application for Approval of Demand-Side Management and Energy Efficiency (“DSM/EE”) Cost Recovery Rider in the above-captioned docket. NCSEA seeks: (1) to support certain recommendations made by the North Carolina Justice Center, Natural Resources Defense Council, and the Southern Alliance for Clean Energy (“NC Justice Center, et al.”) and the Public Staff – North Carolina Utilities Commission (“Public Staff”); (2) to oppose the suspension of the Residential Smart \$aver EE program (the “HVAC EE Program”); and (3) to discuss the impact of changes to the calculation of avoided costs on the cost effectiveness of energy efficiency programs.

**I. NCSEA SUPPORTS CERTAIN RECOMMENDATIONS MADE BY THE  
NC JUSTICE CENTER, ET AL. AND THE PUBLIC STAFF**

**A. TECHNICAL RESOURCE MANUAL**

NCSEA supports NC Justice Center, et al. Witness Chris Neme's suggestion of creating a Technical Reference Manual ("TRM")<sup>1</sup> because a TRM could be used to streamline the regulatory process for DEC's DSM/EE programs. Among other things, a TRM could provide baseline energy usage, data for use in calculating energy savings, algorithms for calculating energy savings, and a process for updating deemed savings for existing measures as well as determining deemed savings for new measures.

A TRM would create greater certainty as to the savings that will be produced by DEC's DSM/EE measures, thereby reducing regulatory risk for DEC and its customers. A TRM would also reduce regulatory costs, as there would be less duplication of effort in analyzing DSM/EE by DEC, the Public Staff, and intervenors. While the instant proceeding applies only to DEC, it is worth noting that some other states and regions have coordinated their efforts to prepare TRMs that can be used by all utilities that serve the state or region. A single North Carolina TRM would provide consistency among energy efficiency programs and reduce overall energy efficiency program costs for the ratepayers by eliminating duplication of work. As Witness Evans notes, a North Carolina-specific TRM working group met in the past and NCSEA is glad to see that the Company does not object to the creation of a TRM working group.<sup>2</sup>

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<sup>1</sup> See, Tr. pp. 5, 91, and 99-101.

<sup>2</sup> *Id.* at 248.

B. OVERRELIANCE ON MY HOME ENERGY REPORT AND LIGHTING

NCSEA echoes the concerns expressed by NC Justice, et al. Witness Neme and Public Staff Witness Williamson that DEC gets a large portion of its total portfolio savings from the My Home Energy Report (“MyHER”) program and lighting-related measures.<sup>3</sup> DEC is currently deploying AMI meters throughout its territory<sup>4</sup> and, as NCSEA has previously noted to the Commission, the data provided by AMI meters can be utilized to reduce energy consumption.<sup>5</sup> NCSEA agrees with Public Staff Witness Williams’ suggestion that the incremental data collected by AMI meters should be leveraged to improve the MyHER program and integrate these two technologies in a way that reduces the “redundancy in the information available through these new systems and the information provided through the MyHER program[.]”<sup>6</sup>

C. MODIFICATIONS TO DEC’S PORTFOLIO OF PROGRAMS

NCSEA supports NC Justice, et al. Witness Neme’s suggestions for modifying DEC’s portfolio of programs and shares Witness Neme’s concern that DEC places too much relative emphasis on programs that deliver only short-lived savings.<sup>7</sup> Specifically, NCSEA believes that DEC should consider greater promotion of whole-building retrofits and new construction programs which provide longer term energy saving and demand

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<sup>3</sup> See, *id.* at 111-125 and 172-177.

<sup>4</sup> See, *id.* at 145.

<sup>5</sup> See generally, *NCSEA’s Comments*, Docket No. E-100, Sub 137 (February 5, 2013); *Comments of NCSEA and EDF*, Docket No. E-100, Sub 141 (January 9, 2015); *Reply Comments of NCSEA and EDF*, Docket No. E-100, Sub 141 (January 29, 2015); *NCSEA’s Comments*, Docket No. E-100, Sub 147 (December 19, 2016); *Direct Testimony of Michael E. Murray on Behalf of North Carolina Sustainable Energy Association*, Docket No. E-7, Sub 1146 (January 23, 2018).

<sup>6</sup> Tr. p. 205; See also, *id.* at 94, 101-104, 115-116, and 219-221 for further analysis of potential improvements to the MyHER program.

<sup>7</sup> *Id.* at 95 and 113.

reduction opportunities. A related opportunity in this area is DEC's proposed Residential New Construction Program.<sup>8</sup> The Public Staff recommended that this program be approved as a "new" EE program pursuant to Commission Rule R8-68,<sup>9</sup> but the Commission has yet to issue an order on the proposal. NCSEA encourages the Commission take steps to approve the program or instruct DEC to refile the program based on any relevant conclusions reached in this proceeding.

DEC should continue also continue its investigation, as discussed at past DEC Energy Efficiency Collaborative ("Collaborative") meetings, into on-bill financing programs to support such retrofits, in addition to providing greater access to efficiency for low income customers. These improvements are especially relevant considering DEC's forthcoming new customer information system, Customer Connect, which was discussed extensively in DEC's recent rate case.<sup>10</sup>

E. CHANGES TO DEC'S COLLABORATIVE

As a participant of the Collaborative, NCSEA believes that NC Justice, et al. Witness Neme's suggestions for improving DEC's Collaborative and examples from other state collaboratives should be discussed at future Collaborative meetings.<sup>11</sup> NCSEA further notes that full participation in the Collaborative by experts in energy efficiency and regulatory policy may be hampered by the exclusion of attorneys from the meetings, particularly those who have expertise in energy efficiency and demand-side management.

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<sup>8</sup> *Proposed Residential New Construction Program*, Docket No. E-7, Sub 1155 (September 21, 2017).

<sup>9</sup> *Public Staff Comments on Application for Program Approval*, Docket No. E-7, Sub 1155 (October 23, 2017).

<sup>10</sup> *See generally*, Docket No. E-7, Sub 1146; *See also*, the testimony of Retha Hunsicker, Docket No. E-7, Sub 1146, Tr. Vol. 18, pp. 250-315.

<sup>11</sup> *See*, Tr. pp. 126-131.

NCSEA requests that the Commission direct the Collaborative to discuss whether to remove this informal restriction and allow attorneys to attend Collaborative meetings.

**II. NCSEA DOES NOT BELIEVE DEC'S HVAC EE PROGRAM SHOULD BE SUSPENDED**

NCSEA does not dispute that DEC's HVAC EE Program is not currently cost-effective. However, NCSEA disagrees with Public Staff Witness Williamson's suggestion that the program be suspended.<sup>12</sup> Suspension of this program would eliminate important financial incentives for increasing the efficiency of the largest component of energy use in a residence<sup>13</sup> and eliminate a primary source of long-term residential energy efficiency opportunities. NCSEA believes that suspending the program would create a severe market disruption for both customers and HVAC contractors and would unfairly eliminate this long-term energy efficiency opportunity for DEC residential customers who need to replace qualifying HVAC equipment in the upcoming program year. These customers are often in a situation where an HVAC upgrade or replacement must occur quickly and may be forced to purchase less expensive and less efficient equipment without the available rebate which would be applied to a more energy efficient HVAC option. NCSEA also agrees with DEC Witness Evans' assertion that suspension of the program would likely erode trust and engagement with DEC's HVAC contractors and make it more difficult to offer similar types of programs that would require their support.<sup>14</sup>

As Witness Williamson notes, "an EE program that encourages adoption of high efficiency HVAC equipment is a fundamental EE program for a utility EE portfolio."<sup>15</sup> In

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<sup>12</sup> *Id.* at 191-192.

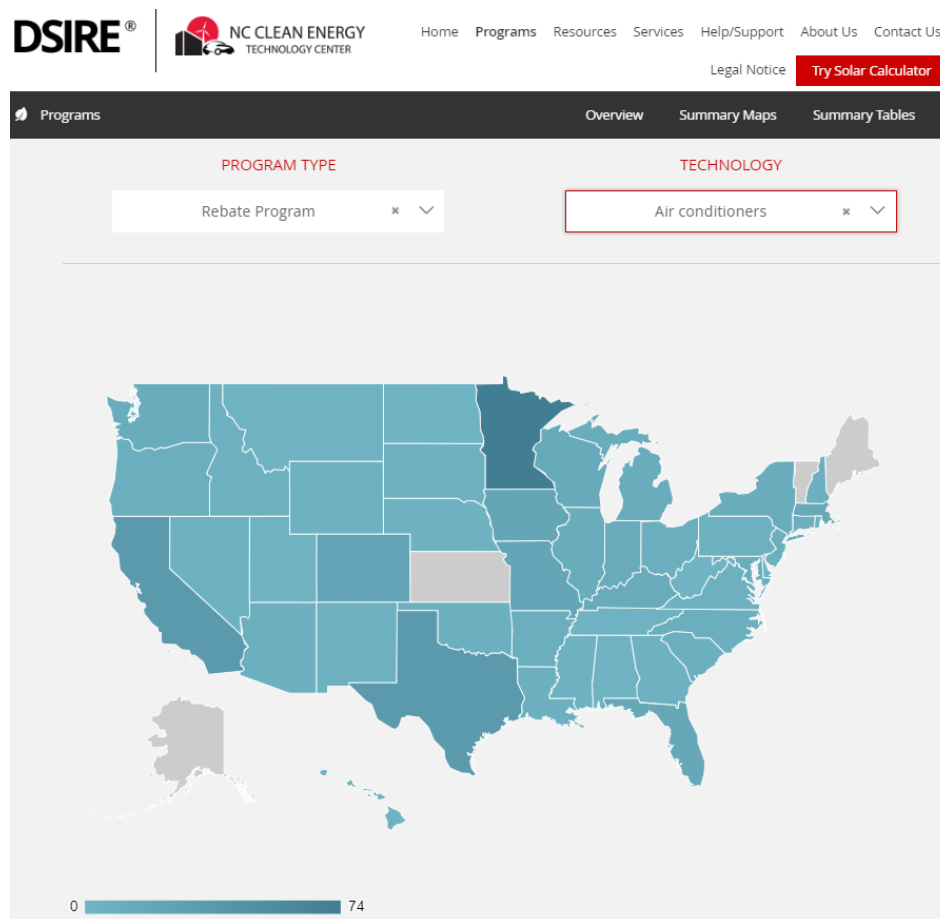
<sup>13</sup> U.S. Energy Information Administration, Frequently Asked Questions, *available at* <https://www.eia.gov/tools/faqs/faq.php?id=96&t=3> (last accessed July 20, 2018).

<sup>14</sup> Tr. p. 245.

<sup>15</sup> *Id.* at 189.

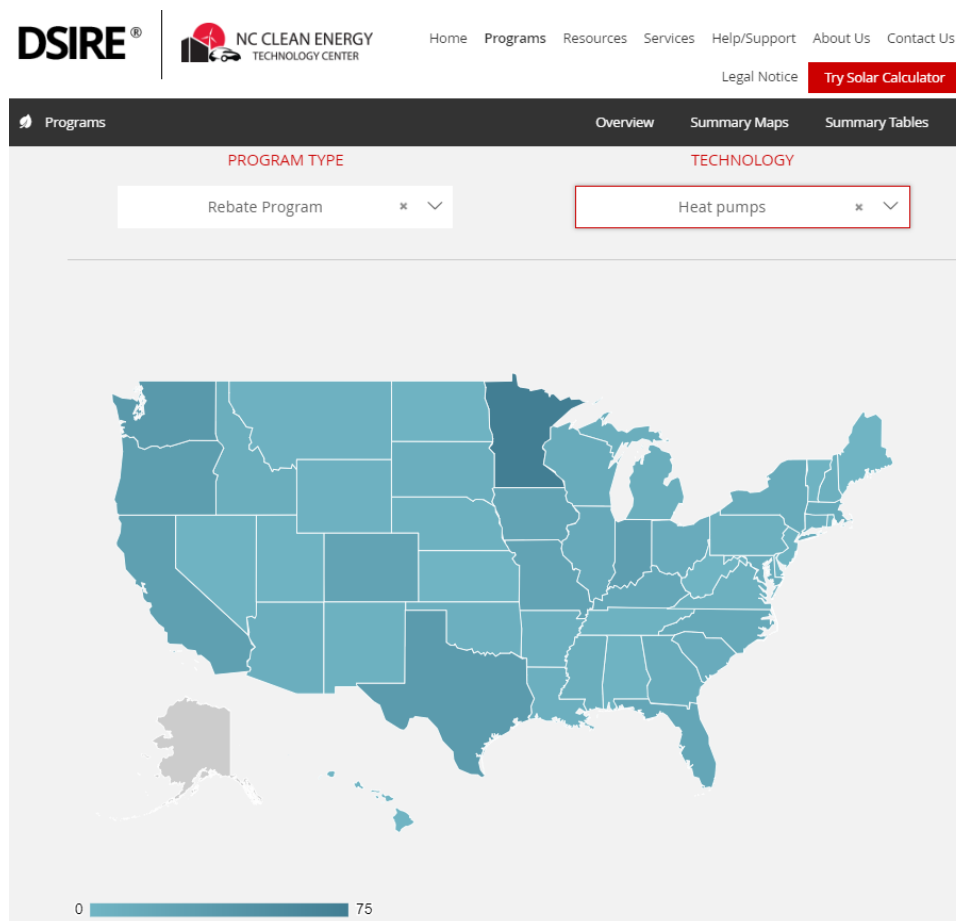
fact, according to the Database of State Incentives for Renewables and Efficiency (“DSIRE”), utilities in 46 states offer rebates for air conditioners and utilities in 49 states offer rebates for heat pumps (see Figures 1 and 2).

**Figure 1: States with Air Conditioner Rebate Programs<sup>16</sup>**



<sup>16</sup> Database of State Incentives for Renewables and Efficiency, Summary Maps, *available at* <http://programs.dsireusa.org/system/program/maps> (last accessed July 20, 2018).

**Figure 2: States with Heat Pump Rebate Programs<sup>17</sup>**



Considering that HVAC EE programs are so nationally prevalent, surely DEC can work with stakeholders to make this program cost effective once again in North Carolina and avoid the severe market disruptions that would be caused by program suspension or cancellation. As Williamson Exhibit 3 demonstrates, DEC has been able to improve the cost-effectiveness of the program in years following a projected TRC score of less than 1.<sup>18</sup> NCSEA believes that by working closely with stakeholders, trade allies, and investigating lessons learned from other states and utilities, DEC can again make this critical program cost-effective. Instead of program suspension, NCSEA would first support the Public

<sup>17</sup> *Id.*

<sup>18</sup> *See*, Official Exhibits, p. 230 (Williamson Exhibit 3).

Staff's suggestion that DEC could show faith in the program by "agreeing to pick up a portion of the program costs and the next loss revenues to the extent the program is not cost-effective."<sup>19</sup> NCSEA would also be open to other suggestions to keep the program running.

**III. NCSEA SUPPORTS THE USE OF AN AVOIDED CAPACITY CREDIT BUT BELIEVES THE ELECTRIC UTILITIES IN NORTH CAROLINA HAVE CREATED AN AVOIDED CAPACITY DOUBLE-STANDARD**

Public Staff Witnesses Maness, Williams, and Williamson each argue that the Commission's *Order Approving DSM/EE Rider, Revising DSM/EE Mechanism, and Requiring Filing of Proposed Customer Notice* in Docket No. E-7, Sub 1130, which approved a modified cost recovery and incentive mechanism for DEC's DSM/EE programs ("Revised Mechanism"), requires that the avoided cost rates used to evaluate the cost effectiveness of DEC's DSM/EE portfolio of programs and calculate the Portfolio Performance Incentive ("PPI") should be consistent with the avoided cost rates approved in the most recent biennial avoided cost rate proceeding for qualifying facilities ("QFs").

The Public Staff Witnesses interpret this provision of the Revised Mechanism to mean that:

In order to be consistent with the with the Sub 148 Order and the Revised Mechanism, determinations of ongoing cost-effectiveness and utility incentives of both new DSM/EE programs and new vintages of existing DSM/EE programs starting in vintage 2019 should be based on avoided capacity rates that reflect zero avoided capacity value in years prior to the identified need for new capacity in the Company's IRP (2023).<sup>20</sup>

In DEC's last DSM/EE rider proceeding, NCSEA noted that the Commission's calculation of avoided costs impact more than just payments to independent power

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<sup>19</sup> Tr. pp. 280-281.

<sup>20</sup> *Id.* at 216-217.



producers.<sup>21</sup> Here, DEC asserts that the capacity costs avoided by energy efficiency are worthy of compensation, while in the 2016-2017 avoided cost proceeding DEC claimed that the capacity costs avoided by QFs are not.<sup>22</sup> NCSEA has previously pointed out this hypocrisy to the Commission, which noted:

[NCSEA Witness Johnson] also testified that the use of zeros is inconsistent with the concept of “ratepayer indifference,” and it leads to undue discrimination against QFs. Witness Johnson testified that, in general, the goals of PURPA are best promoted when PURPA is implemented in a way that focuses on long run incremental cost, rather than a short run measure of cost that excludes capacity costs. More specifically, he testified that QF avoided cost rates should reflect the full long run cost of building and operating the utilities’ generating facilities, including years when new generating units are not being added. He further testified that because of economies of scale, electric utilities typically find it cost effective to construct large generating facilities, at multi-year intervals. He testified that if the utility has a capacity need of 100-MW per year over a 6-year period, it will not add a 100-MW plant every year but instead will add a 600+ MW plant in a single year. Under these circumstances, Johnson argued that economic theory tells us there are long run capacity costs present in every year; they are not zero in some years and present in others. Put a different way, Johnson testified that given reality of how electric utilities add new generating capacity, even during years when “zero” capacity is planned, the long run cost of capacity is the same, or nearly the same as it is during other years, when a new block of capacity is scheduled to be placed into service. With respect to discrimination against QFs, NCSEA witness Johnson testified that PURPA specifically states that QF rates must not “discriminate against qualifying cogenerators or qualifying small power producers.” He explains that under rate base regulation, the utilities are allowed to recover the cost of new generating capacity as they are completed and put into commercial operation, even though some of the capacity is being added prior to the time it is required (due to lumpiness). He testified that since the

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<sup>21</sup> NCSEA’s *Post-Hearing Brief*, p. 4, Docket No. E-7, Sub 1130 (August 3, 2017) (“The Commission’s calculation of avoided cost rates has impacts beyond the biennial proceeding to determine payments to independent power producers. Of relevance to this proceeding, avoided cost calculations and rates are used to measure the cost-effectiveness of DEC’s suite of DSM/EE programs.”).

<sup>22</sup> In rebuttal testimony filed in the 2016-2017 avoided cost proceeding, DEC Witness Snider stated: “[u]nder any circumstance, it harms consumers to pay for capacity that is not actually avoided.” Docket No. E-100, Sub 148, Tr. Vol. 2, p. 275.

utility is allowed to recover its capacity costs during the “zero” years just after a new capacity addition and its reserve margin is higher than the required minimum, to avoid discrimination, the QF should be treated the same.<sup>23</sup>

NCSEA continues to oppose eliminating proper compensation for avoided capacity costs. In this proceeding, such a change could have a dire effect on the cost-effectiveness of DSM/EE programs and could discourage DEC from maintaining or increasing its deployment of DSM/EE resources without recognition of their avoided capacity benefits in the calculation of DEC’s PPI. As noted by Public Staff Witness Williams, the removal of avoided capacity costs when measuring the cost effectiveness of programs whose useful lives do not extend to periods when DEC’s integrated resource plan shows a capacity need would cause certain programs, including the Non-Residential Smart Saver Custom Assessments program, to not be cost-effective for vintage 2019.<sup>24</sup> The possibility of future elimination of this program and similar programs would be particularly problematic, as the Non-Residential Smart Saver Custom and Assessments programs targets the commercial, industrial, and institutional customers that are able to opt-out of DEC’s DSM/EE rider and may cause a further increase in these customers opting out of participation in DEC’s DSM/EE rider and associated programs.

The Commission has previously noted a willingness to address compensation for avoided capacity costs provided by non-solar technologies:

Further, the Commission agrees with witness Johnson that the Utilities should focus on improving the rate design in ways that are responsive to the specific concerns that have been identified to ensure that the change in policies being adopted in this proceeding do not adversely impact other

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<sup>23</sup> *Order Establishing Standard Rates and Contract Terms for Qualifying Facilities*, pp. 47-48, Docket No. E-100, Sub 148 (October 11, 2017). *See also*, *Direct Testimony of Ben Johnson, Ph.D. on Behalf of North Carolina Sustainable Association*, pp. 179-192, Docket No. E-100, Sub 148 (March 27, 2017).

<sup>24</sup> Tr. pp. 227-228.

small power producers, including wind, methane from landfills, hog or poultry waste, and non-animal biomass, for problems that are specifically related to solar energy. As discussed in other sections of this order, the Commission concludes that an avoided cost rate based on the characteristics of the QF-supplied power may also be appropriate going forward in future proceedings, and, therefore, will require the Utilities to include proposed rates and data sufficient for the parties and the Commission to evaluate the appropriateness of such a rate in their initial filings in the next biennial avoided cost proceeding.<sup>25</sup>

NCSEA believes that the Commission should extend this willingness to include the capacity costs avoided by energy efficiency in this proceeding and, therefore, reject the Public Staff's position that the avoided capacity benefits used for program approval, PPI, and review of on-going cost-effectiveness of the Company's DSM/EE programs should include zero capacity value in years prior to 2023.<sup>26</sup> If necessary, NCSEA urges the Commission to continue to address the issue in the upcoming biennial avoided cost proceeding, especially since the Commission has directed DEC and other utilities to provide, "a continued evaluation of capacity benefits of QF generation."<sup>27</sup>

### **CONCLUSION**

As set forth above, NCSEA supports certain recommendations made by the NC Justice Center, et al. and the Public Staff, including specifically: the creation of a Technical Resource Manual; the assertion that DEC has relied too heavily upon its My Home Energy Report program and also lighting measures in assessing total energy efficiency savings; that DEC should modify its energy efficiency programs to cater to more long-term benefits;

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<sup>25</sup> *Order Establishing Standard Rates and Contract Terms for Qualifying Facilities*, pp. 49-50, Docket No. E-100, Sub 148 (October 11, 2017). *See also*, *Order Establishing Biennial Proceeding, Requiring Data, and Scheduling Public Hearing*, Docket. No. E-100, Sub 158 (June 26, 2018).

<sup>26</sup> Tr. pp. 233-234.

<sup>27</sup> *Order Establishing Biennial Proceeding, Requiring Data, and Scheduling Public Hearing*, p. 1, Docket No. E-100, Sub 158 (June 26, 2018).

and, that attorneys should be permitted to join the Collaborative. Furthermore, NCSEA disagrees with the Public Staff's recommendation to suspend the HVAC EE Program. Finally, NCSEA reiterates its previously-stated beliefs regarding the problems with the current avoided capacity assessment and believes that the electric utilities in North Carolina have now created a double-standard. Despite this, NCSEA supports the use of an avoided capacity credit.

Respectfully submitted, this the 20th day of July, 2018.

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**CERTIFICATE OF SERVICE**

I hereby certify that all persons on the docket service list have been served true and accurate copies of the foregoing Comments by hand delivery, first class mail deposited in the U.S. mail, postage pre-paid, or by email transmission with the party's consent.

This the 20th day of July, 2018.

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