

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-7, SUB 856

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of		
Application of Duke Energy Carolinas, LLC,)	ORDER GRANTING
for Approval of a Solar Photovoltaic)	CERTIFICATE OF
Distributed Generation Program and for)	PUBLIC CONVENIENCE
Approval of the Proposed Method of)	AND NECESSITY WITH
Recovery of Associated Costs)	CONDITIONS

HEARD: Thursday, October 23, 2008, at 9:00 a.m., in Commission Hearing Room 2115, Dobbs Building, 430 North Salisbury Street, Raleigh, North Carolina

BEFORE: Commissioner Lorinzo L. Joyner, Presiding; Chairman Edward S. Finley, Jr.; and Commissioners Robert V. Owens, Jr., Sam J. Ervin, IV, Howard N. Lee, and William T. Culpepper, III

APPEARANCES:

For Duke Energy Carolinas, LLC:

Lara S. Nichols, Associate General Counsel, and Brian L. Franklin, Senior Counsel, Duke Energy Corporation, Post Office Box 1244-PB05E, Charlotte, North Carolina 28201-1244

Robert W. Kaylor, Law Office of Robert W. Kaylor, P.A., 3700 Glenwood Avenue, Suite 330, Raleigh, North Carolina 27612

For Wal-Mart Stores East, LP, and Sam's East, Inc.:

Rick D. Chamberlain, Behrens, Taylor, Wheeler & Chamberlain, Six Northeast 63rd Street, Suite 400, Oklahoma City, Oklahoma 73105

For Southern Alliance for Clean Energy:

George S. Cavros, Attorney at Law, 120 East Oakland Park Boulevard, Suite 105, Fort Lauderdale, Florida 33334

For North Carolina Sustainable Energy Association:

Kurt J. Olson, Staff Counsel, Post Office Box 6465, Raleigh, North Carolina 27628

For The Solar Alliance and The Vote Solar Initiative:

R. Sarah Compton, Attorney at Law, Post Office Box 12728, Raleigh, North Carolina 27605

For the Using and Consuming Public:

Robert S. Gillam, Staff Attorney, Public Staff - North Carolina Utilities Commission, 4326 Mail Service Center, Raleigh, North Carolina 27699-4326

Leonard G. Green, Assistant Attorney General, North Carolina Department of Justice, Post Office Box 629, Raleigh, North Carolina 27602-0629

BY THE COMMISSION: On June 6, 2008, Duke Energy Carolinas, LLC (Duke), filed an application for a blanket Certificate of Public Convenience and Necessity (CPCN) authorizing construction over a two-year period of up to 20 megawatts (MW) direct current (DC) of solar photovoltaic (PV) generation and for approval of its proposed method of cost recovery. The facilities will be located within Duke's North Carolina service territory and will include both roof-mounted and ground-mounted facilities installed on the property of Duke's customers and on property owned by Duke. Duke will own all the facilities under the program, and the facilities will be interconnected directly to the power grid at the distribution or transmission level.

The scale of the program provides for multiple types of installations in multiple locations. Eighty to ninety percent (80-90%) of the proposed installed capacity will consist of large-scale installations such as ground-mounted facilities and rooftop installations on large commercial or industrial buildings, with individual facilities in this category ranging from 500 kilowatts (kW) to 3 MW. Up to 10% of the proposed installed capacity will consist of medium-scale rooftop facilities, with individual facilities in this category ranging in size from 15 to 500 kW. Small-scale facilities on residential rooftops, ranging from 1.5 to 5 kW in capacity, will comprise the remainder of the program and up to 10% of the total capacity.

On July 8, 2008, the Commission issued an Order setting the matter for hearing, directing Duke to give notice to its customers, and establishing discovery and other procedural deadlines.

Petitions to intervene were filed by the following parties and granted by order of the Commission: Carolina Utility Customers Association, Inc.; The Kroger Co.; Southern Alliance for Clean Energy; the North Carolina Sustainable Energy Association (NCSEA); Wal-Mart Stores East, LP, and Sam's East, Inc. (collectively, Wal-Mart); The Vote Solar Initiative (Vote Solar); and The Solar Alliance. The Attorney General filed a notice of

intervention on June 23, 2008, which is recognized pursuant to G.S. 62-20. Lastly, the intervention of the Public Staff is recognized pursuant to G.S. 62-15(d) and Commission Rule R1-19(e).

On July 25, 2008, Duke filed the direct testimony and exhibits of Janice D. Hager, Jane L. McManeus, Owen A. Smith, and Ellen T. Ruff.

On October 8, 2008, NCSEA filed the testimony Rosalie R. Day.

On October 10, 2008, pursuant to orders allowing extensions of time, Solar Alliance filed the testimony of Carrie Cullen Hitt, Vote Solar filed the testimony and exhibits of Thomas J. Starrs, Wal-Mart filed the testimony of Ken Baker, and the Public Staff filed the testimony and exhibits of Elise Cox and James McLawhorn.

On October 20, 2008, Duke filed the revised direct testimony of Ellen T. Ruff, the rebuttal testimony of Jane L. McManeus, and the rebuttal testimony and exhibits of Owen A. Smith.

This matter came on for hearing as scheduled on October 23, 2008. Duke presented the testimony and exhibits of witnesses Ruff, Smith, Hager and McManeus; Wal-Mart presented the testimony of witness Baker; Vote Solar presented the testimony and exhibits of witness Starrs; the Solar Alliance presented the testimony of witness Hitt; NCSEA presented the testimony of witness Day; and the Public Staff presented the testimony and exhibits of witnesses Cox and McLawhorn.

Based upon the foregoing, the testimony and exhibits introduced into evidence at the hearing, and the Commission's record of this proceeding, the Commission now makes the following

FINDINGS OF FACT

1. Duke is a public utility providing electric service to customers in its service area in North Carolina subject to the jurisdiction of the Commission.

2. The Commission has jurisdiction over this application. Pursuant to G.S. 62-110.1 and Commission Rule R8-61(b), a public utility must receive a CPCN prior to constructing electric generating facilities in North Carolina.

3. In its application, Duke requested authorization to install new solar PV electric generating facilities with a total capacity of approximately 20 MW (DC). These facilities will be dispersed throughout Duke's North Carolina service territory and will be installed as roof-mounted and ground-mounted facilities on the property of Duke's customers and on property owned by Duke. In its application, Duke estimated that the cost of the proposed facilities would be approximately \$100 million. In its rebuttal testimony, Duke reduced the size of its proposed program to 10 MW (DC), with an estimated cost of \$50 million.

4. In order to meet the solar set-aside requirements of the North Carolina Renewable Energy and Energy Efficiency Portfolio Standard (REPS), G.S. 62-133.8(d), there is a need for Duke to acquire solar energy. Duke's proposed construction of 10 MW of solar PV generating facilities is an appropriate method for meeting a portion of this statutory requirement.

5. In addition to developing its program for construction of solar PV facilities on its own system, Duke also issued a request for proposals (RFP) which was open to bidders who could provide at least 2 MW of bundled renewable generation and renewable energy certificates (RECs). The RFP was not open to bidders with a capacity of less than 2 MW, to bidders offering RECs separately from the associated electric energy, or to providers of solar thermal energy.

6. The lowest solar bid submitted in response to Duke's RFP was from SunEdison. Duke has entered into a contract to purchase the energy and RECs offered by SunEdison.

7. Duke received numerous other solar bids in response to its RFP, many of which were priced lower per MWh than the estimated costs of Duke's program.

8. Duke, as a public utility, is required to follow certain tax normalization requirements with respect to the treatment of federal energy investment tax credits. The bidders responding to Duke's RFP are not public utilities and are not subject to these tax normalization requirements.

9. Duke employed an engineering firm, Black & Veatch, to analyze, in part, the bids submitted in response to its RFP. Duke had a reasonable opportunity to enter into contracts for solar energy and RECs from bidders in addition to SunEdison at a price lower than Duke's estimated costs for its program.

10. Duke anticipates that, in addition to simply providing solar energy to meet the REPS requirements, the program will provide certain additional benefits which it believes cannot be obtained through a purchase from a third party. These additional benefits include enabling Duke to develop competency as an owner of solar renewable assets; to leverage volume purchases; to build relationships with solar PV developers, manufacturers and installers; to gain experience with the installation and operation of various types of solar distributed generation (DG) facilities; and to evaluate the impact of such facilities on its electric system. In addition, Duke expects that the program will help it to understand the types of DG facilities desired by customers, promote the commercialization of solar facilities in North Carolina, and fill knowledge gaps so as to enable successful, widespread deployment of solar PV technologies. Moreover, Duke notes that, if it owns solar generating facilities, it will not be entirely dependent on purchases from outside entities to meet the solar requirements contained in the REPS.

11. Duke should not be required to make reports to the Commission on the information it gathers from the solar PV facilities installed in connection with the program or to gather comparable information from solar PV facilities owned by others.

12. The costs of Duke's program, like the costs of any purchase of bundled solar energy, include avoided costs that are quantifiable. Under G.S. 62-133.8(h), avoided costs are not incremental costs and may not be recovered through the REPS and REPS Experience Modification Factor (EMF) riders. Moreover, the avoided costs of Duke's program may not be recovered through the fuel and fuel-related costs rider under G.S. 62-133.2.

13. G.S. 62-133.8(h) states that incremental compliance costs may be recovered through the REPS and REPS EMF riders. G.S. 62-133.8(h)(1) provides that compliance costs must be "reasonable and prudent" in order to be recovered as incremental costs. To the extent that the costs of the program exceed the cost for which Duke could have reasonably purchased solar energy and RECs from a third party, Duke has not met its burden of proving that these costs are reasonable and prudent and, therefore, eligible for recovery as incremental costs through the REPS and REPS EMF riders.

14. The estimated costs provided by Duke include the costs associated with the broader benefits of the program. They also include the costs associated with the public utility tax normalization requirements. G.S. 62-133.8(h)(1) provides that incremental costs include, among other things, "costs incurred by an electric power supplier to ... [c]omply with the requirements of subsections (b), (c), (d), (e), and (f)" of G.S. 62-133.8. The costs associated with the broader benefits of Duke's program and with Duke's tax normalization obligations will not be incurred to comply with the requirements of G.S. 62-133.8(b)-(f). Consequently, these costs may not be recovered through the REPS and REPS EMF riders, except to the extent that they may be shown in a future proceeding to constitute research and development expenses recoverable pursuant to G.S. 62-133.8(h)(1)(b).

15. The reasonable and appropriate costs to comply with G.S. 62-133.8(b)-(f) to be recovered by Duke through the REPS and REPS EMF riders shall not exceed the price offered in the third-lowest bid submitted in response to Duke's solar RFP, less avoided costs.

16. The public convenience and necessity require the implementation of Duke's proposed program, subject to the following conditions: (1) that the facilities constructed to implement the program shall not exceed a total of 10 MW in capacity, and (2) that no more than the price offered in the third-lowest bid submitted in response to Duke's solar RFP, less avoided costs, may be recovered through the REPS and REPS EMF riders pursuant to G.S. 62-133.8(h)(1)(a).

17. Duke has estimated the construction cost of the program at \$50 million. The Commission approves this estimate and finds, pursuant to G.S. 62-110.1(e), that construction of these facilities will be consistent with the Commission's plan for expansion of electric generating capacity; provided, however, that the Commission's approval of the estimate does not amount to approval of recovery of costs in excess of the level provided herein.

18. Duke should not be required to allow the host of a solar facility to retain a portion of the RECs produced by the facility or to retain a portion of the energy produced.

19. Duke should not be required to provide a standard offer for the purchase of solar RECs.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT 1-2

These findings of fact are essentially informational, jurisdictional and procedural in nature and are not controversial.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT 3-4

The evidence supporting these findings of fact appears in Duke's application and in the testimony of Duke witnesses Ruff and Smith and Public Staff witnesses Cox and McLawhorn.

In August 2007, the General Assembly enacted Session Law 2007-397 (Senate Bill 3), which established a Renewable Energy and Energy Efficiency Portfolio Standard (REPS) in this State. G.S. 62-133.8. The REPS requires all North Carolina electric suppliers to include specified percentages of renewable generation in their generation portfolio. Subsection (d) of G.S. 62-133.8 provides that specified percentages "of the total electric power in kilowatt hours sold to retail electric customers in the State, or an equivalent amount of energy, shall be supplied by a combination of new solar electric facilities and new metered solar thermal energy facilities" The required percentages of solar energy are 0.02% for 2010-11, 0.07% for 2012-14, 0.14% for 2015-17, and 0.20% for 2018 and subsequent years. Under G.S. 62-133.8(h), a utility may recover the incremental cost of compliance with the REPS from customers through an annual rider. The amount of the rider for any given customer account is subject to an annual limit (the "per-account cap"), which is set by the statute at different levels for residential, commercial and industrial customers. If a utility's incremental costs of compliance for a given year are equal to the combined total of the per-account caps for all its North Carolina retail customers (the "utility-wide ceiling"), the utility is conclusively deemed to be in compliance with the REPS for that year, notwithstanding its failure to achieve the percentages of renewable generation provided for in the statute. No incremental costs of REPS compliance in excess of the utility-wide ceiling may be recovered from ratepayers.

Duke witness Ruff testified that Duke's proposed solar PV facilities are "renewable energy facilities" within the meaning of the REPS statute and will enable Duke to partially fulfill its obligations under the REPS and the solar set-aside.

Duke witness Smith, in his direct testimony, provided a detailed description of the solar PV facilities that Duke proposes to install. He stated that the facilities are expected to have a total combined capacity of approximately 20 MW (DC), which will be converted to about 16 to 17 MW alternating current (AC). The facilities will be installed on both customer- and Company-owned property in Duke's North Carolina service area. They will consist of large- or medium-scale ground-mounted facilities and rooftop

installations on commercial, industrial and residential buildings. The facilities will be installed over a two-year period following approval by the Commission, and their total cost is estimated to be \$100 million. Witness Smith described Duke's proposed tariff for the program, and he explained that a blanket CPCN for the program is needed because the precise location of the facilities cannot be specified at this time and because waiting to determine such locations before filing multiple applications for individual CPCNs would unduly delay the program and increase its costs.

Public Staff witnesses Cox and McLawhorn testified that Duke's proposed program appears to be needed to meet the starting date for the solar set-aside requirements, but that it should be limited to 10 MW rather than the 20 MW proposed by Duke. In support of their recommendation to reduce the size of the project, witnesses Cox and McLawhorn noted that Duke has already entered into a contract to purchase solar energy from SunEdison. In combination with the SunEdison project, Duke's program will produce much more solar energy than is needed for compliance with the solar set-aside from 2010 through 2014. The witnesses stated that, while solar generation should be encouraged, it should not be pursued at the expense of other, less costly renewable resources because this could result in Duke's prematurely reaching the utility-wide ceiling established by G.S. 62-133.8(h). If Duke generates an excessive amount of costly solar energy, the total amount of renewable energy it can purchase or generate within the limits of its utility-wide cost cap will be reduced. This may result in a need to operate Duke's fossil-fired generating plants more often, possibly leading to increased emissions. Witnesses Cox and McLawhorn further testified that, if Duke generates substantially more solar energy in 2010-14 than is needed for compliance with the solar set-aside, it could bank the RECs associated with the excess solar generation and use them in later years. However, in their view, this type of large-scale banking of solar RECs is not a desirable practice because (1) it raises issues of intergenerational equity and (2) there is a substantial possibility that the costs of solar power may decrease in future years. In that event, Duke will be spending money unwisely by accumulating large numbers of solar RECs in advance of the need for them.

Duke witness Smith stated in his rebuttal testimony that Duke had decided to reduce the size of the program from 20 MW to 10 MW and that this would reduce the cost of the program to \$50 million. He testified that the proposed tariff for the program had been revised accordingly and was attached to his testimony as Smith Rebuttal Exhibit 1.

The Commission agrees with Duke and the Public Staff that the solar facilities Duke proposes to construct, not to exceed 10 MW in capacity, are needed for compliance with G.S. 62-133.8(d).

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT 5-7

The evidence supporting these findings of fact appears in the testimony of Duke witness Smith and Public Staff witnesses Cox and McLawhorn.

Public Staff witnesses Cox and McLawhorn testified that they had reviewed the process used by Duke to solicit bids for renewable energy. Their review indicated that Duke issued an RFP for renewable energy in 2007 and received numerous solar bids in response. Duke's RFP was restricted to bidders offering bundled RECs and energy from facilities at least 2 MW in capacity. In addition, solar thermal projects, which do not produce any electricity, but do produce RECs that can be used to satisfy the REPS solar set-aside, were ineligible to submit bids.

On cross-examination, Duke witness Smith confirmed that the lowest solar bid in response to Duke's RFP was submitted by SunEdison, with which Duke has entered into a contract for solar energy and RECs. He stated that Public Staff Smith Confidential Cross-Examination Exhibit 1 is a listing, initially prepared by Duke, of the solar bids received in response to the RFP and the amounts of the bids, adjusted by Duke to be comparable with each other and with Duke's own proposal to facilitate easier comparison.

On these matters there is no disagreement among the parties. The Commission finds the facts to be as set forth above.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT 8

The evidence supporting this finding of fact appears in the testimony of Duke witness McManeus.

Duke witness McManeus testified that, as a public utility, Duke is required to follow certain tax normalization requirements with respect to the treatment of the federal energy investment tax credit. Non-utilities, such as the bidders responding to Duke's RFP, are not subject to these tax normalization requirements. She further testified that the estimated cost of Duke's program is higher than the costs associated with a number of the bids received in response to the RFP due, in part, to these tax normalization requirements.

None of the parties disagreed with witness McManeus's testimony as to the cost of Duke's program or as to what the program would cost if Duke were not subject to tax normalization requirements. The Commission finds the facts to be in accordance with the testimony of Duke witness McManeus.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT 9

The evidence supporting this finding of fact appears in the testimony of Public Staff witnesses Cox and McLawhorn and Duke witness Smith.

Public Staff witnesses Cox and McLawhorn testified that, in their review of Duke's RFP process, they ascertained that Duke had employed the firm of Black & Veatch to perform an analysis of the bids.

On cross-examination, Duke witness Smith testified that Public Staff Smith Confidential Cross-Examination Exhibit 2 was a summary of the Black & Veatch analysis,

while Public Staff Smith Confidential Cross-Examination Exhibit 3 was a memorandum prepared by Black & Veatch setting out the results of the analysis in detail.

Although there may be some differences of opinion among the parties concerning the qualifications and reliability of some of the bidders responding to Duke's RFP, the Commission finds that Duke had a reasonable opportunity to enter into contracts for solar energy and RECs from bidders in addition to SunEdison at a price lower than Duke's estimated costs for its proposed program.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT 10-11

The evidence supporting these findings of fact appears in the testimony of Duke witnesses Ruff and Smith, Solar Alliance witness Hitt, and Public Staff witnesses Cox and McLawhorn.

Duke witness Ruff testified that, in addition to providing solar energy to meet customer demand and to satisfy Duke's REPS obligations, the program will have a variety of other benefits. It will help promote the development of solar generation resources in North Carolina. The distributed nature of the generation of electricity under the program will enable Duke to develop competency as an owner of solar renewable assets; leverage volume purchases; build relationships with solar PV developers, manufacturers and installers; and gain experience with the installation and operation of multiple types of solar distributed generation (DG) facilities. Additionally, if Duke owns some of the generating facilities that it uses to meet the solar requirements of the REPS, it will not be dependent solely on power purchases to meet these requirements.

Duke witness Smith testified that the Program will facilitate Duke's evaluation of the impact of significant DG on Duke's electric system. In addition, it will allow Duke to explore the nature of solar DG offerings desired by customers; fill knowledge gaps to enable successful, wide-scale deployment of solar PV DG technologies; and promote the commercialization of the solar market in North Carolina through utility ownership. It will promote energy security, attract investment and create jobs in the solar industry, and drive down the cost of solar PV installations through standardizing inspection requirements and leveraging volume purchases.

Solar Alliance witness Hitt testified that she was in agreement with Duke that the program will enable Duke to learn more about solar PV. She supported Duke's proposal to collect information about the economic and physical impacts of its planned solar PV installations. She recommended that Duke be required to collect comparable information from a sampling of installations that it does not own and to make all of this information available to the public through the Commission.

Public Staff witnesses Cox and McLawhorn expressed agreement with Duke's witnesses that the Company, through its proposed program, seeks to obtain benefits that go beyond the simple acquisition of solar energy and RECs for REPS compliance purposes.

The Commission is not persuaded that Duke should be required to make arrangements with other owners of solar PV facilities to collect data comparable to the data it gathers with respect to its own facilities. This could potentially be a useful undertaking, however, and Duke is encouraged to collect such data if it chooses to do so. The Commission notes that the data gathered by Duke will be subject to discovery in future proceedings, particularly integrated resource planning proceedings; consequently, there is no need to require Duke to submit the data formally to the Commission in periodic reports. Duke should refrain from designating this information as confidential, except for any specific data items as to which secrecy is truly essential.

Aside from the issues raised by witness Hitt and addressed above, the parties are in agreement concerning the broader benefits, above and beyond the acquisition of solar energy, that Duke seeks to obtain by constructing its own solar generating facilities. The Commission finds the facts to be in accordance with the testimony of the parties.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT 12

The evidence supporting this finding of fact appears in the testimony of Duke witness McManeus, NCSEA witness Day, and Public Staff witnesses Cox and McLawhorn.

In her direct testimony, Duke witness McManeus stated that Duke proposed to recover all of the costs of the program, except for avoided costs, through the REPS rider. The costs to be recovered through the REPS rider include not only operation and maintenance costs, but also capital costs, which will be calculated on a levelized basis using a fixed charge rate applied to the investment and reduced by avoided cost.

NCSEA witness Day testified that avoided capacity and energy costs should be subtracted from the incremental costs to be recovered through the REPS and REPS EMF riders.

Public Staff witnesses Cox and McLawhorn testified that Duke's original plan, as disclosed during discovery, was to deduct only avoided capacity costs from the total levelized costs of the program and to recover all the remaining costs (including avoided energy costs) through the annual REPS and REPS EMF riders. However, Duke subsequently changed its position and agreed to deduct all avoided costs from the costs to be recovered in the REPS rider. According to witnesses Cox and McLawhorn, Duke should not recover any avoided costs through either the REPS rider or the fuel and fuel-related costs rider; these costs should be recovered only through base rates.

In her rebuttal testimony and on cross-examination, Duke witness McManeus agreed that neither avoided energy costs nor avoided capacity costs should be recovered through the REPS and REPS EMF riders. She further agreed that, given the language of G.S. 62-133.2(a1), these costs could not be recovered through the fuel adjustment rider either, but instead had to be recovered through base rates. She expressed concern, however, that the language of G.S. 62-133.2(a1) places utilities generating renewable energy through their own facilities at an unwarranted disadvantage in comparison with

utilities that purchase renewable energy from third parties and are able to use the fuel adjustment rider for recovery of avoided costs.

As a result of the change in Duke's position, there is no longer any disagreement among the parties on this issue. The Commission concludes that, under G.S. 62-133.8(h)(1), neither avoided energy costs nor avoided capacity costs are included in the "incremental costs" that can be recovered through the REPS and REPS EMF riders; that, under G.S. 62-133.2(a1)(6), the avoided energy and capacity costs of "all purchases of power from renewable energy facilities and new renewable energy facilities pursuant to G.S. 62-133.8" can be recovered through the fuel and fuel-related costs rider; and that G.S. 62-133.2 does not authorize a utility to recover through the fuel and fuel-related costs rider the avoided costs associated with renewable energy that it generates on its own system.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT 13-15

The evidence supporting these findings of fact appears in the testimony of Duke witnesses Ruff, Smith and McManeus, NCSEA witness Day, and Public Staff witnesses Cox and McLawhorn.

Duke witness Ruff testified that, as a result of constructing its own solar facilities, Duke will not be dependent solely on power purchases from third parties to meet the requirements of G.S. 62-133.8(d) and that it will be more in control of the facilities used to meet those requirements than if it had relied on another entity to construct them.

Duke witness Smith testified that it is inappropriate to compare the estimated cost of the program with the bids received in response to Duke's RFP because of the broader benefits that will be provided by the program, but that cannot be obtained through a purchase of solar power from a third party. He stated that, prior to filing its application in this docket, Duke considered whether it would be reasonable to divide the costs of the program between different recovery mechanisms based upon the multiple benefits of the program; however, Duke decided not to pursue this approach because all generation produced by the program will serve to meet the REPS requirements. On cross-examination, witness Smith indicated that any proposal to replace Duke's program with a purchase of power from one of the RFP bidders (in addition to the SunEdison purchase Duke has already agreed to) would require Duke to have full confidence that the RFP bidder's project would come to fruition, and Duke is not comfortable with making such an assumption.

Duke witness McManeus testified that she disagreed with the Public Staff's proposal to limit the amount of program costs recoverable through the REPS and REPS EMF riders. While the Public Staff's witnesses opined that it was the distributed nature of the program that resulted in costs higher than certain of the solar bids Duke received, in her judgment the impact of the federal tax normalization requirements was the more significant driver of this difference. She testified that the goals of the program were different from, and more varied than, the goals that can be achieved through a simple purchase of power. Moreover, Duke would not have undertaken the program had the

REPS legislation not been enacted, and all of the electricity generated by the program will be used for REPS compliance. On cross-examination, witness McManeus stated that it was not possible to break down the cost of the program into components representing the underlying cost of solar energy, the additional costs associated with the program's broader benefits, and the additional costs attributable to tax normalization. On cross-examination relating to Public Staff McManeus Confidential Cross-Examination Exhibit 1, she acknowledged that, if Duke chooses to generate solar energy through the program instead of purchasing it at a lower cost from a third party, it will reach the utility-wide ceiling established by G.S. 62-133.8(h) more quickly. If this occurs, then Duke will not be able to obtain as much renewable energy within the limits of the ceiling as it otherwise could; consequently, it will have to generate additional energy from its non-renewable facilities, possibly resulting in increased emissions.

NCSEA witness Day testified that Duke's program is too expensive and that the costs of the program will consume an excessive portion of Duke's utility-wide ceiling. She stated that Duke should seek conventional power plant financing for the program, and that the only costs of the program that should be recovered through the REPS and REPS EMF riders (aside from research costs) are the operations, leasing and maintenance costs of the solar PV facilities, less avoided costs.

Public Staff witnesses Cox and McLawhorn testified that Duke's program is very expensive, as can be seen by comparing the bids received in response to the RFP with the estimated cost of the program. A major reason for the high cost of the program is that it is designed not only to obtain solar energy for REPS compliance, but also to gain broader benefits, such as expertise in dealing with a wide range of solar technologies, information about what Duke's customers desire with regard to solar energy, and increased familiarity with DG. In discovery, the Public Staff requested Duke to break down the capital costs of the program between actual solar generation costs and the costs associated with the program's broader goals, but Duke responded that it could not do so. Witnesses Cox and McLawhorn stated that only the actual cost of solar energy (minus avoided costs) should be recovered through the REPS and REPS EMF riders. In their judgment, while any quantification of the actual cost of solar energy would necessarily be somewhat subjective, the bid submitted by the third-place bidder, as stated on Public Staff Smith Confidential Cross-Examination Exhibit 1, is an appropriate quantification under the specific facts of this case. The remaining costs of the program, to the extent that they meet the requirements of G.S. 62-133.8(h)(1)(b), may be sought to be recovered as research costs under the statute.

On cross-examination, witness McLawhorn stated that, although the Public Staff's proposed limit on cost recovery through the REPS and REPS EMF riders was equal to the amount of the third-place bid, he and witness Cox were not contending that Duke necessarily should have agreed to purchase power from that bidder or that the costs in excess of this amount were necessarily imprudent; they were simply adopting the figure as an estimate of, or proxy for, the actual cost of solar energy.

On this very complex issue, the parties are sharply in disagreement. Duke has requested the Commission to affirm that it will be allowed to recover its costs associated

with the program through the REPS and REPS EMF riders. In considering this request, the Commission will begin its analysis by reviewing the relevant statutory provisions. Under G.S. 62-133.8(h)(4), incremental costs may be recovered through the REPS and REPS EMF riders. The term incremental costs is defined in G.S. 62-133.8(h)(1), which contains three paragraphs, (a) through (c), that identify three different categories of incremental costs. Paragraph (c) has no bearing on this case, and paragraph (b) will be addressed in a later section of this order. Of critical importance is paragraph (a), which provides that incremental costs include costs incurred to “[c]omply with the requirements of subsections (b), (c), (d), (e), and (f) of this subsection [the REPS percentage requirements] that are in excess of the electric power supplier’s avoided costs.” Equally important is the introductory clause of G.S. 62-133.8(h)(1), which makes it clear that only “reasonable and prudent costs” qualify as incremental costs. Thus, the Commission must deal with the question of whether the costs of the program are reasonable and prudent costs incurred for the purpose of complying with the REPS.

It is clear from the evidence presented in this case that at least some portion of the costs of Duke’s program will, in fact, be incurred to acquire solar energy for compliance with the REPS solar set-aside. It is also clear that at least some portion of the costs will be incurred for the purpose of achieving the program’s previously-stated broader goals. Finally, it is clear that a portion of the program costs will be incurred as a result of the federal tax normalization requirements applicable to public utilities.

Duke contends that the costs of the program should be viewed as unitary and indivisible; all of the costs should be viewed as being incurred to promote all of the program’s purposes, and all should be recoverable through the REPS rider. Duke points out that there is no clear or simple method of attributing some of the program costs to one purpose and some to another. All of the funds spent on the program will be necessary for the program’s completion; all of the energy generated by the program will be used for REPS compliance; and the program would never have been proposed if the REPS legislation had not been enacted.

The Commission is concerned, however, that allowing full recovery of the program’s costs, as proposed by Duke, may lead to results inconsistent with the public interest and that it may also be inconsistent with the General Assembly’s intent.

In the first place, if Duke is allowed to recover all the costs of the program through the REPS and REPS EMF riders, it may reach the utility-wide incremental cost ceiling prematurely, setting a precedent for other utilities in the State. Other utilities will be encouraged to undertake costly projects that are designed not only to comply with the REPS, but also to promote other goals, knowing that the entire costs of the project can be recovered through the REPS and REPS EMF riders. As Duke witness McManeus acknowledged on cross-examination, if a utility generates renewable energy at a higher cost when it could instead have purchased equivalent energy from a third party at a lower cost and it subsequently reaches the utility-wide ceiling, the result is that it will not be able to acquire as much renewable energy prior to reaching the ceiling as it could otherwise have acquired. Since the utility must meet its customer demand at all times, it must make up the shortfall in renewable generation by running its conventional plants for more hours,

very likely resulting in increased emissions. In this way, the intent of G.S. 62-133.8 – to reduce emissions and protect the environment – will be thwarted.

Moreover, if Duke is allowed to recover all its program costs through the REPS and REPS EMF riders, this will not only have an adverse environmental effect, it will also be inconsistent with the goal of minimizing utility expenses and keeping rates down. Once the precedent has been set in this case, Duke and other utilities will be encouraged to undertake costly renewable generation projects that promote a variety of purposes in preference to less expensive projects designed solely for REPS compliance or purchases of renewable energy from third parties. They will know that, as long as a project produces some renewable energy, its entire cost (aside from avoided costs) can be recovered without any need for a rate case. The Commission believes that it is in the public interest for utilities to minimize the cost of REPS compliance and that the REPS and REPS EMF riders be restricted to costs that are truly intended for REPS compliance.

The Commission has steadfastly held that “least cost” considerations require the utility to test the market and to refrain from building generation if the required energy or capacity can be purchased at a lower cost and other considerations do not justify the construction of utility-owned generation. This issue was addressed explicitly in Duke’s recent application for a CPCN to construct the Buck and Dan River natural gas-fired combined cycle facilities. Order Issuing Certificates of Public Convenience and Necessity, Docket No. E-7, Subs 791 and 832 (June 5, 2008). Analogously, the Commission’s affiliate transaction rules impose a lower of cost or market rule on purchases by the utility. The rule should be no different in the case of renewable generation. While Senate Bill 3 allows a utility to meet its REPS requirement using its own generation, it also requires the utility to “implement demand-side management and energy efficiency measures and use supply side resources to establish the least cost mix of demand reduction and generation measures that meet the electricity needs of its customers.” G.S. 62 133.9(b) (emphasis added). To allow Duke to recover any additional incremental costs through base rates would allow Duke effectively to recover more from its ratepayers for building its own solar generation that it could have paid to purchase such power and RECs in the market without adequate justification for that result.

Finally, it is the Commission’s belief that when the General Assembly enacted G.S. 62-133.8, as well as other statutes providing for rate riders, the legislative intent was that these riders should be limited strictly to the purposes for which they were originally designed and that these statutory provisions should not be stretched to encompass other purposes. The General Assembly did not intend that riders be used to collect the entire costs of projects designed only partially to implement the goals of the rider.

The Commission, therefore, concludes that it is inappropriate to treat the costs of Duke’s program as indivisible, with all costs being attributed to all the purposes of the program. Instead, it is necessary to attribute a portion of the costs to REPS compliance and a portion to other purposes (the broader program purposes outlined by Duke and compliance with tax normalization requirements). Only the costs attributed to REPS compliance may be recovered through the REPS rider pursuant to G.S. 62-133.8(h)(1)(a).

The evidence in this case shows that Duke had the opportunity to purchase solar energy from more than one bidder at a lower cost to its ratepayers. Instead, Duke is proposing to generate an equivalent amount of solar energy on its own system at a higher cost per MWh and to recover that amount, less avoided costs, through the REPS rider. Duke asserts that the broader benefits it hopes to gain from the program are sufficient to justify recovery of the program's costs through the REPS rider. However, Duke has described these benefits only in vague conceptual terms; it has not explained why it could not obtain a greater understanding of the effects of DG on its system in other ways at a much lower cost (or why the same benefits are not available through power purchases), and it has made no attempt to quantify the value of the broader benefits.

Duke asserts, through the testimony of witness McManeus, that its federal tax normalization obligations provide a valid justification for the high costs of the program. The Commission disagrees. If the federal tax code treats self-generation of solar energy by a public utility less favorably than the purchase of solar energy from a third party, then prudence points in the direction of not self-generating, but instead purchasing the needed solar energy.

Duke asserts that it needs to be in control of its sources of generation, and that, if it constructs its own solar facilities, the risk of default will be lower than if it buys power from a facility built by a third party. However, Duke has presented no evidence that the lower-cost bidders lack the engineering or management skills to operate a solar generating facility efficiently, or that their financial condition is such as to pose a risk of default.

During the hearing, Duke appeared to take the position that a solar generating facility is comparable (with respect to the risk of default) to a nuclear plant, which can be brought to a complete shutdown in the event of a mechanical malfunction that creates a potentially unsafe condition and, consequently, requires extraordinary management and engineering skills or to a fossil plant which, similarly, may have to be reduced to a low output or shut down altogether in case of a problem with the boiler or emission controls. In fact, however, a solar PV facility, even a very large one, is quite different from a fossil or nuclear plant. It consists of an array of PV panels; even if one panel malfunctions, the others can continue to operate. Certainly, an entire solar facility may be rendered inoperable by a natural disaster or other catastrophic event, but Duke presented no evidence that it could protect its solar generating facilities against such eventualities more effectively than a third party could.

The Commission is not persuaded by Duke's argument that purchases from a third party are unreliable and would place Duke at risk of non-compliance with its REPS obligation. G.S. 62-133.8(d) provides that

the Commission shall develop a procedure to determine if an electric power supplier is in compliance with the [solar set-aside] if a new solar electric facility or new metered solar thermal energy facility fails to meet the terms of its contract with the electric power supplier.

In its February 29, 2008 Order Adopting Final Rules, the Commission, in declining to include explicit language addressing this issue in its formal rules, implemented that statutory provision by stating

The procedure for determining compliance adopted in the rules is through the review of an electric power supplier's REPS compliance report. An electric power supplier may petition the Commission to modify or delay the provisions of G.S. 62-133.7(d) and Rule R8-67(c)(5).

Thus, Duke is not without recourse if it has made a substantial, good faith effort to comply with the solar set-aside and, through no fault of its own, fails to meet the REPS requirement.

Given the very large difference between the costs of Duke's program and the costs at which power can be purchased from bidders who responded to Duke's solar RFP, Duke has failed to persuade the Commission that the costs of the program are all reasonable and prudent costs of REPS compliance. As previously noted, this does not mean that these costs must be disallowed or that Duke cannot carry its burden of demonstrating their prudence in a future case. It does mean, however, that the costs in excess of the limit established herein do not qualify as incremental costs within the meaning of G.S. 62-133.8(h)(1)(a).

Thus, with respect to the specific amount of costs to be attributed to REPS compliance, the Commission agrees with the Public Staff's witnesses that the effective price per MWh submitted by the third-place bidder in response to Duke's solar RFP is an appropriate amount at which to cap the level of compliance costs that are recoverable through the REPS and REPS EMF riders. As witnesses Cox and McLawhorn acknowledged, any specific amount is necessarily somewhat subjective given the circumstances of this case; but the Commission notes that this amount is approximately the amount at which Duke could have purchased power in response to its RFP, and it represents an amount significantly less than Duke's total costs.

It is not necessary for the Commission to go further and determine what portion of the remaining cost is attributable to tax normalization and what portion is attributable to the other purposes of the program.

Accordingly, the Commission finds that no more than the amount set forth above constitutes "reasonable and prudent costs incurred by an electric power supplier to ... [c]omply with the requirements" of the REPS within the meaning of G.S. 62-133.8(h)(1)(a), and no more than this amount may be recovered through the REPS and REPS EMF riders pursuant to paragraph (h)(1)(a).

It is important to emphasize that the Commission has given no consideration to disallowing any of the costs of Duke's program for imprudence. Except in very unusual circumstances, it would be inappropriate to disallow costs in a CPCN proceeding. Public Staff witness McLawhorn made it clear on cross-examination that the Public Staff did not propose that the Commission disallow any costs in this proceeding.

As the Commission has previously emphasized, the decision on this issue does not mean that the remaining costs of the program are being disallowed. If Duke is able to demonstrate in a future case that some or all of these costs have been incurred prudently to “[f]und research that encourages the development of renewable energy, energy efficiency, or improved air quality,” then it can recover those costs through the REPS and REPS EMF riders pursuant to paragraph (h)(1)(b) of G.S. 62-133.8, subject to the \$1,000,000 per year limitation set out in that paragraph.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT 16

The evidence in support of this finding of fact is found in the testimony of Duke witnesses Smith and NCSEA witness Day.

NCSEA witness Rosalie Day testified that the term “private” investment in the preamble of Senate Bill 3 and in G.S. 62-3(a)(10) is meant to encourage non-utility investment in renewable generation and to exclude investment by investor-owned utilities.

Duke witness Smith disagreed, contrasting private investment with government funding. He explained that, because Duke is owned by its investors, its investment in the program also constitutes private investment in renewable energy within the meaning of G.S. 62-2(a)(10).

The Commission is not persuaded by the arguments put forth by NCSEA witness Day. The term “private investment” is not defined in Senate Bill 3. According to its common definition, “private” means “not established and maintained under public funds” The Random House Dictionary (1980). Furthermore, Senate Bill 3 clearly allows for REPS compliance through the generation of energy from utility-owned new renewable energy facilities. G.S. 62-133.8(b). As a result, it would be incongruous for this Commission to interpret the policy statements contained in G.S. 62-3(a)(10) to exclude utility investment in renewable energy.

The Commission’s findings with respect to the need for Duke’s proposed program, the appropriate size of the program, and the regulatory treatment of the costs of the program lead to the conclusion that the Certificate of Convenience and Necessity requested by Duke should be granted, but only on the condition that the total capacity of the program be limited to 10 MW and that the costs of the program to be recovered through the REPS and REPS EMF riders pursuant to G.S. 62-133.8(h)(1)(a) be limited as stated herein.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT 17

The evidence supporting this finding of fact appears in the testimony of Duke witnesses Smith and Hager and Wal-Mart witness Baker.

Duke witness Smith stated in his rebuttal testimony that the estimated cost of the solar generating facilities to be constructed in connection with Duke’s proposed program is \$50 million. He stated that, if Duke’s cost estimate is lower or higher than what is

actually achieved, any variance would have been reflected in the cost recovery mechanism under Duke's proposal.

Duke witness Hager testified that the program conforms to, and is an important and necessary part of, Duke's integrated resource plan for meeting customer capacity and energy needs.

Wal-Mart witness Baker testified that Duke's filing does not contain enough information to explain how Duke proposes to acquire solar panels at \$5,000 per kW and that the Commission should consider capping the costs of the program.

Although various parties disagreed with Duke's proposals for recovery of the costs of the program, no party took issue with witness Smith's testimony that the total capital costs of the program are currently estimated to be \$50 million. Neither did any party disagree with the testimony of witness Hager that the program is consistent with Duke's integrated resource plan. The Commission therefore finds the facts to be in accordance with these witnesses' testimony. Recovery of the program's costs shall be limited, not as proposed by Wal-Mart, but as set forth herein.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT 18

The evidence supporting this finding of fact appears in the testimony of Duke witness Smith and Wal-Mart witness Baker.

Wal-Mart witness Baker testified that Duke should be required to allow the host of a solar PV facility to retain a portion of RECs generated by the facility as compensation and that Duke should be required to allow the host the option to take some portion of the electricity generated by the facility.

Duke witness Smith testified that Duke's inclination is to offer cash as compensation for siting the solar PV facility on a customer's roof, but that Duke would like the flexibility to structure the lease agreement in a manner that would be prudent for fulfilling the program. He further stated that cash compensation for the use of the premises can effectively result in the same outcome for the host with much less complexity than compensation by means of retaining RECs or retaining some of the electricity produced. Duke would prefer the flexibility to finalize such decisions related to the lease agreement after its market research studies have concluded.

Based on the foregoing, the Commission concludes that it is inappropriate to require Duke to allow the host of the solar facilities to retain a portion of the RECs or to retain a portion of the energy generated, although compensation in the manner described by Wal-Mart witness Baker represents an option that is available to Duke. Duke should be allowed some flexibility in structuring the lease agreements to appropriately compensate the lessee.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT 19

The evidence in support of this finding of fact is found in the testimony of Duke witness Smith, NCSEA witness Day, Vote Solar Initiative witness Starrs, and Solar Alliance witness Hitt.

Solar Alliance witness Hitt and Vote Solar witness Starrs both advocated the establishment of a mandatory standard REC purchase offer. Witness Starrs testified that requiring Duke to provide a long-term standard offer for solar RECs at a price equal to the cost of the program to the Company will potentially lower costs to customers. Witness Hitt echoed this sentiment. NCSEA witness Day advocates that “a certain amount” of solar market share should be reserved for customer-generators, which essentially would require utilities to purchase RECs from such customers.

Duke witness Smith testified that NCSEA’s, the Solar Alliance’s, and Vote Solar’s apparent position is that Duke should be required to purchase RECs from any solar customer-generator at a price that is the higher of Duke’s cost to implement the program or the amount needed for the customer-generator to earn an internal rate of return of 9% - 12% on its investment. Witness Smith contended that witnesses Starrs’ and Hitt’s supposition that a “must take” obligation at this price would result in lower costs to customers is untenable, and the overall parameters for the REC purchase model are unacceptable. For example, witness Smith testified that if too few customers acted on the incentive provided by the REC purchase model, and Duke had relied on it for compliance, the Company would not be able to comply with the REPS requirements. Alternatively, if a large number of customers acted on this incentive and Duke had no way to limit customer participation, it could exceed its REPS cost caps. Witness Smith also testified that Duke already is developing a standard REC offer which it would make available to customer-generators on an as needed basis for RECs for general and solar set-aside compliance based upon current market prices. Although Duke has not finalized the interval for updating pricing of the offer, witness Smith testified that a reasonable approach that it is considering is one where pricing would be updated quarterly. He testified that a key purpose of the standard offer is to create a streamlined approach to interacting with owners of small generators that produce relatively small quantities of RECs.

The Commission disagrees with witnesses Day, Starrs, and Hitt, and declines to require the Company to provide a standard REC offer for the purchase of solar RECs. Such a requirement would essentially mandate that utilities purchase RECs from customer-generators. The Commission has already ruled that Senate Bill 3 does not impose a mandatory REC purchase obligation on electric power suppliers. In its February 29, 2008 Order Adopting Final Rules in Docket No. E-100, Sub 113, the Commission stated that “the electric power suppliers are not ... obligated to purchase all RECs offered for purchase. The Commission is not persuaded that it is appropriate to impose such an obligation.” The Commission is not persuaded that it is appropriate to do so now. Duke is only obligated to purchase enough solar energy to comply with the solar set-aside and is not obligated to purchase as much solar energy as customers are willing to provide.

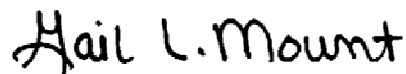
IT IS, THEREFORE, ORDERED as follows:

1. That Duke's application for a Certificate of Public Convenience and Necessity to implement its proposed solar photovoltaic distributed generation program and to construct the associated generating facilities is hereby approved, subject to the conditions set forth herein below. This order shall constitute the certificate.
2. That the generating facilities constructed pursuant to this order shall not exceed a total of 10 MW (DC) in capacity.
3. That no more than the effective price per MWh submitted by the third-place bidder in response to Duke's solar RFP, as stated in Public Staff Smith Confidential Cross-Examination Exhibit 1, less Duke's avoided costs, may be recovered through the REPS and REPS EMF riders pursuant to G.S. 62-133.8(h)(1)(a). This restriction is without prejudice to Duke's right to apply for recovery of any remaining costs of the program pursuant to G.S. 62-133.8(h)(1)(b).
4. That the facilities certificated herein shall be constructed and operated in strict accordance with all applicable laws and regulations.
5. That the issuance of this Order does not constitute approval of the final costs associated herewith for ratemaking purposes and this Order is without prejudice to the right of any party to take issue with the ratemaking treatment of the final costs in a future proceeding.
6. That Duke's proposed tariff designated as Smith Rebuttal Exhibit 1, and entitled "Solar Photovoltaic Distributed Generation Program (NC)," is approved.

ISSUED BY ORDER OF THE COMMISSION.

This the 31st day of December, 2008.

NORTH CAROLINA UTILITIES COMMISSION

A handwritten signature in black ink that reads "Gail L. Mount". The signature is written in a cursive, flowing style.

Gail L. Mount, Deputy Clerk