INFORMATION SHEET

PRESIDING: Chairman Finley, Presiding; and Commissioners Brown-Bland, Dockham, Patterson, Gray, Clodfelter, and Mitchell
PLACE: Dobbs Building, Room 2115, Raleigh, NC
DATE: Tuesday, January 29, 2019
TIME: 2:00 p.m. to 5:30 p.m.
DOCKET NO.: E-100, Sub 101; E-2, Sub 1159; E-7, Sub 1156
VOLUME NUMBER: 4
COMPANIES: Duke Energy Carolinas, LLC and Duke Energy Progress, LLC
DESCRIPTION: Petition for Approval of Generator Interconnection Standard and Joint Petition of Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC, for Approval of Competitive Procurement of Renewable Energy Program

APPEARANCES
Please see attached.

WITNESSES
Please see attached.

EXHIBITS

Please see attached.

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CONFIDENTIAL: Kells (CANNOT RECEIVE DUKE CONFIDENTIAL); Jirak, Breitschwerdt, Kemerait, Ledford, Smith, Dodge, Cummings, Harrod and Townsend
REPORTED BY: Linda S. Garrett
DATE FILED: February 13, 2019

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TOTAL PAGES: 371

PLACE: Dobbs Building, Raleigh, North Carolina

DATE: Tuesday, January 29, 2019

TIME: 2:00 p.m. TO 5:30 p.m.

DOCKET NO.: E-100, Sub 101

E-2, Sub 1159

E-7, Sub 1156

BEFORE: Chairman Edward S. Finley, Jr., Presiding

Commissioner ToNola D. Brown-Bland

Commissioner Jerry C. Dockham

Commissioner James G. Patterson

Commissioner Lyons Gray

Commissioner Daniel G. Clodfelter

Commissioner Charlotte A. Mitchell

IN THE MATTER OF:

Petition for Approval of Generator

Interconnection Standard

and

Joint Petition of Duke Energy Carolinas, LLC,

and Duke Energy Progress, LLC, for

Approval of Competitive Procurement of

Renewable Energy Program

Volume 4

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EXHIBITS

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# NORTH CAROLINA UTILITIES COMMISSION
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**PROTESTANT** ___ **RESPONDENT** ___ **DEFENDANT** ___

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# NORTH CAROLINA UTILITIES COMMISSION

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NORTH CAROLINA UTILITIES COMMISSION

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# NORTH CAROLINA UTILITIES COMMISSION
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# NORTH CAROLINA UTILITIES COMMISSION
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## NORTH CAROLINA UTILITIES COMMISSION
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**PROTESTANT** ____ **RESPONDENT** ____ **DEFENDANT** ____

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# Contents

# 1 DEC and DEP obligations

DEC and DEP (Companies) comply with their interconnection obligations under PURPA[1] and applicable state laws by adhering to the North Carolina Interconnection Procedures approved by the North Carolina Utilities Commission (effective May 15, 2015, Docket No. E-100, Sub 101, the "NCIP")) and the South Carolina Generator Interconnection Procedures approved by the South Carolina Public Service Commission (effective April 24, 2016, Case No. 2015-362-E, the "SCGIP")). Consistent with those standards and procedures, the Companies determine and apply technical interconnection guidelines through the administration of Good Utility Practice.[2]

DEC and DEP consider all necessary system upgrades to the general electrical system that are required in order to provide distributed energy resources (DER) reasonable and non-discriminatory access to the DEC and DEP distribution systems, the primary purpose of which is to serve existing and future retail customers. As firm retail electric providers, DEC and DEP seek to interconnect DER in a manner that allows each resource to operate within its contractual parameters without negatively impacting existing utility customers' quality of service or cost of service. DEC and DEP are not, however, obligated under the NCIP or SCGIP to make modifications that are, or reasonably could be determined to be, detrimental to the operation of its system or detrimental to DEC's and DEP's public service obligations as regulated public utilities or retail electric service providers.

[1] Public Utility Regulatory Policy Act of 1978.

[2] Good Utility Practice is defined in the NCIP and SCGIP as any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

# 2 Interconnection to the transmission system or distribution system

## 2.1 Interconnection method as dictated by DER capacity

### 2.1.1 Consideration of individual DER capacity

In most cases, the electrical size (in MW) of a generator interconnection is the primary consideration, all factors considered, as to whether it makes sense to interconnect to the distribution system or to the transmission system. This section's guidelines are intended to more quickly guide interconnection projects to the proper method of interconnection and system at which to interconnect, based on a consideration of the factors involved: (1) impacts to transmission & distribution system reliability/power quality, (2) operational ease and flexibility for the utility, and (3) overall cost (in general, project developers bear all or most up-front costs). Exceptions can be made, but only when a specific project's characteristics and impacts do not fit well into these guidelines, and the optimal balance of factors are the primary consideration.

Table 1 provides general guidance as to the proper method of interconnection.

TABLE 1: Interconnection method based on size of facility

| Interconnection method | Interconnection facility (MW) (lower limit) | Interconnection facility (MW) (higher limit) | Guideline for system/ interconnection point |
|---|---|---|---|
| T[3] | > 20 MW | -- | transmission system |
| S | > 10 MW (25 kV or 35 kV class)<br>> 6 MW (15 kV class)<br>> 3 MW (where local retail distribution substation is served from 44 kV sub-transmission) | ≤ 20 MW | direct connection to a retail substation[4] |
| D | -- | ≤ 10 MW (25 kV or 35 kV class)<br>≤ 6 MW (15 kV class)<br>≤ 3 MW (where local retail distribution substation is served from 44 kV sub-transmission)<br>≤ 2 MW (5 kV class)[5] | general distribution circuit |

[3] Method "T" interconnections are specifically guided by DEC's or DEP's appropriate FCR (Facility Connection Requirements) documents, which are accessible at DEC's and DEP's OASIS sites (oasis.oati.com/duk/ and oasis.oati.com/cpl/).
[4] In general, due to the existence of legacy terminology across operating areas, a "retail substation" is the term used within DEC to describe a substation which serves general retail distribution loads from circuits connected to the substation's distribution bus. In this document, the term "retail substation" will be used to describe this type of substation, which in DEP is often called a "T/D" or "T to D" substation.
[5] Interconnections at 5 kV, above 2 MW, are not permitted. Such facilities must interconnect at a higher voltage class.

### 2.1.2 Consideration of aggregate utility-scale DER capacity (per distribution circuit and per retail substation)

Aggregate capacity of distribution-connected utility-scale projects[6], per distribution circuit, shall not exceed the planning capacity of that circuit. Aggregate capacity of distribution-connected utility-scale projects, per retail substation, shall not exceed the capacity of that substation, as defined by the (1) nameplate capacity[7] of the substation transformer bank or (2) the capacity of other substation components, whichever is less.

Calculation of aggregate capacity of DER on a substation or a circuit shall not include the types of facilities shown in Table 2, nor shall interconnection of the following facilities be subject to aggregate capacity limitations on the circuit or substation.

This requirements may change in the future as DER planning guidelines further mature.

TABLE 2: DERs exempt from aggregate capacity limitations on the circuit or substation

| | Tariff | Individual DER capacity[8] | Aggregate DER capacity per circuit, segment or regulated zone |
|---|---|---|---|
| Exemption #1 | Net Metered | Up to 1 MW | The aggregate DER capacity for the first regulated zone of the circuit (substation bus regulation or circuit exit regulation) is limited to the circuit planning capacity or other lesser value as determined in the Supplemental Review or System Impact Study.<br><br>The aggregate DER capacity for further regulated zones (beyond any LVRs) is limited to that which does not cause backfeed of the line voltage regulator. [9 10 11] |
| Exemption #2 | Sell Excess | Up to 1 MW | |
| Exemption #3 | PPA with co-located load on secondary of transformer | Up to 1 MW | |
| Exemption #4 | PPA, stand-alone | Up to 250 kW[12 13] | |

[6] For the purposes of these requirements, utility-scale projects are defined as utility-scale/sell-all DER which do not meet the "exempt" definitions in Table 2.

[7] For the purposes of this document, "nameplate capacity" refers to the "OA" or "ONAN" rating, typically the MVA rating upon which the transformer percent impedance is based.

[8] If a single-phase DER facility > 20 kW causes unacceptable imbalance on any portion of the distribution circuit, the interconnection may be deemed infeasible for a single-phase interconnection and may be required to alter its design to three phase.

[9] Note that for South Carolina, there are reserved circuit capacities for individual DER ≤ 20 kW, detailed in section 2.1 of the South Carolina Interconnection Standards (effective 4/26/2016). Such DER will be also deemed exempt from all considerations, including backfeed of an existing LVR, and the cost of any associated studies or upgrades for DER included as part of these reserved circuit capacities are the responsibility of DEC and DEP.

[10] DEC and DEP will employ reasonable methods, as determined by internal engineering resources responsible for performing interconnection studies, and subject to change, to identify the high-level potential for backfeed at the time of the interconnection request under review. When such a potential is suspected, a Supplemental Review or System Impact Study shall be performed in order to determine if backfeed may occur under any circuit loading conditions.

[11] When backfeed is identified in the Supplemental Review or System Impact Study, for exempt sites as identified in this table, DEC/DEP Distribution management and DET (Distributed Energy Technologies) management shall be made aware and shall confer and decide as to the proper disposition of the project(s) in question.

[12] "PPA" facilities ≥ 250 kW are considered the low end of "utility-scale" facilities, and, for purposes of these guidelines, present the potential for significant impact on a distribution circuit.

[13] IEEE 1547-2003, section 4.1.6, requires DER ≥ 250 kVA at a single PCC (Point of Common Coupling) to have monitoring provisions for its status, real and reactive power flow and voltage. Duke Energy requires such

## 2.2 Interconnection to a general distribution circuit: method "D"

This size of interconnection as indicated in Table 1 should generally be accommodated onto the general distribution system, at the most logical interconnection point consistent with optimizing the factors of reliability, operational ease and flexibility for the utility, and overall cost, and subject to other considerations in this document related to distribution interconnections.

### 2.2.1 Considerations & alternatives

#### *2.2.1.1 System upgrades: Distribution and retail substation*

The System Impact Study (SIS) shall identify and detail the electric system impacts that would result if the proposed generating facility were interconnected without project modifications or electric system modifications. The SIS shall evaluate the impact of the proposed interconnection on the reliability of the electric system, including the distribution and transmission systems, if required. The SIS shall include identification of system upgrades required to correct any system problems identified.

When performing a SIS for a method "D" interconnection, DEC or DEP, as applicable, will consider (among other mitigation options) necessary upgrades to existing retail substation facilities, upgraded to their maximum standard design criteria.

For method "D" interconnections, any extension of distribution facilities to connect DER facilities cannot be "dedicated" by their nature and must be constructed consistent with the DEC or DEP Line Extension Plan and with other practices consistent with DEC or DEP standard distribution system design. The interconnection recloser and meter must both be located at the POI (at the point of change in ownership of facilities).

Interconnection Customers can consider constructing their own lines; such lines would be completely owned, operated and maintained by the Interconnection Customer. The POI would remain at the point of change in ownership of facilities.

#### *2.2.1.2 Alternatives when facilities cannot be further upgraded*

If local distribution facilities and/or retail substation facilities cannot be sufficiently further upgraded in order to accommodate the proposed generating facility, then the remaining alternative for the Interconnection Customer is:

1. New retail substation (along with necessary transmission facilities to serve the substation) and general distribution facilities, constructed by Duke Energy, to serve the requested point of interconnection. This can only be considered if this would be consistent with area planning needs and any other specific constraints associated with local transmission and distribution infrastructure (which cannot be pre-determined). Distribution lines can also be designed and constructed by the Interconnection Customer, at their option.

monitoring per this capacity criteria, as this size of DER facility is consistent with more noticeable impacts to distribution planning and operations in both DEC and DEP.

## 2.3 Interconnection: direct connection to a retail substation: method "S"

### 2.3.1 Limiting impacts to the transmission system

It should be noted that DEC/DEP maintains the right to limit the total number of taps on a transmission line when DEC/DEP has determined they may grow to be too great in number for that transmission line. In such a case, DEC/DEP may propose alterations to the local area transmission infrastructure in order to get back to a higher reliability arrangement, whatever that may be. The options available for facilities within this size range will be highly impacted by the specific transmission & distribution facilities in the area.

These considerations are guidelines; DEC and DEP maintain full discretion as to the ultimate method of interconnection.

### 2.3.2 Considerations & alternatives

There are three primary methods for interconnections within this category: (1) connection to an existing nearby retail substation, (2) connection to an existing nearby retail substation along with an additional transformer installation, or (3) construction of a new general retail substation:

(1) Connection to an unregulated bus at an existing nearby retail substation, utilizing a DER-dedicated distribution circuit and associated dedicated circuit breaker. This would involve substation modifications, and may not always be available if (a) there are no available breaker positions, (b) if some breaker positions are in place for area load growth, or (c) where substation rebuild options do not include the establishment of an accessible unregulated bus. The assessment of the feasibility of this overall method and its options are at the discretion of transmission planning, substation engineering, and/or distribution planning. If this method is not deemed feasible, then the remaining two options below can be considered.

(2) Connection to a new unregulated bus established with an additional substation transformer at an existing substation, utilizing a DER-dedicated distribution circuit and associated dedicated circuit breaker. (Note: such an expansion shall be built to normal general retail substation standards, only where a second transformer and distribution voltage shall match that of the local operating voltage of the surrounding circuits so that the substation transformer could remain possibly available for general distribution load currently or in the future if the DER facility were to shut down. Essentially this should be treated like a normal substation expansion with an additional transformer, assuming such expansion can be feasibly done.)

(3) Connection to a new unregulated bus established at a new retail substation, utilizing a DER-dedicated distribution circuit and associated dedicated circuit breaker. (Note: such a substation shall be built to normal general retail substation standards, and distribution voltage shall match that of the local operating voltage of the surrounding circuits so that the substation transformer could remain possibly available for general distribution load currently or in the future if the DER facility were to shut down.) In such a situation, note that transmission system reliability considerations may require alterations or reconfigurations to the local transmission system infrastructure, at the generator's cost, in order to maintain overall system reliability.

### 2.3.3 Special notes

(1) For method "S" interconnections, extension of distribution voltage class lines from the POI back to substation facilities shall be dedicated by nature, meaning that they are only in place to serve one or more DER interconnections. While Duke Energy can offer to construct such dedicated lines, the Interconnection Customer can also elect to construct a portion or all of the line required.

(2) Note that any DER-dedicated Duke-owned distribution circuit would be likely limited in capacity to no more than 600 amps, and possibly less, due to prevailing available construction methods on general distribution. This could limit 15 kV class interconnection capacity to ~13 MW or less, and could present unique challenges in connecting facilities in the approximate range of 13 MW to 20 MW when substation designs must utilize 15 kV class due to the prevailing distribution voltages in the area.

(3) DER-dedicated circuits constructed and owned by Duke Energy and installed for generation may be built to slightly different standards than conventional "greenfield new general distribution circuits," if their design allows more capacity by slight changes such as increased pole height (with associated increased phase to neutral spacing) and/or reduced span lengths. In no case should the circuit design parameters exceed the ability for Duke Energy distribution field crews to maintain the line. This means that pole height, conductor size, etc., must be maintained within expected usual maximums for distribution field crews to be able to provide effective maintenance services.

(4) At the discretion of transmission and/or distribution planning, an interconnection directly to an unregulated bus can be required to be set at (a) fixed power factor, at unity or off of unity, or (b) active voltage regulation.

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## 2.4 Interconnection to the transmission system: method "T"

Note: method "T" interconnections are specifically guided by DEC's or DEP's appropriate FCR (Facility Connection Requirements) documents, which are accessible at DEC's and DEP's OASIS sites (oasis.oati.com/duk/ and oasis.oati.com/cpl/).

# 3 Other interconnection project study and design guidelines

## 3.1 Applicability of double circuits for DER

In general, construction of full or partial "double circuits" (multiple three-phase circuits on one set of poles in a single right of way (ROW)) for line extension to a DER site is not considered Good Utility Practice, whether the consideration is the location of line voltage regulators (LVRs) or some other factor. The inherent ROW present for a second circuit in an existing single-circuit line is a key part of DEC's and DEP's area planning approach for the transmission & distribution system, as part of the Companies' continuous obligation to serve current and future retail customers. Any double-circuiting of an existing single-circuit line must be installed only as part of a comprehensive long-term plan to serve area load. Such double-circuiting cannot be installed solely as a DER interconnection solution, as doing so would impair DEC's and DEP's area planning obligations.

## 3.2 Interconnection locations beyond line voltage regulators (LVRs)

DEC and DEP have identified that interconnection of uncontrolled[14] utility-scale[15] generation resources with no dependable capacity,[16] at locations beyond LVRs and in high quantities across an entire system, is not consistent with Good Utility Practice. At high quantities across an entire system, facilities with the aforementioned attributes are more naturally adapted to the first zone of regulation outside the substation. Interconnection of such facilities beyond LVRs will likely require non-standard LVR settings, which can (1) limit the switching flexibility of the distribution system, (2) inhibit the effective management of circuits in certain operating areas if regulator control technologies for backfeed are not yet an accepted and tested practice, and/or (3) negatively impact the measured effectiveness of some volt/var control systems such as DEP's DSDR[17] system. Alternatively, interconnection of such facilities beyond LVRs will likely require operation of generating facilities in a reactive power absorption mode, which is not compatible with some volt/var optimization systems and would require further consideration for the impacts to the transmission system if done at wide scale. Therefore, DEC and DEP have established technical guidelines that restrict location of uncontrolled utility-scale generation with no dependable capacity, as referenced and defined above, to the first regulated zone of distribution circuits (substation bus regulation or circuit exit regulation).

### 3.2.1 DEC and DEP: "Planned" LVR locations previously identified

In some cases, a DEC or DEP Distribution Capacity Planning five-year load-growth study may have already been performed and completed (without having yet been field implemented) prior to the date the Interconnection Customer executes the SIS Agreement to initiate the SIS. In such cases, if such Capacity Planning study had identified changes in LVR placement on the circuit, the planned LVR placement(s) for the circuit (rather than what is currently installed) will be included as part of the SIS. Interconnection locations beyond such planned LVRs will be considered equivalent to interconnection locations beyond existing LVRs. Upon request, DEC or DEP will provide a load-growth study summary with the recommended planned LVR location to the DER interconnection customer.

If no such planning study recommendation pre-dates the initiation of the SIS, and there are no LVR placement changes identified as part of DSDR continuous system maintenance (DEP only, see below), the SIS will only consider the location of any existing LVRs as part of the project study.

[14] "Uncontrolled" means that the facility output (MW) is not capable of being dispatched in a throttled manner by the grid operator.
[15] For the purposes of this document, "utility-scale" generally refers to stand-alone generation facilities (not directly co-located with load) 250 kW or larger.
[16] "No dependable capacity" means that the facility cannot be relied upon for production of a value of capacity (MW) for a specified period or when dispatched.
[17] Distribution System Demand Response.

### 3.2.2 DEP only: continuous system maintenance of DSDR circuit voltage criteria

The DSDR system in DEP requires adherence to specific circuit voltage criteria in order to maintain system performance. The condition of the circuit and its ability to meet the needed voltage criteria is reviewed as part of the Companies' distribution planning function, whether it is for a regular capacity planning study, for addition of a large "spot load" (commercial or industrial customer), or any other reason to study a circuit.

If during the SIS (the scope of which considers voltage levels on the entire circuit) there is a need identified for LVR placement changes in order to maintain DSDR system performance, the SIS shall include such LVR placement changes and associated cost responsibility in its scope. The cost of such LVR placement changes will only be cost assigned to the interconnection customer if the interconnection creates the need for the LVR placement changes.

Any LVR placement change(s) identified for the circuit (rather than what is currently installed) will be included as part of the assumed "current condition of the circuit" when the SIS if performed. Interconnection locations beyond the LVRs identified pursuant to this subsection will be considered equivalent to interconnection locations beyond existing LVRs, and the study will treat the identified LVR as an existing LVR under these guidelines. Upon request, DEP will provide a study summary with the required LVR placement changes to the DER interconnection customer.

### 3.2.3 Smart Inverter functionality

It is important to note that at this time DEC and DEP do not assume that generating facilities are capable of modification(s) to their operating characteristics (e.g., "smart inverter functions" such as volt-watt functions, voltage regulation functions, etc.). These modified operating characteristics are under consideration for future adoption by DEC and DEP, but are still considered technologies not yet fully embraced by industry standards and not yet as widely accepted Good Utility Practice. Moreover, use of these functions involves many other considerations, such as impacts to energy production (which in turn has contractual impacts), additional protection & control requirements, utility-to-customer control interface requirements, etc.

### 3.2.4 Clarifications on "partial double circuits"

When considering the restriction of connection of certain generating facilities below LVRs, it may appear that construction of a "partial double circuit" from the generation site back up to a location ahead of the LVR would facilitate the interconnection. However, as discussed above, the inherent ROW present for a second circuit in an existing single-circuit line is a key part of DEC's and DEP's area planning approach for their transmission & distribution systems, as part of the Companies' continuous obligation to serve current and future retail customers. Any double-circuiting of such a line can only occur as part of a comprehensive plan to serve area load, and cannot be installed solely an incremental consideration for an interconnection project.

### 3.2.5 Certain DERs exempt

It is important to note that certain DER sites are exempt from restriction to the first regulated zone of distribution circuits, and are therefore allowed to locate beyond LVRs:

TABLE 3 – DERs exempt from LVR guidelines

| | Tariff | Individual DER capacity[18] | Aggregate DER capacity per circuit, segment or regulated zone |
|---|---|---|---|
| Exemption #1 | Net Metered | Up to 1 MW | The aggregate DER capacity for the first regulated zone of the circuit (substation bus regulation or circuit exit regulation) is limited to the circuit planning capacity or other lesser value as determined in the Supplemental Review or System Impact Study. |
| Exemption #2 | Sell Excess | Up to 1 MW | |
| Exemption #3 | PPA with co-located load on secondary of transformer | Up to 1 MW | |
| Exemption #4 | PPA, stand-alone | Up to 250 kW[22] [23] | The aggregate DER capacity for further regulated zones (beyond any LVRs) is limited to that which does not cause backfeed of the line voltage regulator. [19] [20] [21] |

[18] If a single-phase DER facility > 20 kW causes unacceptable imbalance on any portion of the distribution circuit, the interconnection may be deemed infeasible for a single-phase interconnection and may be required to alter its design to three phase.

[19] Note that for South Carolina, there are reserved circuit capacities for individual DER ≤ 20 kW, detailed in section 2.1 of the South Carolina Interconnection Standards (effective 4/26/2016). Such DER will be also deemed exempt from all considerations, including backfeed of an existing LVR, and the cost of any associated studies or upgrades for DER included as part of these reserved circuit capacities are the responsibility of DEC and DEP.

[20] DEC and DEP will employ reasonable methods, as determined by internal engineering resources responsible for performing interconnection studies, and subject to change, to identify the high-level potential for backfeed at the time of the interconnection request under review. When such a potential is suspected, a Supplemental Review or System Impact Study shall be performed in order to determine if backfeed may occur under any circuit loading conditions.

[21] When backfeed is identified in the Supplemental Review or System Impact Study, for exempt sites as identified in this table, DEC/DEP Distribution management and DET (Distributed Energy Technologies) management shall be made aware and shall confer and decide as to the proper disposition of the project(s) in question.

[22] "PPA" facilities ≥ 250 kW are considered the low end of "utility-scale" facilities, and, for purposes of these guidelines, present the potential for significant impact on a distribution circuit.

[23] IEEE 1547-2003, section 4.1.6, requires DER ≥ 250 kVA at a single PCC (Point of Common Coupling) to have monitoring provisions for its status, real and reactive power flow, and voltage. Duke Energy requires such monitoring per this capacity criteria, as this size of DER facility is consistent with more noticeable impacts to distribution planning and operations in both DEC and DEP.

## 3.3 Line extensions on new ROW

In situations where a line extension is necessary, such as when a DER is located beyond an existing LVR, or is simply located far from existing facilities, DEC or DEP will propose construction of a line extension to connect the site to the circuit at the most logical point on the circuit considering reliability, voltage, capacity, operational considerations, and cost, consistent with Good Utility Practice.[24] DEC or DEP will be responsible for design and construction of the non-dedicated (method "D") or DER-dedicated (method "S") line. The POI will be at the point of change in facilities ownership (at the generator site). DEC or DEP must initially attempt acquisition of ROW. In the event DEC or DEP are unable to acquire ROW during the Facilities Study design process, DEC or DEP will advise the DER owner to assume the obligation for ROW acquisition. Any such ROW shall comply with applicable DEC and DEP ROW specifications.

### 3.3.1 Distribution line construction and ownership by private entities

If the DER owner requests to build, own, and maintain the line from the circuit tap (as decided by DEC or DEP) to the DER, DEC or DEP will allow the DER owner to pursue this option. In such a situation, the POI will be at the point of change in facilities ownership, at the circuit tap. The DER owner is required to always build all medium voltage (MV) facilities (> 600 volts AC) with DEC/DEP construction and ROW specifications used as the minimum design standard, and all DER owner-constructed-and-owned MV facilities will be inspected by DEC/DEP or its authorized inspection contractor.

[24] If an LVR location is the consideration, the circuit "tap" will be ahead of the LVR location, along with all of the other considerations stated.

## 3.4 Circuit Stiffness Review (CSR) screen & evaluation

As part of the interconnection process, the SIS is designed to analyze the impact of interconnecting the proposed facility on electric system reliability and the potential for negative impacts to other customers on the system. Effective for all distribution system interconnection requests (except for those noted in the "exemptions" section), Duke Energy will identify (1) areas of high penetration/low grid stiffness[25] through a stiffness factor evaluation, in order to assure that the location of future interconnections do not detrimentally impact power quality and grid operations.

The stiffness factor takes into account the actual equivalent system impedance at the point of interconnection and the relative size of the generation source. It is intended to be an indicator of the potential impacts an individual project may have on the system voltage variability, harmonics impacts, and other related items at its point of interconnection in light of the strength or weakness of the system at that point. A small ratio indicates that the project individually represents a relatively large share of the total short circuit capability at the project site and, by inference, may have an outsized influence at that location across a number of factors. A low stiffness factor will also accentuate local impacts and can cause inverters to be sensitive to normal distribution system operations, such as capacitor bank operations.

The stiffness factor criterion also helps to evaluate the potential for unknowns that may occur in "high penetration" scenarios of utility-scale facilities on the localized distribution system. As of mid-2016, industry technical standards have not yet been developed for high penetration of large distributed generators and North Carolina is seemingly unique in the level of large utility-scale interconnections (especially at 5 MW) interconnecting to the rural distribution system. Such facilities are not necessarily designed for high penetration/low stiffness interconnections, especially when such facilities cannot yet be expected to operate in a voltage regulating mode.[26]

At this time, failure of the CSR evaluation screen is simply designed to trigger a slightly more rigorous study into two types of harmonics: steady-state harmonics and the transient impacts of transformer energization (when the DER facility connects back to the circuit after any time it has been disconnected). This is known informally as "Advanced Study" and is part of the overall SIS (System Impact Study) process.

[25] Stiffness factor, also known as "stiffness ratio," is defined in IEEE Std 1547.2™-2008, IEEE Application Guide for IEEE Std 1547, IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems: "The relative strength of the area EPS at the PCC compared with the DR, expressed in terms of the short-circuit kilovolt-amperes of the two systems. The general term "stiffness" refers to the ability of an area EPS to resist voltage deviations caused by DR or loading."

[26] Integrated volt/var control systems are not yet compatible with DER operation in a voltage regulating mode. Also, industry practices involving DER operation in a voltage regulating mode, on the distribution system, are clearly not mature at this time. The current IEEE 1547 standard generally prohibits such practice.

### 3.4.1 Exempted projects

In general, the following situations are to be exempted from the stiffness evaluation:

TABLE 4 – DERs exempt from CSR evaluation

| | Tariff | Individual DER capacity |
|---|---|---|
| Exemption #1 | Net Metered | Up to 1 MW |
| Exemption #2 | Sell Excess | Up to 1 MW |
| Exemption #3 | PPA with co-located load on secondary of transformer | Up to 1 MW |
| Exemption #4 | PPA | Up to 1 MW[27] |

### 3.4.2 Evaluation criteria & methodology

Proposed generator interconnection requests will be reviewed at the outset of the Section 4.3 SIS process to determine whether the project can (1) achieve a minimum POI "stiffness factor" of 25 (as further described below) and (2) achieve a minimum substation "stiffness factor" of 25 (as further described below), in order to pass this screen.

This stiffness evaluation will be performed at two locations – at the POI and at the substation.

#### *3.4.2.1 POI Stiffness Evaluation*

At the POI, this evaluation will be performed. A POI Stiffness Factor of exactly 25 or greater (no rounding) for the individual site will be considered as a "pass" for this screen.

$$\text{POI Stiffness Factor} = \frac{\text{Short circuit availability at POI (MVA) without any DER contribution}}{\text{specific DER facility maximum export (MW)}^{28}}$$

EXAMPLE: A 5 MW DER requests to interconnect on a 12.47 kV feeder.[29] The available fault current at the planned POI, at 12.47 kV, is 6,500 amps. The POI Stiffness Factor is:

$$SF_{POI} = \frac{\sqrt{3} \times 12.47 \times 6500 \div 1000}{5} = 28.08$$

28.08 > 25, so this would pass the "POI" portion of the CSR screen.

NOTE: POI Stiffness shall be calculated at the POI (high-voltage side of transformer) for utility-scale DER with a single transformer dedicated to the facility.

[27] The impacts of switching large blocks of transformer capacity onto the utility system are more of an issue when interconnection reclosers are present, which is generally for DERs ≥ 1 MW. Since this is the primary issue of concern studied when the CSR evaluation indicates lower stiffness, CSR does not have to be evaluated for DERs < 1 MW.

[28] The value of the DER capacity shall be the Requested Maximum Physical Export Capability at the POI.

[29] Note that the exact nominal distribution voltage should be used in the calculation of utility short-circuit MVA.

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### *3.4.2.2 Substation bus Stiffness Evaluation*

In addition, a separate evaluation will be performed at the substation bus with respect to all utility-scale DER connected to the substation, including the proposed DER. A substation bus stiffness factor of exactly 25 or greater (no rounding) will be considered as a "pass" for this screen.

$$\text{Substation Stiffness Factor} = \frac{\text{Short circuit availability at substation bus (MVA) without any DER contribution}}{\text{Total facility maximum export,connected beyond substation (MW)}^{30}}$$

EXAMPLE: A 5 MW DER wants to interconnect on a 12.47 kV feeder. There is already 2 MW of utility-scale DER off of this substation. The available fault current at the substation bus, at 12.47 kV and without contribution from DER, is 8,000 amps. The Substation Stiffness Factor is:

$$SF_{substation} = \frac{\sqrt{3} \times 12.47 \times 8000 \div 1000}{7} = 24.68$$

24.68 < 25, so this would not pass the "Substation" portion of the CSR screen.

[30] The value of the total DER capacity beyond the substation shall be the sum of the Requested Maximum Physical Export Capability for all non-exempt DER sites.

# 4 Glossary of terms

**Non-dedicated distribution line or circuit:** This is a distribution circuit which is designed to serve any common class of distribution customer: residential, commercial, industrial and DER. Such a circuit must be designed to +/- 5% voltage so as to assure that existing or future residential customers are assured of proper voltage levels.

**DER-dedicated distribution line/circuit:** In the context of this document, this refers to a distribution voltage class circuit that is built strictly for DER facilities; no other class of customer is to be located on this circuit. Such a circuit is allowed to be designed to +/- 10% voltage and can be used for DER interconnections only. Due to the unique nature of DER and the flows on this line, this line shall NOT be used for commercial or industrial customers (who normally might be tolerant of +/- 10% voltage).

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# 5 Revision history

| Revision | Date | Comments |
|---|---|---|
| 1.0 | 9/11/2017 | Initial release |
| 1.1 | 9/20/2017 | (a) Clarified that "S" interconnection is inclusive of 20 MW; "T" interconnection is for > 20 MW.<br>(b) Changed Table 4 to indicate that sites are exempt from CSR evaluation below 1 MW.<br>(c) Changed header title to read "DEC & DEP: Distributed Energy Resource (DER) Planning & Interconnection guidelines for DER no larger than 20 MW." |
| 1.2 | 10/13/2017 | Changed document title to "DEC & DEP: October 2017 Distributed Energy Resource (DER) Method Of Service guidelines for DER no larger than 20 MW." Also, "MVA" changed to "MW" in Table 1, as this is mostly a distribution system document, and this MW value is the value that corresponds to the Maximum Physical Export Capability Requested in the Interconnection Request. |
| 1.21 | 11/01/2017 | Clerical and grammatical errors addressed. |

Duke Energy Carolinas, LLC
Duke Energy Progress, LLC



I/A



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Generate Your Own Renewable Energy

IN THIS SECTION

# Carolinas TSRG Updates

Welcome to the central resource page for the Duke Energy Distributed Energy Resource (DER) Interconnection Technical Standards Review Group (TSRG). This TSRG was initiated by Duke Energy to bring together Duke Energy engineers with technical personnel of DER developers and installers actively involved in interconnection projects in Duke Energy Carolinas and Duke Energy Progress, in both North Carolina and South Carolina.

TSRG Documents

- Duke Energy Carolinas / Duke Energy Progress Interconnection TSRG – Structure and inaugural meeting agenda

Duke Energy Technical Standards

- Method of Service Guidelines
- Service Requirements Manual (sometimes called the "White Book"; contains Distribution System interconnection requirements)
- Transmission System, Generator Interconnection Requirements

Interconnection Commissioning Technical Training

- Training Presentation, 7-17-2018
- Distribution Standards Reference Guide, Version 4

End-of-Year Commissioning Guidelines, 2018

- Conditional Commissioning Process, Version 1
- Duke Energy PV Interconnection Commissioning, Version 5
- Commissioning Guidelines, Revision 1

# Meetings

## Meeting 3 (October 22, 2018)

*Duke Energy Regional Headquarters Building, Raleigh, North Carolina*

- Minutes and attendance
- Agenda
- Presentation – Limits to Voltage Disturbances Due to Inrush
- Presentation – Mitigation Options Overview
- Presentation – Determining Risk of Unintentional Islanding
- Reference – Volt/VAR Management and the Impact of DER

## Meeting 2 (July 19, 2018)

*Duke Energy Regional Headquarters Building, Raleigh, North Carolina*

- Minutes and attendance
- Agenda
- Presentation – Salesforce/PowerClerk Update
- Presentation – Inverter-Based Resource Disturbance Analysis
- Presentation – Modeling Solar Generation in Transmission Studies

## Meeting 1 (April 11, 2018)

*Duke Energy Regional Headquarters Building, Raleigh, North Carolina*

- Minutes and attendance
- Agenda
- Presentation – Transformer energization impact studies
- Presentation – DER interface device development
- Presentation – commissioning process
- Distribution-connected DER: clarifications on engineering standards and study criteria, DEC & DEP

I/A



Duke Energy
Docket No. E-100, Sub 101
NC Interconnection Standard
Duke Data Request No. 2
Item No. 2-18
Page 1 of 1

## NORTH CAROLINA SUSTAINABLE ENERGY ASSOCIATION

**Request**:

Referring to your statement on Page 6, Lines 15-17, please identify any examples of which you are aware where DEC or DEP has relied upon the CSR system impact evaluation as "denying interconnection outright" without proposing any mitigation options to cure identified interconnection issues.

**Response**:

Objection. This request seeks confidential and proprietary business information which is irrelevant to the underlying proceeding. Further clarifying, this Request seeks information from "you" and "your" which Duke has defined as including both NCSEA and its witness, Paul Brucke. To the extent that NCSEA is answering with regard to Witness Brucke's testimony or background, the "you" or "your" referenced are specific to Witness Brucke.

Subject to said objections, and without waiving same, NCSEA and Witness Brucke state as follows:

Witness Brucke has not seen examples where Duke did not propose mitigation options but has seen many instances where the mitigation options are financially impractical. For example, if a project is not allowed to interconnect to a distribution feeder as requested, Duke may propose that a new substation be built, and the project connect to the transmission system, which generally would not be financially feasible for a typical 5 MW project. In these instances, Duke denies the requested interconnection and is proposing an interconnection that the interconnection customer did not request or consider as an option.

I/A



# Distribution Queue Report – Status Definitions

## *Interdependency Status Definitions*

| | |
|---|---|
| Approved | Final Interconnection Agreement fully executed, payments submitted, and easements obtained. |
| On Hold | Project is interdependent with two or more projects in the Queue. |
| Pending | Application has been received and application processing has been initiated. |
| Substation A | Interdependency status; identified by Engineering during study process, also called Project A. |
| Substation B | Interdependency status; identified by Engineering during study process, also called Project B. |
| Project Not Active | Project is withdrawn by customer or project is cancelled by Duke Energy. |

## *Operational Status Definitions*

| Operational Status | Definition |
|---|---|
| Cancelled/Terminated | Project is cancelled by Duke Energy. |
| Closed | Project is closed and no longer active. |
| Pending | Small customer project is pending and has not been submitted (i.e. draft status in Customer Portal). |
| Superseded | Connected project which has been replaced by a new project. |
| Withdrawn | Project withdrawn by Customer. |
| IR Review – Pending | Interconnection Request (IR) has been received and assigned to a Smart Energy Specialist. |
| IR Review – In Progress | IR currently under review. |
| IR Review – Pending Customer Response | Incomplete IR application received; additional information requested from customer. |
| IR Review – Complete | IR Review complete and project ready for study. |
| Fast Track Study – Pending | Project moved to Fast Track Study queue; awaiting review. |
| Fast Track Study – In Progress | Fast Track review by study team in progress. |
| Fast Track Study – On Hold for Interdependency | Project will remain On Hold in Fast Track study queue until it becomes a Project A or Project B. |
| Fast Track Study – Pending Customer Response | Awaiting customer response for Fast Track study to continue. |
| Fast Track Study – Study Complete | Fast Track study complete. Ready for next step: Supplemental Review/System Impact Study/IA. |
| Supplemental Study – Pending | Project failed Fast Track Review and was moved to the Supplemental Review queue; awaiting review. |
| Supplemental Study – In Progress | Supplemental Review by study team in Progress. |
| Supplemental Study – On Hold for Interdependency | Project will remain On Hold in Supplemental Review study queue until it becomes a Project A or Project B. |

| | |
|---|---|
| Supplemental Study – Pending Customer Response | Awaiting Customer Response for Supplemental Review study to continue. |
| Supplemental Study – Study Complete | Supplemental Review study complete. Ready for next step: System Impact Study/Facility Study/IA. |
| System Impact Study – Pending | Project moved to the System Impact Study queue; awaiting review. |
| System Impact Study – In Progress | System Impact Study by study team in Progress. |
| System Impact Study – On Hold for Interdependency | Project will remain On Hold in System Impact Study queue until it becomes a Project A or Project B. |
| System Impact Study – Pending Customer Response | Awaiting customer response for System Impact Study to continue. |
| System Impact Study – Study Complete | System Impact Study Complete. Ready for next step: Facility Study/IA. |
| Facility Study – Pending | Project moved to Facility Study queue; awaiting review. |
| Facility Study – In Progress | Facility Study by engineering team in Progress. |
| Facility Study – On Hold for Interdependency | Project will remain On Hold in Facility Study queue until it becomes a Project A. |
| Facility Study – Pending Customer Response | Awaiting customer response for Facility Study to continue. |
| Facility Study – Study Complete | Facility Study complete. Ready for IA. |
| Construction – Pending IA/Customer Payment | Pending executed IA and/or customer payment to proceed to construction. |
| Construction – Pending Customer Obligation | Pending customer obligation to proceed to construction. |
| Construction – Under Construction / In Progress | Project has been assigned to construction. |
| Construction – Pending Meter Installation | Pending meter installation. |
| Commercial Operation – Pending | Duke construction is complete; Customer construction in not complete; not generating power. |
| Commercial Operation – Complete Pending Power Generation | Final preparation for commercial operation. |
| Commercial Operation – Power Generation In Progress | Facility has permission to operate. |

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## *Engineering Administrative Designation Definitions*

| | |
|---|---|
| Customer Call | Customer has requested a call to discuss questions related to their System Impact Study. |
| Customer Documentation Corrections | Duke Energy is waiting on customer to correct errors or information on the project's Interconnection Request, One Line Diagram, site map and/or specification sheets. |
| Customer LVR Options Selection | Duke Energy is waiting on the customer to select an LVR Preliminary Option. |
| Customer Mitigation Options Selection | Duke Energy is waiting on the customer to pick a Mitigation Option to move forward with the project. Duke Energy will not study all options in parallel and therefore must have a decision to progress the study. |
| Customer Response to Duke Energy General Inquiries | Duke Energy has submitted a question or cure letter to the customer and is awaiting a response. |
| Customer ROW | Duke Energy is waiting for a customer proposed path to get the project's Point of Interconnection to the substation after electing to pursue a Method S interconnection or upstream of an LVR for a Method D interconnection. |
| Customer Transformer Inrush Data Collection | Duke Energy is waiting for customer to return data requested detailing information necessary to complete the inrush study. |
| Customer Transformer Inrush Decision | Duke Energy waiting on customer to make a decision about final project design. |
| Duke Response to Customer Inquiry | Duke Energy is working on responding to a customer inquiry that cannot be immediately answered by the study team or requires review from other groups within Duke Energy. |
| Duke ROW | The project failed LVR review and the customer has requested Duke Energy to pursue ROW. |
| Fast Track Study | EAD does not apply projects in the Fast Track study process. |
| LVR Evaluation and Preliminary Options | Study team is determining whether or not the project is located downstream of an LVR. Customer will be notified via email if the project passes this screen, or will be given Preliminary Options on how to proceed due to failing the LVR screen. |
| Not Applicable | EAD only applies to projects that are in active System Impact Study. |
| Notice of Dispute/Complaint | Customer has filed a formal complaint/Notice of Dispute which is impacting the study process. |
| Policy | The project is on hold pending clarification of current policy or resolving technical issues related to policy. This usually requires input from various groups within Duke Energy to ensure the study team is proceeding in accordance with Good Utility Practice. |
| Protection Study | Study team is determining settings for protective devices and upgrades necessary to comply with protection policies. |
| Supplemental Study | EAD does not apply projects in the Supplemental Review study process. |
| Technical Review | Study team is reviewing all project documentation and preparing for project release. |
| Transformer Inrush/Advanced Study | Study team is determining the effect of transformer energization on the circuit. |
| Voltage Flicker Mitigation Options | Study team is determining the maximum size the project can interconnect based on Method of Service Guidelines and ensuring compliance with voltage and flicker standards. |

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## Duke Energy Carolinas NC Interconnection Queue Snapshot for December 2018 as of 12/27/2018

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| 2018-12-05 11:36:00 | 12/5/2018 | Substation A | Fast Track Study - In Progress | Fast Track Study | 59.4 | Solar | 03211207 | Mar-Don Dr Ret 1207 |
| 2018-11-29 12:07:00 | 11/29/2018 | Substation A | Fast Track Study - Study Complete | Fast Track Study | 43.7 | Solar | 01121201 | Monroe Rd Ret |
| 2018-11-27 11:28:00 | 11/27/2018 | Substation A | Fast Track Study - In Progress | Fast Track Study | 150.0 | Solar | 01412406 | Stouts Ret 2406 |
| 2018-11-20 14:28:00 | 11/20/2018 | Substation A | Construction - Pending IA/Customer Payment | - | 52.2 | Solar | 14011207 | Durham MN 1207 |
| INT-2018-04930 | 11/16/2018 | - | Construction - In Progress | - | 22.3 | Solar | 65151204 | Balsam Ret 1204 |
| 2018-11-12 20:35:00 | 11/12/2018 | Substation A | Supplemental Study - Pending Customer Response | Supplemental Study | 92.0 | Solar | 80751205 | Brawley School Ret 1205 |
| 2018-11-01 10:21:00 | 11/2/2018 | Substation A | Supplemental Study - In Progress | Supplemental Study | 230.0 | Solar | 22191201 | Easy St Ret 1201 |
| NC2018-03199 | 10/29/2018 | Substation A | Construction - Pending IA/Customer Payment | - | 42.5 | Solar | 14152404 | Brassfield Ret 2404 |
| NC2018-03200 | 10/29/2018 | Substation A | System Impact Study - Pending | - | 10,000.0 | Solar | 01552401 | Wallace Rd Ret 2401 |
| NC2018-03198 | 10/26/2018 | Substation A | Construction - Under Construction / In Progress | - | 43.2 | Solar | 14052405 | Research Triangle Ret 2405 |
| NC2018-03196 | 10/25/2018 | Project Not Active | Withdrawn | - | 72.0 | Solar | 01241210 | Woodlawn Tie 1210 |
| NC2018-03197 | 10/25/2018 | Substation A | Construction - Pending IA/Customer Payment | - | 70.0 | Solar | 28031201 | Flat Shoal Ret 1201 |
| NC2018-03192 | 10/24/2018 | Substation A | Construction - Pending IA/Customer Payment | - | 36.0 | Solar | 01151210 | Briar Creek Ret 1210 |
| NC2018-03193 | 10/24/2018 | Project Not Active | Withdrawn | - | 36.0 | Solar | 01151210 | Briar Creek Ret 1210 |
| NC2018-03194 | 10/24/2018 | Substation A | Fast Track Study - Study Complete | Fast Track Study | 34.2 | Solar | 03441211 | Winston Tie 1211 |
| NC2018-03195 | 10/24/2018 | Project Not Active | Withdrawn | - | 28.0 | Solar | 01241210 | Woodlawn Tie 1210 |
| INT-2018-04502 | 10/19/2018 | - | Commercial Operation - Power Generation in Progress | - | 21.2 | Solar | 03141214 | Hawthorne Rd Ret 1214 |
| NC2018-03188 | 10/12/2018 | Substation A | Construction - Pending IA/Customer Payment | Not Applicable | 70.0 | Solar | 28031201 | Flat Shoal Ret 1201 |
| NC2018-03189 | 10/12/2018 | Substation A | Construction - Pending IA/Customer Payment | Not Applicable | 70.0 | Solar | 28031201 | Flat Shoal Ret 1201 |
| NC2018-03187 | 10/11/2018 | Substation A | Construction - Pending IA/Customer Payment | Not Applicable | 70.0 | Solar | 28031201 | Flat Shoal Ret 1201 |
| CPRE | 10/9/2018 | - | CPRE Tranche I Position | - | - | - | - | - |
| NC2018-03179 | 9/12/2018 | Substation A | Construction - Under Construction / In Progress | - | 200.0 | Solar | 22311201 | Manchester Ret 1201 |
| NC2018-03173 | 9/6/2018 | Substation A | Construction - Under Construction / In Progress | - | 88.0 | Solar | 65031201 | Spartan Heights Ret 1201 |
| NC2018-03170 | 8/29/2018 | Substation A | Supplemental Study - Pending Customer Response | Not Applicable | 30.0 | Solar | 01172403 | Royal Ret 2403 |
| NC2018-03168 | 8/27/2018 | Substation A | Construction - Pending IA/Customer Payment | - | 23.4 | Solar | 11042412 | Glen Raven MN 2412 |
| NC2018-03169 | 8/27/2018 | Substation B | System Impact Study - Pending | - | 7,000.0 | Solar | 10221211 | Denton Ret 1211 |
| NC2018-03166 | 8/9/2018 | Project Not Active | Withdrawn | - | 72.0 | Solar | 14011207 | Durham MN 1207 |
| NC2018-03165 | 8/2/2018 | Project Not Active | Withdrawn | - | 33.3 | Solar | 14052405 | Research Triangle Ret 2405 |
| INT-2018-03390 | 8/1/2018 | - | Commercial Operation - Power Generation in Progress | - | 20.2 | Solar | 14062403 | Pope Rd Ret 2403 |
| NC2018-03164 | 7/26/2018 | Substation A | Construction - Pending IA/Customer Payment | - | 30.0 | Solar | 21011204 | Salisbury Mn 1204 |
| NC2018-03163 | 7/11/2018 | Substation A | Commercial Operation - Power Generation in progress | - | 28.8 | Solar | 22311202 | Manchester Ret 1202 |
| NC2018-03161 | 7/9/2018 | Project Not Active | Withdrawn | - | 80.0 | Solar | 80751205 | Brawley School Ret 1205 |
| NC2018-03162 | 7/9/2018 | Substation B | Commercial Operation - Power Generation in progress | - | 72.0 | Solar | 03031206 | Brookwood Ret 1206 |
| NC2018-03160 | 7/6/2018 | Substation A | Commercial Operation - Power Generation in progress | - | 28.8 | Solar | 03031206 | Brookwood Ret 1206 |
| NC2018-03158 | 6/28/2018 | Substation A | Commercial Operation - Power Generation in progress | - | 43.2 | Solar | 14061209 | Hope Valley Ret 1209 |
| NC2018-03157 | 6/26/2018 | Substation A | Construction - Pending IA/Customer Payment | - | 224.0 | Solar | 21021206 | Statesville Rd Ret 1206 |
| NC2018-03150 | 6/1/2018 | Substation A | Supplemental Study - In Progress | Supplemental Study | 120.0 | Solar | 01492406 | Coffey Creek Ret 2406 |
| INT-2018-01961 | 5/25/2018 | - | Construction - In Progress | - | 22.4 | Solar | 01172403 | Royal Ret 2403 |
| NC2018-03139 | 4/26/2018 | Substation B | Construction - Under Construction / In Progress | - | 500.0 | Solar | 11202407 | Whitsett Ret 2407 |
| NC2018-03140 | 4/26/2018 | Substation A | Fast Track Study - In Progress | Fast Track Study | 1,000.0 | Solar | 11202407 | Whitsett Ret 2407 |
| NC2018-03141 | 4/26/2018 | Substation B | Fast Track Study - In Progress | Fast Track Study | 760.0 | Solar | 14242406 | Genelee Ret 2406 |
| NC2018-03136 | 4/25/2018 | Substation A | Construction - Under Construction / In Progress | - | 150.0 | Solar | 14242406 | Genelee Ret 2406 |
| NC2018-03137 | 4/25/2018 | Substation B | Construction - Under Construction / In Progress | - | 160.0 | Solar | 14242406 | Genelee |
| NC2018-03138 | 4/25/2018 | Substation A | Fast Track Study - In Progress | Fast Track Study | 310.0 | Solar | 14242406 | Genelee Ret 2406 |
| NC2018-03133 | 4/19/2018 | Substation A | Commercial Operation - Power Generation in progress | - | 66.6 | Solar | 13241209 | Third Ave Ret 1209 |
| NC2018-03130 | 4/11/2018 | Substation A | Commercial Operation - Power Generation in progress | - | 100.0 | Solar | 10151210 | E Thomasville Ret 1210 |
| NC2018-03129 | 3/29/2018 | Substation A | Fast Track Study - In Progress | Not Applicable | 72.0 | Solar | 01612406 | Pioneer Ave Ret 2406 |
| NC2018-03128 | 3/28/2018 | Project Not Active | Cancelled | - | 1,000.0 | Solar | 11202409 | Whitsett Ret 2409 |
| NC2018-03125 | 3/27/2018 | Substation A | System Impact Study - Pending | - | 1,000.0 | Solar | 29021201 | Boonville Ret 1201 |
| NC2018-03123 | 3/26/2018 | Substation B | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 1,000.0 | Solar | 79241202 | Hartford Ave Ret 1202 |
| NC2018-03124 | 3/26/2018 | Substation A | Facility Study - Pending Customer Response | Not Applicable | 1,000.0 | Solar | 21401201 | Rockwell Ret 1201 |
| NC2018-03118 | 3/13/2018 | Substation A | Construction - Pending IA/Customer Payment | - | 120.0 | Solar | 22281201 | Speedway Ret 1201 |
| NC2018-03119 | 3/13/2018 | Substation A | Construction - Pending IA/Customer Payment | - | 120.0 | Solar | 22281201 | Speedway Ret 1201 |
| NC2018-03117 | 3/9/2018 | Substation A | Commercial Operation - Power Generation in progress | - | 100.0 | Solar | 79031212 | Lincolnton Tie 1212 |
| NC2018-03116 | 3/8/2018 | Substation A | Commercial Operation - Power Generation in progress | - | 43.2 | Solar | 44010402 | N Wilkesboro Ret 0402 |
| NC2018-03113 | 3/1/2018 | Substation A | Construction - Under Construction / In Progress | - | 114.0 | Solar | 44071202 | Cairo Ret 1202 |
| NC2018-03110 | 2/19/2018 | Substation A | Commercial Operation - Power Generation in progress | - | 28.8 | Solar | 01281208 | Kenilworth Ret 1208 |
| INT-2018-00030 | 2/2/2018 | - | Construction - In Progress | - | 23.6 | Solar | 67311202 | E Bryson Ret 1202 |
| NC2018-03105 | 1/30/2018 | Substation A | Commercial Operation - Power Generation in progress | Not Applicable | 28.8 | Solar | 03051210 | Buxton St Ret 1210 |
| NC2018-03102 | 1/19/2018 | Substation A | Commercial Operation - Power Generation in progress | - | 28.8 | Solar | 67381203 | Shortoff Ret 1203 |
| NC2018-03100 | 1/18/2018 | Substation A | Commercial Operation - Power Generation in progress | - | 33.3 | Solar | 01212406 | Morning Star Tie 2406 |
| NC2018-03101 | 1/18/2018 | Substation A | Commercial Operation - Power Generation in progress | - | 40.0 | Solar | 01522413 | Reames Rd Ret 2413 |
| NC2018-03098 | 1/9/2018 | Approved | Commercial Operation - Power Generation in progress | - | 24.0 | Solar | 14062410 | Pope Rd Ret 2410 |
| NC2017-03091 | 12/1/2017 | Substation A | Commercial Operation - Power Generation in progress | - | 100.8 | Solar | 03051214 | Buxton St Ret 1214 |
| NC2017-03092 | 12/1/2017 | Substation B | Commercial Operation - Power Generation in progress | - | 43.2 | Solar | 03051214 | Buxton St Ret 1214 |
| NC2017-03090 | 11/30/2017 | Substation A | Commercial Operation - Power Generation in progress | - | 43.2 | Solar | 01271209 | Mallard Creek Ret 1209 |
| NC2017-03089 | 11/25/2017 | Substation A | Commercial Operation - Power Generation in progress | - | 23.4 | Solar | 11161203 | Pleasant Grove Ret 1203 |
| NC2017-03087 | 11/14/2017 | Project Not Active | Withdrawn | Not Applicable | 8,200.0 | Biomass | 72582407 | Ashcraft Ave Ret 2407 |
| NC2017-03086 | 11/13/2017 | Project Not Active | Cancelled | - | 1,000.0 | Solar | 44091201 | Roaring River Ret 1201 |
| NC2017-03082 | 11/9/2017 | Project Not Active | Cancelled | - | 1,000.0 | Solar | 44091201 | Roaring River Ret 1201 |
| NC2017-03079 | 11/7/2017 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 21011207 | Salisbury Mn 1207 |
| NC2017-03080 | 11/7/2017 | Approved | Construction - Under Construction / In Progress | - | 45.0 | Solar | 09502411 | Colfax Ret 2411 |
| INT-2017-03728 | 11/1/2017 | - | Commercial Operation - Power Generation in Progress | - | 20.1 | Solar | 09102410 | Summerfield Ret 2410 |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| NC2017-03075 | 10/24/2017 | Approved | Commercial Operation - Power Generation in progress | - | 120.0 | Solar | 13371205 | Sweetwater Ret 1205 |
| NC2017-03074 | 10/14/2017 | Project Not Active | Withdrawn | - | 4,000.0 | Solar | 13291203 | Island Ford Rd Ret 1203 |
| NC2017-03073 | 10/13/2017 | Substation A | Supplemental Study - In Progress | Supplemental Study | 300.0 | Solar | 14152406 | Brassfield Ret 2406 |
| NC2017-03071 | 10/11/2017 | Substation A | System Impact Study - In Progress | Protection Study | 999.0 | Solar | 12181207 | Crump Rd Ret 1207 |
| NC2017-03070 | 10/9/2017 | Substation A | Construction - Under Construction / In Progress | - | 500.0 | Solar | 19061204 | Homestead Ret 1204 |
| NC2017-03067 | 10/3/2017 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 16271201 | Flay Ret 1201 |
| NC2017-03066 | 10/2/2017 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | 13131210 | Propst Ret 1210 |
| NC2017-03065 | 9/30/2017 | Substation A | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 2,000.0 | Solar | 27091205 | Meadow Green Ret 1205 |
| NC2017-03064 | 9/29/2017 | Approved | Commercial Operation - Power Generation in progress | - | 30.0 | Solar | 01482407 | Steele Creek Ret 2407 |
| NC2017-03032 | 9/17/2017 | Substation A | Supplemental Study - Pending | Supplemental Study | 999.0 | Solar | 10172407 | Mills Ret 2407 |
| NC2017-03046 | 9/12/2017 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | 15211201 | McGinnis Crossroads Ret 1201 |
| NC2017-03047 | 9/12/2017 | Approved | Commercial Operation - Power Generation in progress | - | 33.3 | Solar | 01222411 | Piper Glen Ret 2411 |
| NC2017-03041 | 9/2/2017 | Project Not Active | Withdrawn | - | 999.0 | Solar | 21431204 | Faith Ret 1204 |
| NC2017-03042 | 9/2/2017 | Substation B | Facility Study - In Progress | - | 999.0 | Solar | 21431203 | Faith Ret 1203 |
| NC2017-03035 | 8/26/2017 | Substation A | Facility Study - In Progress | - | 999.0 | Solar | 79241202 | Hartford Ave Ret 1202 |
| NC2017-03036 | 8/26/2017 | Substation A | Facility Study - In Progress | - | 1,106.5 | Solar | 21121211 | Majolica Rd |
| NC2017-03033 | 8/19/2017 | Substation A | System Impact Study - Pending | - | 999.0 | Solar | 13061202 | Hiddenite Ret |
| NC2017-03034 | 8/19/2017 | Substation A | Facility Study - In Progress | - | 999.0 | Solar | 13191201 | Rhodhiss Ret 1201 |
| NC2017-03027 | 8/10/2017 | Approved | Commercial Operation - Power Generation in progress | - | 72.0 | Solar | 01140405 | N Charlotte Ret 0405 |
| NC2017-03028 | 8/10/2017 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | 80081205 | Cleveland Ret 1205 |
| NC2017-03023 | 7/28/2017 | Substation A | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 10,000.0 | Solar | 10161207 | Holly Hill Ret 1207 |
| NC2017-03024 | 7/28/2017 | Substation B | System Impact Study - Pending | - | 10,000.0 | Solar | 10161206 | Holly Hill Ret 1206 |
| NC2017-03025 | 7/26/2017 | Substation B | System Impact Study - Pending | - | 10,000.0 | Solar | 10161206 | Holly Hill Ret 1206 |
| INT-2017-02352 | 7/12/2017 | - | Commercial Operation - Power Generation In Progress | - | 21.7 | Solar | 01311211 | Commonwealth Ret 1211 |
| NC2017-03020-1 | 7/8/2017 | Approved | Commercial Operation - Power Generation in progress | - | 40.3 | Solar | 14281203 | Stallings Rd Ret 1203 |
| NC2017-03018 | 6/29/2017 | Project Not Active | Withdrawn | - | 2,760.0 | Solar | 14162411 | Imperial Ret 2411 |
| NC2017-03019 | 6/29/2017 | Approved | Commercial Operation - Power Generation in progress | - | 28.8 | Solar | 14132409 | Dectan Ave Ret 2409 |
| NC2017-03015 | 6/26/2017 | Substation A | Supplemental Study - In Progress | Supplemental Study | 900.0 | Solar | 79291208 | Rankin Ave Ret 1208 |
| NC2017-03008 | 5/25/2017 | Project Not Active | Withdrawn | - | 1,999.0 | Solar | 13031203 | Catawba Ret 1203 |
| NC2017-03005 | 5/24/2017 | Project Not Active | Withdrawn | - | 1,999.0 | Solar | 13031203 | Catawba Ret 1203 |
| NC2017-02999 | 5/18/2017 | Approved | Commercial Operation - Power Generation in progress | - | 184.0 | Solar | 09082405 | Kildare Ret 2405 |
| NC2017-03000 | 5/18/2017 | Approved | Commercial Operation - Power Generation in progress | - | 432.0 | Solar | 09082405 | Kildare Ret 2405 |
| NC2017-03001 | 5/18/2017 | Substation A | Commercial Operation - Power Generation in progress | - | 368.0 | Solar | 09082405 | Kildare Ret 2405 |
| NC2017-02995 | 5/3/2017 | Approved | Commercial Operation - Power Generation in progress | - | 51.3 | Solar | 19021202 | Eastgate Ret 1202 |
| NC2017-02994 | 5/2/2017 | Approved | Commercial Operation - Power Generation in progress | - | 33.1 | Solar | 65011205 | Asheville Hwy Ret 1205 |
| NC2017-02989 | 4/25/2017 | Substation A | Construction - Pending IA/Customer Payment | - | 750.0 | Solar | 14042410 | Butner Ret 2410 |
| NC2017-02990 | 4/25/2017 | Substation B | Construction - Pending IA/Customer Payment | - | 980.0 | Solar | 14042410 | Butner Ret 2410 |
| NC2017-02991 | 4/25/2017 | Substation A | Construction - Pending IA/Customer Payment | - | 750.0 | Solar | 14042410 | Butner Ret 2410 |
| NC2017-02986 | 3/29/2017 | Approved | Commercial Operation - Power Generation in progress | - | 90.0 | Solar | 79031208 | Lincolnton Tie 1208 |
| NC2017-02978 | 1/5/2017 | Project Not Active | Withdrawn | - | 1,999.0 | Solar | 09051203 | Vandalia Ret 1203 |
| NC2016-02977 | 12/29/2016 | Project Not Active | Withdrawn | - | 3,960.0 | Solar | 29071204 | Elk Valley Ret 1204 |
| NC2016-02974 | 12/27/2016 | Project Not Active | Withdrawn | - | 990.0 | Solar | 90301202 | Old Fort Ret 1202 |
| NC2016-02975 | 12/27/2016 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 10192408 | Ragsdale Ret 2408 |
| NC2016-02973 | 12/21/2016 | Project Not Active | Withdrawn | - | 1,980.0 | Solar | 90301202 | Old Fort Ret 1202 |
| NC2016-02970 | 12/13/2016 | Project Not Active | Withdrawn | - | 22.8 | Solar | 01311210 | Commonwealth Ret 1210 |
| NC2016-02969 | 12/12/2016 | Project Not Active | Withdrawn | - | 990.0 | Solar | 90391204 | Carson Ret 1204 |
| NC2016-02968 | 12/6/2016 | Approved | Commercial Operation - Power Generation in progress | - | 22.8 | Solar | 01311210 | Commonwealth Ret 1210 |
| NC2016-02967 | 12/1/2016 | Project Not Active | Withdrawn | - | 1,999.0 | Solar | 27091205 | Meadow Green Ret 1205 |
| NC2016-02963 | 11/30/2016 | Project Not Active | Withdrawn | - | 1,999.0 | Solar | 11031201 | Gibsonville Dist 1201 |
| NC2016-02964 | 11/30/2016 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 29051201 | Fall Creek Ret 1201 |
| NC2016-02959 | 11/21/2016 | Project Not Active | Withdrawn | - | 1,999.0 | Solar | 51061204 | Madison Ret 1204 |
| NC2016-02957 | 11/16/2016 | Substation A | Construction - Pending IA/Customer Payment | - | 1,999.0 | Solar | 11222405 | Gilbreath Ret 2405 |
| NC2016-02953 | 11/15/2016 | Project Not Active | Withdrawn | - | 1,980.0 | Solar | 90391204 | Carson Ret 1204 |
| NC2016-02951 | 11/14/2016 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | 11071202 | Haw River Ret 1202 |
| NC2016-02952 | 11/14/2016 | Project Not Active | Cancelled | - | 1,999.0 | Solar | 11151202 | Saxapahaw Ret 1202 |
| NC2016-02947 | 11/8/2016 | Substation A | Construction - In Progress | - | 286.4 | Solar | 21011206 | Salisbury Main 1206 |
| NC2016-02948 | 11/8/2016 | Substation A | Facility Study - In Progress | - | 2,996.0 | Solar | 21330408 | Badin Ret |
| NC2016-02944 | 11/7/2016 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | 16881201 | Christopher Rd Ret 1201 |
| NC2016-02945 | 11/7/2016 | Substation B | System Impact Study - Pending Customer Response | Customer ROW Data Collection | 4,000.0 | Solar | 11191202 | Swepsonville Tie 1202 |
| NC2016-02943 | 11/2/2016 | Project Not Active | Withdrawn | - | 3,000.0 | Solar | 21812412 | West Norwood Ret 2412 |
| NC2016-02942 | 11/1/2016 | Project Not Active | Withdrawn | - | 4,000.0 | Solar | 13061203 | Hiddenite Ret 1203 |
| NC2016-02937 | 10/31/2016 | Approved | Construction - Under Construction / In Progress | - | 43.0 | Solar | 60751205 | Brawley School Ret 1205 |
| NC2016-02939 | 10/31/2016 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 09102410 | Summerfield Ret 2410 |
| NC2016-02924 | 10/17/2016 | Substation A | Construction - Pending Customer Obligation | Not Applicable | 5,000.0 | Solar | 14042407 | Butner Ret 2407 |
| NC2016-02921 | 10/12/2016 | Substation A | System Impact Study - In Progress | Protection Study | 4,992.0 | Solar | - | Baltimore Rd Ret 1202 |
| NC2016-02922 | 10/12/2016 | Substation B | System Impact Study - In Progress | LVR Evaluation and Preliminary Options | 4,992.0 | Solar | - | Baltimore Rd Ret 1202 |
| NC2016-02916 | 10/3/2016 | Substation A | Construction - Pending IA/Customer Payment | - | 1,998.0 | Solar | 12181202 | Crump Rd Ret 1202 |
| NC2016-02907 | 9/16/2016 | Project Not Active | Withdrawn | Not Applicable | 8,800.0 | Solar | 09042412 | Randolph Ave Ret |
| NC2016-02905 | 9/14/2016 | Approved | Commercial Operation - Power Generation in progress | - | 120.0 | Solar | 19051202 | White Cross Ret 1202 |
| NC2016-02904 | 9/13/2016 | Substation A | System Impact Study - Pending Customer Response | Customer Documentation Corrections | 4,999.0 | Solar | 22251201 | Enochville Ret 1201 |
| NC2016-02900 | 9/12/2016 | Substation A | System Impact Study - In Progress | LVR Evaluation and Preliminary Options | 4,992.0 | Solar | 51061208 | Madison Ret 1208 |
| NC2016-02901 | 9/12/2016 | Substation A | Facility Study - Pending Customer Response | Not Applicable | 4,992.0 | Solar | 13291203 | Island Ford Rd Ret 1203 |
| NC2016-02894 | 9/9/2016 | Substation A | Facility Study - In Progress | Not Applicable | 4,752.0 | Solar | 03011208 | Advance Ret 1208 |
| NC2016-02895 | 9/9/2016 | Project Not Active | Withdrawn | Not Applicable | 1,999.0 | Solar | 17131202 | Gatewood Ret 1202 |
| NC2016-02887 | 9/7/2016 | Substation A | System Impact Study - In Progress | Protection Study | 5,000.0 | Solar | 10221211 | Denton Ret 1211 |
| NC2016-02881 | 8/31/2016 | Approved | Commercial Operation - Power Generation in progress | - | 200.0 | Solar | 44071202 | Cairo Ret 1202 |
| NC2016-02882 | 8/31/2016 | Approved | Commercial Operation - Power Generation in progress | - | 96.0 | Solar | 44021212 | Brook St Ret 1212 |
| NC2016-02877 | 8/26/2016 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 03651202 | Turnersburg Ret 1202 |
| NC2016-02865 | 8/24/2016 | Substation A | Facility Study - In Progress | Not Applicable | 3,000.0 | Solar | - | Corinth Ret 1208 |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| NC2016-02887 | 8/24/2016 | Project Not Active | Withdrawn | - | 1,666.0 | Solar | 15211201 | McGinnis Crossroads Ret 1201 |
| NC2016-02864 | 8/15/2016 | Approved | Commercial Operation - Power Generation in progress | - | 29.4 | Solar | 09032406 | Fairfax Rd Ret 2406 |
| NC2016-02861 | 8/12/2016 | Substation A | Facility Study - In Progress | Not Applicable | 4,592.0 | Solar | 80821208 | Triplett Ret |
| NC2016-02862 | 8/12/2016 | Substation A | Construction - Pending IA/Customer Payment | Not Applicable | 3,000.0 | Solar | 29051201 | Fall Creek Ret 1201 |
| NC2016-02863 | 8/12/2016 | Substation A | Supplemental Study - Study Complete | Supplemental Study | 39.7 | Solar | 22271205 | Brantley Rd Ret 1205 |
| NC2016-02857 | 8/11/2016 | Substation A | Facility Study - In Progress | Not Applicable | 3,000.0 | Solar | 29041201 | Cycle Ret 1201 |
| NC2016-02858 | 8/11/2016 | Substation A | Construction - Under Construction / In Progress | - | 4,992.0 | Solar | 29061205 | Yadkinville Ret 1205 |
| NC2016-02851 | 7/26/2016 | Substation B | Facility Study - In Progress | Not Applicable | 4,999.0 | Solar | 10201202 | N Gordonton Ret |
| NC2016-02847 | 7/15/2016 | Substation A | Facility Study - In Progress | Not Applicable | 4,992.0 | Solar | 03651203 | Turnersburg Ret 1203 |
| NC2016-02840 | 7/13/2016 | Substation A | System Impact Study - Pending Customer Response | Customer Transformer Inrush Decision | 5,000.0 | Solar | 11181202 | Pleasant Grove Ret 1202 |
| NC2016-02839 | 7/12/2016 | Substation A | Facility Study - In Progress | Not Applicable | 5,000.0 | Solar | 10201202 | N Gordonton Ret 1202 |
| NC2016-02829 | 7/1/2016 | Substation B | System Impact Study - In Progress | LVR Evaluation and Preliminary Options | 4,999.0 | Solar | 11151201 | Saxapahaw Ret 1201 |
| NC2016-02832 | 7/1/2016 | Project Not Active | Withdrawn | - | 4,000.0 | Solar | 11151201 | Saxapahaw Ret 1201 |
| NC2016-02834 | 7/1/2016 | Substation A | Facility Study - In Progress | Not Applicable | 3,000.0 | Solar | 11191204 | Swepsonville Tie 1204 |
| NC2016-02828 | 6/30/2016 | Substation A | Facility Study - Pending Customer Response | Not Applicable | 4,992.0 | Solar | 11151201 | Saxapahaw Ret 1201 |
| NC2016-02826 | 6/29/2016 | Substation A | Facility Study - Pending | Not Applicable | 4,992.0 | Solar | 29081201 | Smithtown Ret 1201 |
| NC2016-02823 | 6/27/2016 | Substation A | System Impact Study - Pending Customer Response | Customer Documentation Corrections | 4,000.0 | Solar | 16701204 | Blanton Ret 1204 |
| NC2016-02821 | 6/23/2016 | Substation B | System Impact Study - In Progress | LVR Evaluation and Preliminary Options | 4,999.0 | Solar | 11141203 | Ossipee Dist 1203 |
| NC2016-02818 | 6/21/2016 | Substation A | Facility Study - In Progress | Not Applicable | 4,992.0 | Solar | 29071207 | Elk Valley Ret 1207 |
| NC2016-02817 | 6/20/2016 | Substation A | System Impact Study - In Progress | Duke ROW | 4,999.0 | Solar | 51061203 | Madison Ret 1203 |
| CHKLIST-12047 | 6/14/2016 | Approved | Commercial Operation - Power Generation in progress | - | 120.0 | Solar | 14052411 | Research Triangle Ret 2411 |
| NC2016-02813 | 6/10/2016 | Substation A | Construction - Pending IA/Customer Payment | Not Applicable | 4,999.0 | Solar | 03191205 | King Ret 1205 |
| NC2016-02814 | 6/10/2016 | Substation B | System Impact Study - In Progress | Protection Study | 5,000.0 | Solar | 03071208 | Clemmons Ret 1208 |
| NC2016-02816 | 6/10/2016 | Substation B | System Impact Study - In Progress | LVR Evaluation and Preliminary Options | 5,000.0 | Solar | 03552402 | Mocksville Main 2402 |
| NC2016-02808 | 5/23/2016 | Substation A | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 5,000.0 | Solar | 17031212 | Wentworth Ret 1212 |
| NC2016-02806 | 5/19/2016 | Substation A | System Impact Study - Pending Customer Response | Customer Mitigation Options Selection | 5,000.0 | Solar | 13051201 | East Malden Ret 1201 |
| NC2016-02795 | 5/6/2016 | Substation A | System Impact Study - Pending Customer Response | Customer Mitigation Options Selection | 5,000.0 | Solar | 16201213 | Lawndale Ret 1213 |
| NC2016-02797 | 5/6/2016 | Substation A | Construction - Pending Customer Obligation | - | 5,000.0 | Solar | 13411201 | Macedonia Ret 1201 |
| NC2016-02791 | 5/2/2016 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 79241202 | Hartford Ave Ret 1202 |
| NC2016-02783 | 4/26/2016 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 60081205 | Cleveland Ret 1205 |
| NC2016-02777 | 4/18/2016 | Substation A | System Impact Study - Pending Customer Response | Customer Transformer Inrush Data Collection | 5,000.0 | Solar | 17131203 | Gatewood Ret 1203 |
| NC2016-02778 | 4/14/2016 | Substation B | System Impact Study - Pending | - | 5,000.0 | Solar | 09061204 | Climax Ret 1204 |
| NC2016-02773 | 4/7/2016 | Approved | Commercial Operation - Power Generation in progress | - | 36.0 | Solar | 09062410 | Kildare Ret 2410 |
| NC2016-00063 | 3/29/2016 | Project Not Active | Cancelled | - | 1,500.0 | Diesel | 03391201 | Welcome Ret 1201 |
| NC2016-00061 | 3/28/2016 | Project Not Active | Withdrawn | - | 3,668.0 | Solar | 16041201 | Cherryville Ret 1201 |
| NC2016-00035 | 3/10/2016 | Substation A | Supplemental Study - Study Complete | Supplemental Study | 25.0 | Solar | 29041201 | Cycle Ret 1201 |
| NC2016-00036 | 3/10/2016 | Approved | Commercial Operation - Power Generation in progress | - | 48.0 | Solar | 14062409 | Pope Rd Ret 2409 |
| NC2016-00032 | 3/8/2016 | Approved | Commercial Operation - Complete pending power generation | - | 4,996.0 | Solar | 11062414 | Trollingwood Ret 2414 |
| NC2016-00026 | 2/17/2016 | Substation A | System Impact Study - In Progress | Protection Study | 5,000.0 | Solar | 10231207 | Glenola Ret 1207 |
| NC2016-00024 | 2/16/2016 | Substation A | Facility Study - Pending Customer Response | Not Applicable | 3,000.0 | Solar | 65171201 | Edneyville Ret 1201 |
| CHKLIST-11960 | 2/12/2016 | Withdrawn | Withdrawn | - | 6,000.0 | Biomass | 79261201 | Clariant Corp Char T&D 1201 |
| NC2016-00015 | 2/3/2016 | Approved | Commercial Operation - Power Generation in progress | - | 36.0 | Solar | 13371210 | Sweetwater Ret 1210 |
| NC2016-00016 | 2/3/2016 | Approved | Commercial Operation - Power Generation in progress | - | 4,980.0 | Solar | 21011207 | Salisbury Mn 1207 |
| NC2016-00014 | 1/29/2016 | Approved | Commercial Operation - Power Generation in progress | - | 4,380.0 | Solar | 79271204 | Peacock Tie 1204 |
| NC2016-00012 | 1/20/2016 | Project Not Active | Withdrawn | DET Non-Technical Policy | 90.0 | Solar | 79031206 | Lincolnton Tie 1206 |
| NC2016-00002 | 1/11/2016 | Approved | Commercial Operation - Power Generation in progress | - | 25.0 | Solar | 65011201 | Asheville Hwy Ret 1201 |
| NC2016-00001 | 1/8/2016 | Approved | Commercial Operation - Power Generation in progress | - | 40.3 | Solar | 01212403 | Morning Star Tie 2403 |
| CHKLIST-11526 | 1/5/2016 | Project Not Active | Withdrawn | - | 26.0 | Solar | 16271201 | Flay Ret 1201 |
| NC2015-00062 | 12/29/2015 | Approved | Commercial Operation - Power Generation in progress | - | 360.0 | Solar | 01392409 | Montclaire Ret 2409 |
| NC2015-00057 | 12/28/2015 | Approved | Commercial Operation - Power Generation in progress | - | 56.0 | Solar | 21011204 | Salisbury Main 1204 |
| NC2015-00061 | 12/28/2015 | Project Not Active | Cancelled | - | 624.0 | Solar | 79261202 | Belmont Tie 1202 |
| NC2015-00056 | 12/22/2015 | Substation A | Facility Study - Pending Customer Response | Not Applicable | 1,996.0 | Solar | 15171203 | Cleghorn SS |
| NC2015-00054 | 12/21/2015 | Approved | Commercial Operation - Power Generation in progress | - | 160.0 | Solar | 80711207 | Dunbar Ret 1207 |
| CHKLIST-11564 | 12/18/2015 | Project Not Active | Withdrawn | - | 22.8 | Solar | 03131203 | Guthrie Ret 1203 |
| NC2016-02936 | 12/18/2015 | Project Not Active | Withdrawn | - | 92.0 | Solar | 80751205 | Brawley School Ret 1205 |
| NC2015-00052 | 12/16/2015 | Substation A | System Impact Study - Pending Customer Response | Customer Transformer Inrush Decision | 4,999.0 | Solar | 51161202 | Dan Valley Ret 1202 |
| NC2015-00053 | 12/16/2015 | Substation A | System Impact Study - Pending Customer Response | Customer Transformer Inrush Data Collection | 4,999.0 | Solar | 17021201 | Ruffin Ret 1201 |
| NC2015-00058 | 12/18/2015 | Approved | Commercial Operation - Power Generation in progress | - | 60.0 | Solar | 09242411 | Merritt Dr Ret 2411 |
| CHKLIST-11527 | 12/15/2015 | Approved | Commercial Operation - Power Generation in progress | - | 4,750.0 | Biomass | 03231204 | N Winston Ret 1204 |
| NC2015-00049 | 12/10/2015 | Project Not Active | Withdrawn | - | 4,999.0 | Solar | 16861201 | Christopher Rd Ret 1201 |
| NC2015-00048 | 12/9/2015 | Substation A | System Impact Study - Pending Customer Response | Not Applicable | 5,000.0 | Solar | 13341201 | Catfish Ret 1201 |
| INT-2015-00378 | 12/6/2015 | - | Commercial Operation - Power Generation in Progress | - | 23.8 | Solar | 13391204 | Taylorsville Tie 1204 |
| CHKLIST-11430 | 12/4/2015 | Project Not Active | Cancelled | - | 2,000.0 | Solar | 21552402 | Mocksville Main 2402 |
| NC2015-00042 | 12/2/2015 | Substation A | System Impact Study - Pending Customer Response | Customer Documentation Corrections | 4,996.0 | Solar | 11261208 | Oakwood St Ret 1208 |
| NC2015-00038 | 11/18/2015 | Project Not Active | Withdrawn | - | 68.0 | Solar | 14202409 | Garrett Rd Ret 2409 |
| CHKLIST-10089 | 11/17/2015 | Approved | Commercial Operation - Power Generation in progress | - | 644.0 | Solar | 01522413 | Reames Rd Ret 2413 |
| CHKLIST-12114 | 11/17/2015 | Project Not Active | Cancelled | - | 44.6 | Solar | 01512405 | Provol Ret 2405 |
| NC2015-00029 | 11/9/2015 | Project Not Active | Withdrawn | - | 64.0 | Solar | 09032405 | Fairfax Rd Ret 2408 |
| NC2015-00030 | 11/9/2015 | Project Not Active | Withdrawn | - | 60.0 | Solar | 01432406 | Eastfield Rd Ret 2406 |
| NC2015-00028 | 11/5/2015 | Approved | Commercial Operation - Power Generation in progress | - | 28.0 | Solar | 14202410 | Garrett Rd Ret 2410 |
| CHKLIST-11096 | 10/23/2015 | Approved | Commercial Operation - Power Generation in progress | - | 4,990.0 | Solar | 79301208 | Triangle Ret 1208 |
| NC2016-00038 | 10/23/2015 | Project Not Active | Withdrawn | - | 1,996.0 | Solar | 72542405 | Beaver Dam Ret 2405 |
| NC2015-00027 | 10/19/2015 | Approved | Commercial Operation - Power Generation in progress | - | 24.0 | Solar | 11020401 | N Park Dist 0401 |
| NC2015-00025 | 10/16/2015 | Project Not Active | Withdrawn | - | 40.0 | Solar | 13101203 | Startown Ret 1203 |
| NC2015-00026 | 10/16/2015 | Project Not Active | Withdrawn | - | 70.0 | Solar | 13151202 | Mt Olive Ret 1202 |
| CHKLIST-11060 | 10/9/2015 | Approved | Fast Track Study - Study Complete | Fast Track Study | 37.4 | Solar | 01222409 | Piper Glen Ret 2409 |
| NC2015-00023 | 10/9/2015 | Approved | Commercial Operation - Power Generation in progress | - | 56.0 | Solar | 11122415 | Burlington Main 2415 |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| NC2015-00022 | 10/1/2015 | Project Not Active | Withdrawn | Not Applicable | 1,999.0 | Solar | 16071212 | Parkway SS 1212 |
| CHKLIST-10603 | 9/23/2015 | Project Not Active | Withdrawn | - | 1,999.0 | Solar | 51151202 | Bryant St Ret 1202 |
| NC2015-00018 | 9/16/2015 | Approved | Commercial Operation - Power Generation in progress | - | 360.0 | Solar | 01412406 | Stouts Ret 2406 |
| NC2015-00015 | 9/15/2015 | Substation B | Facility Study - On-hold Interdependency | Not Applicable | 3,000.0 | Solar | 28051201 | Dobson Ret |
| NC2015-00016 | 9/15/2015 | On Hold | System Impact Study - On-Hold Interdependency | - | 4,500.0 | Solar | 28051202 | Dobson Ret 1201 |
| NC2015-00008 | 9/10/2015 | Approved | Commercial Operation - Power Generation in progress | - | 208.0 | Solar | 01421206 | Kudzu Ret 1207 |
| NC2015-00011 | 9/10/2015 | Substation A | Facility Study - In Progress | Not Applicable | 2,932.0 | Solar | 28051201 | Dobson Ret |
| NC2015-00006 | 9/8/2015 | Approved | Commercial Operation - Power Generation in progress | - | 243.0 | Solar | 01421206 | Kudzu Ret 1206 |
| NC2015-00003 | 9/1/2015 | Approved | Commercial Operation - Power Generation in progress | - | 23.0 | Solar | 14121209 | Green St Ret 1209 |
| CHKLIST-10574 | 8/26/2015 | Project Not Active | Withdrawn | - | 27.0 | Solar | 67351202 | E Sylva Ret 1202 |
| CHKLIST-10555 | 8/25/2015 | Approved | Commercial Operation - Power Generation in progress | - | 396.0 | Solar | 01222404 | Piper Glen Ret 2404 |
| CHKLIST-10561 | 8/25/2015 | Approved | Commercial Operation - Power Generation in progress | - | 360.0 | Solar | 01271211 | Mallard Creek Ret 1211 |
| CHKLIST-10536 | 8/24/2015 | Approved | Commercial Operation - Power Generation in progress | - | 360.0 | Solar | 01392403 | Montclaire Ret 2403 |
| CHKLIST-10548 | 8/24/2015 | Approved | Commercial Operation - Power Generation in progress | - | 324.0 | Solar | 03301212 | Shattalon SW STA 1212 |
| CHKLIST-10522 | 8/21/2015 | Approved | Commercial Operation - Power Generation in progress | - | 40.0 | Solar | 09202403 | Tarrant Rd Ret 2403 |
| CHKLIST-10524 | 8/21/2015 | Substation A | Facility Study - Pending | - | 1,137.0 | Biomass | 03071210 | Clemmons Ret 1210 |
| CHKLIST-10526 | 8/21/2015 | Approved | Commercial Operation - Power Generation in progress | - | 360.0 | Solar | 01332412 | Wilgrove Ret 2412 |
| CHKLIST-10473 | 8/17/2015 | Substation A | System Impact Study - Pending Customer Response | - | 850.0 | Solar | 21071206 | Julian Rd Ret 1206 |
| CHKLIST-10451 | 8/14/2015 | Approved | Commercial Operation - Power Generation in progress | - | 72.0 | Solar | 79302404 | Triangle Ret 2404 |
| CHKLIST-10440 | 8/13/2015 | Approved | Commercial Operation - Power Generation in progress | - | 60.0 | Solar | 60872401 | Glenway SS 2401 |
| CHKLIST-10447 | 8/13/2015 | Approved | Commercial Operation - Power Generation in progress | - | 60.0 | Solar | 21021206 | Statesville Rd Ret 1208 |
| CHKLIST-10426 | 8/11/2015 | Approved | Commercial Operation - Power Generation in progress | - | 396.0 | Solar | 13401206 | S Hickory Ret 1206 |
| CHKLIST-10405 | 8/10/2015 | Approved | Commercial Operation - Power Generation in progress | - | 31.3 | Solar | 03221205 | Mt Tabor Ret 1205 |
| CHKLIST-10397 | 8/7/2015 | Approved | Commercial Operation - Power Generation in progress | - | 68.0 | Solar | 09072416 | Jessuptown Ret 2416 |
| CHKLIST-10396 | 8/7/2015 | Approved | Commercial Operation - Power Generation in progress | - | 60.0 | Solar | 01412406 | Stouts Ret 2406 |
| CHKLIST-10523 | 8/7/2015 | Substation A | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 5,000.0 | Solar | 09061201 | Climax Ret 1201 |
| CHKLIST-10385 | 8/6/2015 | Approved | Commercial Operation - Power Generation in progress | - | 312.0 | Solar | 21091204 | Long Ferry Ret 1204 |
| CHKLIST-10387 | 8/6/2015 | Approved | Commercial Operation - Power Generation in progress | - | 60.0 | Solar | 10081201 | N Main St Dist 1201 |
| CHKLIST-10392 | 8/6/2015 | Approved | Commercial Operation - Power Generation in progress | - | 88.0 | Solar | 01302414 | McAlpine Creek Ret 2414 |
| CHKLIST-10380 | 8/5/2015 | Approved | Commercial Operation - Power Generation in progress | - | 48.0 | Solar | 01321209 | Sunset Ret 1209 |
| CHKLIST-10382 | 8/5/2015 | Approved | Commercial Operation - Power Generation in progress | - | 68.0 | Solar | 22281204 | Speedway Ret 1204 |
| CHKLIST-10360 | 8/4/2015 | Approved | Commercial Operation - Power Generation in progress | - | 800.4 | Solar | 17011206 | Reidsville Ret 1208 |
| CHKLIST-10201 | 7/30/2015 | Approved | Commercial Operation - Power Generation in progress | - | 302.0 | Solar | 13181212 | Oyama Ret 1212 |
| CHKLIST-10230 | 7/20/2015 | Approved | Commercial Operation - Power Generation in progress | - | 240.0 | Solar | 14152411 | Brassfield Ret 2411 |
| CHKLIST-10217 | 7/16/2015 | Substation B | System Impact Study - In Progress | LVR Evaluation and Preliminary Options | 4,800.0 | Solar | 17191201 | Waynick Rd Ret 1201 |
| CHKLIST-10194 | 7/15/2015 | On Hold | System Impact Study - On-Hold Interdependency | - | 2,000.0 | Solar | 15901202 | Mooresboro Ret 1202 |
| CHKLIST-10198 | 7/15/2015 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | 15901202 | Mooresboro Ret 1202 |
| CHKLIST-10177 | 7/13/2015 | Substation A | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 2,000.0 | Solar | 17191201 | Waynick Rd Ret 1201 |
| CHKLIST-10183 | 7/13/2015 | Approved | Commercial Operation - Power Generation in progress | - | 696.0 | Solar | 21091204 | Long Ferry Ret 1204 |
| CHKLIST-10145 | 7/9/2015 | Approved | Commercial Operation - Power Generation in progress | - | 28.0 | Solar | 13171205 | N Hickory Ret 1205 |
| CHKLIST-10103 | 7/2/2015 | Approved | Commercial Operation - Power Generation in progress | - | 280.0 | Solar | 11252408 | St Marks Ret 2408 |
| CHKLIST-10104 | 7/2/2015 | Approved | Commercial Operation - Power Generation in progress | - | 280.0 | Solar | 03212401 | Mar-Don Dr Ret 2401 |
| CHKLIST-10082 | 6/30/2015 | Approved | Commercial Operation - Power Generation in progress | - | 40.0 | Solar | 19091203 | Grey Ret 1203 |
| CHKLIST-10045 | 6/26/2015 | Project Not Active | Cancelled | Not Applicable | 350.2 | Solar | 01161203 | Park Rd Ret 1203 |
| CHKLIST-10047 | 6/26/2015 | Project Not Active | Cancelled | Not Applicable | 1,000.0 | Solar | 01492411 | Coffey Creek Ret 2411 |
| CHKLIST-9986 | 6/18/2015 | Project Not Active | Cancelled | - | 5,000.0 | Solar | 29051201 | Fall Creek Ret 1201 |
| CHKLIST-9958 | 6/17/2015 | Project Not Active | Withdrawn | Not Applicable | 960.0 | Solar | 09062408 | Kildare Ret 2408 |
| CHKLIST-9923 | 6/11/2015 | Substation A | Construction - Under Construction / In Progress | - | 6,000.0 | Solar | 21081204 | Cleveland Ret 1204 |
| CHKLIST-9838 | 6/4/2015 | Approved | Commercial Operation - Power Generation in progress | - | 80.0 | Solar | 19061209 | Homestead Ret 1209 |
| CHKLIST-9850 | 6/2/2015 | Project Not Active | Withdrawn | - | 768.0 | Solar | 80811202 | Murdock Rd Ret 1202 |
| CHKLIST-9734 | 5/20/2015 | Approved | Construction - Under Construction / In Progress | - | 5,000.0 | Solar | 10231203 | Glenola Ret 1203 |
| CHKLIST-9696 | 5/15/2015 | Approved | Commercial Operation - Power Generation in progress | - | 4,508.0 | Solar | 13121206 | Claremont Ret 1206 |
| CHKLIST-9654 | 5/12/2015 | Approved | Commercial Operation - Power Generation in progress | - | 1,104.0 | Solar | 12161202 | Crump Rd Ret 1202 |
| CHKLIST-9636 | 5/11/2015 | Approved | Commercial Operation - Power Generation in progress | - | 42.0 | Solar | 21010404 | Salisbury Main 0404 |
| CHKLIST-9742 | 5/11/2015 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 28081209 | Toast Ret 1209 |
| CHKLIST-9745 | 5/11/2015 | Project Not Active | Withdrawn | - | 4,000.0 | Solar | 29081201 | Smithtown Ret 1201 |
| CHKLIST-9695 | 5/5/2015 | Approved | Commercial Operation - Power Generation in progress | - | 27.0 | Solar | 09302408 | Lake Townsend Ret 2408 |
| CHKLIST-9703 | 5/4/2015 | Approved | Commercial Operation - Complete pending power generation | - | 5,000.0 | Solar | 22321202 | Mt Pleasant Ret 1202 |
| CHKLIST-9513 | 4/28/2015 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | 15241201 | Riverstone Ret 1202 |
| CHKLIST-9504 | 4/27/2015 | Approved | Commercial Operation - Power Generation in progress | - | 445.0 | Solar | 13371207 | Sweetwater Ret 1207 |
| CHKLIST-9532 | 4/21/2015 | Project Not Active | Withdrawn | - | 25.7 | Solar | 19011201 | Cameron Ave SS 1201 |
| CHKLIST-9357 | 4/10/2015 | Approved | Commercial Operation - Power Generation in progress | - | 1,560.0 | Solar | 79301206 | Triangle Ret 1206 |
| CHKLIST-9363 | 4/10/2015 | Approved | Commercial Operation - Power Generation in progress | - | 95.2 | Solar | 03101208 | Fiddlers Creek Ret 1206 |
| CHKLIST-9365 | 4/10/2015 | Project Not Active | Withdrawn | Not Applicable | 4,800.0 | Solar | 16541203 | Buffalo Creek Ret 1203 |
| CHKLIST-9313 | 4/2/2015 | Project Not Active | Cancelled | - | 4,800.0 | Solar | 14042409 | Butner Ret 2409 |
| CHKLIST-9288 | 3/31/2015 | Project Not Active | Withdrawn | - | 4,800.0 | Solar | 80811202 | Murdock Rd Ret 1202 |
| CHKLIST-9293 | 3/31/2015 | Substation B | Construction - Pending IA/Customer Payment | - | 3,500.0 | Solar | 09082411 | Kildare Ret 2411 |
| CHKLIST-9234 | 3/24/2015 | Approved | Commercial Operation - Power Generation in progress | - | 54.0 | Solar | 19011204 | Cameron Ave SS 1204 |
| CHKLIST-9210 | 3/20/2015 | Approved | Construction - Under Construction / In Progress | - | 4,998.0 | Solar | 21431205 | Faith Ret 1205 |
| CHKLIST-9185 | 3/18/2015 | Substation A | Construction - Under Construction / In Progress | - | 1,550.0 | Biomass | 09082411 | Kildare Ret 2411 |
| CHKLIST-9188 | 3/18/2015 | Project Not Active | Withdrawn | - | 4,080.0 | Solar | 11031201 | Gibsonville Dist 1201 |
| CHKLIST-9191 | 3/18/2015 | Project Not Active | Withdrawn | - | 5,010.0 | Solar | 15161202 | Paradise Ret 1202 |
| CHKLIST-9181 | 3/17/2015 | Substation A | Construction - Under Construction / In Progress | - | 1,999.0 | Solar | 21061210 | Sumner Ret 1210 |
| CHKLIST-9183 | 3/17/2015 | Approved | Commercial Operation - Power Generation in progress | - | 598.0 | Solar | 21021204 | Statesville Rd Ret 1204 |
| CHKLIST-9161 | 3/16/2015 | Approved | Construction - Under Construction / In Progress | - | 3,600.0 | Solar | 15161202 | Paradise Ret 1202 |
| CHKLIST-9164 | 3/16/2015 | Substation A | System Impact Study - In Progress | Protection Study | 4,998.0 | Solar | 15161202 | Paradise Ret 1202 |
| CHKLIST-9155 | 3/13/2015 | Substation A | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 3,020.0 | Solar | 09082408 | Kildare Ret 2408 |
| CHKLIST-9157 | 3/13/2015 | Substation A | System Impact Study - In Progress | Technical Review | 4,998.0 | Solar | 03552402 | Mocksville Main 2402 |
| CHKLIST-9158 | 3/13/2015 | Project Not Active | Withdrawn | - | 4,500.0 | Solar | 15951202 | Washburn Ret 1202 |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| CHKLIST-9159 | 3/13/2015 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 03071210 | Clemmons Ret 1210 |
| CHKLIST-9160 | 3/13/2015 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | 15951202 | Washburn Ret 1202 |
| CHKLIST-9151 | 3/12/2015 | Substation B | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 4,998.0 | Solar | 16901204 | Mooresboro Ret 1204 |
| CHKLIST-9141 | 3/11/2015 | Project Not Active | Withdrawn | - | 4,998.0 | Solar | 09262409 | Rudd Ret 2409 |
| CHKLIST-9134 | 3/10/2015 | Project Not Active | Withdrawn | - | 56.0 | Solar | 10151210 | E Thomasville Ret 1210 |
| CHKLIST-9135 | 3/10/2015 | Project Not Active | Withdrawn | - | 112.0 | Solar | 10151210 | E Thomasville Ret 1210 |
| CHKLIST-9101 | 3/4/2015 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 15901202 | Mooresboro Ret 1202 |
| CHKLIST-9112 | 3/4/2015 | Project Not Active | Withdrawn | - | 4,500.0 | Solar | 15951202 | Washburn Ret 1202 |
| CHKLIST-9706 | 3/3/2015 | Project Not Active | Cancelled | - | 1,990.0 | Solar | 72542414 | Beaver Dam Ret 2414 |
| CHKLIST-9063 | 3/2/2015 | Project Not Active | Withdrawn | - | 524.4 | Solar | 27091205 | Meadow Green Ret 1205 |
| CHKLIST-9065 | 3/2/2015 | Approved | Commercial Operation - Power Generation in progress | - | 2,000.0 | Solar | 21061208 | Sumner Ret 1208 |
| CHKLIST-9076 | 3/2/2015 | Project Not Active | Cancelled | - | 2,500.0 | Solar | 80061205 | Cleveland Ret 1205 |
| CHKLIST-9079 | 3/2/2015 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 44031206 | Fairplains Ret 1206 |
| CHKLIST-9082 | 3/2/2015 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 01332405 | Wilgrove Ret 2405 |
| CHKLIST-9083 | 3/2/2015 | Substation A | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 4,999.0 | Solar | 09571202 | Monticello Ret 1202 |
| CHKLIST-9314 | 3/2/2015 | Approved | Commercial Operation - Power Generation in progress | - | 24.0 | Solar | 21061209 | Sumner Ret 1209 |
| CHKLIST-8997 | 2/23/2015 | Substation A | Fast Track Study - Study Complete | Fast Track Study | 312.0 | Solar | 14152411 | Brassfield Ret 2411 |
| CHKLIST-8907 | 2/9/2015 | Approved | Commercial Operation - Power Generation in progress | - | 75.0 | Solar | 79031212 | Lincolnton Tie 1212 |
| CHKLIST-8912 | 2/6/2015 | Substation A | Facility Study - Pending | Not Applicable | 2,000.0 | Solar | 16901204 | Mooresboro Ret 1204 |
| CHKLIST-8897 | 2/5/2015 | Approved | Commercial Operation - Power Generation in progress | - | 1,998.0 | Solar | 15161202 | Paradise Ret 1202 |
| CHKLIST-8881 | 2/2/2015 | Substation A | Facility Study - Pending Customer Response | Not Applicable | 4,800.0 | Solar | 11172405 | Frieden Ret 2405 |
| CHKLIST-8750 | 1/14/2015 | Approved | Commercial Operation - Power Generation in progress | - | 2,002.1 | Solar | 19051203 | White Cross Ret 1203 |
| CHKLIST-8697 | 1/9/2015 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | 03661203 | Hager Rd Ret 1203 |
| CHKLIST-8625 | 12/30/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,999.0 | Solar | 15951201 | Washburn Ret 1201 |
| CHKLIST-8608 | 12/26/2014 | Project Not Active | Withdrawn | - | 4,999.0 | Solar | 51061206 | Madison Ret 1206 |
| CHKLIST-8580 | 12/22/2014 | Project Not Active | Cancelled | - | 1,500.0 | Solar | 21071206 | Julian Rd Ret 1206 |
| CHKLIST-8342 | 11/19/2014 | Approved | Commercial Operation - Power Generation in progress | - | 84.0 | Solar | 21071206 | Julian Rd Ret 1206 |
| CHKLIST-8344 | 11/19/2014 | Approved | Commercial Operation - Power Generation in progress | - | 90.8 | Solar | 21071206 | Julian Rd Ret 1206 |
| CHKLIST-8295 | 11/11/2014 | Pending | Pending | - | 225.0 | Solar | 09012416 | Greensboro Main 2416 |
| CHKLIST-8208 | 11/5/2014 | Substation A | Commercial Operation - Power Generation in progress | - | 2,000.0 | Solar | 16661201 | Christopher Rd Ret 1201 |
| CHKLIST-8219 | 11/5/2014 | Approved | Construction - Pending IA/Customer Payment | - | 2,000.0 | Solar | 16701203 | Blanton Ret 1203 |
| CHKLIST-8206 | 11/4/2014 | Approved | Commercial Operation - Power Generation in progress | - | 84.0 | Solar | 14031210 | Crest St Ret 1210 |
| CHKLIST-8161 | 10/29/2014 | Approved | Commercial Operation - Power Generation in progress | - | 2,000.0 | Solar | 18061205 | Bethware Ret 1205 |
| CHKLIST-8158 | 10/28/2014 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | 18061205 | Bethware Ret 1205 |
| CHKLIST-6067 | 10/6/2014 | Project Not Active | Cancelled | - | 1,000.0 | Solar | 09082406 | Kildare Ret 2406 |
| CHKLIST-6068 | 10/6/2014 | Substation A | Fast Track Study - Study Complete | Fast Track Study | 800.0 | Solar | 09012404 | Greensboro Main 2404 |
| CHKLIST-6050 | 10/2/2014 | Approved | Commercial Operation - Power Generation in progress | - | 157.0 | Solar | 21021204 | Statesville Rd Ret 1204 |
| CHKLIST-6046 | 10/1/2014 | Approved | Commercial Operation - Power Generation in progress | - | 3,480.0 | Solar | 29061207 | Yadkinville Ret 1207 |
| CHKLIST-6028 | 9/29/2014 | Approved | Commercial Operation - Power Generation in progress | - | 26.8 | Solar | 19011201 | Cameron Ave SS 1201 |
| CHKLIST-5974 | 9/24/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 11161202 | Kimesville Ret 1202 |
| CHKLIST-5952 | 9/22/2014 | Pending | IR Review - Pending Customer Response | - | 300.0 | Solar | 01161204 | Park Rd Ret 1204 |
| CHKLIST-5947 | 9/19/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 21401211 | Rockwell Ret 1211 |
| CHKLIST-5934 | 9/18/2014 | Approved | Commercial Operation - Power Generation in progress | - | 112.0 | Solar | 21071206 | Julian Rd Ret 1206 |
| CHKLIST-5922 | 9/16/2014 | Approved | System Impact Study - Pending Customer Response | - | 4,000.0 | Hydroelectric | - | Browns Ford Ret 1207 |
| CHKLIST-5851 | 9/11/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 17121202 | Monroeton Ret 1202 |
| CHKLIST-3984 | 9/8/2014 | Withdrawn | Withdrawn | - | 750.0 | Solar | 01191204 | Remount Rd Ret 1204 |
| CHKLIST-3922 | 9/2/2014 | Project Not Active | Cancelled | - | 5,000.0 | Solar | 09061203 | Climax Ret 1203 |
| CHKLIST-3923 | 9/2/2014 | Approved | Commercial Operation - Power Generation in progress | - | 440.0 | Solar | 13371207 | Sweetwater Ret 1207 |
| CHKLIST-3924 | 9/2/2014 | Approved | Commercial Operation - Power Generation in progress | - | 1,059.0 | Biomass | 01542402 | Fisher SS 2402 |
| CHKLIST-3905 | 8/26/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,800.0 | - | 60862404 | Elmwood Ret 2404 |
| CHKLIST-3870 | 8/15/2014 | Approved | Commercial Operation - Power Generation in progress | - | 25.0 | Solar | 19091203 | Grey Ret 1203 |
| CHKLIST-3865 | 8/14/2014 | Approved | Commercial Operation - Power Generation in progress | - | 480.0 | Solar | 01392409 | Montclaire Ret 2409 |
| CHKLIST-3841 | 8/5/2014 | Approved | Commercial Operation - Power Generation in progress | - | 3,500.0 | Solar | 14021201 | Ashe St Sw Sta 1201 |
| CHKLIST-3830 | 8/4/2014 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | 01342408 | Newell Ret 2407 |
| CHKLIST-3822 | 8/1/2014 | Project Not Active | Withdrawn | - | 1,400.0 | Biomass | 13261201 | Zion Church Rd Ret 1201 |
| CHKLIST-3797 | 7/28/2014 | Approved | Commercial Operation - Power Generation in progress | - | 634.8 | Solar | 09252412 | Denny Rd Ret 2412 |
| CHKLIST-3801 | 7/28/2014 | Approved | Commercial Operation - Power Generation in progress | - | 1,500.0 | Solar | 03281204 | Rural Hall Ret 1204 |
| CHKLIST-3802 | 7/28/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 13351201 | Longview Ret 1201 |
| CHKLIST-3803 | 7/28/2014 | Approved | Commercial Operation - Power Generation in progress | - | 248.4 | Solar | 14042403 | Butner Ret 2403 |
| CHKLIST-3779 | 7/23/2014 | Approved | Commercial Operation - Power Generation in progress | - | 72.0 | Solar | 01291210 | Belthaven Ret 1210 |
| CHKLIST-3771 | 7/22/2014 | Approved | Commercial Operation - Power Generation in progress | - | 3,500.0 | Solar | 13121211 | Claremont Ret 1211 |
| CHKLIST-3773 | 7/22/2014 | Project Not Active | Cancelled | - | 4,500.0 | Solar | 15171203 | Cleghorn SS 1203 |
| CHKLIST-3767 | 7/21/2014 | Approved | Commercial Operation - Power Generation in progress | - | 750.0 | Solar | 29061207 | Yadkinville Ret 1207 |
| CHKLIST-3742 | 7/16/2014 | Project Not Active | Withdrawn | - | 3,500.0 | Solar | 01721202 | Davidson Ret 1202 |
| NC2016-00059 | 7/11/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | 03011208 | Advance Ret 1208 |
| CHKLIST-3724 | 7/9/2014 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | 11161203 | Pleasant Grove Ret 1203 |
| CHKLIST-3690 | 6/27/2014 | Approved | Commercial Operation - Power Generation in progress | - | 33.9 | Solar | 01522402 | Reames Rd Ret 2402 |
| CHKLIST-3670 | 6/18/2014 | Approved | Commercial Operation - Power Generation in progress | - | 258.0 | Solar | 09092405 | Friendship Ret 2405 |
| CHKLIST-3615 | 6/4/2014 | Project Not Active | Cancelled | - | 278.4 | Solar | 67291201 | E Andrews Ret 1201 |
| CHKLIST-3608 | 6/2/2014 | Approved | Commercial Operation - Power Generation in progress | - | 255.0 | Solar | 01361204 | Bancroft Ret 1204 |
| CHKLIST-3603 | 5/30/2014 | Pending | Pending | - | 42.8 | Solar | 09042405 | Randolph Ave Ret 2405 |
| CHKLIST-3554 | 5/14/2014 | Approved | Commercial Operation - Power Generation in progress | - | 72.1 | Solar | 11172408 | Frieden Ret 2408 |
| CHKLIST-3546 | 5/13/2014 | Approved | Commercial Operation - Power Generation in progress | - | 101.2 | Solar | 14251202 | Ellarbee Ret 1202 |
| CHKLIST-3541 | 5/9/2014 | Approved | Commercial Operation - Power Generation in progress | - | 1,000.0 | Solar | 14152411 | Brassfield Ret 2411 |
| CHKLIST-3527 | 5/7/2014 | Project Not Active | Withdrawn | - | 216.0 | Solar | 01361204 | Bancroft Ret 1204 |
| CHKLIST-3485 | 4/22/2014 | Approved | Commercial Operation - Power Generation in progress | - | 55.2 | Solar | 14132410 | Daclan Ave Ret 2410 |
| CHKLIST-3460 | 4/11/2014 | Substation A | System Impact Study - Pending | - | 5,000.0 | Solar | 01342406 | Newell Ret 2406 |
| CHKLIST-3448 | 4/2/2014 | Approved | Commercial Operation - Power Generation in progress | - | 38.0 | Solar | 01252405 | Arrowood Ret 2405 |
| CHKLIST-3438 | 3/28/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | 13431201 | Pinch Gut Creek Ret 1201 |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| CHKLIST-3432 | 3/26/2014 | Approved | Commercial Operation - Power Generation in progress | - | 336.0 | Solar | 03552401 | Mocksville Main 2401 |
| CHKLIST-3428 | 3/25/2014 | Project Not Active | Cancelled | - | 1,981.0 | Solar | 65171203 | Edneyville Ret 1203 |
| CHKLIST-3429 | 3/25/2014 | Project Not Active | Cancelled | - | 1,981.0 | Solar | 15211201 | McGinnis Crossroads Ret 1201 |
| CHKLIST-3430 | 3/25/2014 | Project Not Active | Cancelled | - | 1,981.0 | Solar | 72042402 | Van Wyck Ret 2402 |
| CHKLIST-3389 | 2/27/2014 | Pending | System Impact Study - In Progress | - | 5,000.0 | Solar | - | - |
| CHKLIST-3391 | 2/27/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 29021202 | Boonville Ret 1202 |
| CHKLIST-3379 | 2/21/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 72542414 | Beaver Dam Ret 2414 |
| CHKLIST-3381 | 2/21/2014 | Project Not Active | Cancelled | - | 4,000.0 | Solar | 51040401 | Stoneville Ret 0401 |
| CHKLIST-3382 | 2/21/2014 | Project Not Active | Cancelled | - | 4,998.0 | Solar | 60862404 | Elmwood Ret 2404 |
| CHKLIST-3363 | 2/11/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 72582409 | Ashcraft Ave Ret 2409 |
| CHKLIST-3365 | 2/11/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 13081202 | Hiddenite Ret 1202 |
| CHKLIST-3353 | 2/4/2014 | Approved | Commercial Operation - Power Generation in progress | - | 27.0 | Solar | 03211208 | Mar-Don Dr Ret 1208 |
| CHKLIST-3345 | 1/31/2014 | Approved | Commercial Operation - Complete pending power generation | - | 5,000.0 | Solar | 11172408 | Frieden Ret 2408 |
| CHKLIST-3350 | 1/31/2014 | Project Not Active | Cancelled | - | 2,000.0 | Solar | 16201213 | Lawndale Ret 1213 |
| CHKLIST-3332 | 1/23/2014 | Project Not Active | Withdrawn | - | 5,890.0 | Solar | 16651203 | Selwood Ret 1203 |
| CHKLIST-3308 | 1/9/2014 | - | Commercial Operation - Power Generation in progress | - | 1,900.0 | Biomass | - | Rankin Ave Ret 1205 |
| CHKLIST-3306 | 1/3/2014 | Approved | Commercial Operation - Power Generation in progress | - | 260.0 | Solar | 60811202 | Murdock Rd Ret 1202 |
| CHKLIST-3301 | 12/30/2013 | Approved | Commercial Operation - Power Generation in progress | - | 3,000.0 | Solar | 14052412 | Research Triangle Ret 2412 |
| CHKLIST-3303 | 12/30/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 13151201 | Pinch Gut Creek Ret 1203 |
| CHKLIST-3285 | 12/23/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 72582408 | Ashcraft Ave Ret 2408 |
| CHKLIST-3257 | 12/6/2013 | Approved | Commercial Operation - Power Generation in progress | - | 30.0 | Solar | 01512407 | Provol Ret 2407 |
| CHKLIST-3231 | 11/26/2013 | Project Not Active | Cancelled | - | 4,950.0 | Solar | 21361207 | Locust Ret 1207 |
| CHKLIST-3215 | 11/22/2013 | Project Not Active | Withdrawn | - | 3,500.0 | Solar | 29021201 | Boonville Ret 1201 |
| CHKLIST-3205 | 11/19/2013 | Approved | Commercial Operation - Power Generation in progress | - | 22.8 | Solar | 03211208 | Mar-Don Dr Ret 1208 |
| CHKLIST-3197 | 11/15/2013 | Project Not Active | Cancelled | - | 4,996.0 | Solar | 72552408 | Mini Ranch Ret 2408 |
| CHKLIST-3192 | 11/14/2013 | Project Not Active | Cancelled | - | 4,996.0 | Solar | 13191201 | Rhodhiss Ret 1201 |
| CHKLIST-3193 | 11/14/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,995.0 | Solar | 21091208 | Long Ferry Ret 1208 |
| CHKLIST-3196 | 11/14/2013 | Project Not Active | Cancelled | - | 115.0 | Solar | 01121212 | Monroe Rd Ret 1212 |
| CHKLIST-3183 | 11/12/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,096.0 | Solar | 72511201 | Monroe Main 1201 |
| CHKLIST-3178 | 11/11/2013 | Pending | Pending | - | 60.0 | Solar | 09252412 | Denny Rd Ret 2412 |
| CHKLIST-3164 | 11/6/2013 | Approved | Commercial Operation - Power Generation in progress | - | 36.0 | Solar | 09242411 | Merritt Dr Ret 2411 |
| CHKLIST-3156 | 11/4/2013 | Approved | Commercial Operation - Power Generation in progress | - | 63.0 | Solar | 44031204 | Fairplains Ret 1204 |
| CHKLIST-3157 | 11/4/2013 | Project Not Active | Cancelled | - | 4,996.0 | Solar | 21361206 | Locust Ret 1206 |
| CHKLIST-3105 | 10/18/2013 | Approved | Commercial Operation - Power Generation in progress | - | 170.0 | Solar | 01522407 | Reames Rd Ret 2407 |
| CHKLIST-3095 | 10/15/2013 | Approved | Commercial Operation - Power Generation in progress | - | 40.0 | Solar | 03171206 | Kernersville Ret 1206 |
| CHKLIST-3055 | 10/2/2013 | Project Not Active | Withdrawn | - | 45.0 | Solar | 65011204 | Asheville Hwy Ret 1204 |
| CHKLIST-3057 | 10/2/2013 | Approved | Commercial Operation - Power Generation in progress | - | 27.6 | Solar | 14071207 | Horton Rd Ret 1207 |
| CHKLIST-3052 | 10/1/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | 10121210 | Randleman Rd Ret 1210 |
| CHKLIST-3030 | 9/27/2013 | Project Not Active | Cancelled | - | 4,998.0 | Solar | 51081201 | Prestonville Ret 1201 |
| CHKLIST-3031 | 9/27/2013 | Approved | Commercial Operation - Power Generation in progress | - | 3,000.0 | Solar | 29021201 | Boonville Ret 1201 |
| CHKLIST-3032 | 9/27/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | 21121212 | Majolica Rd Ret 1212 |
| CHKLIST-3033 | 9/27/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | 03081203 | Ebert Rd Ret 1203 |
| CHKLIST-3034 | 9/27/2013 | Project Not Active | Cancelled | - | 4,998.0 | Solar | 22321202 | Mt Pleasant Ret 1202 |
| CHKLIST-3035 | 9/27/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | 79251203 | Acrerock Tie 1203 |
| CHKLIST-3036 | 9/27/2013 | Project Not Active | Cancelled | - | 4,998.0 | Solar | 03351206 | Tyainger Rd Ret 1206 |
| CHKLIST-3037 | 9/27/2013 | Project Not Active | Withdrawn | - | 4,996.0 | Solar | 72042402 | Van Wyck Ret 2402 |
| CHKLIST-3038 | 9/27/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | 21372406 | Richfield Ret 2406 |
| CHKLIST-3039 | 9/27/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | 60862404 | Elmwood Ret 2404 |
| CHKLIST-3040 | 9/27/2013 | Project Not Active | Cancelled | - | 4,998.0 | Solar | 21061210 | Sumner Ret 1210 |
| CHKLIST-3041 | 9/27/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | 01552401 | Wallace Rd Ret 2401 |
| CHKLIST-3023 | 9/23/2013 | Project Not Active | Cancelled | - | 24.0 | Solar | 14021203 | Ashe St Sw Sta 1203 |
| CHKLIST-3021 | 9/19/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,999.0 | Solar | 79131201 | N Stanley Ret 1201 |
| CHKLIST-3022 | 9/19/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | 16801211 | Patterson Springs Ret 1211 |
| CHKLIST-3006 | 9/11/2013 | Project Not Active | Cancelled | - | 4,998.0 | Solar | 21481205 | China Grove Ret 1205 |
| CHKLIST-3007 | 9/11/2013 | Project Not Active | Withdrawn | - | 4,998.0 | Solar | 03651202 | Turnersburg Ret 1202 |
| CHKLIST-2984 | 8/23/2013 | Project Not Active | Cancelled | - | 4,500.0 | Solar | 13031205 | Catawba Ret 1205 |
| CHKLIST-2985 | 8/23/2013 | Project Not Active | Withdrawn | - | 4,500.0 | Solar | 10121205 | Randleman Rd Ret 1205 |
| CHKLIST-2979 | 8/21/2013 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | 90201210 | Glenwood Ret 1210 |
| CHKLIST-2968 | 8/15/2013 | Approved | Commercial Operation - Power Generation in progress | - | 225.0 | Solar | 01141201 | N Charlotte Ret 1201 |
| CHKLIST-2953 | 8/9/2013 | Project Not Active | Cancelled | - | 4,950.0 | Solar | 17141206 | Williamsburg Ret 1206 |
| CHKLIST-2954 | 8/9/2013 | Project Not Active | Withdrawn | - | 4,950.0 | Solar | 51061206 | Madison Ret 1206 |
| CHKLIST-2951 | 8/8/2013 | Approved | Commercial Operation - Power Generation in progress | - | 250.0 | Solar | 60711207 | Dunbar Ret 1207 |
| CHKLIST-2946 | 8/7/2013 | Project Not Active | Withdrawn | - | 4,950.0 | Solar | 51061206 | Madison Ret 1206 |
| CHKLIST-2935 | 7/29/2013 | Approved | Commercial Operation - Power Generation in progress | - | 700.0 | Biomass | 27091205 | Meadow Green Ret 1205 |
| CHKLIST-2931 | 7/26/2013 | Approved | Commercial Operation - Power Generation in progress | - | 750.0 | Solar | 09252404 | Denny Rd Ret 2404 |
| CHKLIST-2927 | 7/25/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 16271202 | Flay Ret 1202 |
| CHKLIST-2904 | 7/17/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | 21112402 | Linwood SS 2402 |
| CHKLIST-2905 | 7/17/2013 | Project Not Active | Cancelled | - | 3,500.0 | Solar | 13121211 | Claremont Ret 1211 |
| CHKLIST-2906 | 7/17/2013 | Project Not Active | Withdrawn | Not Applicable | 4,000.0 | Solar | 27111211 | Ridgeview Ret 1211 |
| CHKLIST-2907 | 7/17/2013 | Approved | Commercial Operation - Power Generation in progress | - | 3,000.0 | Solar | 11261204 | Oakwood St Ret 1204 |
| CHKLIST-2908 | 7/17/2013 | Approved | Commercial Operation - Power Generation in progress | - | 2,000.0 | Solar | 16861202 | Christopher Rd Ret 1202 |
| CHKLIST-2909 | 7/17/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 17121202 | Monroeton Ret 1202 |
| CHKLIST-2910 | 7/17/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | 16861201 | Christopher Rd Ret 1201 |
| CHKLIST-2891 | 7/3/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,000.0 | Solar | 29041201 | Cycle Ret 1201 |
| CHKLIST-2885 | 7/1/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,200.0 | Biomass | 01361203 | Bancroft Ret 1203 |
| CHKLIST-2868 | 6/20/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,675.0 | Solar | 16801212 | Patterson Springs Ret 1212 |
| CHKLIST-2859 | 6/14/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 09111201 | Kimesville Ret 1201 |
| CHKLIST-2856 | 6/13/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,890.0 | Solar | 70361203 | Crowders Creek Ret 1203 |
| CHKLIST-2857 | 6/13/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,990.0 | Solar | 16301201 | S Shelby SS 1201 |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| CHKLIST-2847 | 6/8/2013 | Approved | Commercial Operation - Power Generation in progress | - | 400.0 | Biomass | 65121205 | Mills River Ret 1205 |
| CHKLIST-2841 | 6/6/2013 | Project Not Active | Cancelled | - | 21.1 | Solar | 67131204 | Depot St Ret 1204 |
| CHKLIST-2842 | 6/6/2013 | Project Not Active | Withdrawn | - | 3,000.0 | Solar | 11261204 | Oakwood St Ret 1204 |
| CHKLIST-2844 | 6/6/2013 | Project Not Active | Withdrawn | - | 500.0 | Solar | 13121211 | Claremont Ret 1211 |
| CHKLIST-2831 | 5/30/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,990.0 | Solar | 16701203 | Blanton Ret 1203 |
| CHKLIST-2822 | 5/28/2013 | Project Not Active | Cancelled | - | 4,500.0 | Solar | 09082410 | Kildare Ret 2410 |
| CHKLIST-2823 | 5/28/2013 | Project Not Active | Cancelled | - | 4,500.0 | Solar | 21112402 | Linwood SS 2402 |
| CHKLIST-2824 | 5/28/2013 | Project Not Active | Cancelled | - | 4,500.0 | Solar | 80821206 | Triplett Ret 1206 |
| CHKLIST-2825 | 5/28/2013 | Project Not Active | Withdrawn | - | 4,500.0 | Solar | 03231210 | N Winston Ret 1210 |
| CHKLIST-2826 | 5/28/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,500.0 | Solar | 13191201 | Rhodhiss Ret 1201 |
| CHKLIST-2827 | 5/28/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,500.0 | Solar | 11241201 | Efland Ret 1201 |
| CHKLIST-2814 | 5/22/2013 | Approved | Commercial Operation - Power Generation in progress | - | 35.0 | Solar | 01241212 | Woodlawn Tie 1212 |
| CHKLIST-2803 | 5/20/2013 | Project Not Active | Cancelled | - | 3,000.0 | Solar | 51601205 | Ogburn Dist 1205 |
| CHKLIST-2804 | 5/20/2013 | Project Not Active | Withdrawn | - | 4,000.0 | Solar | 13121211 | Claremont Ret 1211 |
| CHKLIST-2805 | 5/20/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | 27091205 | Meadow Green Ret 1205 |
| CHKLIST-2806 | 5/20/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | 15171203 | Cleghorn SS 1203 |
| CHKLIST-2807 | 5/20/2013 | Project Not Active | Withdrawn | - | 4,000.0 | Solar | 11261206 | Oakwood St Ret 1206 |
| CHKLIST-2808 | 5/20/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 17011210 | Reidsville Ret 1210 |
| CHKLIST-2809 | 5/20/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 13431203 | Pinch Gut Creek Ret 1203 |
| CHKLIST-2801 | 5/17/2013 | Approved | Commercial Operation - Power Generation in progress | - | 2,000.0 | Solar | 21081203 | Cleveland Ret 1203 |
| CHKLIST-2787 | 5/14/2013 | Project Not Active | Cancelled | - | 2,500.0 | Solar | 16901205 | Mooresboro Ret 1205 |
| CHKLIST-2788 | 5/14/2013 | Approved | Commercial Operation - Power Generation in progress | - | 2,500.0 | Solar | 16061207 | Bethware Ret 1207 |
| CHKLIST-2789 | 5/14/2013 | Project Not Active | Cancelled | - | 2,500.0 | Solar | 16651203 | Belwood Ret 1203 |
| CHKLIST-2790 | 5/14/2013 | Project Not Active | Cancelled | - | 2,500.0 | Solar | 16681202 | Christopher Rd Ret 1202 |
| CHKLIST-2791 | 5/14/2013 | Approved | Commercial Operation - Power Generation in progress | - | 2,000.0 | Solar | 13351202 | Longview Ret 1202 |
| CHKLIST-2784 | 5/13/2013 | Project Not Active | Cancelled | - | 2,500.0 | Solar | 15241203 | Riverstone Ret 1203 |
| CHKLIST-2785 | 5/13/2013 | Pending | Pending | - | 1,589.3 | Solar | 65021201 | Big Willow Ret 1201 |
| CHKLIST-2780 | 5/9/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 13381201 | Old Mtn Rd Ret 1201 |
| CHKLIST-2781 | 5/9/2013 | Project Not Active | Withdrawn | - | 2,500.0 | Solar | 15951203 | Washburn Ret 1203 |
| CHKLIST-2764 | 5/2/2013 | Project Not Active | Cancelled | - | 2,714.0 | Solar | 67083403 | Nantahala Hydro 3403 |
| CHKLIST-2439 | 4/3/2013 | Approved | Commercial Operation - Power Generation in progress | - | 30.0 | Solar | 01241212 | Woodlawn Tie 1212 |
| CHKLIST-2419 | 3/20/2013 | Approved | Commercial Operation - Power Generation in progress | - | 600.0 | Solar | 65121205 | Mills River Ret 1205 |
| CHKLIST-2420 | 3/20/2013 | Project Not Active | Cancelled | - | 4,500.0 | Solar | 17121201 | Monroeton Ret 1201 |
| CHKLIST-2406 | 3/18/2013 | Project Not Active | Cancelled | - | 2,000.0 | Solar | 13101203 | Startown Ret 1203 |
| CHKLIST-2407 | 3/19/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 21061210 | Sumner Ret 1210 |
| CHKLIST-2408 | 3/19/2013 | Project Not Active | Withdrawn | - | 4,000.0 | Solar | 03372402 | Walnut Cove Tie 2402 |
| CHKLIST-2409 | 3/19/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 17141205 | Williamsburg Ret 1205 |
| CHKLIST-2410 | 3/19/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 17141206 | Williamsburg Ret 1206 |
| CHKLIST-2411 | 3/19/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 17141205 | Williamsburg Ret 1205 |
| CHKLIST-2415 | 3/19/2013 | Project Not Active | Withdrawn | - | 4,950.0 | Solar | 11261205 | Oakwood St Ret 1205 |
| CHKLIST-2418 | 3/19/2013 | Project Not Active | Withdrawn | - | 4,500.0 | Solar | 51601205 | Ogburn Dist 1205 |
| CHKLIST-2399 | 3/18/2013 | Project Not Active | Withdrawn | - | 4,000.0 | Solar | 17141205 | Williamsburg Ret 1205 |
| CHKLIST-2400 | 3/18/2013 | Project Not Active | Withdrawn | - | 4,000.0 | Solar | 14102401 | Eno Ret 2401 |
| CHKLIST-2401 | 3/18/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,000.0 | Solar | 60351202 | Grassy Pond Ret 1202 |
| CHKLIST-2402 | 3/18/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 13151201 | Mt Olive Ret 1201 |
| CHKLIST-2403 | 3/18/2013 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | 13431201 | Pinch Gut Creek Ret 1201 |
| CHKLIST-2404 | 3/18/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | 17011210 | Reidsville Ret 1210 |
| CHKLIST-2382 | 2/26/2013 | Project Not Active | Cancelled | - | 2,500.0 | Solar | 15171203 | Cleghorn SS 1203 |
| CHKLIST-2384 | 2/26/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,989.0 | Solar | 15951203 | Washburn Ret 1203 |
| CHKLIST-2385 | 2/26/2013 | Project Not Active | Cancelled | - | 2,500.0 | Solar | 15211201 | McGinnis Crossroads Ret 1201 |
| CHKLIST-2386 | 2/26/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,981.0 | Solar | 05171204 | Edneyville Ret 1204 |
| CHKLIST-2387 | 2/26/2013 | Project Not Active | Cancelled | - | 2,500.0 | Solar | 15211201 | McGinnis Crossroads Ret 1201 |
| CHKLIST-1025 | 2/21/2013 | Approved | Commercial Operation - Power Generation in progress | - | 790.0 | Solar | 01271206 | Mallard Creek Ret 1206 |
| CHKLIST-2363 | 2/11/2013 | Project Not Active | Withdrawn | - | 4,950.0 | Solar | 29061205 | Yadkinville Ret 1205 |
| CHKLIST-2364 | 2/11/2013 | Project Not Active | Withdrawn | - | 4,500.0 | Solar | 29061201 | Smithtown Ret 1201 |
| CHKLIST-2365 | 2/11/2013 | Project Not Active | Withdrawn | - | 4,500.0 | Solar | 17131203 | Gatewood Ret 1203 |
| CHKLIST-2366 | 2/11/2013 | Project Not Active | Withdrawn | - | 4,500.0 | Solar | 09262403 | Rudd Ret 2403 |
| CHKLIST-2367 | 2/11/2013 | Project Not Active | Withdrawn | - | 4,500.0 | Solar | 79041204 | North Lincoln Ret 1204 |
| CHKLIST-2347 | 2/5/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 27091205 | Meadow Green Ret 1205 |
| CHKLIST-2348 | 2/5/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,000.0 | Solar | 03372401 | Walnut Cove Tie 2401 |
| CHKLIST-2349 | 2/5/2013 | Project Not Active | Withdrawn | - | 4,000.0 | Solar | 15241202 | Riverstone Ret 1202 |
| CHKLIST-2350 | 2/5/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 16701202 | Blanton Ret 1202 |
| CHKLIST-2351 | 2/5/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | 17191202 | Waynick Rd Ret 1202 |
| CHKLIST-2352 | 2/5/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 16651202 | Belwood Ret 1202 |
| CHKLIST-2353 | 2/5/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 13161206 | Oyama Ret 1206 |
| CHKLIST-2354 | 2/5/2013 | Project Not Active | Cancelled | - | 4,000.0 | Solar | 17191201 | Waynick Rd Ret 1201 |
| CHKLIST-2355 | 2/5/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | 11172405 | Frieden Ret 2405 |
| CHKLIST-2356 | 2/5/2013 | Project Not Active | Withdrawn | - | 3,000.0 | Solar | 22321201 | Mt Pleasant Ret 1201 |
| CHKLIST-2357 | 2/5/2013 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | 13341201 | Catfish Ret 1201 |
| CHKLIST-2358 | 2/5/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | 09262403 | Rudd Ret 2403 |
| CHKLIST-2329 | 1/21/2013 | Project Not Active | Cancelled | - | 1,000.0 | Solar | 09252404 | Denny Rd Ret 2404 |
| CHKLIST-2319 | 1/16/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,600.0 | Biomass | 79291205 | Rankin Ave Ret 1205 |
| CHKLIST-2320 | 1/16/2013 | Project Not Active | Cancelled | - | 4,500.0 | Solar | 13341201 | Catfish Ret 1201 |
| CHKLIST-2321 | 1/16/2013 | Project Not Active | Cancelled | - | 4,500.0 | Solar | 79221202 | Webbs Chapel Ret 1202 |
| CHKLIST-2307 | 1/11/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,000.0 | Solar | 21401211 | Rockwell Ret 1211 |
| CHKLIST-2308 | 1/11/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 15161203 | Avondale Ret 1203 |
| CHKLIST-2309 | 1/11/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 15261206 | Hudlow Ret 1206 |
| CHKLIST-2310 | 1/11/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | 15171203 | Cleghorn SS 1203 |
| CHKLIST-2311 | 1/11/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 13341204 | Catfish Ret 1204 |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| CHKLIST-2312 | 1/11/2013 | Project Not Active | Withdrawn | - | 3,000.0 | Solar | 15241202 | Riverstone Ret 1202 |
| CHKLIST-2313 | 1/11/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 14142410 | Fairntosh Ret 2410 |
| CHKLIST-2248 | 12/4/2012 | Approved | Commercial Operation - Power Generation in progress | - | 3,000.0 | Solar | 15171203 | Cleghorn SS 1203 |
| CHKLIST-2249 | 12/4/2012 | Project Not Active | Withdrawn | - | 3,000.0 | Solar | 14042410 | Butner Ret 2410 |
| CHKLIST-2250 | 12/4/2012 | Project Not Active | Withdrawn | - | 4,000.0 | Solar | 13121212 | Claremont Ret 1212 |
| CHKLIST-2224 | 11/21/2012 | Project Not Active | Cancelled | - | 5,000.0 | Solar | 17191201 | Waynick Rd Ret 1201 |
| CHKLIST-2222 | 11/20/2012 | Project Not Active | Withdrawn | - | 4,950.0 | Solar | 17121202 | Monroeton Ret 1202 |
| CHKLIST-2217 | 11/19/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | 17011202 | Reidsville Ret 1202 |
| CHKLIST-2218 | 11/19/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | 13101203 | Stantown Ret 1203 |
| CHKLIST-2210 | 11/14/2012 | Approved | Commercial Operation - Power Generation in progress | - | 95.0 | Solar | 65201205 | Naples Ret 1205 |
| CHKLIST-2198 | 11/5/2012 | Approved | Commercial Operation - Power Generation in progress | - | 108.0 | Solar | 09032404 | Fairfax Rd Ret 2404 |
| CHKLIST-2199 | 11/5/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | 11042410 | Glen Raven Main 2410 |
| CHKLIST-2186 | 11/1/2012 | Approved | Commercial Operation - Power Generation in progress | - | 52.0 | Solar | 10172412 | Mills Ret 2412 |
| CHKLIST-2177 | 10/29/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,500.0 | Solar | 80731201 | Deerfield Ret 1201 |
| CHKLIST-2181 | 10/23/2012 | Approved | Commercial Operation - Power Generation in progress | - | 3,000.0 | Solar | 16701204 | Blanton Ret 1204 |
| CHKLIST-2182 | 10/23/2012 | Project Not Active | Cancelled | - | 5,000.0 | Solar | 16901204 | Mooresboro Ret 1204 |
| CHKLIST-2183 | 10/23/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 11071203 | Haw River Ret 1203 |
| CHKLIST-2184 | 10/23/2012 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 11151201 | Saxapahaw Ret 1201 |
| CHKLIST-1131 | 10/15/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 03552402 | Mocksville Main 2402 |
| CHKLIST-1132 | 10/15/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | 21311208 | Oakboro Ret 1208 |
| CHKLIST-1126 | 10/12/2012 | Approved | Commercial Operation - Power Generation in progress | - | 3,500.0 | Solar | 79361203 | Crowders Creek Ret 1203 |
| CHKLIST-1114 | 10/8/2012 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 16901204 | Mooresboro Ret 1204 |
| CHKLIST-1115 | 10/8/2012 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 15171203 | Cleghorn SS 1203 |
| CHKLIST-1116 | 10/8/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 13261202 | Zion Church Rd Ret 1202 |
| CHKLIST-1117 | 10/8/2012 | Project Not Active | Cancelled | - | 3,000.0 | Solar | 15151202 | Avondale Ret 1202 |
| CHKLIST-1097 | 10/4/2012 | Approved | Commercial Operation - Power Generation in progress | - | 62.0 | Solar | 21011209 | Salisbury Main 1209 |
| CHKLIST-1107 | 10/4/2012 | Approved | Commercial Operation - Power Generation in progress | - | 3,480.0 | Solar | 21431207 | Faith Ret 1207 |
| CHKLIST-1090 | 10/1/2012 | Project Not Active | Cancelled | - | 1,000.0 | Solar | 03241208 | Oak Ridge Ret 1208 |
| CHKLIST-1086 | 9/28/2012 | Project Not Active | Cancelled | - | 2,600.0 | Biomass | 79291210 | Rankin Ave Ret 1210 |
| CHKLIST-1072 | 9/25/2012 | Project Not Active | Cancelled | - | 95.0 | Solar | 65201206 | Naples Ret 1206 |
| CHKLIST-1074 | 9/25/2012 | Project Not Active | Withdrawn | - | 3,670.0 | Solar | 15241203 | Riverstone Ret 1203 |
| CHKLIST-0967 | 9/19/2012 | Project Not Active | Cancelled | - | 1,475.0 | Biomass | 01241206 | Woodlawn Tie 1206 |
| CHKLIST-1050 | 9/12/2012 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 11191202 | Swepsonville Tie 1202 |
| CHKLIST-1051 | 9/12/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 09111201 | Kimesville Ret 1201 |
| CHKLIST-1052 | 9/12/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,500.0 | Solar | 16901204 | Mooresboro Ret 1204 |
| CHKLIST-1043 | 9/5/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,996.4 | Solar | 65171204 | Edneyville Ret 1204 |
| CHKLIST-1012 | 8/14/2012 | Approved | Commercial Operation - Power Generation in progress | - | 260.8 | Solar | 01241210 | Woodlawn Tie 1210 |
| CHKLIST-1007 | 8/9/2012 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 60351202 | Grassy Pond Ret 1202 |
| CHKLIST-1003 | 8/7/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 16071212 | Parkway SS 1212 |
| CHKLIST-0983 | 7/23/2012 | Approved | Commercial Operation - Power Generation in progress | - | 3,000.0 | Solar | 11151201 | Saxapahaw Ret 1201 |
| CHKLIST-0984 | 7/23/2012 | Approved | Commercial Operation - Power Generation in progress | - | 3,000.0 | Solar | 11161203 | Pleasant Grove Ret 1203 |
| CHKLIST-0985 | 7/23/2012 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 16901204 | Mooresboro Ret 1204 |
| CHKLIST-0955 | 6/27/2012 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 09061203 | Climax Ret 1203 |
| CHKLIST-0956 | 6/27/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 09411208 | Tabernacle Church Ret 1208 |
| CHKLIST-0957 | 6/27/2012 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 11031201 | Gibsonville Dist 1201 |
| CHKLIST-0944 | 6/22/2012 | Approved | Construction - Pending IA/Customer Payment | - | 1,996.4 | Solar | 15241202 | Riverstone Ret 1202 |
| CHKLIST-0945 | 6/22/2012 | Project Not Active | Withdrawn | - | 1,996.4 | Solar | 15241203 | Riverstone Ret 1203 |
| CHKLIST-0946 | 6/22/2012 | Project Not Active | Withdrawn | - | 1,996.4 | Solar | 15901202 | Mooresboro Ret 1202 |
| CHKLIST-0947 | 6/22/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,996.4 | Solar | 15901202 | Mooresboro Ret 1202 |
| CHKLIST-0948 | 6/22/2012 | Project Not Active | Withdrawn | - | 1,996.4 | Solar | 15951203 | Washburn Ret 1203 |
| CHKLIST-0949 | 6/22/2012 | Project Not Active | Withdrawn | - | 1,996.4 | Solar | 15211201 | McGinnis Crossroads Ret 1201 |
| CHKLIST-0922 | 6/12/2012 | Approved | Commercial Operation - Power Generation in progress | - | 52.5 | Solar | 01281205 | Kenilworth Ret 1205 |
| CHKLIST-0916 | 6/8/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | 17191202 | Waynick Rd Ret 1202 |
| CHKLIST-0910 | 6/5/2012 | Approved | Commercial Operation - Power Generation in progress | - | 112.0 | Solar | 14192410 | Ellis Rd Ret 2410 |
| CHKLIST-0904 | 6/4/2012 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 16271202 | Flay Ret 1202 |
| CHKLIST-0894 | 5/29/2012 | Approved | Commercial Operation - Power Generation in progress | - | 40.9 | Solar | 11172408 | Frieden Ret 2408 |
| CHKLIST-10869 | 5/11/2012 | Approved | Commercial Operation - Power Generation in progress | - | 600.0 | Hydroelectric | 16911201 | Stice Shoals Tie 1201 |
| CHKLIST-0871 | 5/7/2012 | Project Not Active | Withdrawn | - | 1,996.4 | Solar | 65171203 | Edneyville Ret 1203 |
| CHKLIST-0872 | 5/7/2012 | Project Not Active | Cancelled | - | 1,500.0 | Solar | 65171202 | Edneyville Ret 1202 |
| CHKLIST-0873 | 5/7/2012 | Project Not Active | Withdrawn | - | 1,996.4 | Solar | 65171202 | Edneyville Ret 1202 |
| CHKLIST-0858 | 5/2/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,000.0 | Solar | 11172405 | Frieden Ret 2405 |
| CHKLIST-0859 | 5/2/2012 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 09791202 | Pleasant Garden Ret 1202 |
| CHKLIST-0854 | 5/1/2012 | Approved | Commercial Operation - Power Generation in progress | - | 3,000.0 | Solar | 11172406 | Frieden Ret 2406 |
| CHKLIST-0856 | 5/1/2012 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 09052404 | Vandalia Ret 2404 |
| CHKLIST-0857 | 5/1/2012 | Project Not Active | Withdrawn | - | 4,000.0 | Solar | 09411208 | Tabernacle Church Ret 1208 |
| CHKLIST-0844 | 4/26/2012 | Project Not Active | Withdrawn | - | 135.0 | Solar | 01141201 | N Charlotte Ret 1201 |
| CHKLIST-0845 | 4/26/2012 | Project Not Active | Withdrawn | - | 500.0 | Solar | 01061205 | Hickory Grove Ret 1205 |
| CHKLIST-0835 | 4/20/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 11161203 | Kimesville Ret 1203 |
| CHKLIST-0833 | 4/19/2012 | Approved | Commercial Operation - Power Generation in progress | - | 135.0 | Solar | 16071209 | Parkway SS 1209 |
| CHKLIST-0832 | 4/18/2012 | Project Not Active | Withdrawn | - | 3,200.0 | Biomass | 22281201 | Speedway Ret 1201 |
| CHKLIST-0776 | 4/17/2012 | Approved | Commercial Operation - Pending | - | 33.0 | Wind | 14011207 | Durham Main 1207 |
| CHKLIST-0830 | 4/16/2012 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | 09061204 | Climax Ret 1204 |
| CHKLIST-0823 | 4/10/2012 | Project Not Active | Cancelled | - | 70.0 | Biomass | 15121203 | Oakland Rd Ret 1203 |
| CHKLIST-0815 | 4/3/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 13261201 | Zion Church Rd Ret 1201 |
| CHKLIST-0816 | 4/3/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 17021203 | Ruffin Ret 1203 |
| CHKLIST-0817 | 4/3/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 79041204 | North Lincoln Ret 1204 |
| CHKLIST-0818 | 4/3/2012 | Approved | Commercial Operation - Power Generation in progress | - | 100.0 | Solar | 01492406 | Coffey Creek Ret 2406 |
| CHKLIST-0803 | 3/28/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | 72542413 | Beaver Dam Ret 2413 |
| CHKLIST-0797 | 3/20/2012 | Project Not Active | Cancelled | - | 1,500.0 | Solar | 15241203 | Riverstone Ret 1203 |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| CHKLIST-0788 | 3/12/2012 | Approved | Commercial Operation - Power Generation in progress | - | 20.4 | Solar | 11172408 | Frieden Ret 2408 |
| CHKLIST-0782 | 3/6/2012 | Approved | Commercial Operation - Power Generation in progress | - | 800.0 | Biomass | 51061204 | Madison Ret 1204 |
| CHKLIST-0768 | 2/28/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 16801211 | Patterson Springs Ret 1211 |
| CHKLIST-0769 | 2/28/2012 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | 16271202 | Flay Ret 1202 |
| CHKLIST-0759 | 2/13/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 19051202 | White Cross Ret 1202 |
| CHKLIST-0746 | 2/7/2012 | Approved | Commercial Operation - Power Generation in progress | - | 3,500.0 | Solar | 28061204 | Bannertown Tie 1204 |
| CHKLIST-0738 | 1/24/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | 16521201 | Waco Ret 1201 |
| CHKLIST-0739 | 1/24/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 03552402 | Mocksville Main 2402 |
| CHKLIST-0711 | 12/20/2011 | Substation A | Fast Track Study - Study Complete | Fast Track Study | 100.0 | Solar | 09042406 | Randolph Ave Ret 2406 |
| CHKLIST-0712 | 12/20/2011 | Project Not Active | Withdrawn | - | 45.0 | Solar | 09252412 | Denny Rd Ret 2412 |
| CHKLIST-0713 | 12/20/2011 | Pending | Pending | - | 150.0 | Solar | 09252412 | Denny Rd Ret 2412 |
| CHKLIST-0703 | 12/6/2011 | Project Not Active | Withdrawn | - | 4,600.0 | Biomass | 22261202 | Roberta Rd Ret 1202 |
| CHKLIST-0695 | 11/28/2011 | Approved | Commercial Operation - Power Generation in progress | - | 70.0 | Biomass | 44001213 | Browns Ford Ret 1213 |
| CHKLIST-0682 | 11/18/2011 | Approved | Commercial Operation - Power Generation in progress | - | 30.0 | Solar | 14011207 | Durham Main 1207 |
| CHKLIST-0672 | 11/17/2011 | Project Not Active | Cancelled | - | 90.0 | Solar | 17011206 | Reidsville Ret 1206 |
| CHKLIST-0673 | 11/17/2011 | Approved | Commercial Operation - Power Generation in progress | - | 50.0 | Solar | 09042405 | Randolph Ave Ret 2405 |
| CHKLIST-0654 | 11/10/2011 | Approved | Commercial Operation - Power Generation in progress | - | 24.0 | Solar | 13071202 | Glen Alpine Ret 1202 |
| CHKLIST-0655 | 11/10/2011 | Approved | Commercial Operation - Power Generation in progress | - | 4,000.0 | Solar | 16651202 | Belwood Ret 1202 |
| CHKLIST-0643 | 11/7/2011 | Approved | Commercial Operation - Power Generation in progress | - | 72.0 | Solar | 09262403 | Rudd Ret 2403 |
| CHKLIST-0645 | 11/7/2011 | Approved | Commercial Operation - Power Generation in progress | - | 94.1 | Solar | 01721201 | Davidson Ret 1201 |
| CHKLIST-0624 | 10/28/2011 | Project Not Active | Cancelled | - | 75.0 | Solar | 79031212 | Lincolnton Tie 1212 |
| CHKLIST-0626 | 10/28/2011 | Approved | Commercial Operation - Power Generation in progress | - | 175.0 | Solar | 09502412 | Colfax Ret 2412 |
| CHKLIST-0605 | 10/26/2011 | Project Not Active | Cancelled | - | 100.0 | Solar | 09052404 | Vandalia Ret 2404 |
| CHKLIST-0606 | 10/17/2011 | Approved | Commercial Operation - Power Generation in progress | - | 1,500.0 | Solar | 10251204 | Fair Grove Ret 1204 |
| CHKLIST-0604 | 10/13/2011 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | 13341201 | Catfish Ret 1201 |
| CHKLIST-0593 | 10/7/2011 | Approved | Commercial Operation - Power Generation in progress | - | 83.7 | Solar | 10151210 | E Thomasville Ret 1210 |
| CHKLIST-0571 | 9/15/2011 | Approved | Commercial Operation - Power Generation in progress | - | 1,600.0 | Biomass | 28061207 | Bannertown Tie 1207 |
| CHKLIST-0548 | 8/22/2011 | Approved | Commercial Operation - Power Generation in progress | - | 30.0 | Solar | 09032407 | Fairfax Rd Ret 2407 |
| CHKLIST-0526 | 8/9/2011 | Project Not Active | Cancelled | - | 21.0 | Solar | 80731202 | Deerfield Ret 1202 |
| CHKLIST-0519 | 8/2/2011 | Approved | Commercial Operation - Power Generation in progress | - | 1,059.0 | Biomass | 19061204 | Homestead Ret 1204 |
| CHKLIST-0434 | 6/1/2011 | Approved | Commercial Operation - Power Generation in progress | - | 28.8 | Solar | 10042412 | Linden St Sw Sta 2412 |
| CHKLIST-0395 | 5/10/2011 | Project Not Active | Cancelled | - | 1,900.0 | Solar | 90201210 | Glenwood Ret 1210 |
| CHKLIST-0379 | 4/28/2011 | Approved | Commercial Operation - Power Generation in progress | - | 169.0 | Solar | 17010402 | Reidsville Ret 0402 |
| CHKLIST-0382 | 4/28/2011 | Approved | Commercial Operation - Power Generation in progress | - | 4,000.0 | Solar | 16071209 | Parkway SS 1209 |
| CHKLIST-0401 | 4/19/2011 | Approved | Commercial Operation - Power Generation in progress | - | 4,500.0 | Solar | 22191202 | Easy St Ret 1202 |
| CHKLIST-0375 | 4/4/2011 | Project Not Active | Cancelled | - | 300.0 | - | 13261201 | Zion Church Rd Ret 1201 |
| CHKLIST-0393 | 3/23/2011 | Approved | Commercial Operation - Power Generation in progress | - | 49.0 | Solar | 01061214 | Hickory Grove Ret 1214 |
| CHKLIST-0398 | 3/23/2011 | Approved | Commercial Operation - Power Generation in progress | - | 135.0 | Solar | 13181206 | Oyama Ret 1206 |
| CHKLIST-0400 | 3/23/2011 | Approved | Commercial Operation - Power Generation in progress | - | 27.4 | Solar | 01071205 | Lakewood Ret 1205 |
| CHKLIST-0182 | 3/9/2011 | Approved | Commercial Operation - Power Generation in progress | - | 100.0 | Solar | 14162411 | Imperial Ret 2411 |
| CHKLIST-0339 | 2/25/2011 | Approved | Commercial Operation - Power Generation in progress | - | 221.8 | Solar | 11082413 | Trollingwood Ret 2413 |
| CHKLIST-0394 | 2/8/2011 | Approved | Commercial Operation - Power Generation in progress | - | 60.0 | Solar | 60711206 | Dunbar Ret 1206 |
| CHKLIST-0072 | 11/22/2010 | Approved | Commercial Operation - Power Generation in progress | - | 101.2 | Solar | 14251202 | Ellerbee Ret 1202 |
| CHKLIST-0003 | 10/26/2010 | Approved | Commercial Operation - Power Generation in progress | - | 1,000.0 | Solar | 28061207 | Bannertown Tie 1207 |
| CHKLIST-0166 | 10/19/2010 | Approved | Commercial Operation - Power Generation in progress | - | 200.0 | Solar | 14192406 | Ellis Rd Ret 2406 |
| CHKLIST-0047 | 10/4/2010 | Project Not Active | Cancelled | - | 2,000.0 | Solar | 01332411 | Wilgrove Ret 2411 |
| CHKLIST-0049 | 10/4/2010 | Project Not Active | Cancelled | - | 1,000.0 | Solar | 01342407 | Newell Ret 2407 |
| CHKLIST-0075 | 7/20/2010 | Approved | Commercial Operation - Power Generation in progress | - | 28.0 | Solar | 14192410 | Ellis Rd Ret 2410 |
| CHKLIST-0160 | 7/9/2010 | Approved | Commercial Operation - Power Generation in progress | - | 250.0 | Solar | 01351210 | Little Rock Ret 1210 |
| CHKLIST-0184 | 5/21/2010 | Approved | Commercial Operation - Power Generation in progress | - | 30.0 | Solar | 11252406 | St Marks Ret 2406 |
| CHKLIST-0290 | 4/9/2010 | Approved | Commercial Operation - Power Generation in progress | - | 30.0 | Solar | 01492405 | Coffey Creek Ret 2405 |
| CHKLIST-0200 | 11/23/2009 | Approved | Commercial Operation - Power Generation in progress | - | 1,600.0 | Biomass | 10161206 | Holly Hill Ret 1206 |
| CHKLIST-0208 | 11/12/2009 | Approved | Commercial Operation - Power Generation in progress | - | 135.0 | Solar | 14182402 | Treyburn Ret 2402 |
| CHKLIST-0189 | 10/22/2009 | Approved | Commercial Operation - Power Generation in progress | - | 150.0 | Solar | 21010405 | Salisbury Main 0405 |
| CHKLIST-0240 | 10/19/2009 | Approved | Commercial Operation - Power Generation in progress | - | 440.0 | Hydroelectric | 11091201 | Hopedale Dist 1201 |
| CHKLIST-0039 | 9/28/2009 | Approved | Commercial Operation - Power Generation in progress | - | 24.0 | Solar | 09082406 | Kildare Ret 2406 |
| CHKLIST-0161 | 9/15/2009 | Approved | Commercial Operation - Power Generation in progress | - | 27.5 | Solar | 01041207 | Elizabeth Ave Ret 1207 |
| CHKLIST-0035 | 9/10/2009 | Approved | Commercial Operation - Power Generation in progress | - | 35.5 | Solar | 09042407 | Randolph Ave Ret 2407 |
| CHKLIST-0210 | 4/20/2009 | Approved | Commercial Operation - Power Generation in progress | - | 11,500.0 | Biomass | 22281202 | Speedway Ret 1202 |
| CHKLIST-0212 | 4/20/2009 | Approved | Commercial Operation - Power Generation in progress | - | 5,300.0 | Biomass | 22281202 | Speedway Ret 1202 |
| CHKLIST-0033 | 3/5/2009 | Approved | Commercial Operation - Power Generation in progress | - | 21.4 | Solar | 09102406 | Summerfield Ret 2406 |
| CHKLIST-0252 | 8/25/2008 | Approved | Commercial Operation - Power Generation in progress | - | 51.0 | Solar | 14192410 | Ellis Rd Ret 2410 |
| CHKLIST-0128 | 8/11/2008 | Approved | Commercial Operation - Power Generation in progress | - | 2,400.0 | Biomass | 03111201 | Goodwill Church Rd Ret 1201 |
| CHKLIST-0193 | 12/17/2007 | Approved | Commercial Operation - Power Generation in progress | - | 30.0 | Solar | 01212406 | Morning Star Tie 2406 |
| CHKLIST-0198 | 9/29/2006 | Approved | Commercial Operation - Power Generation in progress | - | 30.0 | Solar | 14162411 | Imperial Ret 2411 |
| CHKLIST-0187 | 1/1/1900 | Project Not Active | Cancelled | - | 1,000.0 | Biomass | 19061204 | Homestead Ret 1204 |
| CHKLIST-3046 | 1/1/1900 | Project Not Active | Cancelled | - | 1,238.0 | Solar | 09252411 | Denny Rd Ret 2411 |
| CHKLIST-3692 | 1/1/1900 | Project Not Active | Withdrawn | - | 4,950.0 | Solar | 11161202 | Pleasant Grove Ret 1202 |
| - | 1/1/1900 | - | Cancelled | - | 30.8 | Solar | 01212406 | - |
| - | 1/1/1900 | - | Withdrawn | - | 38.3 | Solar | 01222411 | Piper Glen Ret |
| - | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 240.0 | Hydroelectric | 11172405 | Frieden Ret 2405 |
| - | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 325.0 | Hydroelectric | 15151202 | Avondale Ret 1202 |
| - | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 365.0 | Hydroelectric | 13411202 | Macedonia Ret 1202 |
| - | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 500.0 | Hydroelectric | 27100402 | Leaksville Ret 0402 |
| - | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 750.0 | Hydroelectric | 79091201 | High Shoals Ret 1201 |
| - | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 820.0 | Hydroelectric | 79051201 | Harden Ret 1201 |
| - | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 951.0 | Hydroelectric | 51061205 | Madison Ret 1205 |
| - | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 1,275.0 | Hydroelectric | 51050401 | Mayodan Ret 0401 |
| - | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 1,500.0 | Hydroelectric | 03552402 | Mocksville Main 2402 |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| - | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 1,500.0 | Hydroelectric | 11151201 | Saxapahaw Ret 1201 |
| - | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 1,600.0 | Hydroelectric | 15151202 | Avondale Ret 1202 |
| - | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 1,800.0 | Hydroelectric | 79091201 | High Shoals Ret 1201 |
| - | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 3,160.0 | Biomass | 14091206 | Oxford Rd Ret 1206 |
| - | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 3,600.0 | Hydroelectric | 15201203 | Lake Lure Ret 1203 |
| - | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 4,000.0 | Biomass | 13261201 | Zion Church Rd Ret 1201 |
| - | 1/1/1900 | Cancelled | Cancelled | - | 10,000.0 | Solar | - | - |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 40.5 | Solar | - | - |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 48.1 | Solar | 01462405 | Steele Creek Ret 2405 |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 60.2 | Solar | 79121204 | McAdenville Jct Tie 1204 |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 70.6 | Solar | 65011210 | Asheville Hwy Ret 1210 |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 93.1 | Solar | 14162403 | Imperial Ret 2403 |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 95.8 | Solar | 01291210 | Bethaven Ret 1210 |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 136.9 | Solar | 79221201 | Webbs Chapel Ret 1201 |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 153.3 | Solar | 19031206 | James St Ret 1206 |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 226.7 | Solar | 09502410 | Colfax Ret 2410 |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 260.0 | Solar | 03432407 | Willard Rd Ret 2407 |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 304.3 | Solar | 21061203 | Cleveland Ret 1203 |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 330.3 | Solar | 10042405 | Linden St Sw Sta 2405 |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 448.9 | Solar | 01492408 | Coffey Creek Ret 2408 |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 452.2 | Solar | 01321206 | Sunset Ret 1206 |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 871.3 | Solar | 80831202 | Marshall Ret 1202 |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 925.1 | Solar | 21121210 | Majolica Rd Ret 1210 |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 1,009.0 | Solar | 79291208 | Rankin Ave Ret 1208 |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 1,042.0 | Solar | 09502410 | Colfax Ret 2410 |
| - | 1/1/1900 | - | Commercial Operation - Complete pending power generation | - | 1,647.5 | Solar | 01421206 | Kudzu Ret 1206 |
| - | 1/1/1900 | - | IR Review - In Progress | - | 22.6 | - | - | - |
| - | 1/1/1900 | - | IR Review - In Progress | - | 23.0 | - | - | - |
| - | 1/1/1900 | - | IR Review - In Progress | - | 28.0 | - | - | - |
| - | 1/1/1900 | - | IR Review - In Progress | - | 30.0 | - | - | - |
| - | 1/1/1900 | - | IR Review - In Progress | - | 36.0 | - | - | - |
| - | 1/1/1900 | - | IR Review - In Progress | - | 36.0 | - | - | - |
| - | 1/1/1900 | - | IR Review - In Progress | - | 43.2 | - | - | - |
| - | 1/1/1900 | - | IR Review - In Progress | - | 50.0 | - | - | - |
| - | 1/1/1900 | - | IR Review - In Progress | - | 60.0 | - | - | - |
| - | 1/1/1900 | - | IR Review - Pending | - | 36.0 | - | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 25.5 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 28.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 28.8 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 28.8 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 28.8 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 28.8 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 33.3 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 33.3 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 34.5 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 40.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 40.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 48.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 52.2 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 52.2 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 52.2 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | - | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 61.2 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 61.2 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 61.2 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 61.2 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 66.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 66.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 66.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 66.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 66.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 66.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 72.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 72.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 72.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 72.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 72.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 72.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 73.3 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 75.6 | Solar | - | - |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 95.4 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 100.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 100.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 100.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 110.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 115.2 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 201.3 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 299.7 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 323.0 | - | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 496.0 | Solar | - | - |
| - | 1/1/1900 | Project Not Active | Cancelled | - | 26.0 | - | - | - |
| - | 1/1/1900 | Project Not Active | Cancelled | - | 1,000.0 | Diesel | 03141215 | Hawthorne Rd Ret 1215 |
| - | 1/1/1900 | Project Not Active | Cancelled | - | 1,990.0 | Solar | 11082410 | Trollingwood Ret 2410 |
| - | 1/1/1900 | Project Not Active | Withdrawn | - | 23.4 | Solar | 11161203 | Pleasant Grove Ret 1203 |
| - | 1/1/1900 | Project Not Active | Withdrawn | - | 100.0 | Solar | 14162411 | Imperial Ret 2411 |
| - | 1/1/1900 | Project Not Active | Withdrawn | - | 230.0 | Solar | 22191201 | Easy St. Ret |
| - | 1/1/1900 | Project Not Active | Withdrawn | - | 3,500.0 | Solar | 79091201 | High Shoals Ret 1201 |

Disclaimer: Please note this queue report is updated twice a month. Information is accurate as of the date listed in the title of this report. Please contact DERContracts@duke-energy.com if you have questions about the status of your project.

DUKE ENERGY.

**Duke Energy Progress NC Interconnection Queue Snapshot for December 2018 as of 12/27/2018**

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| 2018-11-06 09.23:00 | 11/7/2018 | Substation A | Construction - Under Construction / In Progress | - | 23.4 | Solar | T4600B01 | CARY 230KV |
| NC2018-03191 | 10/16/2018 | Substation A | Construction - Pending Customer Obligation | - | 34.5 | Solar | T0371B02 | BEAVERDAM 115KV |
| NC2018-03190 | 10/15/2018 | Substation B | Supplemental Study - Pending Customer Response | Supplemental Study | 50.0 | Solar | T4595B01 | CARALEIGH 230KV |
| CPRE | 10/9/2018 | - | CPRE Tranche 1 Position | - | - | - | | - |
| NC2018-03184 | 9/28/2018 | Substation A | Commercial Operation - Power Generation in progress | - | 22.9 | Solar | T0745B12 | REYNOLDS 115kV |
| NC2018-03181 | 9/17/2018 | Substation A | Supplemental Study - Study Complete | Supplemental Study | 23.0 | Solar | T4603B11 | GREEN LEVEL 230KV |
| NC2018-03182 | 9/17/2018 | Substation B | Supplemental Study - Pending Customer Response | Supplemental Study | 21.4 | Solar | T4603B11 | GREEN LEVEL 230KV |
| NC2018-03180 | 9/15/2018 | Substation A | Supplemental Study - Study Complete | Supplemental Study | 86.8 | Solar | T5126B13 | RALEIGH YONKERS ROAD 115KV |
| INT-2018-04069 | 9/12/2018 | - | Commercial Operation - Power Generation in Progress | - | 21.1 | Solar | T0750B11 | Oteen 115kV |
| NC2018-03176 | 9/12/2018 | Substation A | Construction - Pending Customer Obligation | - | 67.8 | Solar | T5131B01 | RALEIGH NORTHSIDE 115KV |
| NC2018-03177 | 9/11/2018 | Substation A | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 5,000.0 | Solar | T4810B12 | CARY TRENTON ROAD 230KV |
| NC2018-03172 | 9/5/2018 | Substation A | Supplemental Study - Pending Customer Response | Supplemental Study | 40.0 | Solar | T4240B01 | MOREHEAD 115KV |
| NC2018-03171 | 8/31/2018 | Substation A | Construction - Pending Customer Obligation | - | 96.0 | Solar | T0870B02 | WEAVERVILLE 115KV |
| INT-2018-00381 | 8/22/2018 | - | Construction - Pending Meter Installation | - | 25.8 | Solar | 03451203 | Biscoe 115Kv |
| NC2018-03167 | 8/22/2018 | Substation A | Supplemental Study - Pending Customer Response | Supplemental Study | 100.0 | Solar | T4595B01 | CARALEIGH 230KV |
| NC2018-03156 | 6/22/2018 | Substation A | Construction - Under Construction / In Progress | - | 100.0 | Solar | T5970B07 | SELMA 230KV |
| NC2018-03155 | 6/21/2018 | Substation A | Construction - Pending Customer Obligation | - | 25.0 | Solar | T4500B13 | ARCHER LODGE 230KV |
| NC2018-03151 | 6/14/2018 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T1360B03 | MT. GILEAD 115KV |
| NC2018-03152 | 6/14/2018 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T1360B03 | MT. GILEAD 115KV |
| NC2018-03153 | 6/14/2018 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T1360B02 | MT. GILEAD 115KV |
| NC2018-03154 | 6/14/2018 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T1360B02 | MT. GILEAD 115KV |
| INT-2018-02011 | 5/30/2018 | - | Commercial Operation - Power Generation In Progress | - | 24.2 | Solar | T1700B11 | West End 230Kv |
| NC2018-03148 | 5/23/2018 | Project Not Active | Cancelled | - | 1,000.0 | Solar | T1428B01 | ROCKINGHAM-ABERDEEN ROAD |
| NC2018-03149 | 5/23/2018 | Substation A | Commercial Operation - Power Generation in progress | - | 43.2 | Solar | T5005B07 | MORDECAI 115KV |
| NC2018-03146 | 5/10/2018 | Substation B | Construction - Pending | - | 278.0 | Solar | T4276B02 | RHEMS 230KV |
| NC2018-03147 | 5/10/2018 | Substation B | Interconnection Agreement - In Progress | - | 370.0 | Solar | T4276B02 | RHEMS 230KV |
| NC2018-03135 | 4/24/2018 | On Hold | Fast Track Study - On-Hold Interdependency | Fast Track Study | 1,000.0 | Solar | T5860B04 | LILLINGTON 115KV |
| NC2018-03134 | 4/23/2018 | Substation B | Commercial Operation - Power Generation in progress | - | 28.8 | Solar | T6455B01 | MASONBORO 230KV |
| NC2018-03132 | 4/13/2018 | On Hold | System Impact Study - On-Hold Interdependency | | 1,000.0 | Solar | T5660B05 | DUNN 230KV |
| NC2018-03127 | 3/28/2018 | Substation B | System Impact Study - Pending Customer Response | Customer Transformer Inrush Data Collection | 1,000.0 | Solar | T5660B01 | DUNN 230KV |
| NC2018-03126 | 3/27/2018 | Approved | Commercial Operation - Power Generation in progress | - | 22.1 | Solar | T6455B01 | MASONBORO 230KV |
| NC2018-03115 | 3/7/2018 | Project Not Active | Withdrawn | Not Applicable | 2,000.0 | Solar | T5660B05 | DUNN 230KV |
| NC2018-03112 | 3/1/2018 | Substation A | Commercial Operation - Power Generation in progress | - | 28.8 | Solar | T0515B02 | EMMA 115KV |
| NC2018-03111-1 | 2/28/2018 | Substation A | Construction - Pending IA/Customer Payment | - | 28.8 | Solar | T4210B12 | JACKSONVILLE CITY 115KV |
| NC2018-03104 | 1/24/2018 | Substation A | Commercial Operation - Power Generation in progress | - | 37.8 | Solar | T5660B05 | DUNN 230KV |
| NC2018-03103 | 1/23/2018 | Substation A | Facility Study - Pending | Not Applicable | 3,000.0 | Solar | T5695B01 | MT. OLIVE INDUSTRIAL115KV |
| NC2018-03096 | 1/11/2018 | Substation A | System Impact Study - Pending Customer Response | Customer Transformer Inrush Data Collection | 6,201.0 | Solar | T2200B23 | LAURINBURG 230KV |
| NC2018-03099 | 1/10/2018 | Approved | Commercial Operation - Power Generation in progress | - | 30.0 | Solar | T5136B04 | RALEIGH OAKDALE 230KV |
| NC2018-03097 | 1/9/2018 | Approved | Commercial Operation - Power Generation in progress | - | 24.0 | Solar | T5314B11 | GARNER TRYON HILLS 115KV |
| NC2017-03094 | 12/15/2017 | Project Not Active | Withdrawn | - | 49.0 | Solar | T0515B03 | EMMA 115KV |
| NC2017-03093 | 12/8/2017 | Approved | Commercial Operation - Power Generation in progress | - | 22.8 | Solar | T0340B16 | WEST ASHEVILLE 115KV |
| NC2017-03088 | 11/18/2017 | Substation B | System Impact Study - In Progress | Transformer Inrush/Advanced Study | 2,000.0 | Solar | T0965B03 | ASHEBORO NORTH 115KV |
| NC2017-03085 | 11/13/2017 | Substation A | System Impact Study - In Progress | Transformer Inrush/Advanced Study | 5,000.0 | Battery | T0510B22 | ELK MOUNTAIN 115KV |
| NC2017-03083 | 11/10/2017 | Substation A | System Impact Study - In Progress | Protection Study | 2,000.0 | Solar | T4222B01 | KINGS BLUFF 115KV |
| NC2017-03081 | 11/9/2017 | Substation A | System Impact Study - In Progress | Transformer Inrush/Advanced Study | 5,000.0 | Solar | T0510B11 | ELK MOUNTAIN 115KV |
| NC2017-03078 | 11/2/2017 | Substation B | Facility Study - Pending | - | 999.0 | Solar | T1610B04 | TROY 115KV |
| NC2017-03077 | 10/27/2017 | Substation B | Supplemental Study - Study Complete | Supplemental Study | 950.0 | Solar | T4810B13 | CARY TRENTON ROAD 230KV |
| NC2017-03076 | 10/25/2017 | Project Not Active | Withdrawn | Not Applicable | 11,000.0 | Solar | T1360B02 | MT. GILEAD 115KV |
| NC2017-03068 | 10/3/2017 | Substation A | System Impact Study - Pending Customer Response | Not Applicable | 999.0 | Solar | T1428B01 | ROCKINGHAM ABERDEEN ROAD 230KV |
| NC2017-03059 | 9/28/2017 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T2520B02 | ST. PAULS 115KV |
| NC2017-03060 | 9/28/2017 | Project Not Active | Cancelled | - | 1,000.0 | Solar | T2475B02 | SHANNON 115KV |
| NC2017-03061 | 9/26/2017 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T2475B02 | SHANNON 115KV |
| NC2017-03062 | 9/26/2017 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T4319B02 | GLOBAL TRANSPARK 115KV |
| NC2017-03063 | 9/26/2017 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T4319B01 | GLOBAL TRANSPARK 115KV |
| NC2017-03057 | 9/22/2017 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T4319B02 | GLOBAL TRANSPARK 115KV |
| NC2017-03058 | 9/22/2017 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T2475B02 | SHANNON 115KV |
| NC2017-03056 | 9/21/2017 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T2520B02 | ST. PAULS 115KV |
| NC2017-03052 | 9/16/2017 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T2475B02 | SHANNON 115KV |
| NC2017-03053 | 9/15/2017 | On Hold | Fast Track Study - On-Hold Interdependency | Fast Track Study | 1,000.0 | Solar | T4170B02 | GRIFTON 115KV |
| NC2017-03054 | 9/15/2017 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T2280B23 | RAEFORD 115KV |
| NC2017-03055 | 9/15/2017 | On Hold | Fast Track Study - On-Hold Interdependency | Fast Track Study | 1,000.0 | Solar | T6045B13 | SAMARIA 115KV |
| NC2017-03049 | 9/14/2017 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T5085B04 | OXFORD SOUTH 230KV |
| NC2017-03050 | 9/14/2017 | Substation A | Fast Track Study - On-Hold Interdependency | Fast Track Study | 1,000.0 | Solar | T6045B13 | SAMARIA 115KV |
| NC2017-03051 | 9/14/2017 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T5085B04 | OXFORD SOUTH 230KV |
| NC2017-03048 | 9/13/2017 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T2280B23 | RAEFORD 115KV |
| NC2017-03044 | 9/11/2017 | On Hold | Fast Track Study - On-Hold Interdependency | Fast Track Study | 1,000.0 | Solar | T4170B01 | GRIFTON 115KV |
| NC2017-03043 | 9/9/2017 | Substation A | Fast Track Study - Study Complete | Fast Track Study | 38.8 | Solar | T0322B03 | ASHEVILLE BENT CREEK 115KV |
| NC2017-03039 | 9/2/2017 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T4271B01 | NEWPORT 115 KV |
| NC2017-03040 | 9/2/2017 | On Hold | Fast Track Study - On-Hold Interdependency | Fast Track Study | 1,000.0 | Solar | T4930B02 | LOUISBURG 115KV |
| NC2017-03037 | 8/31/2017 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T1980B04 | FAIRMONT 115KV |
| NC2017-03038 | 8/31/2017 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T5302B02 | STALLINGS CROSSROADS 115KV |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| INT-2017-02740 | 8/10/2017 | - | Commercial Operation - Power Generation in Progress | - | 23.4 | Solar | T1530B03 | Siler City 115 Kv |
| NC2017-03021 | 7/18/2017 | Substation A | Facility Study - Pending Customer Response | Not Applicable | 1,426.0 | Natural Gas | T0750B18 | OTEEN 115KV |
| NC2017-03012 | 6/14/2017 | Substation A | Supplemental Study - Study Complete | Supplemental Study | 110.0 | Solar | T0515B02 | EMMA 115KV |
| NC2017-03010 | 5/27/2017 | Substation A | Supplemental Study - Study Complete | Supplemental Study | 36.0 | Solar | T4810B12 | Cary Trenton Rd 230KV |
| NC2017-03003 | 5/23/2017 | Project Not Active | Withdrawn | - | 22.6 | Solar | T1530B03 | SILER CITY 115KV |
| NC2017-02998 | 5/11/2017 | Substation A | Facility Study - Pending | Not Applicable | 2,000.0 | Solar | T1330B04 | LIBERTY 115KV |
| NC2017-02997 | 5/10/2017 | Project Not Active | Withdrawn | Not Applicable | 6,200.0 | Biomass | T1670B01 | WADESBORO 230KV |
| NC2017-02996 | 5/8/2017 | Project Not Active | Withdrawn | - | 500.0 | Solar | T1330B04 | LIBERTY 115KV |
| NC2017-02993 | 4/28/2017 | Project Not Active | Withdrawn | - | 500.0 | Solar | T6215B01 | CHADBOURN 115KV |
| NC2017-02992 | 4/26/2017 | Project Not Active | Withdrawn | Not Applicable | 10,000.0 | Solar | T5230B01 | ROXBORO SOUTH 230KV |
| NC2017-02986 | 4/10/2017 | Substation A | Facility Study - In Progress | Not Applicable | 8,600.0 | Battery | T0764B03 | ASHEVILLE ROCK HILL 115KV |
| NC2017-02987 | 4/7/2017 | Substation A | Facility Study - Pending | Not Applicable | 8,361.0 | Solar | T0670B01 | MARSHALL 115KV |
| NC2017-02984 | 1/27/2017 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T4350B03 | SWANSBORO 230KV |
| NC2017-02985 | 1/27/2017 | Approved | Commercial Operation - Power Generation in progress | - | 96.0 | Solar | T0720B06 | WILMINGTON WINTER PARK 230KV |
| NC2017-02983 | 1/25/2017 | Project Not Active | Withdrawn | Not Applicable | 10,000.0 | Solar | T5240B13 | ROXBORO #2 115KV |
| NC2017-02982 | 1/16/2017 | Project Not Active | Withdrawn | Not Applicable | 4,995.0 | Solar | T4725B05 | GARNER PANTHER BRANCH 230KV |
| NC2016-02965 | 11/30/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 4,950.0 | Solar | T4285B01 | ROSE HILL 230KV |
| NC2016-02961 | 11/22/2016 | Approved | Construction - Under Construction / In Progress | - | 4,998.0 | Solar | T0446B22 | LELAND INDUSTRIAL 115KV |
| NC2016-02962 | 11/22/2016 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T5230B02 | ROXBORO SOUTH 230KV |
| NC2016-02960 | 11/21/2016 | Substation A | Facility Study - Pending | Not Applicable | 5,000.0 | Solar | T5240B10 | ROXBORO 115KV |
| NC2016-02958 | 11/17/2016 | Approved | Commercial Operation - Power Generation in progress | - | 27.7 | Solar | T4603B12 | GREEN LEVEL 230KV |
| NC2016-02955 | 11/16/2016 | Substation A | Facility Study - In Progress | Not Applicable | 1,980.0 | Solar | T5660B01 | DUNN 230KV |
| NC2016-02956 | 11/16/2016 | Project Not Active | Withdrawn | - | 990.0 | Solar | T5240B13 | ROXBORO 115KV |
| NC2016-02954 | 11/15/2016 | Substation A | System Impact Study - In Progress | Protection Study | 5,000.0 | Solar | T2210B02 | LUMBERTON #2 115KV |
| NC2016-02950 | 11/11/2016 | Substation B | System Impact Study - Pending Customer Response | Not Applicable | 3,000.0 | Solar | T5504B02 | BUIES CREEK 230KV |
| NC2016-02948 | 11/8/2016 | Approved | Construction - Under Construction / In Progress | Not Applicable | 4,636.0 | Solar | T0446B11 | LELAND INDUSTRIAL 115KV |
| NC2016-02949 | 11/8/2016 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T5660B01 | DUNN 230KV |
| NC2016-02971 | 11/7/2016 | On Hold | Fast Track Study - On-Hold Interdependency | Fast Track Study | 499.5 | Solar | T4765B03 | HENDERSON EAST 230KV |
| NC2016-02938 | 10/31/2016 | Substation B | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 2,000.0 | Solar | T5921B02 | NEWTON GROVE 230KV |
| NC2016-02941 | 10/31/2016 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T4074B01 | BRIDGETON 115KV |
| NC2016-02935 | 10/27/2016 | Substation B | System Impact Study - Pending Customer Response | Customer ROW Data Collection | 5,000.0 | Solar | T1672B03 | WADESBORO-BOWMAN SCHOOL 230KV |
| NC2016-02932 | 10/25/2016 | Project Not Active | Withdrawn | - | 960.0 | Solar | T0840B03 | VANDERBILT #1 115KV |
| NC2016-02931 | 10/24/2016 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 2,000.0 | Solar | T0965B01 | ASHEBORO NORTH 115KV |
| NC2016-02930 | 10/21/2016 | Project Not Active | Withdrawn | Not Applicable | 4,989.0 | Solar | T2440B03 | SANFORD HORNER BLVD. 230KV |
| NC2016-02923 | 10/17/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 4,992.0 | Solar | T4230B04 | KINSTON 115KV |
| NC2016-02925 | 10/17/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 4,992.0 | Solar | T4230B04 | KINSTON 115KV |
| NC2016-02926 | 10/17/2016 | Substation A | Construction - Pending IA/Customer Payment | Not Applicable | 4,992.0 | Solar | T4276B01 | RHEMS 230KV |
| NC2016-02927 | 10/17/2016 | Substation A | Facility Study - Pending | Not Applicable | 4,992.0 | Solar | T5921B01 | NEWTON GROVE 230KV |
| NC2016-02928 | 10/17/2016 | Substation A | Facility Study - Pending | Not Applicable | 4,992.0 | Solar | T1672B03 | WADESBORO-BOWMAN SCHOOL 230KV |
| NC2016-02929 | 10/17/2016 | Substation A | Facility Study - In Progress | Not Applicable | 5,000.0 | Solar | T6160B02 | BURGAW 115KV |
| NC2016-02919 | 10/5/2016 | Approved | Commercial Operation - Power Generation in progress | - | 52.2 | Solar | T5125B03 | RALEIGH HOMESTEAD 230KV |
| NC2016-02917 | 10/4/2016 | Substation A | Facility Study - Pending | Not Applicable | 4,992.0 | Solar | T2580B02 | VANDER 115KV |
| NC2016-02918 | 10/4/2016 | Approved | Commercial Operation - Power Generation in progress | - | 413.0 | Solar | T5125B03 | RALEIGH HOMESTEAD 230KV |
| NC2016-02914 | 9/22/2016 | Substation A | Facility Study - In Progress | Not Applicable | 4,560.0 | Solar | T5504B02 | BUIES CREEK 230KV |
| NC2016-02910 | 9/21/2016 | Substation A | Construction - Under Construction / In Progress | Not Applicable | 4,992.0 | Solar | T6160B02 | BURGAW 115KV |
| NC2016-02911 | 9/21/2016 | Approved | Construction - Under Construction / In Progress | Not Applicable | 5,000.0 | Solar | T5921B01 | NEWTON GROVE 230KV |
| NC2016-02912 | 9/21/2016 | Approved | Construction - Under Construction / In Progress | Not Applicable | 5,000.0 | Solar | T0965B05 | ASHEBORO NORTH 115KV |
| NC2016-02913 | 9/21/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 4,992.0 | Solar | T4360B02 | SWANSBORO 230KV |
| NC2016-02908 | 9/16/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 4,992.0 | Solar | T4108B03 | CATHERINE LAKE 230KV |
| NC2016-02906 | 9/15/2016 | Approved | Construction - Under Construction / In Progress | Not Applicable | 4,730.0 | Solar | T5450B03 | BAILEY 230KV |
| NC2016-02903 | 9/13/2016 | Substation B | Facility Study - In Progress | Not Applicable | 4,992.0 | Solar | T4360B02 | SWANSBORO 230KV |
| NC2016-02897 | 9/12/2016 | Substation B | System Impact Study - Pending Customer Response | Customer LVR Options Selection | 4,992.0 | Solar | T1670B01 | WADESBORO 230KV |
| NC2016-02898 | 9/12/2016 | Substation B | System Impact Study - In Progress | LVR Evaluation and Preliminary Options | 5,000.0 | Solar | T5650B03 | LILLINGTON 115KV |
| NC2016-02902 | 9/12/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 4,992.0 | Solar | T2080B01 | HOPE MILLS CHURCH ST. 115KV |
| NC2016-02893 | 9/9/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T1190B01 | HAMLET 230KV |
| NC2016-02896 | 9/9/2016 | Substation B | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 4,992.0 | Solar | T5890B03 | MT. OLIVE 115KV |
| NC2016-02888 | 9/7/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 4,992.0 | Solar | T6250B01 | DELCO 115KV |
| NC2016-02889 | 9/7/2016 | Approved | Construction - Under Construction / In Progress | Not Applicable | 1,098.0 | Solar | T2247B02 | PEMBROKE 115KV |
| NC2016-02890 | 9/7/2016 | Substation A | System Impact Study - In Progress | Transformer Inrush/Advanced Study | 4,416.0 | Solar | T1765B01 | BEARD 115KV |
| NC2016-02891 | 9/7/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 4,992.0 | Solar | T4255B01 | NEW BERN WEST 230KV |
| NC2016-02892 | 9/7/2016 | Substation A | System Impact Study - In Progress | Technical Review | 4,992.0 | Solar | T4150B03 | FARMVILLE 230KV |
| NC2016-02884 | 9/6/2016 | Substation B | Facility Study - In Progress | Not Applicable | 4,992.0 | Solar | T4255B03 | NEW BERN WEST 230KV |
| NC2016-02885 | 9/6/2016 | Substation B | System Impact Study - In Progress | LVR Evaluation and Preliminary Options | 4,992.0 | Solar | T2080B01 | HOPE MILLS CHURCH ST. 115KV |
| NC2016-02886 | 9/6/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 4,992.0 | Solar | T4255B03 | NEW BERN WEST 230KV |
| NC2016-02883 | 9/2/2016 | Substation A | System Impact Study - In Progress | Protection Study | 2,400.0 | Solar | T5740B02 | FREMONT 115KV |
| - | 9/2/2016 | Project Not Active | Cancelled | - | 1,750.0 | Biomass | T1530B02 | SILER CITY 115KV |
| NC2016-02880 | 8/30/2016 | Approved | Construction - Under Construction / In Progress | Not Applicable | 5,000.0 | Solar | T5085B02 | OXFORD SOUTH 230KV |
| NC2016-02878 | 8/29/2016 | Approved | Construction - Under Construction / In Progress | Not Applicable | 1,998.0 | Solar | T5240B15 | ROXBORO 115KV |
| NC2016-02879 | 8/29/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T4930B02 | LOUISBURG 115KV |
| NC2016-02871 | 8/25/2016 | Approved | Commercial Operation - Power Generation in progress , | Not Applicable | 5,000.0 | Solar | T4360B01 | SWANSBORO 230KV |
| NC2016-02872 | 8/25/2016 | Substation B | Facility Study - Pending Customer Response | Not Applicable | 5,000.0 | Solar | T4500B19 | ARCHER LODGE 230KV |
| NC2016-02873 | 8/25/2016 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T5465B05 | BELFAST 115KV |
| NC2016-02866 | 8/24/2016 | Approved | Construction - Under Construction / In Progress | Not Applicable | 5,000.0 | Solar | T1330B03 | LIBERTY 115KV |
| NC2016-02868 | 8/24/2016 | Substation A | System Impact Study - Pending Customer Response | Customer Documentation Corrections | 5,000.0 | Solar | T5235B02 | ROXBORO BOWMANTOWN ROAD 230KV |
| NC2016-02869 | 8/24/2016 | Substation B | System Impact Study - Pending Customer Response | Customer Transformer Inrush Decision | 5,000.0 | Solar | T1140B01 | ELLERBE 230KV |
| NC2016-02870 | 8/24/2016 | Substation A | System Impact Study - Pending Customer Response | Customer ROW for LVR | 5,000.0 | Solar | T2080B01 | HOPE MILLS CHURCH ST. 115KV |
| Project 14941 | 8/22/2016 | Project Not Active | Cancelled | - | 4,992.0 | Solar | T4136B11 | DOVER 230KV |
| NC2016-02859 | 8/12/2016 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T4700B11 | FRANKLINTON 115KV |
| NC2016-02860 | 8/12/2016 | Substation A | Construction - Pending IA/Customer Payment | Not Applicable | 1,999.0 | Solar | T4500B19 | ARCHER LODGE 230KV |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| NC2016-02856 | 8/10/2016 | Substation A | System Impact Study - Pending Customer Response | Customer ROW for LVR | 5,000.0 | Solar | T2444B02 | SANFORD DEEP RIVER 230KV |
| NC2016-02855 | 8/8/2016 | Substation B | System Impact Study - In Progress | LVR Evaluation and Preliminary Options | 5,000.0 | Solar | T5560B02 | CLINTON FERRELL ST. 115KV |
| NC2016-02850 | 8/4/2016 | Substation B | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 5,000.0 | Solar | T5230B03 | ROXBORO SOUTH 230KV |
| NC2016-02854 | 8/4/2016 | Substation A | Construction - Pending Customer Obligation | - | 150.0 | Solar | T2141B08 | Jonesboro 230KV |
| NC2016-02853 | 8/3/2016 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T5427B01 | ANGIER 230KV |
| NC2016-02852 | 7/28/2016 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 5,000.0 | Solar | T2225B01 | MONCURE 115KV |
| NC2016-02849 | 7/25/2016 | Substation A | Facility Study - Pending | Not Applicable | 5,000.0 | Solar | T2200B24 | LAURINBURG 230KV |
| NC2016-02848 | 7/19/2016 | Project Not Active | Withdrawn | - | 350.0 | Solar | T5230B02 | ROXBORO SOUTH 230KV |
| NC2016-02844 | 7/15/2016 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,590.0 | Solar | T6386B12 | VISTA 115KV |
| NC2016-02845 | 7/15/2016 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 5,000.0 | Solar | T5465B01 | BELFAST 115KV |
| NC2016-02846 | 7/15/2016 | Substation B | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 4,992.0 | Solar | T4108B02 | CATHERINE LAKE 230KV |
| NC2016-02843 | 7/14/2016 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T5900B01 | NASHVILLE 115KV |
| NC2016-02841 | 7/13/2016 | Substation A | Construction - Under Construction / In Progress | Not Applicable | 4,400.0 | Solar | T5378B02 | WENDELL 230KV |
| NC2016-02842 | 7/13/2016 | Project Not Active | Withdrawn | Not Applicable | 4,000.0 | Solar | T6875B11 | WHITEVILLE SOUTHEAST REGIONAL PARK 115KV |
| NC2016-02837 | 7/7/2016 | Project Not Active | Withdrawn | Not Applicable | 4,000.0 | Solar | T4255B01 | NEW BERN WEST 230KV |
| NC2016-02838 | 7/7/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 4,899.0 | Solar | T4410B13 | WALLACE 115KV |
| NC2016-02835 | 7/5/2016 | Project Not Active | Withdrawn | Not Applicable | 4,000.0 | Solar | T4255B01 | NEW BERN WEST 230KV |
| NC2016-02831 | 7/1/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T5754B02 | GOLDSBORO LANGSTON 115KV |
| NC2016-02833 | 7/1/2016 | Approved | Construction - Under Construction / In Progress | Not Applicable | 4,992.0 | Solar | T2141B07 | JONESBORO 230KV |
| NC2016-02827 | 6/30/2016 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T4233B02 | LAKE WACCAMAW 115KV |
| NC2016-02824 | 6/29/2016 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 2,200.0 | Solar | T1672B03 | WADESBORO-BOWMAN SCHOOL 230KV |
| NC2016-02825 | 6/29/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T4230B03 | KINSTON 115KV |
| NC2016-02822 | 6/24/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 4,032.0 | Solar | T4050B02 | BAYBORO 230KV |
| NC2016-02819 | 6/22/2016 | Substation B | System Impact Study - In Progress | LVR Evaluation and Preliminary Options | 5,000.0 | Solar | T8250B02 | DELCO 115KV |
| NC2016-02820 | 6/22/2016 | Approved | Construction - Under Construction / In Progress | Not Applicable | 5,000.0 | Solar | T6360B02 | GARLAND 230KV |
| NC2016-02815 | 6/10/2016 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T5480B02 | BENSON 230KV |
| NC2016-02812 | 6/9/2016 | Substation A | Facility Study - Pending | Not Applicable | 5,000.0 | Solar | T5890B03 | MT. OLIVE 115KV |
| CHKLIST-11261 | 6/7/2016 | Approved | Commercial Operation - Power Generation in progress | - | 84.0 | Solar | T0510B11 | ELK MOUNTAIN 115KV |
| NC2016-02811 | 6/7/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T2190B01 | LAURINBURG CITY 230KV |
| NC2016-02810 | 5/27/2016 | Substation B | Facility Study - Pending | Not Applicable | 4,996.0 | Solar | T6330B01 | ELIZABETHTOWN 115KV |
| NC2016-02809 | 5/24/2016 | Substation A | Facility Study - Pending | Not Applicable | 5,000.0 | Solar | T1670B01 | WADESBORO 230KV |
| NC2016-02807 | 5/20/2016 | Approved | Commercial Operation - Complete pending power generation | Not Applicable | 350.0 | Biomass | T4285B01 | ROSE HILL 230KV |
| NC2016-02805 | 5/18/2016 | Substation A | System Impact Study - On-Hold Interdependency | - | 2,000.0 | Solar | T5754B02 | GOLDSBORO LANGSTON 115KV |
| NC2016-00029 | 5/16/2016 | Project Not Active | Withdrawn | Not Applicable | 4,990.0 | Solar | T2280B23 | RAEFORD 115KV |
| NC2016-02804 | 5/16/2016 | Substation A | System Impact Study - Pending Customer Response | Customer ROW for LVR | 5,000.0 | Solar | T5580B05 | CLINTON FERRELL ST. 115KV |
| NC2016-02803 | 5/13/2016 | Substation B | System Impact Study - Pending Customer Response | Customer Transformer Inrush Decision | 5,000.0 | Solar | T4410B12 | WALLACE 115KV |
| NC2016-02800 | 5/11/2016 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T4050B02 | BAYBORO 230KV |
| NC2016-02801 | 5/11/2016 | Substation A | Facility Study - In Progress | Not Applicable | 5,000.0 | Solar | T4360B03 | SWANSBORO 230KV |
| NC2016-02798 | 5/9/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T6870B02 | WHITEVILLE 115KV |
| NC2016-02799 | 5/9/2016 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5888B02 | MT. OLIVE WEST 115KV |
| NC2016-02796 | 5/6/2016 | Substation A | System Impact Study - Pending Customer Response | Not Applicable | 5,000.0 | Solar | T6875B11 | WHITEVILLE SOUTHEAST REGIONAL PARK 115KV |
| NC2016-02793 | 5/4/2016 | Substation B | System Impact Study - Pending Customer Response | Customer Transformer Inrush Decision | 5,000.0 | Solar | T4915B01 | LITTLETON 115KV |
| NC2016-02794 | 5/4/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T5754B01 | GOLDSBORO LANGSTON 115KV |
| NC2016-02792 | 5/2/2016 | Substation B | System Impact Study - In Progress | Transformer Inrush/Advanced Study | 5,000.0 | Solar | T4285B02 | ROSE HILL 230KV |
| NC2016-02790 | 4/28/2016 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,998.0 | Solar | T4360B03 | SWANSBORO 230KV |
| NC2016-02786 | 4/27/2016 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 5,000.0 | Solar | T1670B01 | WADESBORO 230KV |
| NC2016-02787 | 4/27/2016 | Substation B | System Impact Study - Pending Customer Response | Customer Documentation Corrections | 5,000.0 | Solar | T4050B02 | BAYBORO 230KV |
| NC2016-02788 | 4/27/2016 | Substation A | System Impact Study - Pending Customer Response | Not Applicable | 6,000.0 | Solar | T4915B01 | LITTLETON 115KV |
| NC2016-02789 | 4/27/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 1,998.0 | Solar | T6870B02 | WHITEVILLE 115KV |
| NC2016-02781 | 4/26/2016 | Project Not Active | Withdrawn | Not Applicable | 4,989.0 | Solar | T4108B03 | CATHERINE LAKE 230KV |
| NC2016-02782 | 4/26/2016 | Project Not Active | Withdrawn | - | 1,980.0 | Solar | T6630B02 | TABOR CITY 115KV |
| NC2016-02784 | 4/26/2016 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T1330B04 | LIBERTY 115KV |
| NC2016-02785 | 4/26/2016 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5888B02 | MT. OLIVE WEST 115KV |
| NC2016-02780 | 4/25/2016 | Substation B | System Impact Study - Pending Customer Response | Not Applicable | 5,000.0 | Solar | T1700B15 | WEST END 230KV |
| NC2016-00408 | 4/20/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T5480B03 | BENSON 230KV |
| NC2016-02778 | 4/20/2016 | Substation B | Facility Study - Pending | Not Applicable | 5,000.0 | Solar | T6630B01 | TABOR CITY 115KV |
| NC2016-02775 | 4/7/2016 | Substation A | Facility Study - Pending Customer Response | Not Applicable | 5,000.0 | Solar | T4050B02 | BAYBORO 230KV |
| NC2016-02771 | 4/6/2016 | Substation A | Facility Study - Pending Customer Response | Not Applicable | 1,000.0 | Solar | T1610B02 | TROY 115KV |
| NC2016-00057 | 3/22/2016 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,950.0 | Solar | T4130B04 | CHOCOWINITY 230KV |
| NC2016-00054 | 3/21/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T5360B01 | WARRENTON 115KV |
| Project 12279 | 3/21/2016 | Project Not Active | Cancelled | - | 1,899.0 | Solar | T5970B17 | SELMA 230KV |
| NC2015-00028-1 | 3/18/2016 | Substation A | Facility Study - Pending | Not Applicable | 4,998.0 | Solar | T4930B02 | LOUISBURG 115KV |
| NC2016-00049 | 3/17/2016 | Substation B | System Impact Study - In Progress | LVR Evaluation and Preliminary Options | 5,000.0 | Solar | T5360B01 | WARRENTON 115KV |
| NC2016-00050 | 3/17/2016 | Substation A | System Impact Study - Pending Customer Response | Customer LVR Options Selection | 5,000.0 | Solar | T5090B02 | OXFORD NORTH 230KV |
| NC2016-00041 | 3/16/2016 | Substation A | Facility Study - Pending Customer Response | Not Applicable | 5,000.0 | Solar | T6330B02 | ELIZABETHTOWN 115KV |
| NC2016-00044 | 3/16/2016 | Approved | Commercial Operation - Power Generation in progress | - | 60.0 | Solar | T5005B05 | MORDECAI 115KV |
| NC2016-00046 | 3/16/2016 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,998.0 | Solar | T4050B02 | BAYBORO 230KV |
| NC2016-00047 | 3/15/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 4,999.0 | Solar | T5912B06 | NEW HOPE 115KV |
| NC2016-00039 | 3/10/2016 | Approved | Commercial Operation - Power Generation in progress | - | 48.0 | Solar | T5005B05 | MORDECAI 115KV |
| NC2016-00034 | 3/9/2016 | Project Not Active | Withdrawn | - | 60.0 | Solar | T1440B26 | ROCKINGHAM 230KV |
| NC2016-00031 | 3/8/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T5600B03 | ROSEBORO 115KV |
| NC2016-00033 | 3/8/2016 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T6330B01 | ELIZABETHTOWN 115KV |
| NC2016-00030 | 3/2/2016 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 5,000.0 | Solar | T4276B03 | RHEMS 230KV |
| NC2016-00028 | 2/26/2016 | Substation A | Facility Study - Pending | Not Applicable | 4,998.0 | Solar | T2475B02 | SHANNON 115KV |
| NC2016-00027 | 2/24/2016 | Project Not Active | Withdrawn | - | 1,880.0 | Solar | T6630B02 | TABOR CITY 115KV |
| NC2016-00023 | 2/16/2016 | Substation A | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 5,000.0 | Solar | T5660B03 | LILLINGTON 115KV |
| NC2016-00025 | 2/16/2016 | Substation A | System Impact Study - Pending Customer Response | Not Applicable | 4,938.0 | Solar | T4108B01 | CATHERINE LAKE 230KV |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| NC2016-00021 | 2/10/2016 | Substation A | Facility Study - In Progress | Not Applicable | 5,000.0 | Solar | T5570B02 | CLINTON NORTH 115KV |
| NC2016-00019 | 2/8/2016 | Project Not Active | Withdrawn | Not Applicable | 1,980.0 | Solar | T4319B02 | GLOBAL TRANSPARK 115KV |
| NC2016-00020 | 2/8/2016 | Project Not Active | Withdrawn | - | 1,980.0 | Solar | T4106B03 | CATHERINE LAKE 230KV |
| NC2016-00017 | 2/5/2016 | Project Not Active | Cancelled | - | 22.8 | Solar | T0690B02 | ARDEN 115KV |
| NC2016-00018 | 2/5/2016 | Substation B | System Impact Study - In Progress | LVR Evaluation and Preliminary Options | 5,000.0 | Solar | T4170B02 | GRIFTON 115KV |
| NC2016-00011 | 1/20/2016 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 5,000.0 | Solar | T1230B01 | ROBBINS 115KV |
| NC2016-00009 | 1/15/2016 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T4230B04 | KINSTON 115KV |
| NC2016-00007 | 1/14/2016 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T2475B02 | SHANNON 115KV |
| NC2016-00008 | 1/14/2016 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T4230B04 | KINSTON 115KV |
| NC2016-00010 | 1/14/2016 | Substation A | Facility Study - Pending Customer Response | Not Applicable | 5,000.0 | Solar | T2280B23 | RAEFORD 115KV |
| NC2016-00013 | 1/14/2016 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T4230B04 | KINSTON 115KV |
| CHKLIST-11702 | 1/11/2016 | Project Not Active | Cancelled | - | 1,999.0 | Solar | T8160B01 | BURGAW 115KV |
| CHKLIST-11698 | 1/8/2016 | Project Not Active | Withdrawn | - | 1,999.0 | Solar | T6830B02 | TABOR CITY 115KV |
| NC2015-00064 | 1/6/2016 | Substation B | System Impact Study - In Progress | LVR Evaluation and Preliminary Options | 5,000.0 | Solar | T5912B06 | NEW HOPE 115KV |
| NC2015-00063 | 12/29/2015 | Approved | Commercial Operation - Power Generation in progress | - | 26.0 | Solar | T4610B12 | CARY TRENTON ROAD 230KV |
| NC2015-00059 | 12/28/2015 | Project Not Active | Withdrawn | - | 4,980.0 | Solar | T1230B01 | ROBBINS 115KV |
| NC2015-00060 | 12/28/2015 | Project Not Active | Withdrawn | Not Applicable | 4,980.0 | Solar | T1530B01 | SILER CITY 115KV |
| NC2015-00055 | 12/22/2015 | Substation B | System Impact Study - In Progress | Protection Study | 4,996.0 | Solar | T5480B02 | BENSON 230KV |
| NC2016-00004 | 12/18/2015 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T5754B01 | GOLDSBORO LANGSTON 115KV |
| NC2016-00005 | 12/17/2015 | Substation A | System Impact Study - In Progress | Protection Study | 5,000.0 | Solar | T4410B10 | WALLACE 115KV |
| NC2016-00006 | 12/17/2015 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 5,000.0 | Solar | T5090B10 | ZEBULON 115KV |
| NC2015-00051 | 12/15/2015 | Project Not Active | Withdrawn | - | 4,996.0 | Solar | T5912B06 | NEW HOPE 115KV |
| INT-2015-00372 | 12/10/2015 | - | Commercial Operation - Power Generation in Progress | - | 20.8 | Solar | T8455B06 | MASONBORO 230KV |
| NC2015-00050 | 12/10/2015 | Project Not Active | Withdrawn | Not Applicable | 3,667.0 | Solar | T4930B02 | LOUISBURG 115KV |
| NC2015-00047 | 12/9/2015 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 1,998.0 | Solar | T0900B01 | ABERDEEN 115KV |
| NC2016-00003 | 12/4/2015 | Approved | Construction - Under Construction / In Progress | - | 4,200.0 | Biomass | T5740B03 | FREMONT 115KV |
| NC2015-00043 | 12/3/2015 | On Hold | System Impact Study - On-Hold Interdependency | - | 4,000.0 | Solar | T6670B02 | WHITEVILLE 115KV |
| NC2015-00044 | 11/24/2015 | Substation B | System Impact Study - In Progress | Protection Study | 4,200.0 | Solar | T4930B02 | LOUISBURG 115KV |
| CHKLIST-7263 | 11/20/2015 | Approved | Commercial Operation - Power Generation in progress | - | 150.0 | Biomass | T5580B02 | CLINTON FERRELL ST. 115KV |
| NC2015-00040 | 11/20/2015 | Substation A | Facility Study - In Progress | Not Applicable | 4,990.0 | Solar | T8752B13 | ROSEWOOD 115KV |
| NC2015-00041 | 11/20/2015 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 1,990.0 | Solar | T5490B01 | BEULAVILLE 115KV |
| NC2015-00036 | 11/18/2015 | Approved | Construction - Under Construction / In Progress | Not Applicable | 5,000.0 | Solar | T5235B02 | ROXBORO BOWMANTOWN ROAD 230KV |
| NC2015-00037 | 11/18/2015 | Project Not Active | Withdrawn | - | 72.0 | Solar | T4686B12 | FALLS 230KV |
| NC2015-00039 | 11/16/2015 | Project Not Active | Withdrawn | - | 68.0 | Solar | T5000B45 | MILBURNIE 230KV |
| NC2015-00033 | 11/17/2015 | Substation A | Facility Study - In Progress | Not Applicable | 5,000.0 | Solar | T1360B02 | MT. GILEAD 115KV |
| NC2015-00034 | 11/17/2015 | Approved | Commercial Operation - Power Generation in progress | - | 1,965.4 | Solar | T2432B05 | SANFORD GARDEN STREET 230KV |
| NC2015-00035 | 11/17/2015 | Substation A | Facility Study - Pending Customer Response | Not Applicable | 1,996.0 | Solar | T4285B02 | ROSE HILL 230KV |
| NC2015-00031 | 11/16/2015 | On Hold | System Impact Study - On-Hold Interdependency | - | 4,996.0 | Solar | T6670B02 | WHITEVILLE 115KV |
| NC2015-00032 | 11/16/2015 | Substation B | System Impact Study - Pending Customer Response | Customer Documentation Corrections | 1,998.0 | Solar | T4136B11 | DOVER 230KV |
| NC2016-00042 | 11/4/2015 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 1,666.0 | Solar | T5670B22 | EDMONDSON 230KV |
| NC2015-00041-1 | 11/3/2015 | Substation A | System Impact Study - Pending Customer Response | Customer Mitigation Options Selection | 5,000.0 | Solar | T4170B01 | GRIFTON 115KV |
| NC2015-00046 | 10/30/2015 | Project Not Active | Withdrawn | Not Applicable | 5,550.0 | Solar | T1050B01 | CARTHAGE 115KV |
| NC2015-00024 | 10/13/2015 | Approved | Commercial Operation - Power Generation in progress | - | 28.0 | Solar | T5000B42 | MILBURNIE 230KV |
| NC2015-00019 | 9/30/2015 | Substation A | Facility Study - Pending Customer Response | Not Applicable | 5,000.0 | Solar | T5600B03 | ROSEBORO 115KV |
| NC2015-00020 | 9/30/2015 | Substation B | System Impact Study - In Progress | Protection Study | 5,000.0 | Solar | T5600B03 | ROSEBORO 115KV |
| NC2015-00017 | 9/16/2015 | Approved | Commercial Operation - Power Generation in progress | - | 70.7 | Solar | T4530B05 | APEX 230KV |
| NC2015-00012 | 9/14/2015 | Approved | Construction - Under Construction / In Progress | - | 73.4 | Solar | T6041B01 | SPRING HOPE 115KV |
| NC2015-00013 | 9/14/2015 | Approved | Construction - Under Construction / In Progress | - | 138.2 | Solar | T6041B01 | SPRING HOPE 115KV |
| NC2015-00014 | 9/14/2015 | Substation B | Facility Study - Pending | Not Applicable | 5,000.0 | Solar | T2190B02 | LAURINBURG CITY 230KV |
| NC2015-00009 | 9/10/2015 | Substation B | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 1,999.0 | Solar | T6670B03 | WHITEVILLE 115KV |
| NC2015-00010 | 9/10/2015 | On Hold | System Impact Study - On-Hold Interdependency | - | 4,998.0 | Solar | T5770B01 | GRANTHAM 230KV |
| CHKLIST-10667 | 9/9/2015 | On Hold | System Impact Study - On-Hold Interdependency | - | 20,000.0 | Solar | T5650B20 | ERWIN 230KV |
| NC2015-00005 | 9/8/2015 | Project Not Active | Withdrawn | Not Applicable | 1,999.0 | Solar | T6670B02 | WHITEVILLE 115KV |
| NC2015-00007 | 9/8/2015 | Approved | Commercial Operation - Power Generation in progress | - | 45.0 | Solar | T0340B11 | WEST ASHEVILLE 115KV |
| NC2015-00002 | 9/1/2015 | Project Not Active | Cancelled | - | 1,980.0 | Solar | T4210B13 | JACKSONVILLE CITY 115KV |
| CHKLIST-10605 | 8/31/2015 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,995.0 | Solar | T1700B12 | WEST END 230KV |
| CHKLIST-10607 | 8/31/2015 | Substation A | Facility Study - In Progress | Not Applicable | 4,996.0 | Solar | T1700B13 | WEST END 230KV |
| CHKLIST-10596 | 8/28/2015 | Approved | Interconnection Agreement - In Progress | - | 45.0 | Solar | T4600B04 | CARY 230KV |
| CHKLIST-10585 | 8/27/2015 | Substation A | Facility Study - Pending | Not Applicable | 5,000.0 | Solar | T1140B01 | ELLERBE 230KV |
| CHKLIST-10588 | 8/27/2015 | Approved | Commercial Operation - Power Generation in progress | - | 160.0 | Solar | T2249B04 | PINEHURST 115KV |
| CHKLIST-10577 | 8/26/2015 | Approved | Commercial Operation - Power Generation in progress | - | 110.0 | Solar | T0784B03 | ASHEVILLE ROCK HILL 115KV |
| CHKLIST-10579 | 8/26/2015 | Project Not Active | Withdrawn | - | 1,999.0 | Solar | T4170B01 | GRIFTON 115KV |
| CHKLIST-10388 | 8/25/2015 | Project Not Active | Withdrawn | - | 48.2 | Solar | T1520B01 | SEAGROVE 115KV |
| CHKLIST-10559 | 8/25/2015 | Approved | Commercial Operation - Power Generation in progress | - | 360.0 | Solar | T5912B02 | NEW HOPE 115KV |
| CHKLIST-10534 | 8/24/2015 | Substation A | System Impact Study - In Progress | Protection Study | 5,000.0 | Solar | T6670B02 | WHITEVILLE 115KV |
| CHKLIST-10538 | 8/24/2015 | Project Not Active | Withdrawn | - | 4,800.0 | Solar | T6670B02 | WHITEVILLE 115KV |
| CHKLIST-10542 | 8/24/2015 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 5,000.0 | Solar | T6830B02 | TABOR CITY 115KV |
| CHKLIST-10544 | 8/24/2015 | Substation A | Facility Study - Pending | Not Applicable | 2,200.0 | Solar | T6830B02 | TABOR CITY 115KV |
| CHKLIST-10545 | 8/24/2015 | Approved | Commercial Operation - Power Generation in progress | - | 324.0 | Solar | T4604B13 | AMBERLY 230KV |
| CHKLIST-10547 | 8/24/2015 | Project Not Active | Withdrawn | - | 30.0 | Diesel | T0784B13 | AVERY CREEK 115KV |
| CHKLIST-10553 | 8/24/2015 | Approved | Commercial Operation - Power Generation in progress | - | 360.0 | Solar | T4910B22 | RALEIGH LEESVILLE ROAD 230KV |
| CHKLIST-10507 | 8/20/2015 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 1,610.0 | Biomass | T5580B01 | CLINTON FERRELL ST. 115KV |
| CHKLIST-10493 | 8/17/2015 | Substation A | Facility Study - Pending | Not Applicable | 4,998.0 | Solar | T2190B02 | LAURINBURG CITY 230KV |
| CHKLIST-10412 | 8/10/2015 | Approved | Commercial Operation - Power Generation in progress | - | 396.0 | Solar | T0690B01 | ARDEN 115KV |
| CHKLIST-10390 | 8/6/2015 | Approved | Commercial Operation - Power Generation in progress | - | 360.0 | Solar | T6320B07 | WILMINGTON EAST 230KV |
| CHKLIST-10394 | 8/6/2015 | Approved | Commercial Operation - Power Generation in progress | - | 396.0 | Solar | T5111B23 | CARY PINEY PLAINS 230KV |
| CHKLIST-10362 | 8/4/2015 | Substation A | Facility Study - In Progress | Not Applicable | 2,000.0 | Solar | T5732B03 | FOUR OAKS 230KV |
| CHKLIST-10338 | 8/3/2015 | Approved | Commercial Operation - Power Generation in progress | - | 152.0 | Solar | T4790B25 | HENDERSON 230KV |
| CHKLIST-10340 | 8/3/2015 | Approved | Commercial Operation - Power Generation in progress | - | 50.4 | Solar | T4790B18 | HENDERSON 230KV |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| CHKLIST-10604 | 8/3/2015 | Approved | Commercial Operation - Power Generation in progress | - | 81.0 | Solar | T6205B13 | CASTLE HAYNE 230KV |
| CHKLIST-10312 | 7/29/2015 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,990.0 | Solar | T2190B01 | LAURINBURG CITY 230KV |
| CHKLIST-10361 | 7/28/2015 | Substation B | Facility Study - Pending | Not Applicable | 4,998.0 | Solar | T1190B04 | HAMLET 230KV |
| CHKLIST-10578 | 7/28/2015 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,998.0 | Solar | T5670B02 | EDMONDSON 230KV |
| CHKLIST-10278 | 7/27/2015 | Approved | Commercial Operation - Power Generation in progress | - | 64.0 | Solar | T5111B22 | CARY PINEY PLAINS 230KV |
| CHKLIST-10280 | 7/27/2015 | Approved | Commercial Operation - Power Generation in progress | - | 64.0 | Solar | T5111B22 | CARY PINEY PLAINS 230KV |
| CHKLIST-10298 | 7/24/2015 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5375B02 | GOLDSBORO WEIL 115KV |
| CHKLIST-10260 | 7/22/2015 | Project Not Active | Cancelled | - | 4,995.0 | Solar | T5360B04 | WARRENTON 115KV |
| NC2015-00001 | 7/22/2015 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T4410B11 | WALLACE 115KV |
| CHKLIST-10222 | 7/17/2015 | Substation A | Facility Study - In Progress | Not Applicable | 1,999.0 | Solar | T2141B05 | JONESBORO 230KV |
| CHKLIST-10225 | 7/17/2015 | Project Not Active | Cancelled | Not Applicable | 4,600.0 | Solar | T6041B01 | SPRING HOPE 115KV |
| CHKLIST-10197 | 7/15/2015 | Project Not Active | Cancelled | - | 27.0 | Solar | T0371B03 | BEAVERDAM 115KV |
| CHKLIST-10070 | 6/30/2015 | Approved | Commercial Operation - Power Generation in progress | - | 420.0 | Solar | T4796B11 | HOLLY SPRINGS INDUSTRIAL 230KV |
| CHKLIST-10071 | 6/30/2015 | Approved | Commercial Operation - Power Generation in progress | - | 392.0 | Solar | T0750B05 | OTEEN 115KV |
| CHKLIST-10073 | 6/30/2015 | Project Not Active | Cancelled | - | 392.0 | Solar | T4273B06 | JACKSONVILLE NORTHWOODS 115KV |
| CHKLIST-10074 | 6/30/2015 | Approved | Commercial Operation - Power Generation in progress | - | 392.0 | Solar | T4602B02 | CARY EVANS ROAD 230KV |
| CHKLIST-10076 | 6/30/2015 | Approved | Commercial Operation - Power Generation in progress | - | 532.0 | Solar | T5119B22 | RALEIGH BRIER CREEK 230KV |
| CHKLIST-10049 | 6/26/2015 | Approved | Commercial Operation - Power Generation in progress | - | 255.2 | Solar | T5770B01 | GRANTHAM 230KV |
| CHKLIST-10050 | 6/26/2015 | Approved | Commercial Operation - Power Generation in progress | - | 185.6 | Solar | T5770B01 | GRANTHAM 230KV |
| CHKLIST-9994 | 6/22/2015 | Substation A | IR Review - Pending Customer Response | - | 812.0 | Solar | T0362B02 | BARNARDSVILLE 115KV |
| CHKLIST-9971 | 6/17/2015 | Substation A | Facility Study - In Progress | Not Applicable | 1,998.0 | Solar | T5480B01 | BENSON 230KV |
| CHKLIST-9953 | 6/15/2015 | Project Not Active | Cancelled | - | 40.0 | Solar | T6320B07 | WILMINGTON EAST 230KV |
| CHKLIST-9955 | 6/15/2015 | Project Not Active | Cancelled | - | 40.0 | Solar | T8471B12 | MURRAYSVILLE 230KV |
| CHKLIST-9922 | 6/11/2015 | Approved | Construction - Under Construction / In Progress | Not Applicable | 5,000.0 | Solar | T5570B02 | CLINTON NORTH 115KV |
| CHKLIST-9895 | 6/8/2015 | Project Not Active | Withdrawn | - | 2,400.0 | Solar | T4720B04 | GARNER 115KV |
| CHKLIST-9876 | 6/4/2015 | Approved | Commercial Operation - Power Generation in progress | - | 36.0 | Solar | T4600B01 | CARY 230KV |
| CHKLIST-9832 | 6/1/2015 | Project Not Active | Withdrawn | - | 1,999.0 | Solar | T5085B02 | OXFORD SOUTH 230KV |
| CHKLIST-9721 | 5/19/2015 | Approved | Commercial Operation - Power Generation in progress | - | 51.0 | Solar | T5126B13 | RALEIGH YONKERS ROAD 115KV |
| CHKLIST-9727 | 5/19/2015 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T5385B04 | WILSON MILLS 230KV |
| CHKLIST-9708 | 5/16/2015 | Project Not Active | Withdrawn | Not Applicable | 4,250.0 | Solar | T4770B03 | HENDERSON NORTH 115KV |
| CHKLIST-9684 | 5/13/2015 | Approved | Commercial Operation - Power Generation in progress | - | 40.0 | Solar | T0781B01 | SKYLAND 115KV |
| CHKLIST-9837 | 5/13/2015 | Approved | Commercial Operation - Power Generation in progress | - | 1,000.0 | Solar | T2210B02 | LUMBERTON 115KV |
| CHKLIST-9842 | 5/13/2015 | Approved | Commercial Operation - Power Generation in progress | - | 1,000.0 | Solar | T2210B02 | LUMBERTON 115KV |
| CHKLIST-9601 | 5/6/2015 | Approved | Commercial Operation - Power Generation in progress | - | 40.0 | Solar | T4595B04 | CARALEIGH 230KV |
| CHKLIST-9516 | 4/28/2015 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 5,000.0 | Solar | T5752B12 | ROSEWOOD 115KV |
| CHKLIST-9505 | 4/27/2015 | Substation A | System Impact Study - Pending Customer Response | Customer Mitigation Options Selection | 4,999.0 | Solar | T1980B03 | FAIRMONT 115KV |
| CHKLIST-7915 | 4/25/2015 | Approved | Commercial Operation - Power Generation in progress | - | 1,980.0 | Solar | T6040B13 | CASTALIA 230KV |
| CHKLIST-9476 | 4/23/2015 | Approved | Commercial Operation - Power Generation in progress | - | 45.0 | Solar | T0371B03 | BEAVERDAM 115KV |
| CHKLIST-9479 | 4/23/2015 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T5385B03 | WILSON MILLS 230KV |
| CHKLIST-9482 | 4/23/2015 | Approved | Commercial Operation - Power Generation in progress | - | 180.0 | Solar | T4595B04 | CARALEIGH 230KV |
| CHKLIST-9435 | 4/21/2015 | Project Not Active | Withdrawn | - | 9,996.0 | Solar | T6670B02 | WHITEVILLE 115KV |
| CHKLIST-9451 | 4/21/2015 | Substation A | Construction - Pending IA/Customer Payment | - | 600.0 | Diesel | T5688B01 | MT. OLIVE WEST 115KV |
| CHKLIST-9425 | 4/20/2015 | Project Not Active | Withdrawn | - | 9,996.0 | Solar | T6630B02 | TABOR CITY 115KV |
| CHKLIST-9649 | 4/20/2015 | Approved | Commercial Operation - Power Generation in progress | - | 68.0 | Solar | T4595B05 | CARALEIGH 230KV |
| CHKLIST-9415 | 4/17/2015 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T5090B01 | OXFORD NORTH 230KV |
| CHKLIST-9402 | 4/15/2015 | Substation B | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 5,000.0 | Solar | T5770B01 | GRANTHAM 230KV |
| CHKLIST-9385 | 4/14/2015 | Project Not Active | Cancelled | - | 4,998.0 | Solar | T2141B05 | JONESBORO 230KV |
| CHKLIST-9531 | 4/13/2015 | Project Not Active | Withdrawn | - | 4,500.0 | Solar | T5401B01 | YOUNGSVILLE 115KV |
| CHKLIST-9355 | 4/10/2015 | Approved | Construction - Under Construction / In Progress | Not Applicable | 4,340.0 | Solar | T5480B02 | BENSON 230KV |
| CHKLIST-9359 | 4/10/2015 | Project Not Active | Withdrawn | Not Applicable | 4,999.0 | Solar | T6215B02 | CHADBOURN 115KV |
| CHKLIST-9349 | 4/9/2015 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,998.0 | Solar | T6220B01 | CLARKTON 115KV |
| CHKLIST-9311 | 4/2/2015 | Project Not Active | Cancelled | - | 1,999.0 | Solar | T5670B03 | EDMONDSON 230KV |
| CHKLIST-9315 | 4/2/2015 | Project Not Active | Cancelled | - | 5,040.0 | Solar | T2631B04 | WEATHERSPOON 230KV |
| CHKLIST-9294 | 3/31/2015 | Project Not Active | Withdrawn | - | 4,999.0 | Solar | T5360B03 | WARRENTON 115KV |
| CHKLIST-9261 | 3/26/2015 | On Hold | Fast Track Study - On-Hold Interdependency | Fast Track Study | 1,999.0 | Solar | T5385B01 | WILSON MILLS 230KV |
| CHKLIST-9214 | 3/20/2015 | Approved | Commercial Operation - Power Generation in progress | - | 1,998.0 | Solar | T5240B14 | ROXBORO 115KV |
| CHKLIST-9211 | 3/19/2015 | Substation A | System Impact Study - In Progress | Transformer Inrush/Advanced Study | 4,990.0 | Solar | T1850B02 | CANDOR 115KV |
| CHKLIST-9195 | 3/16/2015 | Project Not Active | Withdrawn | - | 5,040.0 | Solar | T4555B01 | BAHAMA 230KV |
| CHKLIST-9196 | 3/16/2015 | Substation A | System Impact Study - In Progress | Protection Study | 3,920.0 | Solar | T2161B05 | LAUREL HILL 230KV |
| CHKLIST-9198 | 3/16/2015 | Project Not Active | Withdrawn | Not Applicable | 4,999.0 | Solar | T1980B01 | FAIRMONT 115KV |
| CHKLIST-9182 | 3/16/2015 | Project Not Active | Withdrawn | Not Applicable | 5,001.0 | Solar | T1980B03 | FAIRMONT 115KV |
| CHKLIST-9153 | 3/13/2015 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,998.0 | Solar | T6670B03 | WHITEVILLE 115KV |
| CHKLIST-9156 | 3/13/2015 | Substation B | System Impact Study - Pending | - | 2,000.0 | Solar | T5754B01 | GOLDSBORO LANGSTON 115KV |
| CHKLIST-9139 | 3/11/2015 | Substation B | System Impact Study - In Progress | LVR Evaluation and Preliminary Options | 1,998.0 | Solar | T4230B04 | KINSTON 115KV |
| CHKLIST-9130 | 3/10/2015 | Project Not Active | Cancelled | - | 1,000.0 | Solar | T6215B02 | CHADBOURN 115KV |
| CHKLIST-9088 | 3/3/2015 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T5360B02 | WARRENTON 115KV |
| CHKLIST-9062 | 3/2/2015 | Substation A | Facility Study - In Progress | Not Applicable | 1,999.0 | Solar | T5385B01 | WILSON MILLS 230KV |
| CHKLIST-9064 | 3/2/2015 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T5302B03 | STALLINGS CROSSROADS 115KV |
| CHKLIST-9068 | 3/2/2015 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T5302B03 | STALLINGS CROSSROADS 115KV |
| CHKLIST-9070 | 3/2/2015 | Substation B | Facility Study - In Progress | Not Applicable | 1,980.0 | Solar | T5385B01 | WILSON MILLS 230KV |
| CHKLIST-9073 | 3/2/2015 | On Hold | Fast Track Study - On-Hold Interdependency | Fast Track Study | 1,999.0 | Solar | T5385B02 | WILSON MILLS 230KV |
| CHKLIST-9074 | 3/2/2015 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T5970B06 | SELMA 230KV |
| CHKLIST-9048 | 3/1/2015 | Project Not Active | Withdrawn | - | 999.5 | Solar | T2282B01 | RAEFORD SOUTH 115KV |
| CHKLIST-9049 | 3/1/2015 | Project Not Active | Withdrawn | - | 1,998.9 | Solar | T2215B01 | MAXTON 115KV |
| CHKLIST-9050 | 3/1/2015 | Project Not Active | Cancelled | - | 1,999.0 | Solar | T1980B01 | FAIRMONT 115KV |
| CHKLIST-9051 | 3/1/2015 | Project Not Active | Cancelled | - | 1,000.0 | Solar | T2247B02 | PEMBROKE 115KV |
| CHKLIST-9052 | 3/1/2015 | Project Not Active | Withdrawn | Not Applicable | 999.5 | Solar | T2580B02 | VANDER 115KV |
| CHKLIST-9053 | 3/1/2015 | Project Not Active | Cancelled | - | 18,330.0 | Solar | T5888B03 | MT. OLIVE WEST 115KV |
| CHKLIST-9054 | 3/1/2015 | Substation B | System Impact Study - Pending Customer Response | Customer LVR Options Selection | 4,999.0 | Solar | T5650B22 | ERWIN 230KV |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| CHKLIST-9055 | 3/1/2015 | Substation A | Construction - Under Construction / In Progress | Not Applicable | 3,400.0 | Solar | T5890B03 | MT. OLIVE 115KV |
| CHKLIST-9056 | 3/1/2015 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T1330B04 | LIBERTY 115KV |
| CHKLIST-9057 | 3/1/2015 | Project Not Active | Cancelled | - | 4,800.0 | Solar | T2631B04 | WEATHERSPOON 230KV |
| CHKLIST-9058 | 3/1/2015 | Project Not Active | Withdrawn | - | 4,800.0 | Solar | T5860B01 | LILLINGTON 115KV |
| CHKLIST-9059 | 3/1/2015 | Project Not Active | Cancelled | - | 4,800.0 | Solar | T2631B03 | WEATHERSPOON 230KV |
| CHKLIST-9060 | 3/1/2015 | Project Not Active | Withdrawn | - | 4,800.0 | Solar | T5860B01 | LILLINGTON 115KV |
| CHKLIST-9061 | 3/1/2015 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T2631B01 | WEATHERSPOON 230KV |
| CHKLIST-9046 | 2/27/2015 | Project Not Active | Cancelled | Not Applicable | 1,998.0 | Solar | T5090B01 | OXFORD NORTH 230KV |
| CHKLIST-9024 | 2/25/2015 | Substation A | System Impact Study - Pending Customer Response | Customer LVR Options Selection | 2,000.0 | Solar | T5754B01 | GOLDSBORO LANGSTON 115KV |
| CHKLIST-9025 | 2/25/2015 | On Hold | System Impact Study - On-Hold Interdependency | - | 2,000.0 | Solar | T5360B02 | WARRENTON 115KV |
| CHKLIST-9026 | 2/25/2015 | Substation A | System Impact Study - Pending Customer Response | Customer ROW for LVR | 4,998.0 | Solar | T5230B03 | ROXBORO SOUTH 230KV |
| CHKLIST-9027 | 2/25/2015 | Project Not Active | Withdrawn | - | 5,010.0 | Solar | T5935B03 | PRINCETON 115KV |
| CHKLIST-9028 | 2/25/2015 | Substation A | Construction - Pending IA/Customer Payment | Not Applicable | 5,000.0 | Solar | T4255B01 | NEW BERN WEST 230KV |
| CHKLIST-9031 | 2/25/2015 | Approved | Commercial Operation - Power Generation in progress | - | 30.0 | Solar | T0372B05 | BILTMORE 115KV |
| CHKLIST-8987 | 2/20/2015 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T2631B03 | WEATHERSPOON 230KV |
| CHKLIST-8978 | 2/19/2015 | On Hold | Fast Track Study - On-Hold Interdependency | Fast Track Study | 1,998.0 | Solar | T4785B02 | HENDERSON EAST 230KV |
| NC2015-00004 | 2/19/2015 | Substation B | Fast Track Study - Study Complete | Fast Track Study | 2,000.0 | Solar | T1980B04 | FAIRMONT 115KV |
| CHKLIST-8929 | 2/9/2015 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T5660B01 | DUNN 230KV |
| CHKLIST-8932 | 2/9/2015 | Project Not Active | Cancelled | - | 4,998.0 | Solar | T2335B02 | ROWLAND 230KV |
| CHKLIST-8905 | 2/6/2015 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T4785B06 | HENDERSON EAST 230KV |
| CHKLIST-8906 | 2/6/2015 | Substation A | System Impact Study - Pending Customer Response | Not Applicable | 4,000.0 | Solar | T4770B01 | HENDERSON NORTH 115KV |
| CHKLIST-8908 | 2/6/2015 | Substation A | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 5,000.0 | Solar | T5900B02 | NASHVILLE 115KV |
| CHKLIST-8909 | 2/6/2015 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 5,000.0 | Solar | T4276B02 | RHEMS 230KV |
| CHKLIST-8910 | 2/6/2015 | Substation A | Commercial Operation - Power Generation in progress | Not Applicable | 5,000.0 | Solar | T5427B03 | ANGIER 230KV |
| CHKLIST-8911 | 2/6/2015 | Approved | Commercial Operation - Power Generation in progress | - | 4,995.0 | Solar | T2247B02 | PEMBROKE 115KV |
| CHKLIST-8893 | 2/4/2015 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,550.0 | Solar | T1610B01 | BLADENBORO 115KV |
| CHKLIST-8883 | 2/3/2015 | Substation A | Facility Study - Pending | - | 1,899.0 | Solar | T5650B20 | ERWIN 230KV |
| CHKLIST-8873 | 2/2/2015 | Project Not Active | Cancelled | - | 4,800.0 | Solar | T4230B04 | KINSTON 115KV |
| CHKLIST-8874 | 2/2/2015 | Project Not Active | Cancelled | - | 1,000.0 | Solar | T4319B01 | GLOBAL TRANSPARK 115KV |
| CHKLIST-8848 | 1/29/2015 | Project Not Active | Cancelled | Not Applicable | 2,000.0 | Solar | T4410B11 | WALLACE 115KV |
| CHKLIST-8849 | 1/29/2015 | Project Not Active | Withdrawn | Not Applicable | 2,000.0 | Solar | T4320B01 | SNOW HILL 115KV |
| CHKLIST-8857 | 1/29/2015 | On Hold | Fast Track Study - On-Hold Interdependency | Fast Track Study | 2,000.0 | Solar | T6040B13 | CASTALIA 230KV |
| NC2015-02127 | 1/29/2015 | Project Not Active | Withdrawn | Not Applicable | 2,000.0 | Solar | T5580B02 | CLINTON FERRELL ST. 115KV |
| CHKLIST-8836 | 1/27/2015 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T6040B12 | CASTALIA 230KV |
| CHKLIST-8819 | 1/26/2015 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T5935B03 | PRINCETON 115KV |
| CHKLIST-8820 | 1/26/2015 | Substation A | System Impact Study - Pending Customer Response | Customer LVR Options Selection | 3,000.0 | Solar | T5912B01 | NEW HOPE 115KV |
| CHKLIST-8821 | 1/26/2015 | On Hold | System Impact Study - On-Hold Interdependency | - | 5,000.0 | Solar | T6045B12 | SAMARIA 115KV |
| CHKLIST-8822 | 1/26/2015 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T5900B01 | NASHVILLE 115KV |
| CHKLIST-8823 | 1/26/2015 | Project Not Active | Withdrawn | Not Applicable | 3,000.0 | Solar | T4765B01 | HENDERSON EAST 230KV |
| CHKLIST-8827 | 1/26/2015 | Project Not Active | Cancelled | Not Applicable | 5,000.0 | Solar | T5970B07 | SELMA 230KV |
| CHKLIST-8808 | 1/23/2015 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T5900B02 | NASHVILLE 115KV |
| CHKLIST-8801 | 1/22/2015 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T4765B08 | HENDERSON EAST 230KV |
| CHKLIST-8802 | 1/22/2015 | Substation A | System Impact Study - Pending Customer Response | Customer Documentation Corrections | 5,000.0 | Solar | T5770B03 | GRANTHAM 230KV |
| CHKLIST-8803 | 1/22/2015 | Substation B | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 5,000.0 | Solar | T6040B12 | CASTALIA 230KV |
| CHKLIST-8794 | 1/21/2015 | Project Not Active | Cancelled | Not Applicable | 5,000.0 | Solar | T5754B01 | GOLDSBORO LANGSTON 115KV |
| CHKLIST-8798 | 1/21/2015 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T5302B02 | STALLINGS CROSSROADS 115KV |
| CHKLIST-8781 | 1/20/2015 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T4770B03 | HENDERSON NORTH 115KV |
| CHKLIST-8782 | 1/20/2015 | Substation B | System Impact Study - In Progress | LVR Evaluation and Preliminary Options | 5,000.0 | Solar | T5360B03 | WARRENTON 115KV |
| CHKLIST-8768 | 1/20/2015 | Approved | Commercial Operation - Power Generation in progress | - | 34.2 | Solar | T5125B03 | RALEIGH HOMESTEAD 230KV |
| CHKLIST-8791 | 1/20/2015 | Project Not Active | Withdrawn | - | 4,800.0 | Solar | T1230B01 | ROBBINS 115KV |
| CHKLIST-8767 | 1/19/2015 | Substation A | Construction - Pending IA/Customer Payment | Not Applicable | 4,000.0 | Solar | T5360B04 | WARRENTON 115KV |
| CHKLIST-8770 | 1/19/2015 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T4770B03 | HENDERSON NORTH 115KV |
| CHKLIST-8777 | 1/19/2015 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T4770B05 | HENDERSON NORTH 115KV |
| CHKLIST-8756 | 1/16/2015 | Project Not Active | Withdrawn | - | 1,999.0 | Solar | T1980B03 | FAIRMONT 115KV |
| CHKLIST-8757 | 1/16/2015 | Project Not Active | Withdrawn | - | 1,999.0 | Solar | T1980B03 | FAIRMONT 115KV |
| CHKLIST-8754 | 1/15/2015 | Project Not Active | Cancelled | - | 1,999.0 | Solar | T2580B01 | VANDER 115KV |
| CHKLIST-8755 | 1/15/2015 | Project Not Active | Cancelled | - | 1,999.0 | Solar | T2580B01 | VANDER 115KV |
| CHKLIST-8751 | 1/14/2015 | Project Not Active | Withdrawn | - | 1,990.0 | Solar | T1980B03 | FAIRMONT 115KV |
| CHKLIST-8717 | 1/12/2015 | Substation A | System Impact Study - Pending Customer Response | Not Applicable | 4,000.0 | Solar | T6250B02 | DELCO 115KV |
| CHKLIST-8718 | 1/12/2015 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T4074B01 | BRIDGETON 115KV |
| CHKLIST-8719 | 1/12/2015 | Substation A | System Impact Study - Pending Customer Response | Customer ROW Data Collection | 3,500.0 | Solar | T5360B03 | WARRENTON 115KV |
| CHKLIST-8720 | 1/12/2015 | Substation A | Construction - Pending IA/Customer Payment | Not Applicable | 5,000.0 | Solar | T6040B12 | CASTALIA 230KV |
| CHKLIST-8722 | 1/12/2015 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T1330B04 | LIBERTY 115KV |
| CHKLIST-8693 | 1/9/2015 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,500.0 | Solar | T6250B02 | DELCO 115KV |
| CHKLIST-8694 | 1/9/2015 | Project Not Active | Cancelled | - | 4,500.0 | Solar | T4930B02 | LOUISBURG 115KV |
| CHKLIST-8672 | 1/7/2015 | Project Not Active | Withdrawn | - | 4,800.0 | Solar | T2631B03 | WEATHERSPOON 230KV |
| CHKLIST-8673 | 1/7/2015 | Approved | Construction - Pending Customer Obligation | - | 4,973.0 | Solar | T1530B04 | SILER CITY 115KV |
| CHKLIST-8674 | 1/7/2015 | Project Not Active | Cancelled | - | 4,600.0 | Solar | T1530B04 | SILER CITY 115KV |
| CHKLIST-8675 | 1/7/2015 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,998.0 | Solar | T4410B11 | WALLACE 115KV |
| CHKLIST-8677 | 1/7/2015 | Project Not Active | Cancelled | Not Applicable | 4,999.0 | Solar | T5090B02 | OXFORD NORTH 230KV |
| CHKLIST-8679 | 1/7/2015 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T5935B03 | PRINCETON 115KV |
| CHKLIST-8681 | 1/7/2015 | Approved | Construction - Under Construction / In Progress | Not Applicable | 5,000.0 | Solar | T2280B23 | RAEFORD 115KV |
| CHKLIST-8688 | 1/7/2015 | Project Not Active | Withdrawn | - | 2,302.0 | Solar | T0990B02 | BISCOE 115KV |
| CHKLIST-8689 | 1/7/2015 | Project Not Active | Withdrawn | - | 2,302.0 | Solar | T0990B02 | BISCOE 115KV |
| CHKLIST-8665 | 1/6/2015 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T2444B22 | SANFORD DEEP RIVER 230KV |
| CHKLIST-8668 | 1/6/2015 | On Hold | System Impact Study - On-Hold Interdependency | - | 4,998.0 | Solar | T4765B02 | HENDERSON EAST 230KV |
| CHKLIST-8669 | 1/6/2015 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T4410B11 | WALLACE 115KV |
| CHKLIST-8670 | 1/6/2015 | Project Not Active | Cancelled | - | 4,998.0 | Solar | T1530B01 | SILER CITY 115KV |
| CHKLIST-8658 | 1/5/2015 | Project Not Active | Cancelled | - | 10,000.0 | Solar | T4255B01 | NEW BERN WEST 230KV |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| CHKLIST-8657 | 1/5/2015 | Substation A | System Impact Study - Pending Customer Response | Not Applicable | 5,000.0 | Solar | T4230B02 | KINSTON 115KV |
| CHKLIST-8658 | 1/5/2015 | Substation A | System Impact Study - Pending Customer Response | Customer Documentation Corrections | 5,000.0 | Solar | T4785B06 | HENDERSON EAST 230KV |
| CHKLIST-8659 | 1/5/2015 | Substation B | System Impact Study - In Progress | LVR Evaluation and Preliminary Options | 5,000.0 | Solar | T4785B06 | HENDERSON EAST 230KV |
| CHKLIST-8660 | 1/5/2015 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T5465B02 | BELFAST 115KV |
| CHKLIST-8626 | 12/30/2014 | On Hold | System Impact Study - On-Hold Interdependency | | 4,999.0 | Solar | T2631B03 | WEATHERSPOON 230KV |
| CHKLIST-8627 | 12/30/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,938.0 | Solar | T1440B28 | ROCKINGHAM 230KV |
| CHKLIST-8611 | 12/29/2014 | Substation A | Facility Study - In Progress | Not Applicable | 4,998.0 | Solar | T1190B04 | HAMLET 230KV |
| CHKLIST-8624 | 12/29/2014 | Substation A | System Impact Study - In Progress | Voltage Flicker Mitigation Options | 4,999.0 | Solar | T2215B02 | MAXTON 115KV |
| CHKLIST-8586 | 12/23/2014 | On Hold | System Impact Study - On-Hold Interdependency | | 4,998.0 | Solar | T2631B03 | WEATHERSPOON 230KV |
| CHKLIST-8587 | 12/22/2014 | Project Not Active | Cancelled | - | 4,800.0 | Solar | T4700B11 | FRANKLINTON 115KV |
| CHKLIST-8568 | 12/22/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T2631B04 | WEATHERSPOON 230KV |
| CHKLIST-8569 | 12/22/2014 | Project Not Active | Cancelled | - | 4,800.0 | Solar | T2631B01 | WEATHERSPOON 230KV |
| CHKLIST-8570 | 12/22/2014 | Project Not Active | Withdrawn | - | 2,400.0 | Solar | T5240B15 | ROXBORO 115KV |
| CHKLIST-8571 | 12/22/2014 | Project Not Active | Withdrawn | - | 4,600.0 | Solar | T2631B01 | WEATHERSPOON 230KV |
| CHKLIST-8572 | 12/22/2014 | Project Not Active | Cancelled | - | 4,800.0 | Solar | T1980B01 | FAIRMONT 115KV |
| CHKLIST-8575 | 12/22/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T5900B01 | NASHVILLE 115KV |
| CHKLIST-8576 | 12/22/2014 | Approved | Construction - Under Construction / In Progress | Not Applicable | 5,000.0 | Solar | T2250B02 | PITTSBORO 230KV |
| CHKLIST-8541 | 12/19/2014 | Project Not Active | Cancelled | - | 20,000.0 | Solar | T4074B02 | BRIDGETON 115KV |
| CHKLIST-8628 | 12/19/2014 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T5302B03 | STALLINGS CROSSROADS 115KV |
| CHKLIST-8525 | 12/18/2014 | Project Not Active | Withdrawn | - | 1,998.0 | Solar | T6045B13 | SAMARIA 115KV |
| CHKLIST-8527 | 12/18/2014 | Project Not Active | Cancelled | - | 4,800.0 | Solar | T1550B05 | SOUTHERN PINES 115KV |
| CHKLIST-8475 | 12/15/2014 | Project Not Active | Cancelled | - | 4,800.0 | Solar | T5230B03 | ROXBORO SOUTH 230KV |
| CHKLIST-8476 | 12/15/2014 | Project Not Active | Cancelled | - | 4,800.0 | Solar | T1050B02 | CARTHAGE 115KV |
| CHKLIST-8480 | 12/15/2014 | Substation B | System Impact Study - In Progress | LVR Evaluation and Preliminary Options | 4,999.0 | Solar | T2631B01 | WEATHERSPOON 230KV |
| CHKLIST-8484 | 12/15/2014 | Substation A | Facility Study - Pending Customer Response | Not Applicable | 4,998.0 | Solar | T5935B01 | PRINCETON 115KV |
| CHKLIST-8458 | 12/11/2014 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T2631B01 | WEATHERSPOON 230KV |
| CHKLIST-8444 | 12/9/2014 | Approved | Commercial Operation - Power Generation in progress | - | 250.0 | Solar | T0750B16 | OTEEN 115KV |
| CHKLIST-8437 | 12/8/2014 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T1330B03 | LIBERTY 115KV |
| CHKLIST-8429 | 12/4/2014 | Approved | Construction - Pending Customer Obligation | - | 5,000.0 | Solar | T4150B03 | FARMVILLE 230KV |
| CHKLIST-8400 | 12/2/2014 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T4500B11 | ARCHER LODGE 230KV |
| CHKLIST-8401 | 12/2/2014 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T5970B06 | SELMA 230KV |
| CHKLIST-8402 | 12/2/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 1,999.0 | Solar | T5385B02 | WILSON MILLS 230KV |
| CHKLIST-8403 | 12/2/2014 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T5385B01 | WILSON MILLS 230KV |
| CHKLIST-8404 | 12/2/2014 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T4500B13 | ARCHER LODGE 230KV |
| CHKLIST-8405 | 12/2/2014 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | T5385B01 | WILSON MILLS 230KV |
| CHKLIST-8406 | 12/2/2014 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T5970B06 | SELMA 230KV |
| CHKLIST-8407 | 12/2/2014 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T5970B07 | SELMA 230KV |
| CHKLIST-8408 | 12/2/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 1,999.0 | Solar | T5385B02 | WILSON MILLS 230KV |
| CHKLIST-8409 | 12/2/2014 | Project Not Active | Cancelled | - | 2,000.0 | Solar | T5385B02 | WILSON MILLS 230KV |
| CHKLIST-8373 | 11/24/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,998.0 | Solar | T2631B03 | WEATHERSPOON 230KV |
| CHKLIST-8348 | 11/20/2014 | Approved | Commercial Operation - Power Generation in progress | - | 98.0 | Solar | T4530B05 | APEX 230KV |
| CHKLIST-8237 | 11/6/2014 | Substation A | Interconnection Agreement - In Progress | Not Applicable | 5,000.0 | Solar | T4136B12 | DOVER 230KV |
| CHKLIST-8078 | 10/26/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4770B01 | HENDERSON NORTH 115KV |
| CHKLIST-8138 | 10/22/2014 | Project Not Active | Cancelled | - | 2,000.0 | Solar | T1980B04 | FAIRMONT 115KV |
| CHKLIST-8139 | 10/22/2014 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T1980B03 | FAIRMONT 115KV |
| CHKLIST-8140 | 10/22/2014 | Substation A | System Impact Study - Pending Customer Response | Customer LVR Options Selection | 5,000.0 | Solar | T2631B01 | WEATHERSPOON 230KV |
| CHKLIST-8141 | 10/22/2014 | Project Not Active | Cancelled | - | 4,800.0 | Solar | T1550B02 | SOUTHERN PINES 115KV |
| CHKLIST-8136 | 10/21/2014 | Project Not Active | Cancelled | - | 4,998.0 | Solar | T5970B08 | SELMA 230KV |
| CHKLIST-8137 | 10/21/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,973.0 | Solar | T6045B13 | SAMARIA 115KV |
| CHKLIST-8517 | 10/20/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T2181B01 | LAUREL HILL 230KV |
| CHKLIST-8135 | 10/17/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,996.0 | Solar | T1612B11 | TROY BURNETTE 115KV |
| CHKLIST-8134 | 10/8/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,996.0 | Solar | T2631B01 | WEATHERSPOON 230KV |
| CHKLIST-8133 | 9/30/2014 | Approved | Commercial Operation - Power Generation in progress | - | 1,990.0 | Solar | T5670B22 | EDMONDSON 230KV |
| CHKLIST-8132 | 9/29/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,999.0 | Solar | T1980B04 | FAIRMONT 115KV |
| NC2015-00021 | 9/25/2014 | Substation A | Facility Study - Pending | - | 479.0 | Solar | T0840B03 | VANDERBILT 115KV |
| CHKLIST-8127 | 9/24/2014 | Project Not Active | Cancelled | - | 4,999.0 | Solar | T0990B02 | BISCOE 115KV |
| CHKLIST-8128 | 9/24/2014 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T1670B01 | WADESBORO 230KV |
| CHKLIST-8123 | 9/23/2014 | Approved | Commercial Operation - Power Generation in progress | - | 176.0 | Solar | T6041B01 | SPRING HOPE 115KV |
| CHKLIST-8124 | 9/23/2014 | Approved | Commercial Operation - Power Generation in progress | - | 85.0 | Solar | T6041B01 | SPRING HOPE 115KV |
| CHKLIST-8125 | 9/23/2014 | Approved | Commercial Operation - Power Generation in progress | - | 93.0 | Solar | T6041B01 | SPRING HOPE 115KV |
| CHKLIST-8126 | 9/23/2014 | Substation A | System Impact Study - Pending Customer Response | Not Applicable | 4,998.0 | Solar | T5390B02 | YANCEYVILLE 230KV |
| CHKLIST-8122 | 9/18/2014 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T2250B01 | PITTSBORO 230KV |
| CHKLIST-5917 | 9/16/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5090B02 | OXFORD NORTH 230KV |
| CHKLIST-8120 | 9/16/2014 | Project Not Active | Withdrawn | - | 5,260.0 | Solar | T2250B01 | PITTSBORO 230KV |
| CHKLIST-8121 | 9/16/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,747.0 | Solar | T2250B01 | PITTSBORO 230KV |
| CHKLIST-8093 | 9/15/2014 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T1530B01 | SILER CITY 115KV |
| CHKLIST-8094 | 9/15/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T1612B12 | TROY BURNETTE 115KV |
| CHKLIST-8095 | 9/15/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4785B02 | HENDERSON EAST 230KV |
| CHKLIST-8096 | 9/15/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T1530B05 | SILER CITY 115KV |
| CHKLIST-8097 | 9/15/2014 | Substation A | Facility Study - In Progress | Not Applicable | 4,990.0 | Solar | T6045B12 | SAMARIA 115KV |
| CHKLIST-8098 | 9/15/2014 | Substation B | Facility Study - Pending | Not Applicable | 4,998.0 | Solar | T6045B12 | SAMARIA 115KV |
| CHKLIST-8099 | 9/15/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T2141B05 | JONESBORO 230KV |
| CHKLIST-8100 | 9/15/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T6045B12 | SAMARIA 115KV |
| CHKLIST-8101 | 9/15/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5360B01 | WARRENTON 115KV |
| CHKLIST-8102 | 9/15/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5650B20 | ERWIN 230KV |
| CHKLIST-8103 | 9/15/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5650B20 | ERWIN 230KV |
| CHKLIST-8104 | 9/15/2014 | Project Not Active | Withdrawn | - | 4,998.0 | Solar | T5860B02 | LILLINGTON 115KV |
| CHKLIST-8105 | 9/15/2014 | Substation A | Construction - Pending IA/Customer Payment | Not Applicable | 4,466.0 | Solar | T1520B01 | SEAGROVE 115KV |
| CHKLIST-8106 | 9/15/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,498.0 | Solar | T1530B01 | SILER CITY 115KV |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| CHKLIST-8107 | 9/15/2014 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T1980B01 | FAIRMONT 115KV |
| CHKLIST-8108 | 9/15/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,998.0 | Solar | T4770B05 | HENDERSON NORTH 115KV |
| CHKLIST-8109 | 9/15/2014 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T1850B02 | CANDOR 115KV |
| CHKLIST-8111 | 9/15/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,098.0 | Solar | T4720B04 | GARNER 115KV |
| CHKLIST-8112 | 9/15/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T2320B01 | RED SPRINGS 115KV |
| CHKLIST-8113 | 9/15/2014 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T4765B06 | HENDERSON EAST 230KV |
| CHKLIST-8114 | 9/15/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5360B01 | WARRENTON 115KV |
| CHKLIST-8115 | 9/15/2014 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T4770B05 | HENDERSON NORTH 115KV |
| CHKLIST-8116 | 9/15/2014 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T2215B02 | MAXTON 115KV |
| CHKLIST-8117 | 9/15/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T2200B24 | LAURINBURG 230KV |
| CHKLIST-8118 | 9/15/2014 | Approved | Construction - Under Construction / In Progress | Not Applicable | 4,998.0 | Solar | T5360B01 | WARRENTON 115KV |
| CHKLIST-8119 | 9/15/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T4130B03 | CHOCOWINITY 230KV |
| CHKLIST-8086 | 9/12/2014 | Project Not Active | Cancelled | - | 4,800.0 | Solar | T5240B11 | ROXBORO 115KV |
| CHKLIST-8087 | 9/12/2014 | Project Not Active | Cancelled | - | 4,800.0 | Solar | T5240B11 | ROXBORO 115KV |
| CHKLIST-8088 | 9/12/2014 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T2282B02 | RAEFORD SOUTH 115KV |
| CHKLIST-8089 | 9/12/2014 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T6045B12 | SAMARIA 115KV |
| CHKLIST-8090 | 9/12/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T2444B21 | SANFORD DEEP RIVER 230KV |
| CHKLIST-8091 | 9/12/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T4170B01 | GRIFTON 115KV |
| CHKLIST-8092 | 9/12/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T4136B11 | DOVER 230KV |
| CHKLIST-8084 | 9/11/2014 | Approved | Commercial Operation - Power Generation in progress | - | 134.4 | Solar | T0390B01 | CANDLER 115KV |
| CHKLIST-8085 | 9/11/2014 | Project Not Active | Cancelled | - | 6,906.6 | Solar | T5480B01 | BENSON 230KV |
| CHKLIST-8083 | 9/10/2014 | Approved | Commercial Operation - Power Generation in progress | ? - | 630.0 | Solar | T6070B01 | WARSAW 230KV |
| CHKLIST-8079 | 9/8/2014 | Project Not Active | Withdrawn | - | 3,376.8 | Solar | T5911B01 | NEW HILL 230KV |
| CHKLIST-8080 | 9/8/2014 | Approved | Commercial Operation - Power Generation in progress | - | 96.0 | Solar | T0340B17 | WEST ASHEVILLE 115KV |
| CHKLIST-8081 | 9/8/2014 | Project Not Active | Withdrawn | Not Applicable | 3,000.0 | Solar | T5860B01 | LILLINGTON 115KV |
| CHKLIST-8082 | 9/8/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5085B04 | OXFORD SOUTH 230KV |
| CHKLIST-8010 | 8/20/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T2520B02 | ST. PAULS 115KV |
| CHKLIST-8001 | 8/14/2014 | Project Not Active | Withdrawn | - | 4,999.0 | Solar | T5450B03 | BAILEY 230KV |
| CHKLIST-8002 | 8/14/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T2215B02 | MAXTON 115KV |
| CHKLIST-8003 | 8/14/2014 | Project Not Active | Cancelled | - | 756.0 | Solar | T0350B01 | BALDWIN 115KV |
| CHKLIST-8004 | 8/14/2014 | Project Not Active | Withdrawn | - | 3,998.0 | Solar | T5650B21 | ERWIN 230KV |
| CHKLIST-8005 | 8/14/2014 | Project Not Active | Withdrawn | - | 4,998.0 | Solar | T5090B04 | OXFORD NORTH 230KV |
| CHKLIST-8006 | 8/14/2014 | Project Not Active | Withdrawn | - | 4,998.0 | Solar | T5090B04 | OXFORD NORTH 230KV |
| CHKLIST-8007 | 8/14/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T5935B02 | PRINCETON 115KV |
| CHKLIST-8008 | 8/14/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T5935B02 | PRINCETON 115KV |
| CHKLIST-8009 | 8/14/2014 | Project Not Active | Cancelled | - | 4,998.0 | Solar | T5935B02 | PRINCETON 115KV |
| CHKLIST-7993 | 8/12/2014 | Project Not Active | Cancelled | - | 4,998.0 | Solar | T1550B05 | SOUTHERN PINES 115KV |
| CHKLIST-7994 | 8/12/2014 | Project Not Active | Withdrawn | - | 4,998.0 | Solar | T1550B05 | SOUTHERN PINES 115KV |
| CHKLIST-7995 | 8/12/2014 | Project Not Active | Cancelled | - | 4,998.0 | Solar | T5090B02 | OXFORD NORTH 230KV |
| CHKLIST-7996 | 8/12/2014 | Project Not Active | Cancelled | - | 4,998.0 | Solar | T5090B02 | OXFORD NORTH 230KV |
| CHKLIST-7997 | 8/12/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T5504B02 | BUIES CREEK 230KV |
| CHKLIST-7998 | 8/12/2014 | Project Not Active | Cancelled | - | 3,500.0 | Solar | T4720B04 | GARNER 115KV |
| CHKLIST-7999 | 8/12/2014 | Project Not Active | Withdrawn | - | 4,998.0 | Solar | T4320B02 | SNOW HILL 115KV |
| CHKLIST-8000 | 8/12/2014 | Project Not Active | Withdrawn | - | 4,998.0 | Solar | T4320B02 | SNOW HILL 115KV |
| CHKLIST-7984 | 7/29/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5490B01 | BEULAVILLE 115KV |
| CHKLIST-7985 | 7/29/2014 | Approved | Commercial Operation - Power Generation in progress | - | 53.0 | Solar | T6446B22 | LELAND INDUSTRIAL 115KV |
| CHKLIST-7986 | 7/29/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T2520B01 | ST. PAULS 115KV |
| CHKLIST-7987 | 7/29/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T2520B01 | ST. PAULS 115KV |
| CHKLIST-7988 | 7/29/2014 | Project Not Active | Withdrawn | - | 4,998.0 | Solar | T2520B01 | ST. PAULS 115KV |
| CHKLIST-7989 | 7/29/2014 | Project Not Active | Withdrawn | Not Applicable | 6,500.0 | Solar | T5385B04 | WILSON MILLS 230KV |
| CHKLIST-7990 | 7/29/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 5,000.0 | Solar | T5860B01 | LILLINGTON 115KV |
| CHKLIST-7991 | 7/29/2014 | Project Not Active | Withdrawn | Not Applicable | 4,999.0 | Solar | T5570B03 | CLINTON NORTH 115KV |
| CHKLIST-7992 | 7/29/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T1610B03 | TROY 115KV |
| CHKLIST-7981 | 7/28/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T4136B12 | DOVER 230KV |
| CHKLIST-7982 | 7/28/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T4130B04 | CHOCOWINITY 230KV |
| CHKLIST-7983 | 7/28/2014 | Project Not Active | Withdrawn | - | 4,950.0 | Solar | T2335B02 | ROWLAND 230KV |
| CHKLIST-7976 | 7/21/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,999.0 | Solar | T1980B04 | FAIRMONT 115KV |
| CHKLIST-7977 | 7/21/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T2320B01 | RED SPRINGS 115KV |
| CHKLIST-7978 | 7/21/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T2320B02 | RED SPRINGS 115KV |
| CHKLIST-7974 | 7/18/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,995.0 | Solar | T2190B02 | LAURINBURG CITY 230KV |
| CHKLIST-7975 | 7/18/2014 | Project Not Active | Cancelled | - | 3,998.0 | Solar | T2161B05 | LAUREL HILL 230KV |
| CHKLIST-7979 | 7/16/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T2320B01 | RED SPRINGS 115KV |
| CHKLIST-7969 | 7/10/2014 | Project Not Active | Withdrawn | - | 4,950.0 | Solar | T6070B04 | WARSAW 230KV |
| CHKLIST-7970 | 7/10/2014 | Project Not Active | Withdrawn | - | 4,950.0 | Solar | T1672B03 | WADESBORO-BOWMAN SCHOOL 230KV |
| CHKLIST-7971 | 7/10/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T4765B04 | HENDERSON EAST 230KV |
| CHKLIST-7972 | 7/10/2014 | Approved | Commercial Operation - Power Generation in progress | - | 1,980.0 | Solar | T5900B05 | NASHVILLE 115KV |
| CHKLIST-7973 | 7/10/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,995.0 | Solar | T4319B02 | GLOBAL TRANSPARK 115KV |
| CHKLIST-7966 | 7/9/2014 | Project Not Active | Cancelled | - | 680.0 | Solar | - | N/A |
| CHKLIST-7967 | 7/9/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,690.0 | Solar | T1650B02 | CANDOR 115KV |
| CHKLIST-7968 | 7/9/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T0960B11 | ASHEBORO EAST 115KV |
| CHKLIST-7962 | 6/30/2014 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T4930B02 | LOUISBURG 115KV |
| CHKLIST-7963 | 6/30/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T8160B01 | BURGAW 115KV |
| CHKLIST-7964 | 6/30/2014 | Project Not Active | Withdrawn | - | 4,999.0 | Solar | T5450B03 | BAILEY 230KV |
| CHKLIST-7965 | 6/30/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T6045B13 | SAMARIA 115KV |
| CHKLIST-7942 | 6/29/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5450B03 | BAILEY 230KV |
| CHKLIST-7961 | 6/27/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5970B07 | SELMA 230KV |
| CHKLIST-7957 | 6/20/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4930B02 | LOUISBURG 115KV |
| CHKLIST-7958 | 6/20/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4930B03 | LOUISBURG 115KV |
| CHKLIST-7959 | 6/20/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,999.0 | Solar | T6070B02 | WARSAW 230KV |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| CHKLIST-7951 | 6/17/2014 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T5385B02 | WILSON MILLS 230KV |
| CHKLIST-7952 | 6/17/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4276B02 | RHEMS 230KV |
| CHKLIST-7953 | 6/17/2014 | Approved | Construction - Under Construction / In Progress | Not Applicable | 5,000.0 | Solar | T4285B02 | ROSE HILL 230KV |
| CHKLIST-7954 | 6/17/2014 | Project Not Active | Withdrawn | Not Applicable | 4,500.0 | Solar | T5830B03 | LAGRANGE 115KV |
| CHKLIST-7955 | 6/17/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T2280B05 | RAEFORD 115KV |
| CHKLIST-7956 | 6/17/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T8250B01 | DELCO 115KV |
| CHKLIST-7948 | 6/12/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T2432B01 | SANFORD GARDEN STREET 230KV |
| CHKLIST-7949 | 6/12/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T2432B02 | SANFORD GARDEN STREET 230KV |
| CHKLIST-7950 | 6/12/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T2432B03 | SANFORD GARDEN STREET 230KV |
| CHKLIST-7946 | 6/9/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5465B05 | BELFAST 115KV |
| CHKLIST-7947 | 6/9/2014 | Project Not Active | Cancelled | - | 4,995.0 | Solar | T6830B01 | TABOR CITY 115KV |
| CHKLIST-7943 | 6/6/2014 | Project Not Active | Cancelled | Not Applicable | 5,000.0 | Solar | T5888B03 | MT. OLIVE WEST 115KV |
| CHKLIST-7944 | 6/6/2014 | Approved | Construction - Pending Meter Installation | - | 65.0 | Solar | T5314B13 | GARNER TRYON HILLS 115KV |
| CHKLIST-7945 | 6/6/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T1550B05 | LAKEVIEW 115KV |
| CHKLIST-7941 | 6/4/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T2190B01 | LAURINBURG CITY 230KV |
| CHKLIST-7938 | 5/30/2014 | Project Not Active | Cancelled | - | 4,950.0 | Solar | T6360B02 | GARLAND 230KV |
| CHKLIST-7939 | 5/30/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,950.0 | Solar | T5580B05 | CLINTON FERRELL ST. 115KV |
| CHKLIST-7940 | 5/30/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5690B02 | ERWIN MILLS 115KV |
| CHKLIST-7935 | 5/28/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T1530B03 | SILER CITY 115KV |
| CHKLIST-7936 | 5/28/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T6160B01 | BURGAW 115KV |
| CHKLIST-7937 | 5/28/2014 | Project Not Active | Withdrawn | - | 4,950.0 | Solar | T5580B02 | CLINTON FERRELL ST. 115KV |
| CHKLIST-7930 | 5/23/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5302B03 | STALLINGS CROSSROADS 115KV |
| CHKLIST-7931 | 5/23/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T2631B01 | WEATHERSPOON 230KV |
| CHKLIST-7932 | 5/23/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5830B01 | LAGRANGE 115KV |
| CHKLIST-7933 | 5/23/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5970B07 | SELMA 230KV |
| CHKLIST-7934 | 5/23/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5732B03 | FOUR OAKS 230KV |
| CHKLIST-7927 | 5/16/2014 | Approved | Commercial Operation - Power Generation in progress | - | 24.0 | Solar | T0510B21 | ELK MOUNTAIN 115KV |
| CHKLIST-7923 | 5/14/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 3,400.0 | Solar | T5749B01 | GODWIN 115KV |
| CHKLIST-7924 | 5/14/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5085B02 | OXFORD SOUTH 230KV |
| CHKLIST-7925 | 5/14/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5090B04 | OXFORD NORTH 230KV |
| CHKLIST-7926 | 5/14/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4770B01 | HENDERSON NORTH 115KV |
| CHKLIST-7770 | 5/5/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,999.0 | Solar | T4074B02 | BRIDGETON 115KV |
| CHKLIST-7922 | 5/1/2014 | Project Not Active | Withdrawn | - | 1,981.0 | Solar | T6040B13 | CASTALIA 230KV |
| CHKLIST-7918 | 4/29/2014 | Approved | Construction - Under Construction / In Progress | Not Applicable | 5,000.0 | Solar | T2181B05 | LAUREL HILL 230KV |
| CHKLIST-7919 | 4/29/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5302B01 | STALLINGS CROSSROADS 115KV |
| CHKLIST-7920 | 4/29/2014 | Approved | Commercial Operation - Power Generation in progress | - | 134.0 | Solar | T5116B03 | RALEIGH DURHAM AIRPORT 230KV |
| CHKLIST-7916 | 4/25/2014 | Project Not Active | Cancelled | - | 1,981.0 | Solar | T5830B01 | LAGRANGE 115KV |
| CHKLIST-7917 | 4/25/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,995.0 | Solar | T5570B03 | CLINTON NORTH 115KV |
| CHKLIST-7902 | 4/23/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5732B03 | FOUR OAKS 230KV |
| CHKLIST-7914 | 4/22/2014 | Project Not Active | Withdrawn | - | 4,800.0 | Solar | T4230B02 | KINSTON 115KV |
| CHKLIST-7912 | 4/17/2014 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | T5490B01 | BEULAVILLE 115KV |
| CHKLIST-7910 | 4/16/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T5490B01 | BEULAVILLE 115KV |
| CHKLIST-7911 | 4/16/2014 | Project Not Active | Cancelled | - | 10,000.0 | Solar | T4765B02 | HENDERSON EAST 230KV |
| CHKLIST-7909 | 4/11/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,998.0 | Solar | T6360B02 | GARLAND 230KV |
| CHKLIST-7904 | 4/8/2014 | Project Not Active | Cancelled | - | 500.0 | Solar | T5749B01 | GODWIN 115KV |
| CHKLIST-7905 | 4/8/2014 | Approved | Commercial Operation - Power Generation in progress | - | 1,981.0 | Solar | T6040B13 | CASTALIA 230KV |
| CHKLIST-7906 | 4/8/2014 | Approved | Commercial Operation - Power Generation in progress | - | 58.0 | Solar | T6205B11 | CASTLE HAYNE 230KV |
| CHKLIST-7907 | 4/8/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T4770B05 | HENDERSON NORTH 115KV |
| CHKLIST-7908 | 4/8/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,800.0 | Solar | T6330B01 | ELIZABETHTOWN 115KV |
| CHKLIST-7903 | 4/7/2014 | Project Not Active | Withdrawn | Not Applicable | 5,000.0 | Solar | T4225B01 | KORNEGAY 115KV |
| CHKLIST-7901 | 4/3/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5749B01 | GODWIN 115KV |
| CHKLIST-7900 | 4/1/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T1520B01 | SEAGROVE 115KV |
| CHKLIST-7793 | 3/27/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,999.0 | Solar | T1980B01 | FAIRMONT 115KV |
| CHKLIST-7897 | 3/27/2014 | Approved | Commercial Operation - Power Generation in progress | - | 100.0 | Biomass | T4285B01 | ROSE HILL 230KV |
| CHKLIST-7898 | 3/27/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,995.0 | Solar | T2247B02 | PEMBROKE 115KV |
| CHKLIST-7899 | 3/27/2014 | Project Not Active | Withdrawn | - | 1,981.0 | Solar | T2580B01 | VANDER 115KV |
| CHKLIST-7895 | 3/20/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 5,000.0 | Solar | T4285B02 | ROSE HILL 230KV |
| CHKLIST-7896 | 3/20/2014 | Project Not Active | Cancelled | - | 4,998.0 | Solar | T6330B01 | ELIZABETHTOWN 115KV |
| CHKLIST-7893 | 3/19/2014 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T5770B01 | GRANTHAM 230KV |
| CHKLIST-7890 | 3/13/2014 | Project Not Active | Withdrawn | - | 4,998.0 | Solar | T5090B01 | OXFORD NORTH 230KV |
| CHKLIST-7891 | 3/13/2014 | Project Not Active | Withdrawn | - | 4,998.0 | Solar | T1530B01 | SILER CITY 115KV |
| CHKLIST-7888 | 3/10/2014 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5600B01 | ROSEBORO 115KV |
| CHKLIST-7889 | 3/10/2014 | Project Not Active | Cancelled | Not Applicable | 5,000.0 | Solar | T5888B03 | MT. OLIVE WEST 115KV |
| CHKLIST-7886 | 3/3/2014 | Project Not Active | Withdrawn | - | 4,998.0 | Solar | T5888B03 | MT. OLIVE WEST 115KV |
| CHKLIST-7887 | 3/3/2014 | Project Not Active | Cancelled | - | 4,998.0 | Solar | T6070B04 | WARSAW 230KV |
| CHKLIST-7884 | 2/27/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5732B02 | FOUR OAKS 230KV |
| CHKLIST-7885 | 2/27/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5749B01 | GODWIN 115KV |
| CHKLIST-7879 | 2/25/2014 | Project Not Active | Withdrawn | - | 4,320.0 | Biomass | T6070B04 | WARSAW 230KV |
| CHKLIST-7881 | 2/25/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T2200B23 | LAURINBURG 230KV |
| CHKLIST-7882 | 2/25/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,500.0 | Solar | T4255B03 | NEW BERN WEST 230KV |
| CHKLIST-7883 | 2/25/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,500.0 | Solar | T4130B03 | CHOCOWINITY 230KV |
| CHKLIST-7880 | 2/21/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4170B02 | GRIFTON 115KV |
| CHKLIST-7874 | 2/20/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 5,000.0 | Solar | T5490B02 | BEULAVILLE 115KV |
| CHKLIST-7875 | 2/20/2014 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | T6220B01 | CLARKTON 115KV |
| CHKLIST-7876 | 2/20/2014 | Project Not Active | Cancelled | - | 4,683.0 | Solar | T5490B01 | BEULAVILLE 115KV |
| CHKLIST-7877 | 2/20/2014 | Project Not Active | Cancelled | - | 1,998.0 | Solar | T5888B01 | MT. OLIVE WEST 115KV |
| CHKLIST-7878 | 2/20/2014 | Project Not Active | Withdrawn | - | 4,230.0 | Biomass | T5570B02 | CLINTON NORTH 115KV |
| CHKLIST-7872 | 2/19/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T6040B12 | CASTALIA 230KV |
| CHKLIST-7873 | 2/19/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T5749B01 | GODWIN 115KV |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| CHKLIST-7865 | 2/10/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,999.0 | Solar | T2475B01 | SHANNON 115KV |
| CHKLIST-7866 | 2/10/2014 | Project Not Active | Withdrawn | - | 1,981.0 | Solar | T1980B04 | FAIRMONT 115KV |
| CHKLIST-7867 | 2/10/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,999.0 | Solar | T2215B02 | MAXTON 115KV |
| CHKLIST-7869 | 2/10/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5860B01 | LILLINGTON 115KV |
| CHKLIST-7870 | 2/10/2014 | Approved | Commercial Operation - Power Generation in progress | - | 4,995.0 | Solar | T4770B04 | HENDERSON NORTH 115KV |
| CHKLIST-7871 | 2/10/2014 | Project Not Active | Withdrawn | - | 4,996.0 | Solar | T4285B02 | ROSE HILL 230KV |
| CHKLIST-7864 | 2/4/2014 | Project Not Active | Cancelled | - | 1,900.0 | Solar | T0791B04 | SPRUCE PINE 115KV |
| CHKLIST-7862 | 1/27/2014 | Project Not Active | Withdrawn | - | 1,981.0 | Solar | T1670B01 | WADESBORO 230KV |
| CHKLIST-7863 | 1/27/2014 | Approved | Commercial Operation - Power Generation in progress | - | 1,981.0 | Solar | T4225B02 | KORNEGAY 115KV |
| CHKLIST-7861 | 1/24/2014 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T4770B05 | HENDERSON NORTH 115KV |
| CHKLIST-7858 | 1/23/2014 | Project Not Active | Cancelled | - | 2,572.0 | Solar | - | N/A |
| CHKLIST-7859 | 1/23/2014 | Project Not Active | Cancelled | - | 6,000.0 | Solar | T2475B02 | SHANNON 115KV |
| CHKLIST-7860 | 1/23/2014 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,998.0 | Solar | T5740B02 | FREMONT 115KV |
| CHKLIST-7854 | 1/17/2014 | Project Not Active | Withdrawn | - | 4,996.0 | Solar | T5754B01 | GOLDSBORO LANGSTON 115KV |
| CHKLIST-7855 | 1/17/2014 | Approved | Construction - Pending Customer Obligation | - | 39.0 | Solar | T4610B13 | CARY TRENTON ROAD 230KV |
| CHKLIST-7856 | 1/17/2014 | Approved | Commercial Operation - Power Generation in progress | - | 150.0 | Solar | T5119B13 | RALEIGH BRIER CREEK 230KV |
| CHKLIST-7857 | 1/17/2014 | Project Not Active | Cancelled | - | 2,572.0 | Solar | T1670B01 | WADESBORO 230KV |
| CHKLIST-7851 | 1/2/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5754B01 | GOLDSBORO LANGSTON 115KV |
| CHKLIST-7852 | 1/2/2014 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T6070B03 | WARSAW 230KV |
| CHKLIST-7853 | 1/2/2014 | Project Not Active | Withdrawn | - | 4,950.0 | Solar | T1428B01 | ROCKINGHAM-ABERDEEN ROAD 230KV |
| CHKLIST-7850 | 12/30/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5090B02 | OXFORD NORTH 230KV |
| CHKLIST-7847 | 12/19/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T1670B01 | WADESBORO 230KV |
| CHKLIST-7848 | 12/19/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T5830B02 | LAGRANGE 115KV |
| CHKLIST-7849 | 12/19/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5480B03 | BENSON 230KV |
| CHKLIST-7843 | 12/18/2013 | Project Not Active | Cancelled | - | 4,998.0 | Solar | T6041B02 | SPRING HOPE 115KV |
| CHKLIST-7844 | 12/18/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T4136B12 | DOVER 230KV |
| CHKLIST-7845 | 12/18/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T1700B15 | WEST END 230KV |
| CHKLIST-7846 | 12/18/2013 | Project Not Active | Withdrawn | - | 4,999.0 | Solar | T5240B12 | ROXBORO 115KV |
| CHKLIST-7841 | 12/6/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5302B03 | STALLINGS CROSSROADS 115KV |
| CHKLIST-7842 | 12/6/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4130B04 | CHOCOWINITY 230KV |
| CHKLIST-7829 | 11/27/2013 | Project Not Active | Withdrawn | - | 4,998.0 | Solar | T1190B01 | HAMLET 230KV |
| CHKLIST-7831 | 11/27/2013 | Project Not Active | Cancelled | - | 4,998.0 | Solar | T2475B01 | SHANNON 115KV |
| CHKLIST-7832 | 11/27/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T1530B01 | SILER CITY 115KV |
| CHKLIST-7833 | 11/27/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T4136B12 | DOVER 230KV |
| CHKLIST-7834 | 11/27/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T2475B02 | SHANNON 115KV |
| CHKLIST-7836 | 11/27/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T2217B01 | MAXTON AIRPORT 115KV |
| CHKLIST-7837 | 11/27/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4785B03 | HENDERSON EAST 230KV |
| CHKLIST-7838 | 11/27/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,999.0 | Solar | T5888B03 | MT. OLIVE WEST 115KV |
| CHKLIST-7839 | 11/27/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T1672B03 | WADESBORO-BOWMAN SCHOOL 230KV |
| CHKLIST-7840 | 11/26/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T1670B02 | WADESBORO 230KV |
| CHKLIST-7828 | 11/24/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5890B01 | MT. OLIVE 115KV |
| CHKLIST-7830 | 11/21/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4225B01 | KORNEGAY 115KV |
| CHKLIST-7826 | 11/12/2013 | Approved | Commercial Operation - Power Generation in progress | - | 300.0 | Solar | T4276B02 | RHEMS 230KV |
| CHKLIST-7825 | 11/8/2013 | Project Not Active | Cancelled | - | 1,980.0 | Solar | T6350B02 | GARLAND 230KV |
| CHKLIST-7822 | 10/30/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T5888B03 | MT. OLIVE WEST 115KV |
| CHKLIST-7823 | 10/30/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,998.0 | Solar | T2520B02 | ST. PAULS 115KV |
| CHKLIST-7820 | 10/18/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5770B01 | GRANTHAM 230KV |
| CHKLIST-7821 | 10/18/2013 | Project Not Active | Cancelled | - | 4,999.0 | Solar | T1440B25 | ROCKINGHAM 230KV |
| CHKLIST-7819 | 10/16/2013 | Project Not Active | Withdrawn | Not Applicable | 16,000.0 | Solar | T1765B01 | BEARD 115KV |
| CHKLIST-7816 | 10/15/2013 | Project Not Active | Cancelled | - | 4,000.0 | Biomass | T5740B03 | FREMONT 115KV |
| CHKLIST-7817 | 10/11/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,980.0 | Solar | T5921B01 | NEWTON GROVE 230KV |
| CHKLIST-7824 | 10/8/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | T2200B23 | LAURINBURG 230KV |
| CHKLIST-7808 | 10/7/2013 | Approved | Commercial Operation - Power Generation in progress | - | 46.0 | Solar | T4325B03 | WILMINGTON SUNSET PARK 115KV |
| CHKLIST-7809 | 10/7/2013 | Project Not Active | Withdrawn | - | 4,996.0 | Solar | T4230B02 | KINSTON 115KV |
| CHKLIST-7810 | 10/7/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5935B02 | PRINCETON 115KV |
| CHKLIST-7811 | 10/7/2013 | Approved | Commercial Operation - Power Generation in progress | - | 3,500.0 | Solar | T5360B03 | WARRENTON 115KV |
| CHKLIST-7812 | 10/7/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,999.0 | Solar | T4770B05 | HENDERSON NORTH 115KV |
| CHKLIST-7813 | 10/7/2013 | Approved | Commercial Operation - Power Generation in progress | - | 45.0 | Solar | T4990B37 | METHOD 230KV |
| CHKLIST-7806 | 10/4/2013 | Approved | Commercial Operation - Power Generation in progress | - | 43.0 | Solar | T5136B04 | RALEIGH OAKDALE 230KV |
| CHKLIST-7807 | 10/4/2013 | Project Not Active | Cancelled | - | 19,990.0 | Solar | T5650B20 | ERWIN 230KV |
| CHKLIST-7804 | 9/30/2013 | Project Not Active | Cancelled | - | 4,999.0 | Solar | T5680B01 | ELM CITY 115KV |
| CHKLIST-7803 | 9/27/2013 | Approved | Commercial Operation - Power Generation in progress | - | 48.0 | Solar | T4930B03 | LOUISBURG 115KV |
| CHKLIST-7800 | 9/24/2013 | Project Not Active | Withdrawn | - | 4,999.0 | Solar | T4930B02 | LOUISBURG 115KV |
| CHKLIST-7801 | 9/24/2013 | Approved | Commercial Operation - Power Generation in progress | - | 552.0 | Solar | T4602B04 | CARY EVANS ROAD 230KV |
| CHKLIST-7802 | 9/24/2013 | Project Not Active | Withdrawn | - | 3,020.0 | Biomass | T2217B02 | MAXTON AIRPORT 115KV |
| CHKLIST-7797 | 9/20/2013 | Project Not Active | Cancelled | - | 137.0 | Solar | T5970B08 | SELMA 230KV |
| CHKLIST-7798 | 9/20/2013 | Approved | Commercial Operation - Power Generation in progress | - | 75.0 | Solar | T5970B08 | SELMA 230KV |
| CHKLIST-7799 | 9/20/2013 | Approved | Commercial Operation - Power Generation in progress | - | 123.0 | Solar | T5970B08 | SELMA 230KV |
| CHKLIST-7796 | 9/18/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T4233B02 | LAKE WACCAMAW 115KV |
| CHKLIST-7795 | 9/12/2013 | Project Not Active | Withdrawn | Not Applicable | 4,500.0 | Solar | T2217B02 | MAXTON AIRPORT 115KV |
| CHKLIST-7794 | 9/5/2013 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T5900B05 | NASHVILLE 115KV |
| CHKLIST-7790 | 9/4/2013 | Project Not Active | Cancelled | - | 4,950.0 | Solar | - | N/A |
| CHKLIST-7791 | 9/4/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T5390B02 | YANCEYVILLE 230KV |
| CHKLIST-7792 | 9/4/2013 | Project Not Active | Cancelled | - | 4,950.0 | Solar | T4630B13 | DUNCAN 230KV |
| CHKLIST-7789 | 8/28/2013 | Project Not Active | Cancelled | - | 4,950.0 | Solar | T1810B01 | BLADENBORO 115KV |
| CHKLIST-7786 | 8/26/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5390B04 | YANCEYVILLE 230KV |
| CHKLIST-7787 | 8/26/2013 | Approved | Commercial Operation - Power Generation in progress | Not Applicable | 4,995.0 | Solar | T5740B03 | FREMONT 115KV |
| CHKLIST-7788 | 8/26/2013 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T5921B02 | NEWTON GROVE 230KV |
| CHKLIST-7785 | 8/22/2013 | Project Not Active | Cancelled | - | 31.4 | Solar | - | N/A |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| CHKLIST-7784 | 6/14/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,800.0 | Solar | T4225B01 | KORNEGAY 115KV |
| CHKLIST-7783 | 6/9/2013 | Project Not Active | Withdrawn | - | 4,999.0 | Solar | T6350B01 | FAIR BLUFF 115KV |
| CHKLIST-7778 | 8/2/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T6350B01 | FAIR BLUFF 115KV |
| CHKLIST-7779 | 8/2/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5480B04 | BENSON 230KV |
| CHKLIST-7780 | 8/2/2013 | Project Not Active | Withdrawn | - | 10,000.0 | Solar | T4230B02 | KINSTON 115KV |
| CHKLIST-7781 | 8/2/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T6041B03 | SPRING HOPE 115KV |
| CHKLIST-7775 | 7/31/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4915B01 | LITTLETON 115KV |
| CHKLIST-7776 | 7/31/2013 | Approved | Commercial Operation - Power Generation in progress | - | 3,000.0 | Solar | T5360B03 | WARRENTON 115KV |
| CHKLIST-7777 | 7/31/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T5390B04 | YANCEYVILLE 230KV |
| CHKLIST-7771 | 7/25/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,000.0 | Solar | T1765B01 | BEARD 115KV |
| CHKLIST-7772 | 7/25/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5302B02 | STALLINGS CROSSROADS 115KV |
| CHKLIST-7773 | 7/25/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T5650B20 | ERWIN 230KV |
| CHKLIST-7774 | 7/25/2013 | Project Not Active | Cancelled | - | 4,000.0 | Solar | T4255B05 | NEW BERN WEST 230KV |
| CHKLIST-7768 | 7/24/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | - | N/A |
| CHKLIST-7769 | 7/24/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4765B06 | HENDERSON EAST 230KV |
| CHKLIST-7764 | 7/9/2013 | Approved | Commercial Operation - Power Generation in progress | - | 19,800.0 | Solar | T2217B01 | MAXTON AIRPORT 115KV |
| CHKLIST-7765 | 7/9/2013 | Approved | Commercial Operation - Power Generation in progress | - | 100.0 | Solar | T6310B20 | EAGLE ISLAND 115KV |
| CHKLIST-7766 | 7/9/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,600.0 | Solar | T6310B20 | EAGLE ISLAND 115KV |
| CHKLIST-7767 | 7/9/2013 | Approved | System Impact Study - Pending Customer Response | - | 1,500.0 | Solar | T4108B03 | CATHERINE LAKE 230KV |
| CHKLIST-7762 | 7/3/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T4319B02 | GLOBAL TRANSPARK 115KV |
| CHKLIST-7763 | 7/3/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,999.0 | Solar | T1190B01 | HAMLET 230KV |
| CHKLIST-7782 | 7/1/2013 | Approved | Commercial Operation - Power Generation in progress | - | 10,000.0 | Solar | T5450B03 | BAILEY 230KV |
| CHKLIST-7760 | 6/26/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T1850B01 | CANDOR 115KV |
| CHKLIST-7761 | 6/26/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T4710B04 | FUQUAY 230KV |
| CHKLIST-1100 | 6/24/2013 | Approved | Commercial Operation - Power Generation in progress | - | 375.0 | Solar | T5314B11 | CARALEIGH 230KV |
| CHKLIST-7756 | 6/14/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4225B01 | KORNEGAY 115KV |
| CHKLIST-7757 | 6/14/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4130B03 | CHOCOWINITY 230KV |
| CHKLIST-7758 | 6/14/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T2580B01 | VANDER 115KV |
| CHKLIST-7759 | 6/14/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,999.0 | Solar | T5090B01 | OXFORD NORTH 230KV |
| CHKLIST-7755 | 6/7/2013 | Approved | Commercial Operation - Power Generation in progress | - | 792.0 | Hydroelectric | T1610B03 | TROY 115KV |
| CHKLIST-7753 | 6/5/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,999.0 | Solar | T4170B01 | GRIFTON 115KV |
| CHKLIST-7754 | 6/5/2013 | Project Not Active | Withdrawn | - | 15,300.0 | Solar | T4130B01 | CHOCOWINITY 230KV |
| CHKLIST-7751 | 5/31/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,000.0 | Solar | T5122B03 | RALEIGH BLUE RIDGE 230KV |
| CHKLIST-7750 | 5/14/2013 | Project Not Active | Cancelled | - | 2,000.0 | Solar | T6041B03 | SPRING HOPE 115KV |
| CHKLIST-7745 | 5/10/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T6041B01 | SPRING HOPE 115KV |
| CHKLIST-7746 | 5/10/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,000.0 | Solar | T5480B01 | BENSON 230KV |
| CHKLIST-7747 | 5/10/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T5732B01 | FOUR OAKS 230KV |
| CHKLIST-7748 | 5/10/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T6045B12 | SAMARIA 115KV |
| CHKLIST-7749 | 5/10/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5935B03 | PRINCETON 115KV |
| CHKLIST-7736 | 5/6/2013 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T2225B01 | MONCURE 115KV |
| CHKLIST-7737 | 5/6/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T5385B04 | WILSON MILLS 230KV |
| CHKLIST-7738 | 5/6/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5732B02 | FOUR OAKS 230KV |
| CHKLIST-7739 | 5/6/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5480B03 | BENSON 230KV |
| CHKLIST-7740 | 5/6/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T5970B08 | SELMA 230KV |
| CHKLIST-7741 | 5/6/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T5480B02 | BENSON 230KV |
| CHKLIST-7742 | 5/6/2013 | Substation A | Facility Study - In Progress | Not Applicable | 13,450.0 | Solar | T6041B03 | SPRING HOPE 115KV |
| CHKLIST-7744 | 5/6/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5680B01 | ELM CITY 115KV |
| CHKLIST-7734 | 4/29/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T1430B01 | ROCKINGHAM WEST 115KV |
| CHKLIST-7735 | 4/29/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4320B01 | SNOW HILL 115KV |
| CHKLIST-7733 | 4/26/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,000.0 | Solar | T2247B01 | PEMBROKE 115KV |
| CHKLIST-7752 | 4/21/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T1610B02 | BLADENBORO 115KV |
| CHKLIST-7730 | 4/16/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4255B01 | NEW BERN WEST 230KV |
| CHKLIST-7731 | 4/16/2013 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T5376B03 | WENDELL 230KV |
| CHKLIST-7732 | 4/16/2013 | Approved | Commercial Operation - Power Generation in progress | - | 48.0 | Solar | T2250B03 | PITTSBORO 230KV |
| CHKLIST-7724 | 4/13/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,000.0 | Solar | T5640B02 | CLAYTON 115KV |
| CHKLIST-7723 | 4/12/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5385B04 | WILSON MILLS 230KV |
| CHKLIST-7725 | 4/12/2013 | Project Not Active | Withdrawn | - | 3,000.0 | Solar | T6205B12 | CASTLE HAYNE 230KV |
| CHKLIST-7726 | 4/12/2013 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T4850B01 | KNIGHTDALE 115KV |
| CHKLIST-7727 | 4/12/2013 | Project Not Active | Withdrawn | - | 3,000.0 | Solar | T5385B02 | WILSON MILLS 230KV |
| CHKLIST-7728 | 4/12/2013 | Project Not Active | Cancelled | - | 3,000.0 | Solar | T5385B02 | WILSON MILLS 230KV |
| CHKLIST-7729 | 4/12/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T5970B07 | SELMA 230KV |
| CHKLIST-7716 | 4/8/2013 | Project Not Active | Cancelled | - | 1,990.0 | Solar | T1190B01 | HAMLET 230KV |
| CHKLIST-7717 | 4/8/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5970B07 | SELMA 230KV |
| CHKLIST-7718 | 4/8/2013 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T5385B02 | WILSON MILLS 230KV |
| CHKLIST-7719 | 4/8/2013 | Project Not Active | Withdrawn | - | 3,000.0 | Solar | T5385B02 | WILSON MILLS 230KV |
| CHKLIST-7720 | 4/8/2013 | Project Not Active | Cancelled | - | 4,000.0 | Solar | T5970B07 | SELMA 230KV |
| CHKLIST-7721 | 4/8/2013 | Project Not Active | Cancelled | - | 4,000.0 | Solar | T4500B13 | ARCHER LODGE 230KV |
| CHKLIST-7722 | 4/8/2013 | Project Not Active | Cancelled | - | 2,000.0 | Solar | - | N/A |
| CHKLIST-7709 | 3/28/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5912B03 | NEW HOPE 115KV |
| CHKLIST-7710 | 3/28/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T6670B04 | WHITEVILLE 115KV |
| CHKLIST-7711 | 3/28/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5912B05 | NEW HOPE 115KV |
| CHKLIST-7712 | 3/28/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5912B03 | NEW HOPE 115KV |
| CHKLIST-7713 | 3/28/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T4426B11 | WAKE TECH 230KV |
| CHKLIST-7715 | 3/28/2013 | Approved | Commercial Operation - Power Generation in progress | - | 15,000.0 | Solar | T4130B02 | CHOCOWINITY 230KV |
| CHKLIST-7705 | 3/22/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T5650B20 | ERWIN 230KV |
| CHKLIST-7706 | 3/22/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T6350B01 | FAIR BLUFF 115KV |
| CHKLIST-7707 | 3/22/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T2631B01 | WEATHERSPOON 230KV |
| CHKLIST-7708 | 3/22/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T0690B03 | BISCOE 115KV |
| CHKLIST-7704 | 3/15/2013 | Project Not Active | Cancelled | - | 4,875.0 | Solar | T5390B04 | YANCEYVILLE 230KV |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| CHKLIST-7702 | 3/1/2013 | Project Not Active | Withdrawn | - | 325.0 | Biomass | T1850B01 | CANDOR 115KV |
| CHKLIST-7703 | 3/1/2013 | Project Not Active | Cancelled | - | 20,000.0 | Solar | T4130B02 | CHOCOWINITY 230KV |
| CHKLIST-7700 | 2/28/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,000.0 | Solar | T0350B01 | BALDWIN 115KV |
| CHKLIST-7701 | 2/28/2013 | Project Not Active | Cancelled | - | 1,600.0 | Solar | T5732B03 | FOUR OAKS 230KV |
| CHKLIST-7697 | 2/28/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T6220B01 | CLARKTON 115KV |
| CHKLIST-7698 | 2/26/2013 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T5900B05 | NASHVILLE 115KV |
| CHKLIST-7696 | 2/22/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,872.0 | Solar | T5921B02 | NEWTON GROVE 230KV |
| CHKLIST-7695 | 2/19/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,980.0 | Solar | T5600B03 | ROSEBORO 115KV |
| CHKLIST-7692 | 2/18/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,320.0 | Solar | T2631B04 | WEATHERSPOON 230KV |
| CHKLIST-7690 | 2/13/2013 | Approved | Commercial Operation - Power Generation in progress | - | 452.8 | Solar | T5116B03 | RALEIGH DURHAM AIRPORT 230KV |
| CHKLIST-7691 | 2/13/2013 | Project Not Active | Withdrawn | - | 4,320.0 | Solar | T6070B01 | WARSAW 230KV |
| CHKLIST-7686 | 2/9/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T1672B01 | WADESBORO-BOWMAN SCHOOL 230KV |
| CHKLIST-7687 | 2/9/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T5450B03 | BAILEY 230KV |
| CHKLIST-7688 | 2/9/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T4170B01 | GRIFTON 115KV |
| CHKLIST-7689 | 2/8/2013 | Approved | Commercial Operation - Power Generation in progress | - | 3,000.0 | Solar | T4785B03 | HENDERSON EAST 230KV |
| CHKLIST-7684 | 2/8/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T6041B03 | SPRING HOPE 115KV |
| CHKLIST-7685 | 2/8/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T2181B05 | LAUREL HILL 230KV |
| CHKLIST-7680 | 2/7/2013 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T5480B04 | BENSON 230KV |
| CHKLIST-7681 | 2/7/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,400.0 | Solar | T5427B02 | ANGIER 230KV |
| CHKLIST-7682 | 2/7/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | T2631B03 | WEATHERSPOON 230KV |
| CHKLIST-7683 | 2/7/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T6040B12 | CASTALIA 230KV |
| CHKLIST-7694 | 2/6/2013 | Approved | Commercial Operation - Power Generation in progress | - | 20,000.0 | Solar | T0990B02 | BISCOE 115KV |
| CHKLIST-7677 | 1/30/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T1850B01 | CANDOR 115KV |
| CHKLIST-7678 | 1/30/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,500.0 | Solar | T6070B01 | WARSAW 230KV |
| CHKLIST-7679 | 1/30/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T1850B01 | CANDOR 115KV |
| CHKLIST-7675 | 1/29/2013 | Approved | Commercial Operation - Power Generation in progress | - | 2,500.0 | Solar | T4730B12 | GARNER WHITE OAK 230KV |
| CHKLIST-7676 | 1/29/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5600B01 | ROSEBORO 115KV |
| CHKLIST-7661 | 1/23/2013 | Project Not Active | Cancelled | - | 1,200.0 | Hydroelectric | T1610B03 | TROY 115KV |
| CHKLIST-7663 | 1/23/2013 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T5935B01 | PRINCETON 115KV |
| CHKLIST-7665 | 1/23/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,990.0 | Solar | T4320B01 | SNOW HILL 115KV |
| CHKLIST-7666 | 1/23/2013 | Project Not Active | Cancelled | - | 1,000.0 | Solar | T0510B22 | ELK MOUNTAIN 115KV |
| CHKLIST-7667 | 1/23/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5830B03 | LAGRANGE 115KV |
| CHKLIST-7668 | 1/23/2013 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T6070B02 | WARSAW 230KV |
| CHKLIST-7669 | 1/23/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T5360B02 | WARRENTON 115KV |
| CHKLIST-7670 | 1/23/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | Solar | T2320B02 | RED SPRINGS 115KV |
| CHKLIST-7671 | 1/23/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T1810B02 | BLADENBORO 115KV |
| CHKLIST-7672 | 1/23/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,980.0 | Solar | T5600B01 | ROSEBORO 115KV |
| CHKLIST-7673 | 1/23/2013 | Approved | Commercial Operation - Power Generation in progress | - | 4,999.0 | Solar | T5090B02 | OXFORD NORTH 230KV |
| CHKLIST-7674 | 1/23/2013 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5732B03 | FOUR OAKS 230KV |
| CHKLIST-7664 | 1/21/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | T5302B02 | STALLINGS CROSSROADS 115KV |
| CHKLIST-7662 | 1/8/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | T5302B01 | STALLINGS CROSSROADS 115KV |
| CHKLIST-7660 | 1/7/2013 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | T4320B02 | SNOW HILL 115KV |
| CHKLIST-7658 | 12/6/2012 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T4320B01 | SNOW HILL 115KV |
| CHKLIST-7659 | 12/5/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | T4319B01 | GLOBAL TRANSPARK 115KV |
| CHKLIST-7656 | 12/3/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T6070B01 | WARSAW 230KV |
| CHKLIST-7657 | 11/30/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T6350B01 | FAIR BLUFF 115KV |
| CHKLIST-7653 | 11/29/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,999.0 | Solar | T5888B01 | MT. OLIVE WEST 115KV |
| CHKLIST-7654 | 11/28/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T6215B02 | CHADBOURN 115KV |
| CHKLIST-7655 | 11/28/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | T5754B01 | GOLDSBORO LANGSTON 115KV |
| CHKLIST-7650 | 11/26/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T2200B22 | LAURINBURG 230KV |
| CHKLIST-7651 | 11/26/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | T1140B01 | ELLERBE 230KV |
| CHKLIST-7652 | 11/21/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5770B01 | GRANTHAM 230KV |
| CHKLIST-7648 | 11/14/2012 | Approved | Commercial Operation - Power Generation in progress | - | 30.0 | Solar | T0375B03 | BLACK MOUNTAIN 115KV |
| CHKLIST-7649 | 11/14/2012 | Project Not Active | Withdrawn | - | 1,600.0 | Solar | T5921B01 | NEWTON GROVE 230KV |
| CHKLIST-7647 | 11/12/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | T6070B01 | WARSAW 230KV |
| CHKLIST-7644 | 11/5/2012 | Project Not Active | Cancelled | - | 1,976.0 | Solar | T5888B01 | MT. OLIVE WEST 115KV |
| CHKLIST-7641 | 11/2/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5890B01 | MT. OLIVE 115KV |
| CHKLIST-7642 | 11/2/2012 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T5490B01 | BEULAVILLE 115KV |
| CHKLIST-7643 | 11/2/2012 | Project Not Active | Cancelled | - | 2,000.0 | Solar | T6041B03 | SPRING HOPE 115KV |
| CHKLIST-7645 | 11/2/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,320.0 | Solar | T1980B03 | FAIRMONT 115KV |
| CHKLIST-7646 | 11/2/2012 | Approved | Commercial Operation - Power Generation in progress | - | 200.0 | Solar | T5085B01 | OXFORD SOUTH 230KV |
| CHKLIST-7636 | 10/26/2012 | Project Not Active | Withdrawn | - | 440.0 | Solar | T0784B13 | AVERY CREEK 115KV |
| CHKLIST-7637 | 10/26/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,900.0 | Solar | T6070B04 | WARSAW 230KV |
| CHKLIST-7638 | 10/26/2012 | Project Not Active | Cancelled | - | 1,900.0 | Solar | T6090B10 | ZEBULON 115KV |
| CHKLIST-7639 | 10/26/2012 | Project Not Active | Cancelled | - | 2,000.0 | Solar | T0375B02 | BLACK MOUNTAIN 115KV |
| CHKLIST-7640 | 10/26/2012 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T5570B03 | CLINTON NORTH 115KV |
| CHKLIST-7633 | 10/24/2012 | Project Not Active | Cancelled | - | 20,000.0 | Solar | T2320B01 | RED SPRINGS 115KV |
| CHKLIST-7634 | 10/24/2012 | Project Not Active | Cancelled | - | 20,000.0 | Solar | T5360B03 | WARRENTON 115KV |
| CHKLIST-7635 | 10/24/2012 | Project Not Active | Cancelled | - | 20,000.0 | Solar | T1810B01 | BLADENBORO 115KV |
| CHKLIST-7630 | 10/19/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T2335B02 | ROWLAND 230KV |
| CHKLIST-7626 | 10/18/2012 | Project Not Active | Cancelled | - | 5,000.0 | Solar | - | N/A |
| CHKLIST-7628 | 10/18/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5465B03 | BELFAST 115KV |
| CHKLIST-7629 | 10/18/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T5240B15 | ROXBORO 115KV |
| CHKLIST-7631 | 10/18/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T2282B02 | RAEFORD SOUTH 115KV |
| CHKLIST-7632 | 10/17/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T6215B01 | CHADBOURN 115KV |
| CHKLIST-7618 | 10/8/2012 | Project Not Active | Cancelled | - | 50.0 | Solar | T6470B05 | WILMINGTON OGDEN 230KV |
| CHKLIST-7619 | 10/8/2012 | Approved | Commercial Operation - Power Generation in progress | - | 257.0 | Solar | T6090B05 | ZEBULON 115KV |
| CHKLIST-7620 | 10/8/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T5970B08 | SELMA 230KV |
| CHKLIST-7621 | 10/8/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T1980B03 | FAIRMONT 115KV |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| CHKLIST-7624 | 10/8/2012 | Project Not Active | Withdrawn | - | 1,976.0 | Solar | T5570B03 | CLINTON NORTH 115KV |
| CHKLIST-7622 | 10/5/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T0990B03 | BISCOE 115KV |
| CHKLIST-7627 | 10/3/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,990.0 | Solar | T4765B06 | HENDERSON EAST 230KV |
| CHKLIST-7623 | 10/1/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,990.0 | Solar | T5360B02 | WARRENTON 115KV |
| CHKLIST-7617 | 9/20/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T2181B05 | LAUREL HILL 230KV |
| CHKLIST-7293 | 9/13/2012 | Project Not Active | Cancelled | - | 1,500.0 | Solar | T0340B11 | WEST ASHEVILLE 115KV |
| CHKLIST-7615 | 9/13/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,500.0 | Solar | T0340B11 | WEST ASHEVILLE 115KV |
| CHKLIST-7616 | 9/13/2012 | Project Not Active | Cancelled | - | 3,000.0 | Solar | - | N/A |
| CHKLIST-7609 | 9/7/2012 | Approved | Commercial Operation - Power Generation in progress | - | 365.0 | Solar | T4710B02 | FUQUAY 230KV |
| CHKLIST-7611 | 9/7/2012 | Project Not Active | Cancelled | - | 1,700.0 | Solar | T0665B11 | LEICESTER 115KV |
| CHKLIST-7612 | 9/7/2012 | Project Not Active | Cancelled | - | 1,999.0 | Solar | T5888B03 | MT. OLIVE WEST 115KV |
| CHKLIST-7613 | 9/7/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | T5888B03 | MT. OLIVE WEST 115KV |
| CHKLIST-7614 | 9/7/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,900.0 | Solar | T6070B02 | WARSAW 230KV |
| CHKLIST-7608 | 8/27/2012 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T2520B02 | ST. PAULS 115KV |
| CHKLIST-7607 | 8/22/2012 | Approved | Commercial Operation - Power Generation in progress | - | 43.0 | Solar | T5000B42 | MILBURNIE 230KV |
| CHKLIST-7597 | 8/15/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,980.0 | Solar | T5888B01 | MT. OLIVE WEST 115KV |
| CHKLIST-7388 | 8/1/2012 | Approved | Commercial Operation - Power Generation in progress | - | 407.0 | Solar | T5642B12 | CLAYTON INDUSTRIAL 115KV |
| CHKLIST-7605 | 7/30/2012 | Approved | Commercial Operation - Power Generation in progress | - | 3,600.0 | Solar | T6215B01 | CHADBOURN 115KV |
| CHKLIST-7606 | 7/30/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T4785B06 | HENDERSON EAST 230KV |
| CHKLIST-7590 | 7/24/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | T5490B01 | BEULAVILLE 115KV |
| CHKLIST-7599 | 7/19/2012 | Approved | Commercial Operation - Power Generation in progress | - | 350.0 | Diesel | T6382B02 | WILMINGTON RIVER ROAD 115KV |
| CHKLIST-7600 | 7/19/2012 | Approved | Commercial Operation - Power Generation in progress | - | 400.0 | Diesel | T6470B05 | WILMINGTON OGDEN 230KV |
| CHKLIST-7601 | 7/19/2012 | Approved | Commercial Operation - Power Generation in progress | - | 400.0 | Diesel | T6160B02 | BURGAW 115KV |
| CHKLIST-7602 | 7/19/2012 | Approved | Commercial Operation - Power Generation in progress | - | 400.0 | Diesel | T4074B01 | BRIDGETON 115KV |
| CHKLIST-7603 | 7/19/2012 | Approved | Commercial Operation - Power Generation in progress | - | 400.0 | Diesel | T4035B02 | ATLANTIC BEACH 115KV |
| CHKLIST-7596 | 7/16/2012 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T5375B01 | GOLDSBORO WEIL 115KV |
| CHKLIST-7598 | 7/16/2012 | Project Not Active | Cancelled | - | 47.0 | Solar | T4930B03 | LOUISBURG 115KV |
| CHKLIST-7591 | 6/27/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T5830B02 | LAGRANGE 115KV |
| CHKLIST-7593 | 6/27/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,300.0 | Solar | T0400B13 | CANTON 115KV |
| CHKLIST-7594 | 6/27/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,753.0 | Biomass | T4106B03 | CATHERINE LAKE 230KV |
| CHKLIST-7595 | 6/27/2012 | Project Not Active | Cancelled | - | 250.0 | Solar | T6630B02 | TABOR CITY 115KV |
| CHKLIST-7592 | 6/25/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | T6070B01 | WARSAW 230KV |
| CHKLIST-7387 | 6/19/2012 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T2520B02 | ST. PAULS 115KV |
| CHKLIST-7587 | 6/19/2012 | Project Not Active | Cancelled | - | 333.0 | Solar | T4070B06 | BEAUFORT 115KV |
| CHKLIST-7588 | 6/19/2012 | Approved | Commercial Operation - Power Generation in progress | - | 308.0 | Solar | T5314B11 | CARALEIGH 230KV |
| CHKLIST-7586 | 6/18/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T4320B02 | SNOW HILL 115KV |
| CHKLIST-7378 | 6/8/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T5888B02 | MT. OLIVE WEST 115KV |
| CHKLIST-7380 | 6/8/2012 | Project Not Active | Withdrawn | - | 2,000.0 | Solar | T5900B05 | NASHVILLE 115KV |
| CHKLIST-7381 | 6/8/2012 | Approved | Commercial Operation - Power Generation in progress | - | 2,400.0 | Solar | T5230B02 | ROXBORO SOUTH 230KV |
| CHKLIST-7382 | 6/8/2012 | Project Not Active | Cancelled | - | 268.0 | Solar | T0750B16 | OTEEN 115KV |
| CHKLIST-7383 | 6/8/2012 | Project Not Active | Cancelled | - | 1,950.0 | Solar | T5360B01 | WARRENTON 115KV |
| CHKLIST-7385 | 6/8/2012 | Project Not Active | Cancelled | - | 4,975.0 | Solar | T4233B02 | LAKE WACCAMAW 115KV |
| CHKLIST-7384 | 6/7/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4170B02 | GRIFTON 115KV |
| CHKLIST-7374 | 6/4/2012 | Project Not Active | Cancelled | - | 780.0 | Solar | T6310B20 | EAGLE ISLAND 115KV |
| CHKLIST-7375 | 6/4/2012 | Project Not Active | Cancelled | - | 500.0 | Solar | T0350B01 | BALDWIN 115KV |
| CHKLIST-7377 | 6/4/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T5680B01 | ELM CITY 115KV |
| CHKLIST-7371 | 6/1/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,000.0 | Solar | T5314B11 | GARNER TRYON HILLS 115KV |
| CHKLIST-7372 | 5/30/2012 | Approved | Commercial Operation - Power Generation in progress | - | 565.0 | Solar | T5314B11 | CARALEIGH 230KV |
| CHKLIST-7373 | 5/30/2012 | Approved | Commercial Operation - Power Generation in progress | - | 204.0 | Solar | T5160B10 | RALEIGH 115KV |
| CHKLIST-7379 | 5/23/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T4074B02 | BRIDGETON 115KV |
| CHKLIST-7376 | 5/22/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T5390B04 | YANCEYVILLE 230KV |
| CHKLIST-7366 | 5/14/2012 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T4276B02 | RHEMS 230KV |
| CHKLIST-7368 | 5/14/2012 | Project Not Active | Cancelled | - | 2,000.0 | Solar | T2432B01 | SANFORD GARDEN STREET 230KV |
| CHKLIST-7369 | 5/14/2012 | Project Not Active | Withdrawn | - | 4,975.0 | Solar | T5375B02 | GOLDSBORO WEIL 115KV |
| CHKLIST-7370 | 5/14/2012 | Project Not Active | Cancelled | - | 1,950.0 | Solar | T5385B04 | WILSON MILLS 230KV |
| CHKLIST-7355 | 5/9/2012 | Approved | Commercial Operation - Power Generation in progress | - | 3,500.0 | Solar | T1980B01 | FAIRMONT 115KV |
| CHKLIST-7357 | 5/9/2012 | Approved | Commercial Operation - Power Generation in progress | - | 32.0 | Solar | T4595B05 | CARALEIGH 230KV |
| CHKLIST-7358 | 5/9/2012 | Approved | Commercial Operation - Power Generation in progress | - | 2,000.0 | Solar | T1025B01 | BYNUM 230KV |
| CHKLIST-7359 | 5/9/2012 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T4276B02 | RHEMS 230KV |
| CHKLIST-7361 | 5/9/2012 | Approved | Commercial Operation - Power Generation in progress | - | 125.0 | Solar | T4765B02 | HENDERSON EAST 230KV |
| CHKLIST-7363 | 5/9/2012 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T6870B02 | WHITEVILLE 115KV |
| CHKLIST-7365 | 5/9/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T5235B02 | ROXBORO BOWMANTOWN ROAD 230KV |
| CHKLIST-7367 | 5/8/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4555B01 | BAHAMA 230KV |
| CHKLIST-7348 | 5/2/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,990.0 | Solar | T0665B11 | LEICESTER 115KV |
| CHKLIST-7349 | 5/2/2012 | Project Not Active | Cancelled | - | 2,000.0 | Solar | T0350B01 | BALDWIN 115KV |
| CHKLIST-7351 | 5/2/2012 | Project Not Active | Cancelled | - | 500.0 | Solar | T4501B03 | AUBURN 230KV |
| CHKLIST-7352 | 5/2/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,990.0 | Solar | T6070B04 | WARSAW 230KV |
| CHKLIST-7354 | 5/2/2012 | Project Not Active | Withdrawn | - | 5,000.0 | Solar | T5660B01 | LILLINGTON 115KV |
| CHKLIST-7356 | 4/26/2012 | Approved | Commercial Operation - Power Generation in progress | - | 3,600.0 | Solar | T2215B02 | MAXTON 115KV |
| CHKLIST-7360 | 4/20/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T6875B11 | WHITEVILLE SOUTHEAST REGIONAL PARK 115KV |
| CHKLIST-7364 | 4/20/2012 | Approved | Commercial Operation - Power Generation in progress | - | 424.0 | Solar | T0350B01 | BALDWIN 115KV |
| CHKLIST-7346 | 4/18/2012 | Approved | Commercial Operation - Power Generation in progress | - | 600.0 | Diesel | T6456B03 | WILMINGTON NINTH AND ORANGE 230KV |
| CHKLIST-7347 | 4/16/2012 | Approved | Commercial Operation - Power Generation in progress | - | 600.0 | Diesel | T2082B02 | HOPE MILLS ROCKFISH ROAD 230KV |
| CHKLIST-7341 | 4/17/2012 | Project Not Active | Cancelled | - | 500.0 | Solar | T1520B02 | SEAGROVE 115KV |
| CHKLIST-7342 | 4/17/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,000.0 | Solar | T6045B12 | SAMARIA 115KV |
| CHKLIST-7343 | 4/17/2012 | Project Not Active | Cancelled | - | 3,000.0 | Solar | T1025B02 | BYNUM 230KV |
| CHKLIST-7340 | 4/16/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,900.0 | Solar | T4265B02 | ROSE HILL 230KV |
| CHKLIST-7345 | 4/8/2012 | Approved | Commercial Operation - Power Generation in progress | - | 383.0 | Solar | T5360B03 | WARRENTON 115KV |

Energy Carolinas, LLC
Energy Progress, LLC



| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| CHKLIST-7339 | 3/16/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,990.0 | Solar | T4410B11 | WALLACE 115KV |
| CHKLIST-7334 | 3/15/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T1190B01 | HAMLET 230KV |
| CHKLIST-7335 | 3/15/2012 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T1530B02 | SILER CITY 115KV |
| CHKLIST-7336 | 3/15/2012 | Approved | Commercial Operation - Power Generation in progress | - | 383.0 | Solar | T6310B20 | EAGLE ISLAND 115KV |
| CHKLIST-7337 | 3/13/2012 | Approved | Commercial Operation - Power Generation in progress | - | 2,000.0 | Solar | T5302B02 | STALLINGS CROSSROADS 115KV |
| CHKLIST-7338 | 3/13/2012 | Approved | Commercial Operation - Power Generation in progress | - | 1,999.0 | Solar | T5480B04 | BENSON 230KV |
| CHKLIST-7344 | 3/2/2012 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T5360B01 | WARRENTON 115KV |
| CHKLIST-7326 | 2/29/2012 | Project Not Active | Withdrawn | - | 500.0 | Solar | T4210B12 | ACKSONVILLE CITY 115KV |
| CHKLIST-7330 | 2/29/2012 | Project Not Active | Cancelled | - | 400.0 | Solar | T4319B02 | GLOBAL TRANSPARK 115KV |
| CHKLIST-7331 | 2/29/2012 | Approved | Commercial Operation - Power Generation in progress | - | 120.0 | Biomass | T4265B01 | ROSE HILL 230KV |
| CHKLIST-7332 | 2/29/2012 | Project Not Active | Withdrawn | - | 500.0 | Other | T4710B02 | FUQUAY 230KV |
| CHKLIST-7296 | 2/23/2012 | Approved | Commercial Operation - Power Generation in progress | - | 21.0 | Solar | T0700B01 | MONTE VISTA 115KV |
| CHKLIST-7325 | 2/10/2012 | Approved | Commercial Operation - Power Generation in progress | - | 2,750.0 | Solar | T5090B02 | OXFORD NORTH 230KV |
| CHKLIST-7327 | 2/10/2012 | Project Not Active | Cancelled | - | 402.0 | Solar | T1610B01 | BLADENBORO 115KV |
| CHKLIST-7319 | 2/3/2012 | Project Not Active | Cancelled | - | 5,000.0 | Solar | T2190B01 | LAURINBURG CITY 230KV |
| CHKLIST-7320 | 2/3/2012 | Approved | Commercial Operation - Power Generation in progress | - | 190.0 | Solar | T4600B02 | CARY 230KV |
| CHKLIST-7321 | 2/3/2012 | Project Not Active | Cancelled | - | 500.0 | Solar | T0350B02 | BALDWIN 115KV |
| CHKLIST-7322 | 2/3/2012 | Approved | Commercial Operation - Power Generation in progress | - | 42.0 | Solar | T0362B02 | BARNARDSVILLE 115KV |
| CHKLIST-7323 | 2/3/2012 | Project Not Active | Cancelled | - | 125.0 | Solar | T5166B01 | RALEIGH WORTHDALE 230KV |
| CHKLIST-7324 | 2/3/2012 | Project Not Active | Cancelled | - | 700.0 | Solar | T0791B04 | SPRUCE PINE 115KV |
| CHKLIST-7318 | 1/30/2012 | Approved | Commercial Operation - Power Generation in progress | - | 5,000.0 | Solar | T4710B04 | FUQUAY 230KV |
| CHKLIST-7313 | 1/13/2012 | Project Not Active | Cancelled | - | 500.0 | Solar | T5106B04 | PINE LAKE 230KV |
| CHKLIST-7316 | 1/13/2012 | Project Not Active | Cancelled | - | 300.0 | Solar | T6160B01 | BURGAW 115KV |
| CHKLIST-7317 | 1/13/2012 | Approved | Commercial Operation - Power Generation in progress | - | 2,000.0 | Solar | T2200B22 | LAURINBURG 230KV |
| CHKLIST-7314 | 1/3/2012 | Approved | Commercial Operation - Power Generation in progress | - | 400.0 | Solar | T5131B09 | RALEIGH NORTHSIDE 115KV |
| CHKLIST-7294 | 12/19/2011 | Approved | Commercial Operation - Power Generation in progress | - | 1,500.0 | Solar | T4866B01 | FUQUAY BELLS LAKE 230KV |
| CHKLIST-7292 | 12/5/2011 | Approved | Commercial Operation - Power Generation in progress | - | 1,000.0 | Solar | T5230B02 | ROXBORO SOUTH 230KV |
| CHKLIST-7275 | 11/5/2011 | Approved | Commercial Operation - Power Generation in progress | - | 77.0 | Solar | T0651B01 | LAKE JUNALUSKA 115KV |
| CHKLIST-7287 | 10/27/2011 | Approved | Commercial Operation - Power Generation in progress | - | 800.0 | Solar | T0665B11 | LEICESTER 115KV |
| CHKLIST-7288 | 10/27/2011 | Approved | Commercial Operation - Power Generation in progress | - | 800.0 | Solar | T0665B11 | LEICESTER 115KV |
| CHKLIST-7311 | 10/18/2011 | Approved | Commercial Operation - Power Generation in progress | - | 7,300.0 | Biomass | T4795B03 | HOLLY SPRINGS 230KV |
| CHKLIST-7285 | 10/10/2011 | Approved | Commercial Operation - Power Generation in progress | - | 340.0 | Solar | T0965B01 | ASHEBORO NORTH 115KV |
| CHKLIST-7284 | 10/7/2011 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T2520B02 | ST. PAULS 115KV |
| CHKLIST-7279 | 10/4/2011 | Approved | Commercial Operation - Power Generation in progress | - | 1,000.0 | Solar | T1025B03 | BYNUM 230KV |
| CHKLIST-7280 | 10/4/2011 | Approved | Commercial Operation - Power Generation in progress | - | 39.0 | Solar | T5000B44 | MILBURNIE 230KV |
| CHKLIST-7282 | 10/4/2011 | Approved | Commercial Operation - Power Generation in progress | - | 150.0 | Solar | T0781B03 | SKYLAND 115KV |
| CHKLIST-7283 | 10/4/2011 | Approved | Commercial Operation - Power Generation in progress | - | 1,200.0 | Solar | T6041B03 | SPRING HOPE 115KV |
| CHKLIST-7210 | 9/30/2011 | Approved | Commercial Operation - Power Generation in progress | - | 520.0 | Solar | T5230B02 | ROXBORO SOUTH 230KV |
| CHKLIST-7277 | 9/13/2011 | Approved | Commercial Operation - Power Generation in progress | - | 500.0 | Solar | T0965B04 | ASHEBORO NORTH 115KV |
| CHKLIST-7276 | 9/9/2011 | Approved | Commercial Operation - Power Generation in progress | - | 25.0 | Solar | T2440B03 | SANFORD HORNER BLVD. 230KV |
| CHKLIST-7271 | 8/26/2011 | Approved | Commercial Operation - Power Generation in progress | - | 158.0 | Solar | T5085B01 | OXFORD SOUTH 230KV |
| CHKLIST-7270 | 8/9/2011 | Approved | Commercial Operation - Power Generation in progress | - | 798.0 | Solar | T5732B03 | FOUR OAKS 230KV |
| CHKLIST-7269 | 8/8/2011 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T2335B01 | ROWLAND 230KV |
| CHKLIST-7272 | 8/8/2011 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T2475B02 | SHANNON 115KV |
| CHKLIST-7273 | 8/8/2011 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T2215B02 | MAXTON 115KV |
| CHKLIST-7274 | 8/8/2011 | Approved | Commercial Operation - Power Generation in progress | - | 4,975.0 | Solar | T2282B03 | RAEFORD SOUTH 115KV |
| CHKLIST-7265 | 8/4/2011 | Approved | Commercial Operation - Power Generation in progress | - | 410.0 | Solar | T4710B02 | FUQUAY 230KV |
| CHKLIST-7268 | 8/4/2011 | Approved | Commercial Operation - Power Generation in progress | - | 79.0 | Solar | T5116B03 | RALEIGH DURHAM AIRPORT 230KV |
| CHKLIST-7267 | 8/3/2011 | Approved | Commercial Operation - Power Generation in progress | - | 1,040.0 | Solar | T4501B03 | AUBURN 230KV |
| CHKLIST-7261 | 6/22/2011 | Approved | Commercial Operation - Power Generation in progress | - | 81.0 | Solar | T2250B01 | PITTSBORO 230KV |
| CHKLIST-7264 | 6/22/2011 | Approved | Commercial Operation - Power Generation in progress | - | 1,050.0 | Solar | T4730B12 | GARNER WHITE OAK 230KV |
| CHKLIST-7259 | 6/7/2011 | Approved | Commercial Operation - Power Generation in progress | - | 1,760.0 | Biomass | T5732B02 | FOUR OAKS 230KV |
| CHKLIST-7258 | 6/2/2011 | Approved | Commercial Operation - Power Generation in progress | - | 250.0 | Other | T2444B03 | SANFORD DEEP RIVER 230KV |
| CHKLIST-7260 | 5/18/2011 | Approved | Commercial Operation - Power Generation in progress | - | 977.9 | Solar | T4255B03 | NEW BERN WEST 230KV |
| CHKLIST-7257 | 5/12/2011 | Approved | Commercial Operation - Power Generation in progress | - | 160.0 | Solar | T4723B11 | GARNER I-40 230KV |
| CHKLIST-7256 | 5/10/2011 | Approved | Commercial Operation - Power Generation in progress | - | 2,000.0 | Solar | T2200B22 | LAURINBURG 230KV |
| CHKLIST-7255 | 3/16/2011 | Approved | Commercial Operation - Power Generation in progress | - | 384.0 | Solar | T5360B04 | WARRENTON 115KV |
| CHKLIST-7254 | 2/28/2011 | Project Not Active | Cancelled | - | 1,000.0 | Solar | T5230B02 | ROXBORO SOUTH 230KV |
| CHKLIST-7253 | 2/17/2011 | Approved | Commercial Operation - Power Generation in progress | - | 193.0 | Solar | T2200B23 | LAURINBURG 230KV |
| CHKLIST-7252 | 1/28/2011 | Approved | Commercial Operation - Power Generation in progress | - | 385.0 | Solar | T4596B23 | RALEIGH HARRINGTON STREET 115KV |
| CHKLIST-7251 | 12/21/2010 | Approved | Commercial Operation - Power Generation in progress | - | 72.0 | Solar | T4810B13 | CARY TRENTON ROAD 230KV |
| CHKLIST-7244 | 11/22/2010 | Approved | Commercial Operation - Power Generation in progress | - | 350.0 | Diesel | T4795B22 | HOLLY SPRINGS 230KV |
| CHKLIST-7245 | 11/22/2010 | Approved | Commercial Operation - Power Generation in progress | - | 350.0 | Diesel | T2082B02 | HOPE MILLS ROCKFISH ROAD 230KV |
| CHKLIST-7246 | 11/22/2010 | Approved | Commercial Operation - Power Generation in progress | - | 350.0 | Diesel | T5165B01 | LEESVILLE WOOD VALLEY 230KV |
| CHKLIST-7247 | 11/22/2010 | Approved | Commercial Operation - Power Generation in progress | - | 34.0 | Solar | T0781B01 | SKYLAND 115KV |
| CHKLIST-7248 | 11/22/2010 | Approved | Commercial Operation - Power Generation in progress | - | 22.5 | Solar | T0371B02 | BEAVERDAM 115KV |
| CHKLIST-7249 | 11/22/2010 | Approved | Commercial Operation - Power Generation in progress | - | 22.5 | Solar | T0371B02 | BEAVERDAM 115KV |
| CHKLIST-7250 | 11/22/2010 | Approved | Commercial Operation - Power Generation in progress | - | 193.0 | Solar | T0340B11 | WEST ASHEVILLE 115KV |
| CHKLIST-7233 | 11/10/2010 | Approved | Commercial Operation - Power Generation in progress | - | 23.0 | Solar | T5311B05 | RALEIGH TIMBERLAKE 115KV |
| CHKLIST-7243 | 11/1/2010 | Approved | Commercial Operation - Power Generation in progress | - | 24.0 | Solar | T4725B03 | GARNER PANTHER BRANCH 230KV |
| CHKLIST-7241 | 10/14/2010 | Approved | Commercial Operation - Power Generation in progress | - | 57.0 | Solar | T4595B01 | CARALEIGH 230KV |
| CHKLIST-7242 | 10/14/2010 | Approved | Commercial Operation - Power Generation in progress | - | 73.0 | Solar | T4595B01 | CARALEIGH 230KV |
| CHKLIST-7239 | 9/14/2010 | Approved | Commercial Operation - Power Generation in progress | - | 875.0 | Diesel | T4240B01 | MOREHEAD 115KV |
| CHKLIST-7240 | 9/14/2010 | Approved | Commercial Operation - Power Generation in progress | - | 750.0 | Diesel | T6455B12 | MASONBORO 230KV |
| CHKLIST-7235 | 8/30/2010 | Approved | Commercial Operation - Power Generation in progress | - | 515.0 | Solar | T5120B02 | RALEIGH EAST STREET 230KV |
| CHKLIST-7236 | 8/26/2010 | Approved | Commercial Operation - Power Generation in progress | - | 438.0 | Diesel | T4500B12 | ARCHER LODGE 230KV |
| CHKLIST-7232 | 8/25/2010 | Approved | Commercial Operation - Power Generation in progress | - | 193.0 | Solar | T0870B03 | WEAVERVILLE 115KV |
| CHKLIST-7237 | 8/17/2010 | Approved | Commercial Operation - Power Generation in progress | - | 438.0 | Diesel | T5010B01 | MORRISVILLE 230KV |
| CHKLIST-7238 | 8/17/2010 | Approved | Commercial Operation - Power Generation in progress | - | 438.0 | Diesel | T1550B01 | SOUTHERN PINES 115KV |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| CHKLIST-7231 | 7/27/2010 | Approved | Commercial Operation - Power Generation in progress | - | 66.0 | Solar | T0784B12 | AVERY CREEK 115KV |
| CHKLIST-7230 | 7/21/2010 | Approved | Commercial Operation - Power Generation in progress | - | 100.0 | Solar | T4785B02 | HENDERSON EAST 230KV |
| CHKLIST-7229 | 6/12/2010 | Approved | Commercial Operation - Power Generation in progress | - | 40.0 | Solar | T0810B06 | SWANNANOA 115KV |
| CHKLIST-7228 | 6/10/2010 | Approved | Commercial Operation - Power Generation in progress | - | 400.0 | Solar | T4796B11 | HOLLY SPRINGS INDUSTRIAL 230KV |
| CHKLIST-7225 | 5/26/2010 | Approved | Commercial Operation - Power Generation in progress | - | 3,180.0 | Biomass | T5770B01 | GRANTHAM 230KV |
| CHKLIST-7226 | 5/10/2010 | Approved | Commercial Operation - Power Generation in progress | - | 192.5 | Solar | T4230B04 | KINSTON 115KV |
| CHKLIST-7234 | 5/6/2010 | Approved | Commercial Operation - Power Generation in progress | - | 350.0 | Hydroelectric | T6041B02 | SPRING HOPE 115KV |
| CHKLIST-7194 | 4/20/2010 | Approved | Commercial Operation - Power Generation in progress | - | 675.0 | Hydroelectric | T1390B03 | RAMSEUR 115KV |
| CHKLIST-7216 | 2/16/2010 | Approved | Commercial Operation - Power Generation in progress | - | 500.0 | Diesel | T4990B36 | METHOD 230KV |
| CHKLIST-7218 | 2/16/2010 | Approved | Commercial Operation - Power Generation in progress | - | 200.0 | Solar | T5060B02 | NEUSE 115KV |
| CHKLIST-7223 | 1/22/2010 | Approved | Commercial Operation - Power Generation in progress | - | 22.3 | Solar | T5890B01 | MT. OLIVE 115KV |
| CHKLIST-7217 | 1/21/2010 | Approved | Commercial Operation - Power Generation in progress | - | 192.5 | Solar | T4600B02 | CARY 230KV |
| CHKLIST-7213 | 10/23/2009 | Approved | Commercial Operation - Power Generation in progress | - | 440.0 | Solar | - | ATLANTIC BEACH 115KV |
| CHKLIST-7215 | 9/24/2009 | Approved | Commercial Operation - Power Generation in progress | - | 23.0 | Solar | T0764B13 | AVERY CREEK 115KV |
| CHKLIST-7211 | 9/11/2009 | Approved | Commercial Operation - Power Generation in progress | - | 4,400.0 | Hydroelectric | T2225B02 | MONCURE 115KV |
| CHKLIST-7197 | 6/29/2009 | Approved | Commercial Operation - Power Generation in progress | - | 2,500.0 | Hydroelectric | T0510B22 | ELK MOUNTAIN 115KV |
| CHKLIST-7190 | 1/25/2009 | Approved | Commercial Operation - Power Generation in progress | - | 500.0 | Hydroelectric | T1025B02 | BYNUM 230KV |
| CHKLIST-7206 | 12/9/2008 | Approved | Commercial Operation - Power Generation in progress | - | 800.0 | Solar | T4610B12 | CARY TRENTON ROAD 230KV |
| CHKLIST-7209 | 11/13/2008 | Approved | Commercial Operation - Power Generation in progress | - | 50.0 | Solar | T5314B12 | GARNER TRYON HILLS 115KV |
| CHKLIST-7208 | 8/29/2008 | Approved | Commercial Operation - Power Generation in progress | - | 1,562.0 | Diesel | T2141B03 | JONESBORO 230KV |
| CHKLIST-7207 | 8/25/2008 | Approved | Commercial Operation - Power Generation in progress | - | 60.0 | Solar | T0340B11 | WEST ASHEVILLE 115KV |
| CHKLIST-7195 | 7/24/2008 | Approved | Commercial Operation - Power Generation in progress | - | 550.0 | Hydroelectric | T1390B04 | RAMSEUR 115KV |
| CHKLIST-7205 | 7/10/2008 | Approved | Commercial Operation - Power Generation in progress | - | 1,000.0 | Solar | T6310B20 | EAGLE ISLAND 115KV |
| CHKLIST-7202 | 7/8/2008 | Approved | Commercial Operation - Power Generation in progress | - | 4,000.0 | Biomass | T4255B05 | NEW BERN WEST 230KV |
| CHKLIST-7188 | 4/7/2008 | Approved | Commercial Operation - Power Generation in progress | - | 800.0 | Hydroelectric | - | N/A |
| CHKLIST-7224 | 3/15/2008 | Approved | Commercial Operation - Power Generation in progress | - | 1,200.0 | Solar | T4610B12 | CARY TRENTON ROAD 230KV |
| CHKLIST-7189 | 1/13/2008 | Approved | Commercial Operation - Power Generation in progress | - | 600.0 | Hydroelectric | T5940B25 | ROCKY MOUNT 230KV |
| CHKLIST-7204 | 9/7/2007 | Approved | Commercial Operation - Power Generation in progress | - | 44.0 | Solar | T0515B01 | EMMA 115KV |
| CHKLIST-7196 | 7/18/2007 | Approved | Commercial Operation - Power Generation in progress | - | 1,500.0 | Hydroelectric | T2225B01 | MONCURE 115KV |
| CHKLIST-7203 | 4/4/2008 | Approved | Commercial Operation - Power Generation in progress | - | 40.0 | Solar | T4610B12 | CARY TRENTON ROAD 230KV |
| CHKLIST-7201 | 3/8/2008 | Approved | Cancelled | - | 983.0 | Biomass | T0510B11 | ELK MOUNTAIN 115KV |
| CHKLIST-1103 | 1/1/1900 | Project Not Active | Cancelled | - | 250.0 | Solar | T8630B02 | TABOR CITY 115KV |
| CHKLIST-1105 | 1/1/1900 | Project Not Active | Cancelled | - | 2,000.0 | Solar | T5375B02 | GOLDSBORO WEIL 115KV |
| CHKLIST-1106 | 1/1/1900 | Project Not Active | Cancelled | - | 2,000.0 | Solar | T5888B01 | MT. OLIVE WEST 115KV |
| CHKLIST-7191 | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 235.0 | Hydroelectric | T2440B05 | SANFORD HORNER BLVD. 230KV |
| CHKLIST-7192 | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 600.0 | Hydroelectric | - | N/A |
| CHKLIST-7193 | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 400.0 | Hydroelectric | T0965B05 | ASHEBORO NORTH 115KV |
| CHKLIST-7198 | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 80.0 | Hydroelectric | - | N/A |
| CHKLIST-7200 | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 990.0 | Hydroelectric | T1610B03 | TROY 115KV |
| CHKLIST-7298 | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 4,950.0 | - | T2444B22 | SANFORD DEEP RIVER 230KV |
| CHKLIST-7299 | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 10,000.0 | - | T4050B02 | Bayboro 230KV |
| CHKLIST-7303 | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 1,000.0 | Hydroelectric | T0362B02 | BARNARDSVILLE 115KV |
| CHKLIST-7307 | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 1,415.0 | Biomass | T0665B22 | LEICESTER 115KV |
| CHKLIST-8643 | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 24.0 | Solar | T4595B01 | CARALEIGH 230KV |
| CHKLIST-8644 | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 60.0 | Solar | T4325B02 | WILMINGTON SUNSET PARK 115KV |
| CHKLIST-8645 | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 24.0 | Solar | T4325B02 | WILMINGTON SUNSET PARK 115KV |
| CHKLIST-8646 | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 77.0 | Solar | T2250B02 | PITTSBORO 230KV |
| CHKLIST-8647 | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 273.0 | Solar | T5116B05 | RALEIGH DURHAM AIRPORT 230KV |
| CHKLIST-8648 | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 40.0 | Solar | T6470B05 | WILMINGTON OGDEN 230KV |
| NC2017-03077 | 1/1/1900 | Project Not Active | Withdrawn | - | 1,000.0 | Solar | T4610B13 | CARY TRENTON ROAD 230KV |
| - | 1/1/1900 | - | IR Review - In Progress | - | 21.0 | Solar | T4600B02 | WEST CHATHAM STREET 23KV |
| - | 1/1/1900 | - | IR Review - In Progress | - | 24.0 | - | - | - |
| - | 1/1/1900 | - | IR Review - In Progress | - | 28.8 | - | - | - |
| - | 1/1/1900 | - | IR Review - In Progress | - | 49.4 | - | - | - |
| - | 1/1/1900 | - | IR Review - In Progress | - | 50.0 | - | - | - |
| - | 1/1/1900 | - | IR Review - In Progress | - | 52.2 | - | - | - |
| - | 1/1/1900 | - | IR Review - In Progress | - | 100.0 | - | - | - |
| - | 1/1/1900 | - | IR Review - In Progress | - | 100.0 | - | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 23.1 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 28.8 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 28.8 | - | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 30.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 43.2 | - | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 52.2 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | - | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | - | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | - | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | - | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | - | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | - | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 57.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 61.2 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 61.2 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 61.2 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 61.2 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 61.2 | Solar | - | - |

| Project Queue Number | Queue Number Issue Date | IR Interdependency Status | Operational Status | Engineering Administrative Designation | Capacity kW (AC) | Energy Source Type | Feeder Number | Substation Name |
|---|---|---|---|---|---|---|---|---|
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 61.2 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 66.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 66.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 66.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 66.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 72.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 72.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 72.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 72.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 72.0 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 75.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 75.6 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 86.4 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 99.7 | Solar | - | - |
| - | 1/1/1900 | - | IR Review - Pending Customer Response | - | 100.0 | Solar | - | - |
| - | 1/1/1900 | - | - | - | 96.0 | Solar | - | - |
| - | 1/1/1900 | Project Not Active | Cancelled | - | 800.0 | Biomass | - | - |
| - | 1/1/1900 | Project Not Active | Cancelled | - | 3,500.0 | Solar | T4730B12 | GARNER WHITE OAK 230KV |
| - | 1/1/1900 | Project Not Active | Cancelled | - | 6,400.0 | Biomass | T1670B01 | WADESBORO 230KV |
| - | 1/1/1900 | Project Not Active | Cancelled | - | 6,400.0 | Biomass | T5921B02 | Newton Grove 230kV |
| - | 1/1/1900 | Project Not Active | Cancelled | - | 11,000.0 | Solar | - | - |
| - | 1/1/1900 | Project Not Active | Withdrawn | - | 23.4 | Solar | - | - |
| Project 12942 | 1/1/1900 | Approved | Commercial Operation - Power Generation in progress | - | 9,000.0 | Biomass | T5600B01 | ROSEBORO 115KV |

Disclaimer: Please note this queue report is updated twice a month. Information is accurate as of the date listed in the title of this report. Please contact DERContracts@duke-energy.com if you have questions about the status of your project.

# Frequently Asked Questions

## Large Distribution Interconnections (≥20 kW)

This FAQ provides general information; please consult the applicable state commission and FERC procedures for detailed guidance (which govern in the event of any conflict between such procedures and this general information).

1. **What is the overall interconnection process and who can I contact to get help?**

The interconnection process is defined by state utility commission or FERC-approved procedures. These procedures provide governing standards that an Interconnection Customer must follow in order to connect a Generating Facility to a utility's system. The applicable set of procedures is determined by the nature and location of the Generating Facility.

Your contact for support depends on what phase of the interconnection process your request is in. Please note that all project lifecycles are subject to change based on the specifics of each project. Once your project moves past the "Review" phase, you will be given specific contact information for the person assigned to your project in each of the different phases.

The chart below identifies the appropriate point of contact based on status of your project.

| Distribution Project Lifecycle | | | |
|---|---|---|---|
| 1. REVIEW | 2. STUDY | 3. CONSTRUCTION | 4. POST PROJECT |
| Renewable Service Center (RSC) | Customer Account Specialist (CAS) | Contract Analyst/Account Manager | Contract Management Group |
| - Pre-Request (NC Only)<br>- Pre-Application<br>- Interconnection Request<br>- 3-Day Letter<br>- 10-Day Letter | - Fast Track<br>- Supplemental Review<br>- System Impact Study<br>- Customer Options Meeting<br>- Scoping Meeting | - Facility Study<br>- Construction Planning Meeting<br>- Interconnection Agreement<br>- Standard Purchase Power Agreement<br>- Permission to Operate | - Negotiated Purchase Power Agreement<br>- REC only Agreement<br>- Contracts Database<br>- Billing<br>- Post Commercial Operations |
| *REVIEW covers new IRs and any body of work related to being processed once a project has been submitted* | *STUDY covers any body of work being processed while a project is in the study phase* | *CONSTRUCTION covers any body of work being done once a project is out of the study phase through the facility receiving their permission to operate* | *POST PROJECT covers any body of work being done after the project is generating power, including but not limited to contract management* |

Renewable Service Center (RSC) – CustomerOwnedGeneration@duke-energy.com or 866.233.2290
Customer Account Specialist (CAS) – DERContracts@duke-energy.com
Contract Analyst/Account Manager – DERContracts@duke-energy.com
Contract Management – DERContracts@duke-energy.com

2. **What is the difference between a Pre-Request and a Pre-Application, and why should I get one?**

Both Pre-Requests and Pre-Applications are non-binding requests to provide information for a proposed project or specific site. Responses provided by Duke Energy to these requests do not confer any rights to an Interconnection Customer and the customer must still submit and meet Interconnection Request requirements to apply to interconnect and obtain a Queue Number.

**Pre-Request:** Per state jurisdictional procedures, a Pre-Request is only available for North Carolina projects. The Pre-Request Response provides the Interconnection Customer with high-level electric system information including the number of phases, distance to substation, distance to three-phase conductor, MVA rating of the substation transformer, as well as existing and queued generation on the same substation. There is no fee associated with a Pre-Request.

**Pre-Applications:** A Pre-Application is available for North Carolina and South Carolina projects. The Pre-Application Report provides the same information as the Pre-Request as well as existing substation, capacity, voltage, and other infrastructure information, which can be helpful in analyzing the viability of a proposed project or site. In comparison to a Pre-Request, the Pre-Application is more formal and offers more detailed information to help an Interconnection Customer determine if a proposed project is feasible. Pre-Applications require a fee of $300 for a North Carolina project, or $500 for a South Carolina project.

Please contact the Renewable Service Center at CustomerOwnedGeneration@duke-energy.com or 866.233.2290, if you have questions about Pre-Requests or Pre-Applications.

**3. How can I use the Queue Report published online?**

Queue Reports are updated twice a month and published to the company's website. If you have issues retrieving the correct Queue Report, check to make sure you have chosen the correct jurisdiction and state when navigating the website, as each jurisdiction (Duke Energy Carolinas/Progress) and state (NC/SC) has its own queue report. You can select your jurisdiction by clicking the state name on the upper left corner of the website.

Once you have navigated to the appropriate Queue Report, find your project's Queue Number. The best way to utilize the Queue Report is to electronically filter and sort the information using Substation Name and Queue Number Issue Date. This will narrow the report to show which projects are vying for space on the same substation as your project. Engineering Administrative Designations (EAD) are published for each project and can be used to understand what part of the System Impact Study each project is in. EADs are not applicable to the Fast Track and Supplemental Review processes. On the same webpage as the Queue Report, there is a link to Status Definitions which defines what each status means.

**4. What is Interdependency and what is the difference between Interdependency Statuses – Project A, Project B and On Hold?**

Both the state and FERC interconnection procedures require Duke Energy to study all Interconnection Requests based on the order in which requests enter the Queue. This is often referred to as a serial queue study process. Under North Carolina and South Carolina state procedures, projects are deemed to be interdependent where an upgrade or the interconnection facilities necessary for the Generating Facility are impacted by another Generating Facility. Interdependency Status is assigned after the Interconnection Request is deemed complete and is used to indicate interdependence of projects in the queue.

**Project A** is assigned to a project that is not impacted by any earlier-queued Interconnection Request (for example, a project that is first in line for a particular substation and has no other identified interdependencies).

**Project B** indicates the project is interdependent with only one earlier-queued Interconnection Request (for example, a project that is second in line for a particular substation and has no other identified interdependencies).

**On Hold** indicates the project is interdependent with two or more earlier-queued Interconnection Requests (for example, a project that is third in line for a particular substation or has other identified interdependencies).

5. **Why hasn't my project's Interdependency Status changed?**
Each project/substation pairing creates a unique situation, so there is no single answer for this question. The status cannot be changed until the interconnection requests of all earlier-queued interdependent Interconnection Requests have been resolved. This process can take an extended period of time depending on the number of interdependent projects and the complexity of such projects. For instance, timelines can become extended when inquiries arise from the Project A/B due to the need for technical clarifications, selection of mitigation options, identification of rights of way, dispute, etc. It is best to contact your Customer Account Specialist by emailing DERContracts@duke-energy.com if you have questions about the status of a project.

6. **When will my project's System Impact Study be complete?**
Study completion dates depend on your project's Interdependency and Operational Status. Once a project's Interdependency Status becomes "Project A" or "Project B," use the EAD published in the Queue Report to understand what part of the System Impact Study your project currently is in. When the project reaches the EAD of "Protection Study" a Customer Account Specialist should be able to provide you with an estimated completion date. Interconnection Requests that have been designated as "On Hold" are not permitted to proceed with the study process until they become a "Project B". For this reason, there is no specific timeline by which projects in "On Hold" status will be released for study.

I/A



**Example of Pre-Request Results:**

Good Morning,

Based on the current information and records I have in front of me right now, here is the pre-request information for your requested site. This is subject to change any time after today.

| | |
|---|---|
| Circuit ID | T6446B22 |
| Substation Name | LELAND INDUSTRIAL 115KV |
| Substation Capacity (MVA) | 15 |
| Circuit Voltage (KV) | 22.86 |
| Distance from IPP to substation (mi) | 1.76 |
| Distance from IPP to nearest 3-PH conductor (mi) | 0.01 |
| Distance from IPP to nearest heavy 3-PH conductor (mi) | 0.73 |

| Customers on substation (queue and existing) | | |
|---|---|---|
| **Queue #** | **MW** | **Feeder ID** |
| CHKLIST-7985 | 0.053 | T6446B22 |
| NC2016-02946 | 4.998 | T6446B11 |
| NC2016-02961 | 4.998 | T6446B22 |

| Customers on feeder (queue and existing) | | |
|---|---|---|
| **Queue #** | **MW** | **Feeder ID** |
| CHKLIST-7985 | 0.053 | T6446B22 |
| NC2016-02961 | 4.998 | T6446B22 |

Thank you,

Duke Energy Progress

**Example of Pre-Application Response:**

## Pre-Application Response Information

**Below are the 13 points listed in the Pre-Application report section of the NC State Jurisdictional Interconnection Standard Section 1.3.2. (May 15, 2015)**

**Project Name:** Deleted

**Circuit ID:** T0781B01

**Size:** Deleted

**Substation Name:** Skyland 115KV

**Based on the current information and records we have in front of us right now, here is the pre-Application information for your requested site (this is subject to change any time after today):**

| | Information | |
|---|---|---|
| 1.3.2.1 | Total capacity (in MVA) of substation/area bus, bank or circuit based on nominal or operating ratings likely to serve the proposed Point of Interconnection. | 30 |
| 1.3.2.2 | Existing aggregate generation capacity (in MW) interconnected to a substation/area bus, bank or circuit (i.e., amount of generation online) likely to serve the proposed Point of Interconnection. | 0.234 |
| 1.3.2.3 | Aggregate queued generation capacity (in MW) for a substation/area bus, bank or circuit (i.e., amount of generation in the queue) likely to serve the proposed Point of Interconnection. | 0 |
| 1.3.2.4 | Substation nominal distribution voltage and/or transmission nominal voltage if applicable. (in KV) | 115 |
| 1.3.2.5 | Nominal distribution circuit voltage at the proposed Point of Interconnection. (in KV) | 22.86 |
| 1.3.2.6 | Approximate circuit distance between the proposed Point of Interconnection and the substation. (in Miles) | 6.695 |
| 1.3.2.7 | Relevant line section(s) actual or estimated peak load and minimum load data, including daytime minimum load and absolute minimum load, when available. | Peak Load: 15,086.8 kW<br>Low Load: 2,541.2 kW |
| 1.3.2.8 | Number and rating of protective devices and number and type (standard, bi-directional) of voltage regulating devices between the proposed Point of Interconnection and the substation/area. Identify whether the substation has a load tap changer. | (1)x"Fuse_30A"<br>(1)x"V_Reg_100A_13.2"<br>(1)x"Switch_1200A"<br>(1)x"Recloser_4E_140"<br>(5)x"Switch_600A"<br>(1)x"Recloser_OVR_360"<br>(1)x"V_Reg_200A"<br>(1)x"Recloser_GWVIPERS_800"<br>(1)xFCB |

| | | |
|---|---|---|
| 1.3.2.9 | Number of phases available at the proposed Point of Interconnection. If a single phase, distance from the three-phase circuit. | Single Phase<br>2.39mi to Three Phase |
| 1.3.2.10 | Limiting conductor ratings from the proposed Point of Interconnection to the distribution substation. (in Amps) | 70A<br>92.5A<br>120A<br>320A<br>360A<br>320A |
| 1.3.2.11 | Whether the Point of Interconnection is located on a spot network, grid network, or radial supply. | Radial Supply |
| 1.3.2.12 | Based on the proposed Point of Interconnection, existing or known constraints such as, but not limited to, electrical dependencies at that location, short circuit interrupting capacity issues, power quality or stability issues on the circuit, capacity constraints, or secondary networks. | LG Short Circuit @ POI: 1195A |
| 1.3.2.13 | Other information regarding an Affected System the Utility deems relevant to the Interconnection Customer. | N/A |

Thank you,

Duke Energy Progress

I/A



## Duke Energy Carolinas, LLC and Duke Energy Progress, LLC

## 2017/2018 Actual and 2019 Pro Forma Category 1 Volumes and Expenses for NC Interconnections Fees

| | Column 1 [1] | | | Column 2 [2] | | | Column 3 [3] | | | Column 4 [4] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Actual 2017 Volumes & Expenses w/Current & Proposed Fees | | | Actual 2018 Volumes With Annualized November Expenses w/Current & Proposed Fees | | | Projected 2019 Volumes @ 10% Increases Over 2018 Volumes w/Current & Proposed Fees | | | Projected 2019 Volumes @ 20% Increases Over 2018 Volumes w/Current & Proposed Fees | | |
| | Volumes | Revenue @ Current Fees | Revenue @ Proposed Fees | Volumes | Revenue @ Current Fees | Revenue @ Proposed Fees | Volumes | Revenue @ Current Fees | Revenue @ Proposed Fees | Volumes | Revenue @ Current Fees | Revenue @ Proposed Fees |
| Pre-Requests | 59 | $0 | $0 | 119 | $0 | $0 | 131 | $0 | $0 | 143 | $0 | $0 |
| Pre-Applications | 32 | $9,600 | $16,000 | 15 | $4,500 | $7,500 | 17 | $4,950 | $8,250 | 18 | $5,400 | $9,000 |
| ≤ 20 kW | 1,406 | $140,600 | $281,200 | 4,354 | $435,400 | $870,800 | 4,789 | $478,940 | $957,880 | 5,225 | $522,480 | $1,044,960 |
| ≤ 100kW | 34 | $8,500 | $25,500 | 172 | $43,000 | $129,000 | 189 | $47,300 | $141,900 | 206 | $51,600 | $154,800 |
| ≤ 2 MW | 63 | $31,500 | $63,000 | 40 | $20,000 | $40,000 | 44 | $22,000 | $44,000 | 48 | $24,000 | $48,000 |
| Changes of Control: | | | | | | | | | | | | |
| ≤ 20 kW | 110 | $5,500 | $5,500 | 110 | $5,500 | $5,500 | 121 | $6,050 | $6,050 | 132 | $6,600 | $6,600 |
| > 1 MW | 9 | $450 | $4,500 | 21 | $1,050 | $10,500 | 23 | $1,155 | $11,550 | 25 | $1,260 | $12,600 |
| Total Revenue | 1,713 | $196,150 | $395,700 | 4,831 | $509,450 | $1,063,300 | 5,314 | $560,395 | $1,169,630 | 5,797 | $611,340 | $1,275,960 |
| Employee & Contractor Expenses | | $760,565 | | | $835,446 | | | $877,218 | | | $877,218 | |
| PowerClerk | | $148,000 | | | $148,000 | | | $125,800 | | | $125,800 | |
| Salesforce Allocation | | $159,259 | | | $109,628 | | | $160,000 | | | $160,000 | |
| Total Estimated Expenses | | $1,067,824 | | | $1,093,074 | | | $1,163,018 | | | $1,163,018 | |
| Net (Under)/Over-Recovery | | -$871,674 | -$672,124 | | -$583,624 | -$29,774 | | -$602,623 | $6,612 | | -$551,678 | $112,942 |

1 - Duke Energy implemented a new labor charging methodology in November/December 2017. Volumes for Changes of Control < 20 kW are estimated. Other volumes are actuals per PowerClerk and Salesforce systems.

2 - Duke Energy is still in the process of closing financial records for 2018. Expenses are annualized based on November year to date charges. Volumes are actuals per PowerClerk and Salesforce systems.

3 - View of 2019 with projected volumes increasing 10% over 2018 volumes. Expenses are projected to increase by 5%. PowerClerk expenses are reduced by 15% as ≤ 20 kW projects transition to Salesforce. Correspondingly, Salesforce expenses are projected to increase.

4 - View of 2019 with projected volumes increasing 20% over 2018 volumes with all other assumptions from footnote 3 the same.

I/A



# SURETY BOND – COMPETITIVE PROCUREMENT OF RENEWABLE ENERGY

COLLATERAL SECURITY PAYABLE UPON DEMAND

* * * * *

| | | |
|---|---|---|
| ***PRINCIPAL / BIDDER*** *(Legal Name and Business Address)* | | |
| ***SURETY*** *(Legal Name and Business Address)* | ***CONTRACT NO.*** | ***CONTRACT DATE*** |
| ***OBLIGEE***<br>[Duke Energy Carolinas, LLC][Duke Energy Progress, LLC]<br>*---- add address -----* | ***SURETY BOND EFFECTIVE DATE***<br>***Is this the issue date?*** | |
| ***PROPOSAL SECURITY AMOUNT*** | ***PENAL SUM OF BOND*** | |

**KNOW ALL PERSONS BY THESE PRESENTS THAT:** PRINCIPAL (herein, "Bidder") and SURETY are held and firmly bound to [Duke Energy Carolinas, LLC] [Duke Energy Progress, LLC] ("Duke Energy"), a limited liability company organized and existing under the laws of the state of North Carolina, its successors and assigns in the amount of $[*insert Bond Amount*] ("Proposal Security Amount"), for the payment of which the Bidder and Surety, their heirs, executors, administrators, successors and assigns are hereby jointly and severally bound.

**WHEREAS**, Bidder has submitted a bid proposal into Duke Energy's Request for Proposals for the Competitive Procurement of Renewable Energy ("RFP"), which was issued by Duke Energy on [___________];

**WHEREAS,** Duke Energy has selected Bidder's proposal (the "Bid") for further evaluation in Step 2 of the RFP process (such evaluation referred to herein as the "Step 2 Evaluation Process") pursuant to the RFP;

**WHEREAS,** Bidder and Surety acknowledge that the RFP process will be delayed and Duke Energy will be harmed if Bidder withdraws the Bid, or if the Bid is selected as a Bid for the Step 2 Evaluation Process and the Bidder does not execute the RENEWABLE POWER PURCHASE AGREEMENT or the ASSET PURCHASE AND SALE AGREEMENT (as applicable, the "Agreement") associated with the RFP as requested by Duke Energy and/or fails to provide Performance Assurance as required under and as defined in the Agreement; and

**WHEREAS,** Bidder desires to furnish this Bond pursuant to the requirement in Section III of the RFP to provide Proposal Security for a bid selected to continue forward into the Step 2 Evaluation Process;

**NOW THEREFORE**, the condition of this obligation is such that if (i) Duke Energy or the Independent Administrator acting on its behalf notifies Bidder that the Bid has been eliminated from consideration in the RFP, or (ii) Duke Energy subsequently selects the Proposal as a winning Proposal under the RFP and Bidder has executed the Agreement and posted Performance Assurance as required in such Agreement, then this obligation will be null and void; otherwise it will remain in full force and effect, subject to the following additional conditions:

1. Capitalized terms undefined herein will take the meaning or definition provided in the RFP or where indicated, the Agreement. In the event of any conflict between this Bond and the RFP, the terms of this Bond will control.

2. If Bidder withdraws the Bid, or if Duke Energy selects the Bid as a winning Proposal and the Bidder does not execute the Agreement with Duke Energy for the Bid within 60 days of the closing of the RFP or fails to meet the creditworthiness requirements or to post performance security as required under the Agreement within 5 business days of the execution of the Agreement, then Duke Energy will issue a demand for payment of the Proposal Security Amount to the Surety ("Demand for Payment").

3. Surety will, not later than ten (10) days after delivery of a Demand for Payment to the Surety at the address provided below, pay the Proposal Security Amount to Duke Energy. Surety's obligation for payment of the Proposal Security Amount will be deemed established regardless of the underlying causes for Bidder's withdrawal of the Bid and irrespective of any other circumstance whatsoever that might otherwise constitute a legal or equitable discharge or defense of the Surety.

4. Bidder and Surety acknowledge that the Proposal Security Amount represents a fair and reasonable pre-estimation of the damages due to Duke Energy under the circumstances existing as of the Surety Bond Effective Date and that such amount represents a reasonable estimate of Duke Energy's losses in the event of (i) Bidder's withdrawal of the Bid following its selection for further evaluation in the Step 2 Evaluation Process, or (ii) Bidder's failure to execute the Agreement with Duke Energy for the Bid if selected as a winning Proposal or failure to provide Performance Assurance as required under the Agreement. The Proposal Security Amount will not be deemed a penalty, and the Bidder and Surety hereby waive and forfeit any right to contest the reasonableness or validity of the liquidated Proposal Security Amount. Duke Energy's right to recover the Proposal Security Amount will in no way limit its entitlement to other non-monetary remedies to which Duke Energy may be entitled pursuant to the terms of the RFP, the Bond, or applicable law.

5. It is hereby agreed that this obligation is effective beginning on the Surety Bond Effective Date, above, provided that, if this Bond remains in effect after one (1) year following the Surety Bond Effective Date, Bidder may cancel this Bond after such one (1) year period by giving Duke Energy at least forty-five (45) days prior written notice of the cancellation date. Such cancellation notice will be sent by certified mail or by overnight courier with tracking service to:

   {Add notice info}

   with copy to
   [Duke Energy Carolinas, LLC] [Duke Energy Progress, LLC]
   Attn: Credit Risk Manager
   550 South Tryon Street (DEC40C)
   Charlotte, NC 28202

Any obligations of the Bidder prior to any such cancellation will survive such cancellation and continue to be a liability of the Surety until paid in full by the Bidder.

This Bond is irrevocable by Surety.

6. Within thirty (30) days following the date of any notice of cancellation of this Bond that is provided to Duke Energy under Paragraph 6, Bidder will provide to Duke Energy a replacement Bond that satisfies the requirements of Section III of the RFP in the amount of the Performance Security required for the pre-COD period. Bidder's failure to provide such replacement Bond in the required timeframe will constitute a default under this Bond and will entitle Duke Energy to issue a Demand for Payment to the Surety for the payment of the Proposal Security Amount.

7. The Surety's liability is limited to the Proposal Security Amount ("Penal Sum of Bond"), unless suit must be brought for enforcement of the within obligations and in which case the Surety will also be liable for all costs in connection therewith, interest and reasonable attorneys' fees, including costs of and fees for appeals.

8. Failure of the Surety to pay the Proposal Security Amount within ten (10) days of Demand for Payment will constitute default of the Surety's obligation under the Bond and Duke Energy will be entitled to enforce against the Surety any remedy available to it.

9. Surety, for value received, hereby stipulates and agrees that no change, modification, omission, addition or change in or to the RFP or the Agreement, and no action or failure to act by Duke Energy will in any way affect the Surety's obligation on this Bond; and Surety hereby waives notice of any and all such modifications, omissions, alterations, and additions to the terms of the RFP or the Agreement.

10. If any part or provision of this Bond will be declared unenforceable or invalid by a court of competent jurisdiction, such determination in no way will affect the validity or enforceability of the other parts or provisions of this Bond.

11. The undersigned Surety and Bidder are held and firmly bound for the payment of all legal costs, including reasonable attorney's fees, incurred in all or any actions or proceedings taken to enforce this Bond or the obligations created herein, or payment of any award of judgment rendered against the undersigned Surety. Nothing contained herein will be construed to obligate Duke Energy to pay any fees or expenses incurred in connection with the issuance of this Bond.

12. All disputes relating to the execution, interpretation, construction, performance, or enforcement of the Bond and the rights and obligations thereto will be governed by the laws of, and resolved in the State and Federal courts in North Carolina. The rights and remedies of Duke Energy herein are cumulative and in addition to any and all rights and remedies that may be provided by law or equity.

13. The undersigned Surety agent(s) represent that he/she is a true and lawful attorney-in-fact for the Surety and authorized to bind the Surety hereto and to affix the Surety's corporate seal hereunder, as evidenced by the attached power of attorney.

**IN WITNESS WHEREOF,** this instrument is SIGNED AND SEALED this _____ day of_______________, 20__.

**PRINCIPAL/BIDDER:**

For Bidder: ______________________

Signature: ______________________

(SEAL) Name and Title: ______________________

Address: ______________________

______________________

______________________

**SURETY:**

Attorney in Fact: ______________________

Signature: ______________________

(SEAL) Name and Title: ______________________

Address: ______________________

______________________

______________________

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**AFFIDAVIT AND ACKNOWLEDGEMENT OF ATTORNEY-IN-FACT**

STATE OF ____________

COUNTY OF __________

I hereby certify that I am the attorney-in-fact of ____________________, a [*insert entity type*], which is the surety in the foregoing bond, and that I am authorized to execute on the above Surety's behalf the foregoing bond pursuant to the Power of Attorney dated ___________ and attached hereto, and on behalf of the Surety, acknowledge the foregoing bond before me as the above Surety's act and deed.

Given under my hand this _____ day of ___________.

__________________________________________
*ATTORNEY-IN-FACT*

__________________________________________
*PRINT NAME*

(NOTARY SEAL)

JA





**Interstate Renewable Energy Council (IREC)**

**Request 1-18 (Auck Direct Testimony):**

Referencing Ms. Auck's statement on Page 29, Lines 2-3, that "[s]ome states do not post a public queue for NEM projects," please identify all states and/or utilities that IREC is referring to that require or voluntarily provide queue reporting of larger generator interconnection but not smaller net energy metering projects.

Please also identify all states and/or utilities that IREC of which IREC is aware that require queue reporting of net energy metering project's status in the interconnection process.

**Response:**

To IREC's knowledge, the following states require, or utilities voluntarily provide, interconnection queue reporting only of large or non-NEM generator interconnections:

- California (note however that California publishes separate data on NEM projects which provides information on acceptance and completion dates).
- Massachusetts (provided to State Department of Energy Resources, which makes aggregated information public)

To IREC's knowledge, the following states require, or utilities voluntarily provide, interconnection queue reporting of NEM projects:

- Hawaii
- Minnesota
- New York
- New Jersey
- ComEd in Illinois

These are the state queues which we are most familiar with. Additionally, many utilities publish transmission interconnection queues via OASIS and some may also include distributed systems in that queue as well. Other utilities and states may also have similar queues.

**Interstate Renewable Energy Council (IREC)**

**Request 1-19 (Auck Direct Testimony):**

Referencing Ms. Auck's testimony at Pages 35-40 relating to utility-published hosting capacity maps, including IREC's "ideal format—adopted by Pepco in the Mid-Atlantic, in California, New York, and Minnesota," your testimony does not address the cost to develop and deploy HCMs. Please discuss your understanding of the cost of deploying HCMs and provide any information or regulatory filings that address either the initial capital investment or ongoing operations and maintenance expense of offering an HCM in the ideal format recommended by IREC.

**Response:**

IREC does not have comprehensive materials on the actual cost of HCMs, which is not information that that states have typically documented in the dockets we have participated in. These costs may be available in general rate case filings or elsewhere but IREC does not have them in our possession.

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## Interstate Renewable Energy Council (IREC)

**Request 1-20 (Auck Direct Testimony):**

Referencing Ms. Auck's direct testimony at Page 48 and footnote 65 relating to timeline enforcement mechanisms, please identify each state in which IREC has advocated that a timeline enforcement mechanism be adopted since 2012.

Has any state other than California and Massachusetts adopted a timeline enforcement mechanism during this period?

**Response:**

To clarify, California does not currently have a timeline enforcement mechanism adopted. The issue is currently being discussed in an interconnection stakeholder working group.

Since 2012, IREC has participated in the following dockets where there have been discussions about accountability regarding timelines: California, Massachusetts, New York, Montana, Minnesota, and North Carolina. Note that IREC has not necessarily advocated for adoption of enforcement mechanisms in each of these states, but there has been some discussion of accountability mechanisms in each. IREC advocates for timeline enforcement mechanisms only in states where IREC has identified concerns with timeline adherence.

The states that IREC is aware that currently have adopted timeline enforcement mechanisms are Massachusetts and New York.

**Interstate Renewable Energy Council (IREC)**

**Docket No. E-100, Sub 101**
**Public Staff Data Request No. 1**
**Date Sent: November 1, 2018**
**Requested Due Date: November 12, 2018**

**Requested by: Jeff Thomas**
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**Please provide any available responses electronically. If in Excel format, include all working formulas.**

**Topic 1: NCIP Revisions - Fees**

1. In attachment B to the comments filed on January 29, 2018 in the above captioned docket, IREC provides a comparison with California utility fees.

Note that the table IREC included in attachment B was prepared by Duke Energy, not by IREC.

   a. Please provide any further information IREC has regarding those fees, including any breakout cost elements that form the basis for the fees (labor, licensing fees, etc.).

As part of a docket regarding the update of the net energy metering (NEM) program, the California Public Utilities Commission required each of the major investor owned utilities (IOUs) in California to set a standardized interconnection fee for NEM projects under 1 MW. The fee for each IOU was to be based on the interconnection costs shown in advice letters that track interconnection costs expended for NEM projects, filed by each IOU. Note that these letters do not track costs for all interconnections, only for NEM projects below 1 MW which constitute the vast majority of projects in the state. A standard $800 application fee (plus deposits for the study process if applicable) is charged to most other projects. Each IOU was required to include only the following costs in its filings: NEM Processing and Administrative Costs; Distribution Engineering Costs; and Metering Installation/Inspection and Commissioning Costs. The IOUs first filed their advice letters in 2015 and have continued to file subsequent updates to them each year since, although they have not sought to actually update the fees each year. *See* CPUC Decision 16-01-044 at 88; D.14-05-033 and Res. E-4610.

IREC is including the three most recent Advice Letters as attachments to this response for your information. Each letter provides a description of the costs included in each category. Please reference each letter for specifics. Note that the interconnection application fee derived from these letters does not include the facility upgrade costs (it is our understanding that these costs are recovered directly from the interconnecting customer in North Carolina). IREC reached out to the CPUC staff and they indicated that they do not have further information on the costs categories beyond what is provided in the attached Advice Letters.

Letters linked here:

SDG&E AL 3273-E on NEM interconne(

PGE AL 5398-E on NEM Interconnectio

SC AL 3866-E on NEM Interconnectio

PG&E's latest letter states that: "Additional various costs and fees associated with the interconnection process incurred by PG&E are not reflected under this report or recovered through the current NEM interconnection fee. These costs relate to Electronic Signature requests, Online payments, Online portal submittals, other IT related expenditures and enhancements, etc." PG&E Advice Letter 5398-E, Oct. 4, 2108 at 2. Thus it appears that PG&E's fee may include additional costs not captured in the letter. Neither San Diego Gas and Electric (SDG&E) or Southern California Edison (SCE) included a similar caveat in their letters.

While these Advice Letters may not provide a complete picture of all potential costs incurred by the utilities associated with interconnection of

NEM generators, they have revealed that there may actually be over-collection of fees for some other categories of generators. The standard fee for an application is $800 which is substantially higher than the tracked costs being reported for the NEM projects below 1 MW. It is expected that processing costs for projects greater than 1 MW and other categories of projects may be higher, but it has not yet been determined whether this is the case, and if so, to what extent. We thus note that it would not be safe to assume, without further evidence, that there are significant costs that are not being recovered from interconnection customers. Unfortunately, IREC is unaware of any state that has done a detailed tracking of overall interconnection cost expenditures.

b. Is IREC aware of any policies in California that allow those utilities to recover any of the costs from general retail customers that may otherwise be included in fees the utilities charge in North Carolina specifically to interconnection customers?

It is IREC's understanding that some costs that may be directly or indirectly related to the utility's processing of interconnection applications may be recovered through general rate cases in California.

2. During the October 29, 2018, conference call with the Public Staff, counsel for IREC indicated that utilities in California recover the costs of developing and maintaining hosting capacity maps from their general retail customers. Please confirm that utilities in California (and any other states IREC is aware of) recover the cost of developing hosting capacity maps from their general retail customers, and do not charge those costs only to interconnection customers.

It is IREC's understanding that the costs for the development of hosting capacity maps have largely been recovered through general rate cases. We are unaware of any state that has charged interconnection customers for the costs of developing a hosting capacity analysis.

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-100 SUB 101

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| In the Matter of<br>Petition for Approval of Generator Interconnection Standards | ) | DUKE ENERGY CAROLINAS, LLC'S AND DUKE ENERGY PROGRESS, LLC'S SECOND DATA REQUEST TO THE PUBLIC STAFF |

Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC ("DEP" and together the "Companies"), by and through their legal counsel, hereby submit their First Data Request to the North Carolina Utilities Commission—Public Staff ("Public Staff"). Please forward responses to the following data requests to the undersigned within **ten (10)** days (Monday, December 17) from the receipt of these requests (December 5, 2018):

## DEFINITIONS

The following definitions apply throughout the discovery request and are deemed to be incorporated therein:

A. "Document" means all written, recorded or graphic matters, however produced or reproduced, pertaining in any manner to the subject of this proceeding, whether or not now in existence, without limiting the generality of the foregoing, all originals, copies and drafts of all writings, correspondence, telegrams, notes or sound recordings of any type of personal or telephone communication, or of meetings or conferences, committee meetings, memoranda, inter-office communications, studies, analyses, reports, results of investigations, reviews, contracts, agreements, working papers, statistical records, ledgers, books of account, vouchers, bank checks, x-ray prints, photographs, films, videotapes, invoices, receipts, computer printouts or other products of computers, computer files, stenographer's notebooks, desk calendars, appointment books, diaries, or other papers or objects similar to any of the foregoing, however denominated. If a document has been prepared in several copies, or additional copies have been made, and the copies are not identical (or which, by reason of subsequent modification of a copy by the addition of notations, or other modifications, are no longer identical) each non-identical copy is a separate "document."

B. "And" or "or" shall be construed conjunctively or disjunctively as necessary to make the requests inclusive rather than exclusive.

C. The terms "you" and "your" refer to the Public Staff and its respective employees, agents, consultants and witnesses who have provided testimony on behalf of the Public Staff in the above-referenced proceeding.

New York's Joint Utilities Supplemental Distributed System Implementation Plan provided information regarding the Hosting Capacity Analysis roadmap being carried out under NY's 'Reforming the Energy Vision' program.

NY - Supplemental Distributed System I

Functional, online HCMs hosted by Xcel Energy and Southern California Edison provided insight as to what HCMs might look like and the type of information they might provide.

http://www.arcgis.com/home/webmap/viewer.html?webmap=e62dfa24128b4329bfc8b27c4526f6b7

https://www.xcelenergy.com/working_with_us/how_to_interconnect/hosting_capacity_map

In addition to reviewing several state initiatives, the Public Staff also reviewed documentation for one of the more popular HCM tools, EPRI's DRIVE. The following papers were reviewed for relevant information.

EPRI - Distirbution Feeder Hosting Cap

EPRI - DRIVE.pdf

Finally, documentation for the CYME EPRI DRIVE Module was reviewed to understand how existing tools could be integrated with commonly used circuit modeling software.

CYME - EPRI DRIVE Module.pdf

2-3 On Page 30, Lines 4-9, Mr. Lucas recommends maintaining the current 10 business days to schedule a scoping meeting after an Interconnection Request is deemed complete. As described in Witness Riggins' testimony at Page 25, Line 9 to Page 26, Line 15, the Companies are proposing to perform an initial "technical review" of all Section 4 Interconnection Requests to allow for a more informed scoping meeting and to preliminarily identify potential issues such as system constraints. The requested scheduling extension to 30 business days allows the Companies time to prepare this technical information. Does this additional information alter Public Staff's view of the appropriate timing?

**Response:**

**Name and title of person responding to request:** Tim Dodge, Staff Attorney; Jay Lucas, Utilities Engineer.

The Public Staff recommends that the Utilities discuss the level of detail necessary for the scoping meeting with the DG developers. If the DG developers agree with Duke Energy that a later scoping meeting or initial "technical review" would provide additional meaningful technical data and improve the overall efficiency of the interconnection process, the Public Staff would not object to a 30-business day timeframe for the provision of additional data.

2-4 On Page 38, Lines 8-11, Mr. Lucas recommends a dispute resolution process as outlined in Lucas Exhibit 1. The following questions relate to that exhibit.

**Response:** *(For clarity, responses are included in each sub-question below).*

**Name and title of person responding to request:** Tim Dodge, Staff Attorney; Jay Lucas, Utilities Engineer

a. Under proposed Section 6.2.3, if the Parties are unable to resolve the dispute in 20 Business Days, are the Parties able to continue negotiations for an additional 20 Business Days and then, at the end of that extension, contact the Public Staff for assistance? Or are the Parties only able to select one of the options in 6.2.3, for a maximum extension under that section of 20 Business Days?

   The first statement is correct. The Public Staff wishes to encourage Parties to resolve matters informally and without the participation of the Public Staff to the greatest extent possible. If the disputing parties agree to a 20-day extension on negotiations, but are unable to resolve the dispute at that time, they may contact the Public Staff for assistance.

b. Proposed Sections 6.2.3 and 6.2.4 are intended to be mutually exclusive options, correct?

   Yes, the phrase in the alternative is intended to indicate that the two sections are mutually exclusive.

c. With respect to proposed Section 6.2.4, does the Public Staff recommend any accreditation or other similar requirements for the dispute resolution service?

+BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-100 SUB 101

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| | ) | NORTH CAROLINA CLEAN |
| In the Matter of | ) | ENERGY BUSINESS ALLIANCE'S |
| Petition for Approval of | ) | RESPONSE TO DUKE ENERGY |
| Generator Interconnection Standards | ) | CAROLINAS, LLC'S AND DUKE |
| | ) | ENERGY PROGRESS, LLC'S FIRST |
| | ) | DATA REQUEST |

The North Carolina Clean Energy Business Alliance provides the following response to Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC ("DEP" and, together with DEC, "Duke") First Data Request in this proceeding.

**DEFINITIONS**

The following definitions apply throughout the discovery request and are deemed to be incorporated therein:

A. "Document" means all written, recorded or graphic matters, however produced or reproduced, pertaining in any manner to the subject of this proceeding, whether or not now in existence, without limiting the generality of the foregoing, all originals, copies and drafts of all writings, correspondence, telegrams, notes or sound recordings of any type of personal or telephone communication, or of meetings or conferences, committee meetings, memoranda, inter-office communications, studies, analyses, reports, results of investigations, reviews, contracts, agreements, working papers, statistical records, ledgers, books of account, vouchers, bank checks, x-ray prints, photographs, films, videotapes, invoices, receipts, computer printouts or other products of computers, computer files, stenographer's notebooks, desk calendars, appointment books, diaries, or other papers or objects similar to any of the foregoing, however denominated. If a document has been prepared in several copies, or additional copies have been made, and the copies are not identical (or which, by reason of subsequent modification of a copy by the addition of notations, or other modifications, are no longer identical) each non-identical copy is a separate "document."

B. "And" or "or" shall be construed conjunctively or disjunctively as necessary to make the requests inclusive rather than exclusive.

C. The terms "you" and "your" refer to (i) NCCEBA and its respective employees, agents, consultants and witnesses who have provided testimony on behalf of the NCCEBA in the above-referenced proceeding; and (i) specific to NCCEBA Witness Christopher Norqual, Cypress Creek Renewables ("CCR") and its respective employees, agents, consultants.

D. The term "person" means any natural person, corporation, corporate division, partnership, other unincorporated association, trust, government agency, or entity.

looking at the transmission level. While CCR understands that process changes and interdependency concerns can explain some delays in study, it appears excessive that a project could be so delayed that 194 later queued projects would be studied and 100 later queued projects would be interconnected sooner.

1-15. On Page 9 of his direct testimony, Witness Norqual asserts that that "it is my understanding that surety bonds are a widely accepted form of performance security that provide utilities with more than adequate assurance that the financial obligations of Interconnection Customers will be met." Please describe the specific circumstances that have been identified by either CCR or NCCEBA in which surety bonds have been accepted as adequate financial security on behalf of an Interconnection Customer. For all such circumstances identified, please include, at a minimum, the following information:

- The utility or entity accepting the surety bond.
- A copy of the surety bond form accepted.
- If no copy of the surety bond form is available, a summary of the key commercial terms of the surety bond.
- Whether the utility or entity accepting the surety bond prescribed a particular surety bond form to be used.
- The payment or performance obligation for which the surety bond was accepted.

**Response:** Witness Norqual's statement that surety bonds are a widely accepted form of performance security is consistent with FERC's rules and guidelines. *See* FERC Order 2003 (in Docket No. RM02-1-000 issued on July 24, 2003) and FERC Order 2006 (in Docket No. RM02-12-000 issued on May 12, 2005), In FERC Orders 2003 and 2006, the FERC states that the Interconnection Customer has the right to select a form of security that is acceptable to the Transmission Provider and that the Transmission Provider cannot unreasonably refuse to accept a particular form. The FERC further stated that granting the Transmission Provider absolute discretion on what forms of security to allow would provide too great an opportunity to erect hurdles to new generation. Furthermore, Section 11.5 of the Standard Large Generator Interconnection Agreement (LGIA) expressly includes a surety bond as a provision of security for Interconnection Facilities.

This remainder of this response is provided **confidentially** pursuant to the Confidentiality Agreements. [redacted]

[redacted]

1-16. On Page 10 of his direct testimony, Witness Norqual asserts that a typical 115KV transmission interconnected project would have a cash carrying cost to CCR of nearly $1 million. Please provide all documents, written materials, analysis, spreadsheets, and workpapers in the possession of CCR or NCCEBA that support this statement.

**Response:** This response is provided **confidentially** pursuant to the Confidentiality Agreements. [redacted]

- [redacted]
- [redacted]
- [redacted]

1-17. On Pages 10-11 of his direct testimony, Witness Norqual asserts that: "Duke should not be permitted to retain the funds (and frequently substantial funds) of Interconnection Customers for Interconnection Facilities if the Interconnection Facilities are not constructed and Duke has not had to incur any costs." Please identify any instance in which Duke has retained the funds of CCR Interconnection Customers for Interconnection Facilities where the Interconnection Facilities were not constructed.

**Response:** Instances where Duke "has not had to incur" costs could be most directly described as projects having submitted interconnection request deposits that have been on hold due to interdependency for months, if not years.

Instances where "Interconnection Facilities are not constructed" could be most directly described as projects having paid millions of dollars within 60 days of receiving an Interconnection Agreement but a large portion of the actual incurred costs occur months, or years, later. Since such a large portion of costs appears to be tied to the procurement of major and/or long lead materials, the original statement was intended to point out that

Duke could invoice months, or years, later if major outlays of cash were not required until that point in the schedule.

1-18. On Pages 15-16 of his direct testimony, Witness Norqual asserts that ratepayers would benefit from adding energy storage to solar facilities.

a. Please provide all documents, written materials, analysis, spreadsheets, and workpapers in the possession of CCR or NCCEBA that support this statement.
b. In the case of any supporting analysis, please specifically identify the price per KWh that was assumed to have been paid for energy discharged from the battery.

**Response:**

Attached is a report entitled *Energy Storage Options for North Carolina*, which was prepared by the NC State Energy Storage Team for the Energy Policy Council and Joint Legislative Commission on Energy Policy. The website at https://energy.ncsu.edu/storage describes the study as "mandated through the NC General Assembly's authorization language from HB 589 (2017)" and notes that the "final report was submitted to the NC General Assembly on December 3, 2018."

Below are some key statements from the report (with PDF page numbers) which support the statement "that ratepayers would benefit from adding energy storage to solar facilities":

- Under House Bill 589, the NC Policy Collaboratory was tasked with producing a report on the value of energy storage to NC consumers (p.4)
- Energy storage can help ensure reliable service, decrease costs to rate payers, and reduce the environmental impacts of electricity production. (p.4)
- With the continued expansion of solar generation in North Carolina, energy storage used for bulk energy time shifting and peak shaving consistently reduces system-wide carbon dioxide emissions. (p.7)
- Energy storage proves to be more cost-effective with higher solar penetrations because low marginal cost solar can be captured and time shifted. (p.7)
- Voltage Control for High Penetrations of Solar… includes the use of storage to aid voltage control in a distribution system with a high penetration of solar PV. Figure 6.2.5 illustrates an example feeder with various PV units connected to the distribution system. The application of energy storage in this section could involve smoothing the output of an intermittent PV source, absorbing PV output during light loading conditions to reduce voltage, and performing peak shaving. Figure 6.2.6 shows an example feeder that experiences overvoltage due to the addition of PV. The fact that the PV system pushes power towards the substation causes a rise in the circuit voltages. Adding energy storage helps to mitigate the overvoltage issue by charging (adding more load) to counteract the voltage increase caused by PV generation. An

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NCSEA Duke Cross Exhibit 1





**DUKE ENERGY CAROLINAS, LLC and DUKE ENERGY PROGRESS, LLC**

**Request:**

Please list and describe all screens that have been added by Duke since the current NCIP revision was adopted in May 2015. The description should include at a minimum:

a. The reasons why the screen was created.
b. The timeline of development.
c. How the screen is actively applied.
d. Results of the screen.

**Response:**

Recognizing that the term "screens" utilized in the question could be interpreted in several ways, the Companies are submitting detailed explanations of the following screens, technical standards, and guidelines adopted since May 2015. The following screens, technical standards, and guidelines accomplish one or more of the following: (1) ensure non-discriminatory treatment of similar interconnection requests, (2) improve efficiency of interconnection reviews and studies, or (3) capture impacts to reliability, power quality, and current and future infrastructure and operating costs to retail electric service customers, whether on the distribution and/or transmission system.

**Circuit Stiffness Review (CSR) – June 2016, revised November 2016**

a) The reasons why the screen was created:

CSR was implemented to determine if an Interconnection Customer is proposing to interconnect in an area that has low grid stiffness on the distribution system and potentially high amounts of DER penetration. Previously, the Companies had documented several locations where it believed that the lack of grid stiffness caused these issues and adversely impacted power quality on the local distribution system. The CSR screen was developed to be an initial indicator if the proposed Generating Facility could potentially cause power quality or grid operation issues. As implemented today, the CSR calculates the value of "Stiffness Factor" similar to that as noted in IEEE 1547.2 and allows the Companies to identify early in the system impact study process whether the lack of grid stiffness could cause system issues if a proposed Generating Facility were interconnected. *See* 3.1.7 and 3.1.8 in the Application Guide for IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems.

b) The timeline of development:

The CSR was announced in June 2016 and was applied to all projects currently in the queue without a signed Interconnection Agreement. Revisions to the CSR policy were subsequently implemented in November 2016, as detailed below.

c) How the screen is actively applied:

The CSR screen determines the stiffness factor of the Generating Facility relative to two points: (1) the point of interconnection (POI) and (2) the substation low side bus. Originally, the CSR screen was applied to define the limits of a DER's capacity at a particular interconnection point. After further consideration, the Companies altered the CSR screening process to be utilized as a trigger for a more extensive analysis, known as Advanced Study. The Advanced Study first consisted of an analysis of both inverter steady state harmonics and transient transformer magnetizing inrush impacts to the circuit. This change to the screening and new study was implemented in November 2016.

After a large enough data set of results from the harmonic assessments was obtained, the inverter steady state harmonics portion of the study was removed from the process in November 2017 and the transient transformer magnetizing inrush impacts analysis was adjusted to be performed for any site over 1 MW in size, rather than based on CSR. The reasoning for these changes was that the inverter steady state harmonic analysis had little value and could therefore be entirely removed, whereas some analyses had revealed that transient impacts of transformer magnetizing inrush could be seen for facilities as small as 1 to 2 MW.

The stiffness factors, however, are still calculated and provided within the System Impact Study, for the potential future value to both the Companies and Interconnection Customers.

d) Results of the screen:

Originally, if an Interconnection Request's stiffness factor was too low—below the set minimum limits—then Interconnection Customers were offered a downsize option in order to pass the CSR screen. CSR was the initial impetus for Duke Energy offering mitigation options to accommodate Interconnection Requests at a smaller size. Today, and as stated above, CSR is calculated and provided within the System Impact Study, for the potential future value to both the Companies and the Interconnection Customers.

**Partial Double Circuit Prohibition – June 2016**

a) The reasons why the screen was created:

Up until the implementation of this policy, "partial dedicated double circuits" were utilized on the existing infrastructure in order for the POI to be electrically located in the first regulated zone to either (1) avoid backfeed of line voltage regulators (LVR) pursuant to the LVR policy which pre-dated the 2015 NCIP revisions, or (2) to mitigate voltage and rapid voltage change issues. In this case, "dedicated" meant that no other class of customer was to be located on this circuit and that it was built strictly for DER facilities (voltage levels were allowed to be +/- 10% around nominal vs. the normal +/- 5% for general distribution). However, the section of circuit was considered as a System Upgrade so as to allow future DER the possibility to connect and/or provide for greater operational flexibility in the future.

The inherent right-of-way (ROW) present for a second circuit on a single-circuit line is a key part of the Companies' area planning approach for their transmission and distribution systems to serve current and future retail customers. Therefore, the Companies determined that double-circuiting can only occur as part of a comprehensive plan to serve area load and not solely as an incremental consideration for an interconnection project.

b) The timeline of development:

This policy was released with the implementation of the CSR in June 2016. The capacity planning team began identifying concerns regarding the use of dedicated partial double circuits several months before this policy was implemented due to the growing number of DER interconnected on circuits in DEP.

c) How the screen is actively applied:

This policy is applied to all projects that had not signed an Interconnection Agreement at the time of implementation. Any project that had progressed to the Interconnection Agreement phase of the NCIP, but had not yet executed an Interconnection Agreement, was allowed to use a dedicated partial double circuits in the event that the System Impact Study needed to be re-reviewed due to the CSR policy implementation.

d) Results of the screen:

When determining mitigation options for issues that arise from generating facilities causing steady state voltage / rapid voltage change issues, or for having a POI beyond a LVR, the Interconnection Customer does not have the option to build a dedicated partial double circuit in order to remediate these issues. Rather, a separate ROW must be identified and utilized. This is true for both a Company-constructed general distribution service line extension or for an Interconnection Customer to construct, own, and operate their own line.

**Regulator Backfeed Evaluation Under The Fast Track Process – October 2016**

a) The reasons why the screen was created:

Due to increasing amounts of net-metering and small sell-all Interconnection Requests, with such requests often for POIs beyond LVRs, an evaluation was needed to investigate whether or not the aggregate of such generating facilities downstream of an LVR could cause backfeed through the LVR. This evaluation was added to the supplemental review process.

b) The timeline of development:

This policy was implemented in October of 2016 and has not been revised since.

c) How the screen is actively applied:

For all net-metering and small sell-all Interconnection Requests, the POIs to the existing infrastructure area are reviewed to determine if the Interconnection Request is downstream of an existing LVR. If so, then the circuit is evaluated at its valley loading conditions to determine if the aggregate generation downstream of a LVR exceeds the loading that the regulator will see with the addition of the new generating facility, resulting in backfeed through that regulator.

d) Results of the screen:

In the event that the addition of proposed generating facility causes backfeed through a LVR, the Distribution Capacity Planning engineer and the DER Technical Standards group are engaged to determine if the regulator affected is in a section which can be characterized as the backbone portion of a circuit with tie capability to other circuits (to receive backfeed power from other circuits), or if it is more truly radial in nature. Backbone circuit sections are generally designed for possible backfeed from other circuits and hence are not well-suited for LVRs to be set to "co-generation mode" (the operating mode which allows backfeed from DERs). This is because "co-generation mode" causes LVRs to misoperate when they are backfed from alternate utility sources (during circuit reconfigurations). Line voltage regulators installed in truly radial sections of line can more readily be changed and left in co-generation mode and hence can continue to properly regulate voltage during backflow periods. Other options, such as downsizing, are also explored, if necessary.

**Anti-Islanding Screening (DEC) Changes – December 2016, revised April 2018**

a) The reasons why the screen was created:

It is a very common occurrence that an Interconnection Request has the output capacity to generate more power than is being consumed by the retail load on the feeder level and even in some cases the substation bank level. As defined in IEEE 1547.4.4, footnote 12, this amount of generation relative to the retail load is a potential cause for an unintentional island lasting more than two seconds. As a result, a review to determine if additional means to address the islanding concern was needed. A screening process was developed in conjunction with the Sandia 2012-1365 report, a technical report which provides general guidance about the relative probability of inadvertent islanding.

b) The timeline of development:

Originally, only generating facilities that were greater than 5MW were reviewed for islanding concerns. In order to better address the islanding risks associated with all sizes of generating facilities, a set of screens and questionnaire were created in order to determine if a particular generating facility required additional protection to address islanding concerns. This questionnaire and screening process was created in July 2016, and was implemented in December 2016. To better refine the screening criteria, a revised policy was introduced on April 17, 2018.

c) How the screen is actively applied:

This screening policy is applied to all projects above 250kW.

d) Results of the screen:

The results of this screen are used to determine whether or not there is an elevated risk of islanding associated with the addition of the relevant generating facility. In the event such an elevated risk is identified, means of mitigating that concern are used, such as additional substation relaying and/or Direct Transfer Trip schemes.

**Rapid Voltage Change Implementation – September 2017**

a) The reasons why the screen was created:

The Rapid Voltage Change ("RVC") screen was implemented to replace the flicker study criteria. There was a growing understanding in the industry that classic "flicker," a perceptibility and irritability dynamic, is not a significant concern, even with typical irradiance volatility at solar facilities, and the Companies decided to replace the flicker study criteria. The greater concern, RVC, became the more prudent focus. The Company noted developments related to flicker and RVC assessment at Xcel Energy in Minnesota, and also in IEEE 1547-2018.

b) The timeline of development:

This policy was first released on September 13, 2017 and was to be applied to all projects where the System Impact Study had not been initiated by October 1, 2017. Also, around the time of the removal of the CSR as a screening mechanism, RVC was also implemented into transformer inrush assessments due to the RVC concern associated with transformer energization, as well as the relative ease of modeling and assessing RVC when modeling for transient transformer energization inrush harmonics.

c) How the screen is actively applied:

RVC is applied to all projects that are studied after the effective date. Projects studied prior to the effective date utilized the original flicker criteria.

d) Results of the screen:

In the event that a generating facility fails the RVC criteria, mitigation methods are used in order to remediate the issue. Mitigation options include system upgrades to the existing infrastructure, alteration in the size of the generating facility, or facility mitigation methods.

**Method of Service Guidelines – October 2017**

a) The reasons why the screen was created:

See the Companies' response to DR 6-1.

b) The timeline of development:

See the Companies' response to DR 6-1.

c) How the screen is actively applied:

See the Companies' response to DR 6-1.

d) Results of the screen:

See the Companies' response to DR 6-1.

**Size Requirement for DER Interconnection Recloser – October 2017**

a) The reasons why the screen was created:

Prior to implementing this policy, there was a classification of primary voltage-interconnected generating facility sizes that were not addressed by existing policies related to protection and ownership of the generating facility. The policies were updated so that there were not any undefined areas which could lead to inconsistent design approaches by the Companies. This undefined area came to light when Interconnection Requests under 1 MW started to enter the queue, requesting connection to the primary side of the distribution system. Therefore, the size requirement for an interconnection recloser was adjusted from 1 MW to 250 kW.

By way of further explanation, for many years the Companies have considered generating facilities 250 kW and greater as "utility scale" in terms of their potential impacts to most distribution circuits. While generating facilities in the size range of 250 kW to 1 MW can have differing configurations, an interconnection recloser in most cases is the most straightforward and cost-effective interconnection design available with current technology which affords the Companies' protection, control, and telemetry requirements.

b) The timeline of development:

This change in policy was implemented on October 30, 2017.

c) How the screen is actively applied:

All interconnection requests in study as of the October 30, 2017 of this change had the change applied to them. For most, the change was simply defining the protection means for the generating facility where it was previously not defined.

d) Results of the screen:

The result of the screen is a proper classification and assignment of Interconnection Facilities requirements.

**"Buffer" Applied To Interrupting Ratings In SIS To Assist With IR Modifications – November 2017**

a) The reasons why the screen was created:

The Generating Facilities are detailed in the circuit analysis models with the equipment that was originally submitted with the Interconnection Request. Often, an Interconnection Customer would submit changes to equipment such as inverters and transformers due to manufacturing constraints or other reasons. The intent of Interconnection Customers in such situations was often to submit a "like kind" change without this triggering a "material modification." As an example, for a 5 MW solar farm, an Interconnection Customer may desire to replace three 1700 kVA inverters (total of 5100 kVA) with three 1800 kVA inverters (total of 5400 kVA), because a manufacturer has stopped making their 1700 kVA inverter. From an Interconnection Customer standpoint, they are purchasing the next closest size, but from the utility perspective, the generating facility equipment ratings have increased, and study results are no longer valid. Therefore, any change to the generating facility's equipment that increases the ratings of the equipment would require previous studies to be done again in order to verify device interrupting rating limitations are not exceeded with the updated equipment. These additional studies that would be needed would adversely impact the timing, and potentially the cost, of the Interconnection Request. The timing of other Interdependent Interconnection Requests with higher Queue Numbers would also be impacted due to the delay caused by the restudies needed. Size reductions would not typically result in a need for a restudy, but size increases were more common than reductions. As a solution, the Company implemented a "buffer" into the generating facility design and the criteria for when available fault current might exceed local equipment interrupting ratings, such that changes such as those described would likely not trigger any material modification provisions.

It should also be noted that the Companies utilized the new Technical Standards Review Group (TSRG) meetings to discuss and communicate this new procedure; this was done at the first TSRG meeting held in April 2018.

b) The timeline of development:

Internal discussions for this policy began at the beginning of November of 2017. This policy was rolled out for implementation at the end of November of 2017.

c) How the screen is actively applied:

For all projects that had not completed a System Impact Study by the end of November 2017, a 5% buffer was applied to the interrupting ratings of the protective devices, meaning that if the expected fault contribution from a generating facility caused the available fault current at a protective device to exceed 95% of its interrupting rating the Interconnection Customer would be responsible for the costs to upgrade the device. This would allow for up to a 20% increase in the ratings of the generating facility without it being constituted as material modification.

d) Results of the screen:

If the Interconnection Customer proposes to increase the ratings of their inverters and/or transformers greater than 20% of their originally submitted design then the modification request is deemed material. Any proposal less than or equal to 20% would not be deemed material.

**Inclusion of DER Interconnection Recloser Installation In Supplemental Review – December 2017**

a) The reasons why the screen was created:

This policy was implemented in an effort to keep certain primary side connected sell-all Interconnection Requests in the Section 3 Fast Track/Supplemental Review process versus having them proceed directly to the Section 4 study process. "Primary side connected sell-all" refers to projects with power purchase agreements (not net metered) which are designed by the Interconnection Customer to connect at primary distribution voltage (e.g., 12.47 kV, 22.86 kV, etc.).

Prior to this, these projects had proceeded directly to the Section 4 study process. This was due to the Companies' requirement of an interconnection recloser for these projects. Such reclosers must include an overcurrent protection element, which by extension necessitates a detailed protection/coordination study. Detailed protection/coordination studies had always been considered only appropriate for the Section 4 study process due to the time & complexity of such studies. It was later decided, however, that the additional time needed for the detailed protection/coordination study may be manageable under the Supplemental Review process since the engineering time is still directly assignable to the Interconnection Customer, and that avoiding any extra time associated with the Section 4 study process could be beneficial for all Interconnection Customers and the Companies.

b) The timeline of development:

This policy was implemented in December of 2017.

c) How the screen is actively applied:

Any Fast Track Interconnection Request that is submitted, as of the implementation date, that would normally require an interconnection recloser by Company standards is allowed to remain in the Fast Track process and potentially offered a Supplemental Review as determined on a case by case basis. The protection/coordination study that would be required is performed in the Supplemental Review.

Generally, generating facilities that are connecting to the primary side of the distribution system in the Fast Track process are reviewed to determine if all of the protective devices upstream of the requested POI are three phase reclosers equipped with telemetry. If so, then the request can be considered within the Supplemental Review process. If not, then the additional changes necessary on the circuit to replace protective devices with the appropriate three phase reclosers will require additional protection/coordination review and hence must move to the Section 4 study process due to the complexity involved.

d) Results of the screen:

This policy allows a greater number of Interconnection Requests to remain in the Fast Track process and avoids unnecessary delays that would result from moving the proceed into the Section 4 study process.

Provided by: John W. Gajda, P.E., former Director, DER Technical Standards

**DUKE ENERGY CAROLINAS, LLC and DUKE ENERGY PROGRESS, LLC**

**Request**:

Please provide a narrative to describe the processes used by DEC and DEP (jointly, "Duke") to implement changes to their currently established Good Utility Practice. The narrative should include at a minimum:

a. Any metrics that would trigger or cause a change consideration such as; budget impact, events per mile, etc.
b. The approval process for a revision to the then current level/implementation to Good Utility Practice,
c. The levels of leadership and or management included in the process to approve a change/revision to Good Utility Practice.
d. An example of a recent change and or implementation of a revision to Good Utility Practice internal to the Company as it pertains to the interconnection process.

**Response**:

With respect to implementing Good Utility Practice under the NC Interconnection Procedures:
(a) The Company's goal is to safely and reliably interconnect utility-owned and third-party DER facilities while maintaining other aspects of the utility planning and power delivery operations as unchanged as possible in terms of: (1) reliability, (2) power quality, and (3) current and future infrastructure and operating costs to retail electric service customers. Observed adverse impacts or potential impacts to any of these factors could trigger the need to consider changes to the Company's implementation of Good Utility Practice. The Companies also stay abreast of developments around interconnecting and integrating DER within the electric industry, especially in the Southeast region, to assess whether any differing interconnection practices of other utilities may be reasonable for DEC and DEP to adopt, while also recognizing the unique circumstances associated with the unparalleled number of unplanned third-party multi-MW DER generating facilities proposing to interconnect to the Companies' distribution and transmission system in North Carolina.

(b) The approval process for a revision to Good Utility Practice first involves a recognition of any of the three factors mentioned above by various internal subject matter experts (SMEs) (*e.g.* engineers in charge of power quality, reliability, distribution or transmission planning, etc.).

Once there is a recognition of observed impacts or there is an understanding of the potential for impacts, these same parties will typically involve any additional internal SMEs, as necessary to evaluate the issue. These parties meet to review and discuss the observed or potential impact to reliability, power quality, or operating costs, as discussed above, consider whether changes to Company practices are warranted, and consider what such changes may be necessary. In recent years, the Company's DER Technical Standards group is typically one of the groups involved in this process, along with groups such as, but not limited to, Distribution Planning, Transmission Planning, System Operations, Distribution PQR&I (Power Quality Reliability & Integrity), Distribution Standards, Distribution Grid Management, etc. This discussion will typically include consideration for practices of other utilities, to the degree this can be reasonably assessed (sometimes this is difficult since few other utilities are experiencing the large scale of unplanned multi-MW interconnections as we are in the Carolinas).

A change to Good Utility Practice is not taken lightly; rather, changes are weighed (like any engineering decision) in terms of the benefits and advantages of changing Company practices, vs. whatever costs, impacts, and disadvantages may also be incurred due to the change by retail customers, interconnection customers, or the Company. It is also worth mentioning that the vast majority of engineers within Duke Energy at Senior Engineer, Lead Engineer, or Principal Engineer level are licensed professional engineers in at least one state. These are the engineering levels involved in such decisions.

To "pass muster" as a necessary change: (1) an assessment must identify that without the change, one or more of the three factors will be sufficiently negatively impacted, and that (2) with the change, any disadvantages do not outweigh the benefit. This evaluation generally aligns with the definition of Good Utility Practice in the NC Procedures, which contemplates that the utility may assess whether the practice at issue accomplishes the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition.

(c) Once recommendations have been developed regarding changes to the Company's technical policies and implementation of Good Utility Practice, typically in the form of a written document (either new or a revision to some existing technical document), some number of the same parties mentioned above, typically licensed engineers, consider which members of Company management may need to weigh in and approve the change. In some cases, only the approval of Distribution Planning will be required. In other cases, approval from both Transmission and Distribution Planning, along with Distribution Standards and Distribution Grid Management, etc. may be required.

(d) The creation and implementation of the Method of Service Guidelines is an example of this general process. Over a period of time starting in early 2017 and extending through the publishing of the Guidelines in October of 2017, various discussions amongst engineers in the DER Technical Standards group, Transmission Planning, Distribution Planning, and the interconnection study group took place, as concerns were being identified about the scalability of multiple aspects of multi-MW DER facilities interconnecting on the distribution & transmission system. Such concerns included the following:

• DER Technical Standards and Distribution Planning had growing concerns with the practice of interconnecting facilities in excess of 10 MW onto the distribution system. Interconnections > 10 MW on distribution appeared to be rather uncommon in the industry, and there was concern about impacts to substation voltage regulation and other unknown impacts.

• DER Technical Standards also had growing concerns regarding the substation penetration levels in DEP, and the potential for high levels of substation backfeed with unknown impacts to substation transformers and the transmission system.

• Transmission Planning was, at the same time, also developing concerns about impacts to transmission reliability if a ">10 MW restriction" on distribution interconnections would cause a number of "small" (> 10 MW, up through ~ 20 MW) interconnections to the transmission system. Specifically, concerns were raised about the potential reliability and operational impacts of directly interconnecting multiple generating facilities by "tapping" a single transmission line at multiple points, as that practice can degrade reliability of the line. In addition to increasing risks to power quality and reliability and potentially increasing infrastructure and operating costs, managing many small interconnections on the transmission system was not a sustainable practice for transmission from an operational perspective.

• Distribution Planning had raised the concern that the use of "partial double circuits" to connect DER facilities ahead of line voltage regulators was starting to impair or close off distribution system planning options by preventing future single-to-double circuit conversions, which is a common way to economically serve changing load patterns especially in areas of retail customer load growth.

- The previously-established line voltage regulator or "LVR policy" had recently been created prior to the overall Method of Service Guidelines as an internal document (which had followed a similar process and had gotten approval through Distribution management). Hence, the decision was made to subsume the LVR policy into the overall Method of Service Guidelines so as to improve transparency regarding this policy for Interconnection Customers and other external stakeholders.

In summary, in this example, the DER Technical Standards group created a document that identified sustainable practices around interconnection to assure continued operation of an effective distribution system with unimpacted reliability, power quality, and cost. The Method of Service Guidelines document also presents consistent and sustainable methods for interconnection of utility-scale DER facilities, such as 5 MW solar farms, that can be refined and updated, as needed, into the future.

Initial discussions took place between John Gajda, as the Director of DER Technical Standards, and several engineers in DEP & DEC Transmission Planning & Distribution Planning, resulting in the development of the "T", "S", and "D" interconnection categories. John Gajda proceeded to draft the remainder of the document in several iterations, all the while conferring with Transmission Planning, Distribution Planning, and the interconnection study group, and at least the first level of management for each of these groups.

There was much consideration about the impacts of these Guidelines to DER projects, to assure the Companies were proceeding reasonably and that the concerns identified warranted implementing the Guidelines for existing interconnection customers as well as new. As examples, some of the general considerations were as follows:

- Limiting projects to 10 MW on distribution was identified as not "out of line" with the industry. For instance, the most recent IEEE 1547-2003 had always had a scope which did not exceed 10 MW. Also, from discussions with other utilities, interconnections in excess of 10 MW to the distribution system were extremely uncommon in the industry, especially at circuit voltages comparable to the DEC and DEP distribution systems (up to 34.5 kV).

- Furthermore, limiting utility-scale project penetration to the ONAN rating of the substation would not only bring DEC & DEP into alignment on practices, it also appeared to mostly align with Dominion's practices as well. Our conversations with others in the industry around "limiting sizes and penetration levels" per feeder and per substation revealed that many utilities had not had consider this issued because such utilities were not experiencing the same high penetration levels as DEP and DEC. The Companies had valid concerns over one of the most critical and expensive assets in the T&D system – the retail substation transformer. Without establishment of that criteria, DER Technical Standards was not comfortable with the risk that DEP was assuming in this area. Criteria could always be adjusted in the future as the industry developed better understanding, but going the opposite direction with criteria after impacts had started to occur would be extremely difficult.

- While Duke recognized that the prohibition on partial double circuit construction could have significant impacts to some DER projects, no viable alternatives were identified that would not impact one of the three critical factors. Ultimately, DER Technical Standards and other SME organizations determined that unless major changes were to take place in how the utility's distribution system is designed and operated, multi-MW DER such as 5 MW solar farms really only made functional sense when interconnected very close to the substation, in the first zone of regulation.

Ultimately, in August 2017, the near final draft was presented to the Distribution Operations and Reliability Committee, which unanimously approved the policy. The DER Technical Standards group and the Distribution interconnection study group then proceeded to work on implementation plans, which ultimately resulted in the final publishing of the Method of Service Guidelines and the associated Implementation Matrix in September 2017. Multiple stakeholder meetings were also held in September 2017 to explain the new Method of Service Guidelines.

Provided by: John W. Gajda, P.E., former Director, DER Technical Standards

I/A

Duke Cross Exhibit __

NCSEA Duke Cross Exhibit 2





Monday, February 25, 1980

**DEPARTMENT OF ENERGY**

**Federal Energy Regulatory Commission**

**18 CFR Part 292**

**[Docket No. RM79-55, Order No. 69]**

**Small Power Production and Cogeneration Facilities; Regulations Implementing Section 210 of the Public Utility Regulatory Policies Act of 1978**

**AGENCY:** Federal Energy Regulatory Commission.

**ACTION:** Final rule.

**SUMMARY:** The Federal Energy Regulatory Commission hereby adopts regulations that implement section 210 of the Public Utility Regulatory Policies Act of 1978 (PURPA). The rules require electric utilities to purchase electric power from and sell electric power to qualifying cogeneration and small power production facilities, and provide for the exemption of qualifying facilities from certain federal and State regulation. Implementation of these rules is reserved to State regulatory authorities and nonregulated electric utilities.

**EFFECTIVE DATE:** March 20, 1980.

**FOR FURTHER INFORMATION CONTACT:**

Ross Ain, Office of the General Counsel, Federal Energy Regulatory Commission, 825 North Capitol Street, N.E., Washington, D.C. 20426, 202-357-8446.

John O'Sullivan, Office of the General Counsel, Federal Energy Regulatory Commission, 825 North Capitol Street, N.E., Washington, D.C. 20426, 202-357-8477.

Adam Wenner, Office of the General Counsel, Federal Energy Regulatory Commission, 825 North Capitol Street, N.E., Washington, D.C. 20426, 202-357-8033.

Bernard Chew, Office of Electric Power Regulation, Federal Energy Regulatory Commission, 825 North Capitol Street, N.E., Washington, D.C. 20426, 202-376-9264.

**SUPPLEMENTARY INFORMATION:**

Issued February 19, 1980.

Section 210 of the Public Utility Regulatory Policies Act of 1978 (PURPA) requires the Federal Energy Regulatory Commission (Commission) to prescribe rules as the Commission determines necessary to encourage cogeneration and small power production, including rules requiring electric utilities to purchase electric power from and sell electric power to cogeneration and small power production facilities. Additionally, section 210 of PURPA authorizes the Commission to exempt qualifying facilities from certain Federal and State law and regulation.

Under section 201 of PURPA, cogeneration facilities and small power production facilities which meet certain standards and which are not owned by persons primarily engaged in the generation or sale of electric power can become qualifying facilities, and thus become eligible for the rates and exemptions set forth under section 210 of PURPA.

Cogeneration facilities simultaneously produce two forms of useful energy, such as electric power and steam. Cogeneration facilities use significantly less fuel to produce electricity and steam (or other forms of energy) than would be needed to produce the two separately. Thus, by using fuels more efficiently, cogeneration facilities can make a significant contribution to the Nation's effort to conserve its energy resources.

Small power production facilities use biomass, waste, or renewable resources, including wind, solar and water, to produce electric power. Reliance on these sources of energy can reduce the need to consume traditional fossil fuels to generate electric power.

Prior to the enactment of PURPA, a cogenerator or small power producer seeking to establish interconnected operation with a utility faced three major obstacles. First, a utility was not generally required to purchase the electric output, at an appropriate rate. Secondly, some utilities charged discriminatorily high rates for back-up service to cogenerators and small power producers. Thirdly, a cogenerator or small power producer which provided electricity to a utility's grid ran the risk of being considered an electric utility and thus being subjected to State and Federal regulation as an electric utility.

Sections 201 and 210 of PURPA are designed to remove these obstacles. Each electric utility is required under section 210 to offer to purchase available electric energy from cogeneration and small power production facilities which obtain qualifying status under section 201 of PURPA. For such purchases, electric utilities are required to pay rates which are just and reasonable to the ratepayers of the utility, in the public interest, and which do not discriminate against cogenerators or small power producers. Section 210 also requires electric utilities to provide electric service to qualifying facilities at rates which are just and reasonable, in the public interest, and which do not discriminate against cogenerators and small power producers. Section 210(e) of PURPA provides that the Commission can exempt qualifying facilities from State regulation regarding utility rates and financial organization, from Federal regulation under the Federal Power Act (other than licensing under Part I), and from the Public Utility Holding Company Act.

## I. Procedural History

On June 26, 1979, in Docket No. RM79-54,[1] the Commission issued proposed rules to determine which cogeneration and small power production facilities may become "qualifying" cogeneration or small power production facilities under section 201 PURPA. Such qualifying facilities are entitled to avail themselves of the rate and exemption provisions under section 210 of PURPA; and qualifying cogeneration facilities are eligible for exemption from incremental pricing under Title II of the Natural Gas Policy Act of 1978.[2] The Commission will soon issue a final rule in Docket No. RM79-54.

As part of the rulemaking process in this docket, the Commission issued a Staff Discussion Paper[3] on June 27, 1979, addressing issues arising under section 210 of PURPA.

Public hearings on RM79-54 and the Staff Discussion Paper (RM79-55) were held in San Francisco on July 23, 1979, Chicago on July 27, 1979, and Washington, D.C. on July 30, 1979. Written comments were also received.

On October 18, 1979, the Commission issued a Notice of Proposed Rulemaking under Section 210 of PURPA in Docket No. RM79-55.[4] On October 19, 1979, the Commission made available its preliminary Environmental Assessment (EA) of the proposed rules in Docket Nos. RM79-54 and RM79-55. In a Request for Further Comments,[5] the Commission requested further public comment on both proposed rules, and on the findings set forth in the preliminary EA. In order to obtain the data, views, and arguments of interested parties, the Commission Staff held public hearings in Seattle on November 19, 1979, in New York on November 28, 1979, in Denver on November 30, 1979, and in Washington, D.C. on December 4 and 5, 1979. The Commission also received written comment.

After consideration of the comments, the Commission Staff made available a final draft rule on January 29, 1980. State public utility commissioners were invited to comment on the draft at a public meeting held on February 5, 1980. Representatives of electric utilities were invited to comment at a public meeting held on February 8, 1980. The Commission Staff also made itself available to any other interested parties who wished to comment. All of the comments were considered in the formulation of this final rule.

In the Staff Discussion Paper and the Request for Further Comments, it was stated that any environmental effects attributable to this program would result from the combined effect of these two rulemaking proceedings. As noted previously, the Commission intends to issue final rules in Docket No. RM79-54 in the near future. At that time, the Commission will also make available its final Environmental Assessment.

## II. Summary

These rules provide that electric utilities must purchase electric energy and capacity made available by qualifying cogenerators and small power producers at a rate reflecting the cost that the purchasing utility can avoid as a result of obtaining energy and capacity from these sources, rather than generating an equivalent amount of energy itself or purchasing the energy or capacity from other suppliers. To enable potential cogenerators and small power producers to be able to estimate these avoided costs, the rules require electric utilities to furnish data concerning present and future costs of energy and capacity on their systems.

These rules also provide that electric utilities must furnish electric energy to qualifying facilities on a nondiscriminatory basis, and at a rate that is just and reasonable and in the public interest; and that they must provide certain types of service which may be requested by qualifying facilities to supplement or back up those facilities' own generation.

[1] 44 FR 38873, July 3, 1979.

[2] 44 FR 65744, November 15, 1979.

[3] 44 FR 38863, July 3, 1979.

[4] 44 FR 61190, October 24, 1979.

[5] 44 FR 61977, October 29, 1979.

The rule exempts all qualifying cogeneration facilities and certain qualifying small power production facilities from certain provisions of the Federal Power Act, from all of the provisions of the Public Utility Holding Company Act of 1935 related to electric utilities, and from State laws regulating electric utility rates and financial organization.

The implementation of these rules is reserved to the State regulatory authorities and nonregulated electric utilities. Within one year of the issuance of the Commission's rules, each State regulatory authority or nonregulated utility must implement these rules. That implementation may be accomplished by the issuance of regulations, on a case-by-case basis, or by any other means reasonably designed to give effect to the Commission's rules.

## III. Section-by-Section Analysis

### *Subpart A—General Provisions*

### *§ 292.101 Definitions.*

This section contains definitions applicable to this part of the Commission's rules. Paragraph (a) provides that terms defined in PURPA have the same meaning as they have in PURPA, unless further defined in this part of the Commission's regulations. The definitions in PURPA are found in section 3 of that Act.

Subparagraph (1) defines a qualifying facility as a cogeneration or small power production facility which is a qualifying facility under Subpart B of the Commission's regulations. Those regulations implement section 201 of PURPA, and are the subject of Docket No. RM79-54.

Subparagraph (2) defines "purchase" as the purchase of electric energy or capacity or both from a qualifying facility by an electric utility.

Subparagraph (3) defines "sale" as the sale of electric energy or capacity or both by an electric utility to a qualifying facility.

In the proposed rule, subparagraph (4) defined "system emergency" as a condition on a utility's system "which is likely to result in disruption of service to a significant number of customers or is likely to endanger life or property." In response to comments noting the difficulty in determining what constitutes a "significant number" of customers, the Commission has amended the definition to "a condition on an electric utility's system which is likely to result in imminent significant disruption of service to customers, or is imminently likely to endanger life or property." The emphasis is placed on the significance of the disruption of service, rather than on the number of customers affected.

Subparagraph (5) defines "rate" as any price, rate, charge, or classification made, demanded, observed or received with respect to the sale or purchase of electric energy or capacity, or any rule, regulation, or practice respecting any such rate, charge, or classification, and any contract pertaining to the sale or purchase of electric energy or capacity.

In the proposed rule, subparagraph (6) defined "avoided costs" as the costs to an electric utility of energy or capacity, or both which, but for the purchase from a qualifying facility, the electric utility would generate or construct itself or purchase from another source. This definition is derived from the concept of "the incremental cost to the electric utility of alternative electric energy" set forth in section 210(d) of PURPA. It includes both the fixed and the running costs on an electric utility system which can be avoided by obtaining energy or capacity from qualifying facilities.

The costs which an electric utility can avoid by making such purchases generally can be classified as "energy" costs or "capacity" costs. Energy costs are the variable costs associated with the production of electric energy (kilowatt-hours). They represent the cost of fuel, and some operating and maintenance expenses. Capacity costs are the costs associated with providing the capability to deliver energy; they consist primarily of the capital costs of facilities.

If, by purchasing electric energy from a qualifying facility, a utility can reduce its energy costs or can avoid purchasing energy from another utility, the rate for a purchase from a qualifying facility is to be based on those energy costs which the utility can thereby avoid. If a qualifying facility offers energy of sufficient reliability and with sufficient legally enforceable guarantees of deliverability to permit the purchasing electric utility to avoid the need to construct a generating unit, to build a smaller, less expensive plant, or to reduce firm power purchases from another utility, then the rates for such a purchase will be based on the avoided capacity and energy costs.

The Commission has added the term "incremental" to modify the costs which an electric utility would avoid as a result of making a purchase from a qualifying facility. Under the principles of economic dispatch, utilities generally turn on last and turn off first their generating units with the highest running cost. At any given time, an economically dispatched utility can avoid operating its highest-cost units as a result of making a purchase from a qualifying facility. The utility's avoided incremental costs (and not average system costs) should be used to calculate avoided costs. With regard to capacity, if a purchase from a qualifying facility permits the utility to avoid the addition of new capacity, then the avoided cost of the new capacity and not the average embedded system cost of capacity should be used.

Many comments noted that the definition of "avoided cost" in the proposed rule failed to link the capacity costs which a utility might avoid as a result of purchasing electric energy or capacity or both from a qualifying facility with the energy costs associated with the new capacity. If the Commission required electric utilities to base their rates for purchases from a qualifying facility on the high capital or capacity cost of a base load unit and, in addition, provided that the rate for the avoided energy should be based on the high energy cost associated with a peaking unit, the electric utilities' purchased power expenses would exceed the incremental cost of alternative electric energy, contrary to the limitation set forth in the last sentence of section 210(b).

One way of determining the avoided cost is to calculate the total (capacity and energy) costs that would be incurred by a utility to meet a specified demand in comparison to the cost that the utility would incur if it purchased energy or capacity or both from a qualifying facility to meet part of its demand, and supplied its remaining needs from its own facilities. The difference between these two figures would represent the utility's net avoided cost. In this case, the avoided costs are the excess of the total capacity and energy cost of the system developed in accordance with the utility's optimal capacity expansion plan,[6] *excluding* the qualifying facility, over the total capacity and energy cost of the system (before payment to the qualifying facility) developed in accordance with the utility's optimal capacity expansion plan *including* the qualifying facility.[7]

Subparagraph (7) defines "interconnection costs" as the reasonable costs of connection, switching, metering, transmission, distribution, safety provisions and

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[6] An optimal capacity expansion plan is the schedule for the addition of new generating and transmission facilities which, based on an examination of capital, fuel, operating and maintenance costs, will meet a utility's projected load requirements at the lowest total cost.

[7] Throughout the rule and preamble, the phrase "energy or capacity" is used. This phrase is intended to include the capacity and energy costs associated with the capacity, if the purchase involves both energy or capacity.

administrative costs incurred by the electric utility directly related to the installation and maintenance of the physical facilities necessary to permit interconnected operations with a qualifying facility, to the extent such costs are in excess of the corresponding costs which the electric utility would have incurred if it had not engaged in interconnected operations, but instead generated an equivalent amount of energy itself or purchased an equivalent amount of electric energy or capacity from other sources. Interconnection costs do not include any costs included in the calculation of avoided costs.

The Commission has clarified this definition to include distribution and administrative costs associated with the interconnected operation, in response to comments indicating that the proposed rule was vague in these respects. This definition is designed to provide the State regulatory authorities and nonregulated electric utilities with the flexibility to ensure that all costs which are shown to be reasonably incurred by the electric utility as a result of interconnection with the qualifying facility will be considered as part of the obligation of the qualifying facility under § 292.306. These costs may include, but are not limited to, operating and maintenance expenses, the costs of installation of equipment elsewhere on the utility's system necessitated by the interconnection, and reasonable insurance expenses. However, the Commission does not expect that litigation expenses incurred by the utility involving this section will be considered a legitimate interconnection cost to be borne by the qualifying facility.

Certain interconnection costs may be incurred as a result of sales from a utility to a qualifying facility. The Commission notes that the Joint Explanatory Statement of the Committee of Conference (Conference Report) prohibits the use of "unreasonable rate structure impediments, such as unreasonable hook up charges or other discriminatory practices . . ." [8] This prohibition is reflected in § 292.306(a) of these rules, which provides that interconnection costs must be assessed on a nondiscriminatory basis with respect to other customers with similar load characteristics.

A qualifying facility which is already interconnected with an electric utility for purposes of sales may seek to establish interconnection for the purpose of utility purchases from the qualifying facility. In this case, the qualifying facility may have compensated the utility for its interconnection costs with respect to sales to the qualifying facility, either as part of the utility's demand or energy charges, or through a separate customer charge. If this is the case, the interconnection costs associated with the purchase include only those additional interconnection expenses incurred by the electric utility as a result of the purchase, and do not include any portion of the interconnection costs for which the qualifying facility has already paid through its retail rates.

One comment recommended that the definition be revised to cover "all identifiable costs, including but not limited to, the costs of interconnection . . . resulting from interconnected operation". The Commission rejects this suggestion in order to maintain consistency with its initial determination to separate the utility's avoided costs with regard to purchases from qualifying facilities, from the costs incurred as a result of interconnection with a qualifying facility. Accordingly, legitimate costs not recovered pursuant to this section can be netted out in the calculation of avoided costs.

This definition also incorporates the concept from the proposed rule, as clarified in an erratum notice,[9] that these costs are limited to the net increased interconnection costs imposed on an electric utility compared to those interconnection costs it would have incurred had it generated the energy itself or purchased an equivalent amount of energy or capacity from another source.

This section of the rule contains definitions of "supplementary power", "back-up power", "interruptible power", and "maintenance power" which did not appear in the proposed rule.

Subparagraph (8) defines "supplementary power" as electric energy or capacity, supplied by an electric utility, regularly used by a qualifying facility in addition to that which the facility generates itself.

Subparagraph (9) defines "back-up power" as electric energy or capacity supplied by an electric utility to replace energy ordinarily generated by a facility's own generation equipment during an unscheduled outage of the facility.

Subparagraph (10) defines "interruptible power" as electric energy or capacity supplied by an electric utility subject to interruption by the electric utility under specified conditions.

Subparagraph (11) defines "maintenance power" as electric energy or capacity supplied by an electric utility during scheduled outages of the qualifying facility.

### *Subpart C—Arrangements Between Electric Utilities and Qualifying Cogeneration and Small Power Production Facilities Under Section 210 of the Public Utility Regulatory Policies Act of 1978*

*§ 292.301 Scope.*

Section 292.301(a) describes the scope of Subpart C of Part 292 of the Commission's rules. Subpart C applies to sales and purchases of electric energy or capacity between qualifying cogeneration or small power production facilities and electric utilities, and actions related to such sales and purchases. Section 292.301(b)(1) provides that this subpart does not preclude negotiated agreements between qualifying cogenerators or small power producers and electric utilities which differ from rates, or terms or conditions which would otherwise be required under the subpart. Paragraph (b)(2) states that this subpart does not affect the validity of any contract entered into between a qualifying facility and an electric utility for any purchase.[10]

Paragraph (b)(1) reflects the Commission's view that the rate provisions of section 210 of PURPA apply only if a qualifying cogenerator or small power production facility chooses to avail itself of that section. Agreements between an electric utility and a qualifying cogenerator or small power producer for purchases at rates different than rates required by these rules, or under terms or conditions different from those set forth in these rules, do not violate the Commission's rules under section 210 of PURPA. The Commission recognizes that the ability of a qualifying cogenerator or small power producer to negotiate with an electric utility is buttressed by the existence of the rights and protections of these rules.

Some comments stated that paragraph (b)(2) would unfairly penalize cogenerators and small power producers who, prior to the promulgation of these regulations, entered into binding contracts with electric utilities under less favorable terms than might be obtainable under these rules. The Commission interprets its mandate under section 210(a) to prescribe "such rules as it determines necessary to encourage cogeneration and small

[8] Conference Report on H.R. 4018, Public Utility Regulatory Policies Act of 1978, H. Rep. No. 1750, 95th Cong., 2d Sess. (1978).

[9] 44 FR 63114, November 2, 1979.

[10] The term "purchase" is defined in § 292.101(b)

power production * * *" to mean that the total costs to the utility and the rates to its other customers should not be greater than they would have been had the utility not made the purchase from the qualifying facility or qualifying facilities. That a cogeneration or small power production facility entered into a binding contractual arrangement with an electric utility indicates that it is likely that sufficient incentive existed, and that the further encouragement provided by these rules was not necessary. As a result, the Commission has not revised this provision.

*§ 292.302 Availability of electric utility system cost data.*

As the Commission observed in the Notice of Proposed Rulemaking, in order to be able to evaluate the financial feasibility of a cogeneration or small power production facility, an investor needs to be able to estimate, with reasonable certainty, the expected return on a potential investment before construction of a facility. This return will be determined in part by the price at which the qualifying facility can sell its electric output. Under § 292.304 of these rules, the rate at which a utility must purchase that output is based on the utility's avoided costs, taking into account the factors set forth in paragraph (e) of that section. Section 292.302 of these rules is intended by the Commission to assist those needing data from which avoided costs can be derived. It requires electric utilities to make available to cogenerators and small power producers data concerning the present and anticipated future costs of energy and capacity on the utility's system.

In the preamble to the proposed rule, the Commission stated that most electric utilities will have prepared data containing some of this information in compliance with the Commission's rules implementing section 133 of PURPA. Several commenters observed that the marginal cost data required to be provided pursuant to section 133 cannot be directly translated into a rate for purchases. The Commission has clarified paragraph (b) to emphasize that these data are not intended to represent a rate for purchases from qualifying facilities. Rather, these data are to be considered the first step in the determination of such a rate.

The Commission has also revised this section so that the rates for purchases can be more readily calculated from the data produced. The Commission has changed paragraph (b)(3) to provide that a utility shall submit the associated energy cost of each planned unit expressed in kilowatt-hours (kWh) along with the estimated capacity cost of planned capacity additions. This change is intended to ensure that the calculation of avoided costs includes the lower energy costs that might be associated with the new capacity. The Commission points out that the determination of a rate for purchases from a qualifying facility which enables a utility to defer or avoid the addition of a new unit must also reflect the hours of expected use of the deferred or avoided capacity addition.

The coverage under paragraph (a) of this section is the same as that provided pursuant to section 133 of PURPA and the Commission's rules implementing that section.[11] As noted in the Notice of Proposed Rulemaking, section 133 of PURPA applies to each electric utility whose total sales of electric energy for purposes other than resale exceeded 500 million kWh during any calendar year beginning after December 31, 1975, and before the immediately preceding calendar year.

Paragraph (b) provides that each regulated electric utility meeting the requirements of paragraph (a) must furnish to its State regulatory authority, and maintain for public inspection, data related to the costs of energy and capacity on the electric utility's system. Each nonregulated electric utility also must maintain such data for public inspection.

In response to comments received, the Commission has extended the date by which these data must be first provided to November 1, 1980, and changed the second date to May 31, 1982, to conform to the dates required by the Commission's regulations implementing section 133 of PURPA. The Commission has added paragraph (d) to allow a State regulatory authority or nonregulated utility to use a different approach than that provided in paragraph (b). As part of that substitute program, a State regulatory authority or nonregulated electric utility could provide that cost data be updated more frequently than every two years.

Subparagraph (1) of paragraph (b) requires each electric utility to provide the estimated avoided cost of energy on its system for various levels of purchases from qualifying facilities. The levels of purchases are to be stated in blocks of not more than 100 megawatts for systems with peak demand of 1000 megawatts or more, and in blocks equivalent to not more than ten percent of system peak demand for systems less than 1000 megawatts. This information is to be stated on a cents per kilowatt-hour basis, for daily and seasonal peak and off-peak periods, for the current calendar year and for each of the next five years.

Subparagraph (2) of paragraph (b) requires each electric utility to provide its schedule for the addition of capacity, planned purchases of firm energy and capacity, and planned capacity retirements for each of the next ten years.

Subparagraph (3) of paragraph (b) has been revised, as discussed previously, so that the costs of planned capacity additions include the associated energy costs.

The Commission received comment noting that some States have implemented or are planning to implement alternative methods by which electric utilities' system cost data would be made available. In order to prevent the preparation of duplicative data where the alternative method substantially deviates from the Commission approach, the Commission has added paragraph (d). This paragraph provides that any State regulatory authority or nonregulated electric utility may, after providing public notice in the area served by the utility and after opportunity for public comment, require data different than that which are otherwise required by this section if it determines that avoided costs can be derived from such data. Any State regulatory authority or nonregulated utility shall notify the Commission within 30 days of any determination to sustitute data requirements.

If a qualifying facility finds that the alternative requirements do not provide sufficient data from which avoided costs may be derived, the qualifying facility may seek court review of the matter as it can with regard to any other aspect of the State's implementation of this program.

A qualifying facility may wish to sell energy or capacity to an electric utility which is not subject to the reporting requirements of paragraph (b). In that event, paragraph (c) provides that, upon request of a qualifying facility, an electric utility not otherwise covered by paragraph (b) must provide data sufficient to enable the cogenerator or small power producer to estimate the utility's avoided costs. If such utility does not supply the requested data, the qualifying facility may apply to the State regulatory authority which has ratemaking authority over the utility or to this Commission for an order requiring that the information be supplied. The consideration of such applications should take into account the burden imposed on the small utilities.

[11] 44 FR 58687, October 11, 1979.

An electric utility which is legally obligated to obtain all of its requirements for electric energy and capacity from another utility may provide the data provided by its supplying utility and the rates at which it currently purchases such energy and capacity for any period during which this obligation will continue. The wholesale rates may require adjustment in order to reflect properly the avoided costs. This is discussed later in this preamble under § 292.303. In the case of small, non-generating utilities, the requirements of this section will be considered to have been satisfied if these cost data are readily available from the supplying utility.

Numerous comments mentioned that the proposed rule did not address the issue of validation of the data to be provided pursuant to this section. As a result, the Commission has added paragraph (e) which provides that any data submitted by an electric utility under this section shall be subject to review by its State regulatory authority. Paragraph (e)(2) places the burden of providing support for the data on the utility supplying the data.

**§ 292.303 Electric utility obligations under this subpart.**

Section 210(a) of PURPA provides that the Commission prescribe rules requiring electric utilities to offer to purchase electric energy from qualifying facilities. The Commission interprets this provision to impose on electric utilities an obligation to purchase all electric energy and capacity made available from qualifying facilities with which the electric utility is directly or indirectly interconnected, except during periods described in § 292.304(f) or during system emergencies.

A qualifying facility may seek to have a utility purchase more energy or capacity than the utility requires to meet its total system load. In such a case, while the utility is legally obligated to purchase any energy or capacity provided by a qualifying facility, the purchase rate should only include payment for energy or capacity which the utility can use to meet its total system load. These rules impose no requirement on the purchasing utility to deliver unusable energy or capacity to another utility for subsequent sale.

**§ 292.303(a) Obligation to purchase from qualifying facilities.**

**§ 292.303(d) Transmission to other electric utilities. All-Requirement Contracts.**

Several commenters noted that the obligation to purchase from qualifying facilities under this section might conflict with contractual commitments into which they had entered requiring them to purchase all of their requirements from a wholesale supplier. One commenter noted that, with regard to all-requirements rural electric cooperatives, any impairment of the obligation to obtain all of a cooperative's requirements from a generation and transmission cooperative might affect the financing ability of the generation and transmission cooperative. The Commission observes that, in general, if it permitted such contractual provisions to override the obligation to purchase from qualifying facilities, these contractual devices might be used to hinder the development of cogeneration and small power production. The Commission believes that the mandate of PURPA to encourage cogeneration and small power production requires that obligations to purchase under this provision supersede contractual restrictions on a utility's ability to obtain energy or capacity from a qualifying facility.

The Commission has, however, provided an alternate means by which any electric utility can meet this obligation. Under paragraph (d), if the qualifying facility consents, an all-requirements utility which would otherwise be obligated to purchase energy or capacity from the qualifying facility would be permitted to transmit the energy or capacity to its supplying utility. In most instances, this transaction would actually take the form of the displacement of energy or capacity that would have been provided under the all-requirements obligation. In this case, the supplying utility is deemed to have made the purchase and, as a result the all-requirements obligation is not affected.

In addition, if compliance with the purchase obligation would impose a special hardship on an all-requirements customer, the Commission may consider waiving such purchase obligation pursuant to the procedures set forth in § 292.403.

*Transmission to Other Facilities*

There are several circumstances in which a qualifying facility might desire that the electric utility with which it is interconnected not be the purchaser of the qualifying facility's energy and capacity, but would prefer instead that an electric utility with which the purchasing utility is interconnected make such a purchase. If, for example, the purchasing utility is a non-generating utility, its avoided costs will be the price of bulk purchased power ordinarily based on the average embedded cost of capacity and average energy cost on its supplying utility's system. As a result, the rate to the qualifying facility would be based on those average costs. If, however, the qualifying facility's output were purchased by the supplying utility, its output ordinarily will replace the highest cost energy on the supplying utility's system at that time, and its capacity might enable the supplying utility to avoid the addition of new capacity. Thus, the avoided costs of the supplying utility may be higher than the avoided cost of the non-generating utility.

This would not appear to be the case if the qualifying facility offers to supply capacity and energy in a situation in which the supplying utility is in an excess capacity situation. Since the supplying utility has excess capacity, its avoided costs would include only energy costs. On the other hand, if the avoided cost were based on the wholesale rate to the all-requirements utility, the avoided cost would include the demand charge included in the wholesale rate, which would usually reflect an allocation of a portion of the fixed charges associated with excess capacity.

Use of the unadjusted wholesale rate fails to take into account the effect of reduced revenue to the supplying utility, as a result of the substitute of the qualifying facility's output for energy previously supplied by the supplying utility. As the level of purchase by the all-requirements utility decreases, the supplying utility's fixed costs will have to be allocated over a smaller number of units of output. In effect, the loss in revenue to the supplying utility will cause the demand charges to the supplying utility's customers (including the all-requirements customers interconnected with the qualifying facility) to increase. Under the definition of "avoided costs" in this section, the purchasing utility must be in the same financial position it would have been had it not purchased the qualifying facility's output. As a result, rather than allocating its loss in revenue among all of its customers, in this situation the supplying utility should assign all of these losses to the all-requirements utility. That utility should, in turn, deduct these losses from its previously calculated avoided costs, and pay the qualifying facility accordingly.

Under these rules, certain small electric utilities are not required to provide system cost data, except upon request of a qualifying facility. If, with the consent of the qualifying facility, a small electric utility chooses to transmit energy from the qualifying facility to a second electric utility, the small utility can avoid the otherwise applicable requirements that it provide the system cost data for the qualifying facility and that it purchase the energy itself. However, the ability to transmit a purchase to another utility is not limited to these smaller systems; it applies to any utility.

Accordingly, paragraph (d) provides that a utility which receives energy or capacity from a qualifying facility may, with the consent of the qualifying facility, transmit such energy to another electric utility. However, if the first facility does not agree to transmit the purchased energy or capacity, it retains the purchase obligation. In addition, if the qualifying facility does not consent to transmission to another utility, the first utility retains the purchase obligation. Any electric utility to which such energy or capacity is delivered must purchase this energy under the obligations set forth in these rules as if the purchase were made directly from the qualifying facility.

One commenter stated that this provision could result in energy being transmitted to a utility which has little or no information regarding the reliability of the qualifying facility. The Commission believes that, prior to these transactions occurring, it will be in the interest of the qualifying facility to inform any utility to which energy or capacity is delivered, of the nature of those deliveries, so that such energy or capacity can be usefully integrated into that utility's power supply.

Several other commenters believed that this provision went beyond the authority of section 210 of PURPA—namely, that the Commission cannot require the first utility to wheel the power nor the second utility to buy the power. First, the Commission notes that this transmission can only occur with the consent of the utility to which energy or capacity from the qualifying facility is made available. Thus, no utility is forced to wheel. Secondly, section 210 does not limit the obligation to purchase to any particular utility: rather, it is a generally applicable requirement.

Paragraph (d) provides that charges for transmission are not a part of the rate which an electric utility to which energy is transmitted is obligated to pay the qualifying facility. In the case of electric utilities not subject to the jurisdiction of this Commission, these charges should be determined under applicable State law or regulation which may permit agreement between the qualifying facility and any electric utility which transmits energy or capacity with the consent of the qualifying facility. For utilities subject to the Commission's jurisdiction under Part II of the Federal Power Act, these charges will be determined pursuant to Part II.

The electric utility to which the electric energy is transmitted has the obligation to purchase the energy at a rate which reflects the costs that it can avoid as a result of making such a purchase. In cases in which electricity actually travels across the transmitting utility's system, the amount of energy delivered will be less than that transmitted, due to line losses. When this occurs, the rate for purchase can reflect these losses. In other cases, the energy supplied by the qualifying facility will displace energy that would have been supplied by the purchasing utility to the transmitting utility. In those cases, a unit of energy supplied from the qualifying facility may replace a greater amount of energy from the purchasing utility. In that case, the rate for purchase should be increased to reflect the net gain. These provisions are also set forth in paragraph (d).

*§ 292.303(b) Obligation to sell to qualifying facilities.*

Paragraph (b) sets forth the statutory requirement of section 210(a) of PURPA that each electric utility offer to sell electric energy to qualifying facilities. The Commission observed in the Notice of Proposed Rulemaking that State law ordinarily sets out the obligation of an electric utility to provide service to customers located within its service area. In most instances, therefore, this rule will not impose additional obligations on electric utilities.

It is possible that a qualifying facility located outside the service area of an electric utility might require back-up, maintenance, or other types of power. The Commission believes that the instructions of section 210(a) of PURPA that it issue rules "as it determines necessary to encourage cogeneration and small power production * * *" mandate that it assure that such facilities are able to fulfill their needs for service.

However, the Commission also recognizes that State and local law limits the authority of some electric utilities to construct lines outside of their service area. Accordingly, the Commission requires electric utilities to serve any qualifying facility, and, subject to the restriction contained therein, to interconnect with any such facility as required in paragraph (c). However, an electric utility is only required to construct lines or other facilities to the extent authorized or required by State or local law. As a result, a qualifying facility outside the service area of a utility may be required to build its line into the service area of the utility.

*§ 292.303(c) Obligation to interconnect.*

In the Notice of Proposed Rulemaking, the Commission used the interpretation set forth in the Staff Discussion Paper, that the obligation to interconnect with a qualifying facility is subsumed within the requirement of section 210(a) that electric utilities offer to sell electric energy to and purchase electric energy from qualifying facilities. The Commission observed that to hold otherwise would mean that Congress intended to require that qualifying facilities go through the complex procedures simply to gain interconnection, contrary to the mandate of section 210 of PURPA to encourage cogeneration and small power production.

During the comment period, this question was further explored, and it was suggested that the Commission has ample authority under the general mandate of section 210(a) of PURPA—namely, that it prescribe rules necessary to encourage cogeneration and small power production—to require interconnection.

While these interpretations received substantial support in the comments submitted, they were at the same time criticized on the theory that section 210(e)(3) of PURPA does not provide that a qualifying facility may be exempted from section 210 of the Federal Power Act (added by section 202 of PURPA and providing certain interconnection authority) and that this interconnection section specifically includes qualifying cogenerators and small power producers in its applicability. These commenters contended that since section 210 of the Federal Power Act deals explicitly with the subject of interconnections between qualifying facilities and electric utilities, no other section of that Act can be interpreted as also granting authority on that subject, as such an interpretation would render the express provision "surplusage".

With regard to these criticisms, the Commission observes that this argument might be tenable in the situation in which the section of the legislation which deals explicitly with the subject does not contain an express provision that it is *not* to be considered the exclusive authority on the subject. The Commission notes that section 212 of the Federal Power Act (as added by section 204 of PURPA) sets forth certain determinations that the Commission must make before it can issue an order under either section 210 or 211 of the Federal Power Act.

Section 212(e) states that no provision of section 210 of the Federal Power Act shall be treated "(1) as requiring any person to utilize the authority of such section 210 or 211 in lieu of any other authority of law, or (2) as limiting, impairing, or otherwise affecting any other authority of the Commission under any other provision of law." Thus, the Federal Power Act, as amended, expressly provides that the existence of authority under section 210 of the Federal Power Act to require interconnection is not to be interpreted as excluding any other interconnection authority available under any other law. The Commission emphasizes that the limitation is not restricted to the Federal Power Act, but rather extends to include other authority of law, such as the authority contained in the Public Utility Regulatory Policies Act of 1978, of which section 210 is a part. Clearly, the existence of this provision refutes the contention that section 210 of the Federal Power Act represents the exclusive method by which interconnection can be obtained. As a result, the comment that the direction contained in section 210(e)(3) of PURPA that no qualifying facility can be exempted from section 210 or 212 of the Federal Power Act is not persuasive.

The Commission finds that to require qualifying facilities to go through the complex procedures set forth in section 210 of the Federal Power Act to gain interconnection would, in most circumstances, significantly frustrate the achievement of the benefits of this program. The Commission does not feel that the legal interpretation set forth in the Staff Discussion Paper and the Notice of Proposed Rulemaking is the exclusive theory by which it may require interconnections under this program without resort to sections 210 and 212 of the Federal Power Act. The interpretation brought out during the comment period—that section 210(a) of PURPA provides a general mandate for the Commission to prescribe rules necessary to encourage cogeneration and small power production—provides, in the Commission's view, sufficient authority to require interconnection. The Commission believes that a basic purpose of section 210 of PURPA is to provide a market for the electricity generated by small power producers and cogenerators. The Commission believes that accomplishment of this purpose would be greatly hindered if it were to require qualifying facilities to utilize section 210 of the Federal Power Act as the exclusive means of obtaining interconnection. It therefore concludes that such a restrictive interpretation of the law is not supportable.

Paragraph (c)(1) thus provides that an electric utility must make any interconnections with a qualifying facility which may be necessary to permit purchases from or sales to the qualifying facility. A State regulatory authority or nonregulated electric utility must enforce this requirement as part of its implementation of the Commission's rules.

In addition, several commenters contended that, if the obligation to interconnect is required under section 210(a) PURPA, the limitation provided in section 212 of the Federal Power Act would not be available. That limitation provides that an electric utility which complies with an interconnection order under section 210 of the Federal Power Act would not be subject to the jurisdiction of the Federal Energy Regulatory Commission for any purposes other than those specified in the interconnection order.

After consideration of this concern, the Commission has added paragraph (c)(2) to provide that no electric utility is required to interconnect with any qualifying facility, if, solely by reason of purchases or sales over the interconnection, the electric utility would become subject to regulation as a public utility under Part II of the Federal Power Act. This exception is provided because the Commission notes that, in balance, the encouragement of cogeneration and small power production would not be furthered if, by virtue of interconnection with a qualifying facility, a previously nonjurisdictional utility were reluctantly to become subject to federal utility regulation.

*§ 292.303(e) Parallel operation.*

In the Notice of Proposed Rulemaking, the Commission provided that each electric utility must offer to operate in parallel with a qualifying facility, provided that the qualifying facility complies with standards established by the State regulatory authority or nonregulated electric utility with regard to the protection of system reliability pursuant to § 292.308. By operating in parallel, qualifying facilities are enabled to export automatically any electric energy which is not consumed by its own load. The comments submitted have not set forth any convincing reasons for changing the proposed rule. Paragraph (e) thus continues to require each electric utility to offer to operate in parallel with a qualifying facility.

*§ 292.304 Rates for purchases.*

Section 210(b) of PURPA provides that in requiring any electric utility to purchase electric energy from a qualifying facility, the Commission must ensure that the rates for the purchase be just and reasonable to the electric consumers of the purchasing utility, in the public interest, and nondiscriminatory to qualifying facilities, but that they not exceed the incremental costs of alternative electric energy (the costs of energy to the utility, which, but for the purchase, the utility would generate itself or purchase from another source).

*Relation to State Programs*

The Commission has become aware that several States have enacted legislation requiring electric utilities in that State to purchase the electrical output of facilities which may be qualifying facilities under the Commission's rules at rates which may differ from the rates required under the Commission's rules implementing section 210 of PURPA.

This Commission has set the rate for purchases at a level which it believes appropriate to encourage cogeneration and small power production, as required by section 210 of PURPA. While the rules prescribed under section 210 of PURPA are subject to the statutory parameters, the States are free, under their own authority, to enact laws or regulations providing for rates which would result in even greater encouragement of these technologies. However, State laws or regulations which would provide rates lower than the federal standards would fail to provide the requisite encouragement of these technologies, and must yield to federal law.

If a State program were to provide that electric utilities must purchase power from certain types of facilities, among which are included "qualifying facilities," at a rate higher than that provided by these rules, a qualifying facility might seek to obtain the benefits of that State program. In such a case, however, the higher rates would be based on State authority to establish such rates, and not on the Commission's rules.

A facility which provides energy or capacity to a utility under State authority may nevertheless seek to obtain exemption from the Federal Power Act, the Public Utility Holding Company Act, and State regulation of electric utilities as available under section 210(e) of PURPA. The Commission notes that the States lack the authority to exempt a facility from the Federal Power Act or Public Utility Holding Company Act. The Commission finds no inconsistency in a facility's taking advantage of section 210 in order to obtain one of its benefits, while relying on other authority under which to buy from or sell to a utility.

*§ 292.304(a) Rates for purchases.*

Paragraph (a) sets forth the statutory requirement that rates for purchases be just and reasonable to the electric consumers of the electric utility and in the public interest, and not discriminate against qualifying cogeneration and small power production facilities.

In the proposed rule, the Commission stated that there is a rebuttable presumption that the rate for purchases is acceptable if it reflects the avoided cost resulting from a purchase on the basis of system cost data set forth pursuant to § 292.302 (b) or (c). Many of the comments received stated that this section was ambiguous.[12] The Commission has therefore provided that the rate for purchases meets the statutory requirements if it equals avoided costs, and has eliminated the reference to the "rebuttable presumption".

Some comments recommended that, as a matter of policy, this section be revised to provide that a State regulatory authority or nonregulated utility has discretion to establish the relationship between the avoided cost and the rate for purchases. Other commenters contended that the Commission should specify that the rate for purchase must equal the avoided cost resulting from such a purchase. In addition, several suggested that the Commission adopt a "split-the-savings" approach.

It is possible that developers of technologies which may be included as qualifying facilities may produce and make available power to electric facilities even though their cost of producing this power is greater than the utility's avoided costs. In most instances, however, purchases of energy or capacity from qualifying facilities will only occur when the cost to the qualifying cogenerator or small power producer of producing the energy or capacity is lower than the utility's avoided costs. Only if this is the case will payment by the utility of its avoided costs provide economic benefit for the cogenerator or small power producer.

When one electric utility can provide energy more cheaply than could another electric utility, the two utilities will often exchange power on a "split-the-savings" basis. In that type of transaction, the two utilities split the difference between the incremental costs incurred and the incremental costs that the purchasing utility would have incurred had it generated the power itself. Several commenters argued that rates for purchases from qualifying facilities should be based upon this same general principle. The effect of such a pricing mechanism would be to transfer to the utility's ratepayers a portion of the savings represented by the cost differential between the qualifying facility and the purchasing electric utility. Several utilities contend that by so allocating these savings, the Commission would provide an incentive for the electric utility to enter into purchase transactions with qualifying cogeneration and small power production facilities.

These commenters also noted that they had previously engaged in purchases from facilities which might become qualifying facilities under the Commission's rules, and they had paid prices for these purchases based on a "split-the-savings" methodology. These commenters observed that if the Commission's rules now require the payment of full avoided cost for these types of purchases, the purchased power expenses of the electric utility would increase.

Moreover, several utilities commented that, for the forseeable future, they are inextricably tied to the use of oil to produce electricity. They contend that unless they are permitted to purchase energy and capacity from qualifying facilities at a rate somewhere between the qualifying facilities' costs and their own costs, they and their ratepayers will be subject to the continually increasing world price of oil.

Commenters opposing this allocation of savings to parties other than the qualifying facility noted that this section of PURPA is intended to encourage the development of cogeneration and small power production. They noted that in providing for this encouragement, the Commission may not set rates for purchases at a level which exceeds the incremental cost of alternative energy. Therefore, they observed that, under the full avoided cost standard, the utilities' customers are kept whole, and pay the same rates as they would have paid had the utility not purchased energy and capacity from the qualifying facility.

Although use of the full avoided cost standard will not produce any rate savings to the utility's customers, several commenters stated that these ratepayers and the nation as a whole will benefit from the decreased reliance of scarce fossil fuels, such as oil and gas, and the more efficient use of energy.

The Commission notes that, in most instances, if part of the savings from cogeneration and small power production were allocated among the utilities' ratepayers, any rate reductions will be insignificant for any individual customer. On the other hand, if these savings are allocated to the relatively small class of qualifying cogenerators and small power producers, they may provide a significant incentive for a higher growth rate of these technologies.

Another concern with the use of a split-the-savings rate for purchases is that it would require a determination of the costs of production of the qualifying facility. A major portion of this legislation is intended to exempt qualifying facilities from the cost-of-service regulation by which electric utilities traditionally have been regulated. The Conference Report noted that:

> It is not the intention of the Conferees that cogenerators and small power producers become subject . . . to the type of examination that is traditionally given to electric utility rate applications to determine what is the just and reasonable rate that they should receive for their electric power.[13]

Thus, section 210(e) of PURPA provides that the Commission shall exempt qualifying facilities from the Public Utility Holding Company Act, from the Federal Power Act and from State law and regulation respecting utility rates or financial organization, to the extent that the Commission determines that such exemption is necessary to encourage cogeneration or small power production.

Several commenters have contended that a determination of the qualifying facility's costs can be made without the detail required by cost-of-service regulation. However, the Commission believes that the basis for the determination of rates for purchases should be the utility's avoided costs and should not vary on the basis of the costs of the particular qualifying facility.

Several commenters recommended that rather than using a split-the-savings approach, the Commission should set rates for purchases at a fixed percentage of avoided costs. The Commission notes that, in most situations, a qualifying cogenerator or small power producer will only produce energy if its marginal cost of production is less than the price he receives for its output. If some fixed percentage is used, a qualifying facility

[12] The relationship between the utility system cost data and the rate for purchases is discussed under § 292.302 and § 292.301(b).

[13] Conference Report on H.R. 4018, Public Utility Regulatory Policies Act of 1978, H. Rep. No. 1750, 97, 95th Cong., 2d. Sess. (1978).

may cease to produce additional units of energy when its costs exceed the price to be paid by the utility. If this occurs, the utility will be forced to operate generating units which either are less efficient than those which would have been used by the qualifying facility, or which consume fossil fuel rather than the alternative fuel which would have been consumed by the qualifying facility had the price been set at full avoided costs.

*§ 292.304(b) Relationship to avoided costs.*

*"New Capacity"*

The proposed rule differentiated between "old" and "new" production in connection with simultaneous purchases and sales. The proposed rule required an electric utility to purchase at its avoided cost the total output of a facility, construction of which was commenced after the date of issuance of these rules, even if the utility simultaneously sells energy to the facility at its retail rate. The effect of this proposed rule was to separate the production aspect of a qualifying facility from its consumption function. Under this approach, the electrical output of a facility is viewed independently of its electrical needs. Thus, if a cogeneration facility produces five megawatts, and consumes three megawatts, it is treated the same as another qualifying facility that produces five megawatts, and that is located next to a factory that uses three megawatts.

The Commission continues to believe that permitting simultaneous purchase and sale is necessary and appropriate to encourage cogeneration and small power production. The limitation contained in the proposed rule was intended to prevent a cogenerator or small power producer, which had found it economical to produce power for its own consumption prior to the issuance of these rules, from receiving the economic rent that might result from the purchase of its entire output at a utility's full avoided cost after that date without new investment on the part of the qualifying facility.

The same reasoning applies to any facility which was in existence prior to the enactment of PURPA, whether or not it seeks to purchase and sell simultaneously. That construction of the facility was commenced prior to that date may indicate that appropriate economic returns were available without the further incentives provided by section 210.

The Commission is aware that in some instances, if a previously existing qualifying facility were not permitted to receive full avoided costs for its entire output, it would no longer have sufficient incentive to continue to produce electric power. The cost of production may have risen so as to render the previous rate insufficient to cover the costs of production, or permit an appropriate return.

Thus, with regard to facilities, construction of which commenced on or after the date of enactment of PURPA (November 9, 1978), the Commission has determined it appropriate to provide that rates for purchases shall equal full avoided costs. For facilities, construction of which commenced before the enactment of PURPA, the Commission will permit the State regulatory authorities and nonregulated electric utilities to establish rates for purchases at full avoided costs, or at a lower rate, if the State regulatory authority or nonregulated electric utility determines that the lower rate will provide sufficient encouragement of cogeneration and small power production. Thus, if a previously existing facility shows that it requires rates for purchases based on full avoided costs to remain viable, or to increase its output, the State regulatory authority or nonregulated electric utility is required to establish such rates. This distinction is intended to reflect the need for further incentives and the reasonable expectations of persons investing in cogeneration or small power production facilities prior to or subsequent to the enactment of this law.

Paragraph (b)(1) defines "new capacity" as any purchase of capacity from a qualifying facility, construction of which was commenced on or after November 9, 1978. Subparagraph (2) provides that for new capacity, utilities must pay a rate which equals their avoided cost.

A utility must therefore purchase all of the output from a qualifying facility. However, as explained above, for any portion of that output which is not "new capacity," the State regulatory authority or nonregulated electric utility, as provided in paragraph (b)(3), may provide for a lower rate, if it determines that the lower rate will provide sufficient incentive for cogeneration.

Paragraph (b)(4) requires electric utilities to pay full avoided costs for purchases from new capacity made available from a qualifying facility, regardless of whether the electric utility is simultaneously making sales to the qualifying facility.

*§ 292.304(c) Standard rates for purchases.*

The Notice of Proposed Rulemaking required electric utilities on request of a qualifying facility to establish a tariff or other method for establishing rates for purchase from qualifying facilities of 10 kw or less. Upon consideration of the comments received, the Commission has determined that the concept of requiring a standard rate for purchases should be retained. Several comments stated that this requirement could similarly be applied to facilities of up to 100 kw or less.

The Commission is aware that the supply characteristics of a particular facility may vary in value from the average rates set forth in the utility's standard rate required by this paragraph. If the Commission were to require individualized rates, however, the transaction costs associated with administration of the program would likely render the program uneconomic for this size of qualifying facility. As a result, the Commission will require that standardized tariffs be implemented for facilities of 100 kw or less.

In addition, some commenters pointed out that standard tariffs can be used on a technology specific basis, to reflect the supply characteristics of the particular technology. Some commenters also observed that the proposed rule did not require that standard rates for purchases from these small facilities be based on the purchasing utility's avoided cost. This omission might have permitted a utility to pay less than that rate for purchases.

The Commission has accordingly revised paragraph (c) to require each State regulatory authority or nonregulated electric utility to cause to be put into effect standard rates for purchases from qualifying facilities with a design capacity of 100 kilowatts or less. The revised rule requires that standard rates for purchases equal the purchasing utility's avoided cost pursuant to paragraphs (a), (b), and (e).

Several commenters noted that standard rates for purchases can also be usefully applied to larger facilities. The Commission believes that the establishment of standard rates for purchases can significantly encourage cogeneration and small power production, provided that these standard rates accurately reflect the costs that the utility can avoid as a result of such purchases. Accordingly, the Commission has added subparagraph (2) which permits, but does not require, State regulatory authorities and nonregulated electric utilities to put into effect a standard rate for purchases from qualifying facilities with a design capacity greater than 100 kilowatts. These rates must equal avoided cost pursuant to paragraphs (a), (b), and (e).

Many commenters at the Commission's public hearings and in written comments recommended that the Commission should require the establishment of "net energy billing" for small qualifying facilities. Under this billing method, the output from a qualifying facility reverses the electric meter used to measure sales from the electric utility to the qualifying facility. The Commission believes that this billing method may be an appropriate way of approximating avoided cost in some circumstances, but does not believe that this is the only practical or appropriate method to establish rates for small qualifying facilities. The Commission observes that net energy billing is likely to be appropriate when the retail rates are marginal cost-based, time-of-day rates. Accordingly, the Commission will leave to the State regulatory authorities and the nonregulated electric utilities the determination as to whether to institute net energy billing.

Paragraph (c)(3)(i) provides that standard rates for purchase should take into account the factors set forth in paragraph (e). These factors relate to the quality of power from the qualifying facility, and its ability to fit into the purchasing utility's generating mix.

Paragraph (e)(vi) is of particular significance for facilities of 100 kW or less. This paragraph provides that rates for purchase shall take into account "the individual and aggregate value of energy and capacity from qualifying facilities on the electric utility's system . . .". Several commenters presented persuasive evidence showing that an effective amount of capacity may be provided by dispersed small systems, even in the case where delivery of energy from any particular facility is stochastic. Similarly, qualifying facilities may be able to enter into operating agreements with each other by which they are able to increase the assured availability of capacity to the utility by coordinating scheduled maintenance and providing mutual back-up service. To the extent that this aggregate capacity value can be reasonably estimated, it must be reflected in standard rates for purchases.

Several commenters observed that the patterns of availability of particular energy sources can and should be reflected in standard rates. An example of this phenomenon is the availability of wind and photovoltaic energy on a summer peaking system. If it can be shown that system peak occurs when there is bright sun and no wind, rates for purchase could provide a higher capacity payment for photovoltaic cells than for wind energy conversion systems. For systems peaking on dark windy days, the reverse might be true. Subparagraph (3)(ii) thus provides that standard rates for purchases may differentiate among qualifying facilities on the basis of the supply characteristics of the particular technology.

*§§ 292.304 (b)(5) and (d) Legally enforceable obligations.*

Paragraphs (b)(5) and (d) are intended to reconcile the requirement that the rates for purchases equal the utilities' avoided cost with the need for qualifying facilities to be able to enter into contractual commitments based, by necessity, on estimates of future avoided costs. Some of the comments received regarding this section stated that, if the avoided cost of energy at the time it is supplied is less than the price provided in the contract or obligation, the purchasing utility would be required to pay a rate for purchases that would subsidize the qualifying facility at the expense of the utility's other ratepayers. The Commission recognizes this possibility, but is cognizant that in other cases, the required rate will turn out to be lower than the avoided cost at the time of purchase. The Commission does not believe that the reference in the statute to the incremental cost of alternative energy was intended to require a minute-by-minute evaluation of costs which would be checked against rates established in long term contracts between qualifying facilities and electric utilities.

Many commenters have stressed the need for certainty with regard to return on investment in new technologies. The Commission agrees with these latter arguments, and believes that, in the long run, "overestimations" and "underestimations" of avoided costs will balance out.

Paragraph (b)(5) addresses the situation in which a qualifying facility has entered into a contract with an electric utility, or where the qualifying facility has agreed to obligate itself to deliver at a future date energy and capacity to the electric utility. The import of this section is to ensure that a qualifying facility which has obtained the certainty of an arrangement is not deprived of the benefits of its commitment as a result of changed circumstances. This provision can also work to preserve the bargain entered into by the electric utility; should the actual avoided cost be higher than those contracted for, the electric utility is nevertheless entitled to retain the benefit of its contracted for, or otherwise legally enforceable, lower price for purchases from the qualifying facility. This subparagraph will thus ensure the certainty of rates for purchases from a qualifying facility which enters into a commitment to deliver energy or capacity to a utility.

Paragraph (d)(1) provides that a qualifying facility may provide energy or capacity on an "as available" basis, i.e., without legal obligation. The proposed rule provided that rates for such purchases should be based on "actual" avoided costs. Many comments noted that basing rates for purchases in such cases on the utility's "actual avoided costs" is misleading and could require retroactive ratemaking. In light of these comments, the Commission has revised the rule to provide that the rates for purchases are to be based on the purchasing utility's avoided costs estimated at the time of delivery.[14]

Paragraph (d)(2) permits a qualifying facility to enter into a contract or other legally enforceable obligation to provide energy or capacity over a specified term. Use of the term "legally enforceable obligation" is intended to prevent a utility from circumventing the requirement that provides capacity credit for an eligible qualifying facility merely by refusing to enter into a contract with the qualifying facility.

Many commenters noted the same problems for establishing rates for purchases under subparagraph (2) as in subparagraph (1). The Commission intends that rates for purchases be based, at the option of the qualifying facility, on either the avoided costs at the time of delivery or the avoided costs calculated at the time the obligation is incurred. This change enables a qualifying facility to establish a fixed contract price for its energy and capacity at the outset of its obligation or to receive the avoided costs determined at the time of delivery.

A facility which enters into a long term contract to provide energy or capacity to a utility may wish to receive a greater percentage of the total purchase price during the beginning of the obligation. For example, a level payment schedule from the utility to the qualifying facility may be used to match more closely the schedule of debt service of the facility. So long as the total payment over the duration of the contract term does not exceed the estimated avoided costs, nothing in these rules would prohibit a State regulatory authority or non-regulated electric utility from approving such an arrangement.

[14] In addition to the avoided costs of energy, these costs must include the prorated share of the aggregate capacity value of such facilities.

*§ 292.304(c) Factors affecting rates for purchases.*

*Capacity Value*

An issue basic to this paragraph is the question of recognition of the capacity value of qualifying facilities.

In the proposed rule, the Commission adopted the argument set forth in the Staff Discussion Paper that the proper interpretation of section 210(b) of PURPA requires that the rates for purchases include recognition of the capacity value provided by qualifying cogeneration and small power production facilities. The Commission noted that language used in section 210 of PURPA and the Conference Report as well as in the Federal Power Act supports this proposition.

In the proposed rule, the Commission cited the final paragraph of the Conference Report with regard to section 210 of PURPA:

> The conferees expect that the Commission, in judging whether the electric power supplied by the cogenerator or small power producer will replace future power which the utility would otherwise have to generate itself either through existing capacity or additions to capacity or purchase from other sources, will take into account the reliability of the power supplied by the cogenerator or small power producer by reason of any legally enforceable obligation of such cogenerator or small power producer to supply firm power to the utility.[11]

In addition to that citation, the Commission notes that the Conference Report states that:

> In interpreting the term "incremental costs of alternative energy", the conferees expect that the Commission and the States may look beyond the costs of alternative sources which are instantaneously available to the utility.[12]

Several commenters contended that since section 210(a)(2) of PURPA provides that electric utilities must "purchase electric energy" from qualifying facilities, the rate for such purchases should not include payments for capacity. The Commission observes that the statutory language used in the Federal Power Act uses the term "electric energy" to describe the rates for sales for resale in interstate commerce. Demand or capacity payments are a traditional part of such rates. The term "electric energy" is used throughout the Act to refer both to electric energy and capacity. The Commission does not find any evidence that the term "electric energy" in section 210 of PURPA was intended to refer only to fuel and operating and maintenance expenses, instead of all of the costs associated with the provision of electric service.

In addition, the Commission notes that to interpret this phrase to include only energy would lead to the conclusion that the rates for sales *to* qualifying facilities could only include the energy component of the rate since section 210 also refers to "electric energy" with regard to such sales. It is the Commission's belief that this was not the intended result. This provides an additional reason to interpret the phrase "electric energy" to include both energy and capacity.

In implementing this statutory standard, it is helpful to review industry practice respecting sales between utilities. Sales of electric power are ordinarily classified as either firm sales, where the seller provides power at the customer's request, or non-firm power sales, where the seller and not the buyer makes the decision whether or not power is to be available. Rates for firm power purchases include payments for the cost of fuel and operating expenses, and also for the fixed costs associated with the construction of generating units needed to provide power at the purchaser's discretion. The degree of certainty of deliverability required to constitute "firm power" can ordinarily be obtained only if a utility has several generating units and adequate reserve capacity. The capacity payment, or demand charge, will reflect the cost of the utility's generating units.

In contrast, the ability to provide electric power at the selling utility's discretion imposes no requirement that the seller construct or reserve capacity. In order to provide power to customers at the seller's discretion, the selling utility need only charge for the cost of operating its generating units and administration. These costs, called "energy" costs, ordinarily are the ones associated with non-firm sales of power.

Purchases of power from qualifying facilities will fall somewhere on the continuum between these two types of electric service. Thus, for example, wind machines that furnish power only when wind velocity exceeds twelve miles per hour may be so uncertain in availability of output that they would only permit a utility to avoid generating an equivalent amount of energy. In that situation, the utility must continue to provide capacity that is available to meet the needs of its customers. Since there are no avoided capacity costs, rates for such sporadic purchases should thus be based on the utility system's avoided incremental cost of energy. On the other hand, testimony at the Commission's public hearings indicated that effective amounts of firm capacity exist for dispersed wind systems, even though each machine, considered separately, could not provide capacity value. The aggregate capacity value of such facilities must be considered in the calculation of rates for purchases, and the payment distributed to the class providing the capacity.

Some technologies, such as photovoltaic cells, although subject to some uncertainty in power output, have the general advantage of providing their maximum power coincident with the system peak when used on a summer peaking system. The value of such power is greater to the utility than power delivered during off-peak periods. Since the need for capacity is based, in part, on system peaks, the qualifying facility's coincidence with the system peak should be reflected in the allowance of some capacity value and an energy component that reflects the avoided energy costs at the time of the peak.

A facility burning municipal waste or biomass may be able to operate more predictably and reliably than solar or wind systems. It can schedule its outages during times when demand on the utility's system is low. If such a unit demonstrates a degree of reliability that would permit the utility to defer or avoid construction of a generating unit or the purchase of firm power from another utility, then the rate for such a purchase should be based on the avoidance of both energy and capacity costs.

In order to defer or cancel the construction of new generating units, a utility must obtain a commitment from a qualifying facility that provides contractual or other legally enforceable assurances that capacity from alternative sources will be available sufficiently ahead of the date on which the utility would otherwise have to commit itself to the construction or purchase of new capacity. If a qualifying facility provides such assurances, it is entitled to receive rates based on the capacity costs that the utility can avoid as a result of its obtaining capacity from the qualifying facility.

Other comments with regard to the requirement to include capacity payments in avoided costs generally track those set forth in the Staff Discussion Paper and the proposed rule. The thrust of these comments is that, in order to receive credit for capacity and to comply with the requirement that rates for purchases not exceed the incremental cost of alternative energy, capacity payments can only be required when the availability of capacity from a qualifying facility or facilities actually permits the purchasing utility to reduce

[11] Conference Report on H.R. 4018, Public Utility Regulatory Policies Act of 1978, H. Rep. No. 1750, 99, 95th Cong., 2d Sess. (1978).

[12] *Id.*, pp. 98-9.

its need to provide capacity by deferring the construction of new plant or commitments to firm power purchase contracts. In the proposed rule, the Commission stated that if a qualifying facility offers energy of sufficient reliability and with sufficient legally enforceable guarantees of deliverability to permit the purchasing electric utility to avoid the need to construct a generating plant, to enable it to build a smaller, less expensive plant, or to purchase less firm power from another utility than it would otherwise have purchased, then the rates for purchases from the qualifying facility must include the avoided capacity and energy costs. As indicated by the preceding discussion, the Commission continues to believe that these principles are valid and appropriate, and that they properly fulfill the mandate of the statute.

The Commission also continues to believe, as stated in the proposed rule, that this rulemaking represents an effort to evolve concepts in a newly developing area within certain statutory constraints. The Commission recognizes that the translation of the principle of avoided capacity costs from theory into practice is an extremely difficult exercise, and is one which, by definition, is based on estimation and forecasting of future occurrences. Accordingly, the Commission supports the recommendation made in the Staff Discussion Paper that it should leave to the States and nonregulated utilities "flexibility for experimentation and accommodation of special circumstances" with regard to implementation of rates for purchases. Therefore, to the extent that a method of calculating the value of capacity from qualifying facilities reasonably accounts for the utility's avoided costs, and does not fail to provide the required encouragement of cogeneration and small power production, it will be considered as satisfactorily implementing the Commission's rules.

*§ 292.304(e) Factors affecting rates for purchases.*

As noted previously, several commenters observed that the utility system cost data required under § 292.302 cannot be directly applied to rates for purchase. The Commission acknowledges this point and, as discussed previously, has provided that these data are to be used as a starting point for the calculation of an appropriate rate for purchases equal to the utility's avoided cost. Accordingly, the Commission has removed the reference to the utility system cost data from the definition of rates for purchases, and has inserted the reference to these data in paragraph (e), as one factor to be considered in calculating rates for purchases. Subparagraph (1) states that these data shall, to the extent practicable, be taken into account in the calculation of a rate for purchases.

Subparagraph (2) deals with the availability of capacity from a qualifying facility during system daily and seasonal peak periods. If a qualifying facility can provide energy to a utility during peak periods when the electric utility is running its most expensive generating units, this energy has a higher value to the utility than energy supplied during off-peak periods, during which only units with lower running costs are operating.

The preamble to the proposed rule provided that, to the extent that metering equipment is available, the State regulatory authority or nonregulated electric utility should take into account the time or season in which the purchase from the qualifying facility occurs. Several commenters interpreted this statement as implying that, by refusing to install metering equipment, an electric utility could avoid the obligation to consider the time at which purchases occur. This is not the intent of this provision. Clearly, the more precisely the time of purchase is recorded the more exact the calculation of the avoided costs, and thus the rate for purchases, can be. Rather than specifying that exact time-of-day or seasonal rates for purchases are required, however, the Commission believes that the selection of a methodology is best left to the State regulatory authorities and nonregulated electric utilities charged with the implementation of these provisions.

Clauses (i) through (v) concern various aspects of the reliability of a qualifying facility. When an electric utility provides power from its own generating units or from those of another electric utility, it normally controls the production of such power from a central location. The ability to so control power production enhances a utility's ability to respond to changes in demand, and thereby enhances the value of that power to the utility. A qualifying facility may be able to enter into an arrangement with the utility which gives the utility the advantage of dispatching the facility. By so doing, it increases its value to the utility. Conversely, if a utility cannot dispatch a qualifying facility, that facility may be of less value to the utility.

Clause (ii) refers to the expected or demonstrated reliability of a qualifying facility. A utility cannot avoid the construction or purchase of capacity if it is likely that the qualifying facility which would claim to replace such capacity may go out of service during the period when the utility needs its power to meet system demand. Based on the estimated or demonstrated reliability of a qualifying facility, the rate for purchases from a qualifying facility should be adjusted to reflect its value to the utility.

Clause (iii) refers to the length of time during which the qualifying facility has contractually or otherwise guaranteed that it will supply energy or capacity to the electric utility. A utility-owned generating unit normally will supply power for the life of the plant, or until it is replaced by more efficient capacity. In contrast, a cogeneration or small power production unit might cease to produce power as a result of changes in the industry or in the industrial processes utilized. Accordingly, the value of the service from the qualifying facility to the electric utility may be affected by the degree to which the qualifying facility ensures by contract or other legally enforceable obligation that it will continue to provide power. Included in this determination, among other factors, are the term of the commitment, the requirement for notice prior to termination of the commitment, and any penalty provisions for breach of the obligation.

In order to provide capacity value to an electric utility a qualifying facility need not necessarily agree to provide power for the life of the plant. A utility's generation expansion plans often include purchases of firm power from other utilities in years immediately preceding the addition of a major generation unit. If a qualifying facility contracts to deliver power, for example, for a one year period, it may enable the purchasing utility to avoid entering into a bulk power purchase arrangement with another utility. The rate for such a purchase should thus be based on the price at which such power is purchased, or can be expected to be purchased, based upon bona fide offers from another utility.

Clause (iv) addresses periods during which a qualifying facility is unable to provide power. Electric utilities schedule maintenance outages for their own generating units during periods when demand is low. If a qualifying facility can similarly schedule its maintenance outages during periods of low demand, or during periods in which a utility's own capacity will be adequate to handle existing demand, it will enable the utility to avoid the expenses associated with providing an equivalent amount of capacity. These savings should be reflected in the rate for purchases.

Clause (v) refers to a qualifying facility's ability and willingness to provide capacity and energy during system emergencies. Section 292.307 of these regulations concerns the provision of electric service during system emergencies. It provides that, to the extent that a qualifying facility is willing to forego its own use of energy during system emergencies and provide power to a utility's system, the rate for purchases from the qualifying facility should reflect the value of that service. Small power production and cogeneration facilities could provide significant back-up capability to electric systems during emergencies. One benefit of the encouragement of interconnected cogeneration and small power production may be to increase overall system reliability during such emergency conditions. Any such benefit should be reflected in the rate for purchases from such qualifying facilities.

Another related factor which affects the capacity value of a qualifying facility is its ability to separate its load from its generation during system emergencies. During such emergencies an electric utility may institute load shedding procedures which may, among other things, require that industrial customers or other large loads stop receiving power. As a result, to provide optimal benefit to a utility in an emergency situation, a qualifying facility might be required to continue operation as a generating plant, while simultaneously ceasing operation as a load on the utility's system. To the extent that a facility is unable to separate its load from its generation, its value to the purchasing utility decreases during system emergencies. To reflect such a possibility, clause (v) provides that the purchasing utility may consider the qualifying facility's ability to separate its load from its generation during system emergencies in determining the value of the qualifying facility to the electric utility.

Clause (vi) refers to the aggregate capability of capacity from qualifying facilities to displace planned utility capacity. In some instances, the small amounts of capacity provided from qualifying facilities taken individually might not enable a purchasing utility to defer or avoid scheduled capacity additions. The aggregate capability of such purchases may, however, be sufficient to permit the deferral or avoidance of a capacity addition. Moreover, while an individual qualifying facility may not provide the equivalent of firm power to the electric utility, the diversity of these facilities may collectively comprise the equivalent of capacity.

Clause (vii) refers to the fact that the lead time associated with the addition of capacity from qualifying facilities may be less than the lead time that would have been required if the purchasing utility had constructed its own generating unit. Such reduced lead time might produce savings in the utility's total power production costs, by permitting utilities to avoid the "lumpiness," and temporary excess capacity associated therewith, which normally occur when utilities bring on line large generating units. In addition, reduced lead time provides the utility with greater flexibility with which it can accommodate changes in forecasts of peak demand.

Subparagraph (3) concerns the relationship of energy or capacity from a qualifying facility to the purchasing electric utility's need for such energy or capacity. If an electric utility has sufficient capacity to meet its demand, and is not planning to add any new capacity to its system, then the availability of capacity from qualifying facilities will not immediately enable the utility to avoid any capacity costs. However, an electric utility system with excess capacity may nevertheless plan to add new, more efficient capacity to its system. If purchases from qualifying facilities enable a utility to defer or avoid these new planned capacity additions, the rate for such purchases should reflect the avoided costs of these additions. However, as noted by several commenters, the deferral or avoidance of such a unit will also prevent the substitution of the lower energy costs that would have accompanied the new capacity. As a result, the price for the purchase of energy and capacity should reflect these lower avoided energy costs that the utility would have incurred had the new capacity been added.

This is not to say that electric utilities which have excess capacity need not make purchases from qualifying facilities; qualifying facilities may obtain payment based on the avoided energy costs on a purchasing utility's system. Many utility systems with excess capacity have intermediate or peaking units which use high-cost fossil fuel. As a result, during peak hours, the energy costs on the systems are high, and thus the rate to a qualifying utility from which the electric utility purchases energy should similarly be high.

Subparagraph (4) addresses the costs or savings resulting from line losses. An appropriate rate for purchases from a qualifying facility should reflect the cost savings actually accruing to the electric utility. If energy produced from a qualifying facility undergoes line losses such that the delivered power is not equivalent to the power that would have been delivered from the source of power it replaces, then the qualifying facility should not be reimbursed for the difference in losses. If the load served by the qualifying facility is closer to the qualifying facility than it is to the utility, it is possible that there may be net savings resulting from reduced line losses. In such cases, the rates should be adjusted upwards.

*§ 292.303(f) Periods during which purchase are not required.*

The proposed rule provided that an electric utility will not be required to purchase energy and capacity from qualifying facilities during periods in which such purchases will result in net increased operating costs to the electric utility. This section was intended to deal with a certain condition which can occur during light loading periods. If a utility operating only base load units during these periods were forced to cut back output from the units in order to accommodate purchases from qualifying facilities, these base load units might not be able to increase their output level rapidly when the system demand later increased. As a result, the utility would be required to utilize less efficient, higher cost units with faster start-up to meet the demand that would have been supplied by the less expensive base load unit had it been permitted to operate at a constant output.

The result of such a transaction would be that rather than avoiding costs as a result of the purchase from a qualifying facility, the purchasing electric utility would incur greater costs than it would have had it not purchased energy or capacity from the qualifying facility. A strict application of the avoided cost principle set forth in this section would assess these additional costs as negative avoided costs which must be reimbursed by the qualifying facility. In order to avoid the anomalous result of forcing a qualifying utility to pay an electric utility for purchasing its output, the Commission proposed that an electric utility be required to identify periods during which this situation would occur, so that the qualifying facility could cease delivery of electricity during those periods.

Many of the comments received reflected a suspicion that electric utilities would abuse this paragraph to circumvent their obligation to purchase from qualifying facilities. In order to minimize that possibility, the Commission has revised this paragraph to provide that any electric utility which seeks to cease purchasing from qualifying facilities must notify each affected qualifying facility prior to the occurrence of such a period, in time for the qualifying facility to cease delivery of energy or capacity to the electric utility. This notification can be accomplished in any reasonable manner determined by the State regulatory authority. Any claim by an electric utility that such a light loading period will occur or has occurred is subject to such verification by its State regulatory authority as the State authority determines necessary or appropriate either before or after its occurrence. Moreover, any electric utility which fails to provide adequate notice or which incorrectly identifies such a period will be required to reimburse the qualifying facility for energy or capacity supplied as if such a light loading period had not occurred.

The section has also been modified to clarify that such periods must be due to operational circumstances.

The Commission does not intend that this paragraph override contractual or other legally enforceable obligations incurred by the electric utility to purchase from a qualifying facility. In such arrangements, the established rate is based on the recognition that the value of the purchase will vary with the changes in the utility's operating costs. These variations ordinarily are taken into account, and the resulting rate represents the average value of the purchase over the duration of the obligation. The occurrence of such periods may similarly be taken into account in determining rates for purchases.

*Tax Issues*

The Conference Report states that:

> * * * the examination of the level of rates which should apply to the purchase by the utility of the cogenerator's or the small power producer's power should not be burdened by the same examination as are utility rate applications to determine what is the just and reasonable rate that they should receive for their electric power.[17]

The Commission notes that section 301(b)(2) of the Energy Tax Act of 1978 [18] makes certain energy property eligible for increased business investment tax credit. Some of this property is commonly used in cogeneration and small power production. However, section 301(b)(2)(B) excludes from such eligibility property "which is public utility property (within the meaning of section 46(f)(5) of the Internal Revenue Code of 1954)." [19] As a result, if the property of a qualifying facility which was otherwise eligible for the credit were to be classified as public utility property under section 46(f)(5) of the Internal Revenue Code, it would not be eligible for the increased investment tax credit.

The Commission notes that the Treasury Department's regulations provide that the definition of "public utility property" does not include property used in the business of the furnishing or sale of electric energy if the rates are not subject to regulation that fixes a rate of return on investment.[20] On this basis, the Commission believes that property of a qualifying facility that would otherwise be eligible for the energy tax credit would not be excluded from that eligibility under the public utility property exclusion.

First, this Commission is exempting property of qualifying facilities from regulation under Part II of the Federal Power Act, and from similar State and local laws and regulatory programs. Secondly, the Commission observes that the rates a qualifying facility will receive for sales of power to utilities are *not* based on a regulatory scheme which fixes a rate of return on investment of the qualifying facility.

As a result, the Commission believes that energy property of qualifying facilities should not be barred from eligibility for the tax credit by reason of the public utility property exclusion. The Commission wishes to express its opinion on this matter in an effort to further encourage cogeneration and small power production by means of this rulemaking process.

*§ 292.305 Rates for sales.*

Section 210(c) of PURPA provides that the rules requiring utilities to sell electric energy to qualifying facilities shall ensure that the rates for such sales are just and reasonable, in the public interest, and nondiscriminatory with respect to qualifying cogenerators or small power producers. This section contemplates formulation of rates on the basis of traditional ratemaking (*i.e.*, cost-of-service) concepts.

Paragraph (a) expresses the statutory requirement that such rates be just and reasonable and in the public interest. Paragraph (a) also provides that rates for sales from electric utilities to qualifying facilities not be discriminatory against such facilities in comparison to rates to other customers served by the electric utility.

A qualifying facility is entitled to purchase back-up or standby power at a nondiscriminatory rate which reflects the probability that the qualifying facility will or will not contribute to the need for and the use of utility capacity. Thus, where the utility must reserve capacity to provide service to a qualifying facility, the costs associated with that reservation are properly recoverable from the qualifying facility, if the utility would similarly assess these costs to non-generating customers.

In the proposed rule, paragraph (b) required electric utilities to provide energy and capacity and other services to any qualifying facility at a rate at least as favorable as would be provided to a customer who does not have his own generation. The comments received concerning this paragraph noted that this provision might be interpreted as requiring an electric utility to provide service to a qualifying facility at its most favorable rate, even if the qualifying facility would not be eligible for such a rate if it did not have its own generation. It is not the Commission's intention that, for example, an industrial cogenerator receive service at a rate applicable to residential customers; rather, such a customer should be charged at a rate applicable to a non-generating industrial customer unless the electric utility shows that a different rate is justified on the basis of sufficient load or other cost-related data. Accordingly, this section now provides that for qualifying facilities which do not simultaneously sell and purchase from the electric utility, the rate for sales shall be the rate that would be charged to the class to which the qualifying facility would be assigned if it did not have its own generation.

Subparagraph (2) provides that if, on the basis of accurate data and consistent system-wide costing principles, the utility demonstrates that the rate that would be charged to a comparable customer without its own generation is not appropriate, the utility may base its rates for sales upon those data and principles. The utility may only charge such rates on a nondiscriminatory basis, however, so that a cogenerator will not be singled out to lose any interclass or intraclass subsidies to which it might have been entitled had it not generated part of its electric energy needs itself.

In situations where a qualifying facility simultaneously sells its output to an electric utility and purchases its requirements from that electric utility, as a bookkeeping matter, the facility's

[17] Conference Report on H.R. 4018, Public Utility Regulatory Policies Act of 1978, H. Rep. No. 1750, 96, 95th Cong., 2d Sess. (1978).

[18] Pub. L. No. 95-618, 26 U.S.C. §§ 46, 48, November 9, 1978.

[19] 26 U.S.C. § 48(e)(3)(b).

[20] Treasury Reg. § 1.46-3(g)(2), T.D. 7602 (March 23, 1979).

electrical output will not serve its own load, but rather will be supplied to the grid. As a result, the facility's electric load is likely to have the same characteristics as the load of other non-generating customers of the utility. If the utility does not provide data showing otherwise, the appropriate rate for sales to such a facility is the rate that would be charged to a comparable customer without its own generation.

Paragraph (b)(2) of the rule sets forth certain types of service which electric utilities are required to provide qualifying facilities upon request of the facility. These types of service are supplementary power, back-up power, interruptible power and maintenance power. In response to comments, these terms are defined in the text of the rules, as well as in this preamble.

Back-up or maintenance service provided by an electric utility replaces energy or capacity which a qualifying facility ordinarily supplies to itself. These rules authorize certain facilities to purchase and sell simultaneously. The amount of energy or capacity provided by an electric utility to meet the load of a facility which simultaneously purchases and sells will vary only in accordance with changes in the facility's load; interruptions in the facility's generation will be manifested as variations in purchases from the facility. In such a case, sales to the qualifying facility will not be back-up or maintenance service, but will be similar to the full-requirements service that would be provided if the facility were a non-generating customer.

Supplementary power is electric energy or capacity used by a facility in addition to that which it ordinarily generates on its own. Thus, a cogeneration facility with a capacity of ten megawatts might require five more megawatts from a utility on a continuing basis to meet its electric load of fifteen megawatts. The five megawatts supplied by the electric utility would normally be provided as supplementary power.

Back-up power is electric energy or capacity available to replace energy generated by a facility's own generation equipment during an unscheduled outage. In the example provided above, a cogeneration facility might contract with an electric utility for the utility to have available ten megawatts, should the cogenerator's units experience an outage.

Maintenance power is electric energy or capacity supplied during scheduled outages of the qualifying facility. By pre-arrangement, a utility can agree to provide such energy during periods when the utility's other load is low, thereby avoiding the imposition of large demands on the utility during peak periods.

Interruptible power is electric energy or capacity supplied to a qualifying facility subject to interruption by the electric utility under specified conditions. Many utilities have utilized interruptible service to avoid expensive investment in new capacity that would otherwise be necessary to assure adequate reserves at time of peak demand. Under this approach utilities assure the adequacy of reserves by arranging to reduce peak demand, rather than by adding capacity. Interruptible service is therefore normally provided at a lower rate than non-interruptible service.

During the Commission's public hearings on this rulemaking, one commenter stated that utilities which have excess capacity do not save any costs by providing interruptible service. The commenter contended that the Commission should not require a utility with excess capacity to offer interruptible service. If a utility is not adding capacity (whether by construction or purchase) to meet anticipated increases in peak demand, the rates charged for interruptible service might appropriately be the same as for non-interruptible services.

The Commission believes that these matters involving the provision of interruptible rates are best handled through the pricing mechanism. However, if as discussed above, interruptible customers provide no savings to the electric utility, the rate for interruptible service need not be lower than the rate for firm service. In such a case, the Commission would consider granting a waiver from this paragraph, under the provisions of § 292.403.

Some comments noted that certain electric utilities do not have any generating capacity, and to require the services listed in subparagraph (1) might place an undue burden on the electric utility. In light of these comments, the State regulatory authorities or the Commission, as the case may be, will allow a waiver of these requirements upon a finding after a showing by the utility to the State regulatory authority or Commission, as the case may be, that provision of these services will impair the utility's ability to render adequate service to its customers or place an undue burden on the electric utility. Notice must be given in the area served by the electric utility, opportunity for public comment must be provided, and an application must be submitted to the State regulatory authority with respect to any electric utility over which it has ratemaking authority or the Commission with respect to any nonregulated electric utility.

Paragraph (c)(1) provides that rates for sales of back-up or maintenance power shall not be based, without factual data, on the assumption that forced outages or other reductions in output by each qualifying facility on an electric utility's system will occur either simultaneously or during the system peak. Like other customers, qualifying facilities may well have intraclass diversity. In addition, because of the variations in size and load requirements among various types of qualifying facilities, such facilities may well have interclass diversity.

The effect of such diversity is that an electric utility supplying back-up or maintenance power to qualifying facilities will not have to plan for reserve capacity to serve such facilities on the assumption that every facility will use power at the same moment. The Commission believes that probabilistic analyses of the demand of qualifying facilities will show that a utility will probably not need to reserve capacity on a one-to-one basis to meet back-up requirements. Paragraph (c)(1) prohibits utilities from basing rates on the assumption that qualifying facilities will impose demands simultaneously and at system peak unless supported by factual data.

The rule provides that utilities may refute these assumptions on the basis of factual data. These data need not be in the form of empirical load data. It might be the case that within certain geographic areas, weather data and performance data would constitute a sufficient basis to refute the assumption relating to the coincidence of the demands imposed, for example, by windmills or photovoltaics, with respect to their need for back-up power.

Paragraph (c)(2) provides that rates for sales shall take into account the extent to which a qualifying facility can usefully coordinate periods of scheduled maintenance with an electric utility. If a qualifying facility stays on line when the utility will need its capacity, and schedules maintenance when the utility's other units are operative, the qualifying facility is more valuable to the utility, as it can reduce its capacity requirements.

*§ 292.306 Interconnection costs.*

Paragraph (a) states that each qualifying facility must reimburse any electric utility which purchases capacity or energy from the qualifying facility for any interconnection costs, on a nondiscriminatory basis with respect to other customers with similar load characteristics. The Commission finds merit in those comments which suggested that the basis of comparison for nondiscriminatory practices in the proposed rule to "any other customer" was too broad, and that the correct reference for nondiscrimination is the practice of the utility in relation to customers in the same class who do not generate electricity. As noted previously, the interconnection costs of a facility which is already interconnected with the utility for purposes of sales are limited to any additional expenses incurred by the utility to permit purchases.

Several commenters expressed their concern that some protection should be provided to qualifying facilities from potential harassment by utilities in the form of requiring unnecessary safety equipment. As discussed above, the State regulatory authorities (with respect to electric utilities over which they have ratemaking authority) and nonregulated electric utilities have the responsibility and authority to ensure that the interconnection requirements are reasonable, and that associated costs are legitimately incurred.

For qualifying facilities with a design capacity of 100 kW or less, the Commission noted that interconnection costs could be assessed on a class basis, and the standard rates for purchases established for classes of facilities of this size pursuant to § 292.304(c)(1) might incorporate these costs. State regulatory authorities (with respect to electric utilities over which they have ratemaking authority) or nonregulated electric utilities may also determine interconnection costs for qualifying facilities with a design capacity of more than 100 kW on either a class average or individual basis.

Numerous comments raised the point that the proposed rule did not address the manner in which electric utilities would be reimbursed. Potential owners and developers of qualifying facilities recommended that the costs be amortized on a reasonable basis, because paying a large lump sum payment would be a considerable obstacle to the program. Electric utilities generally preferred payment up front, although several commenters indicated that amortization might be acceptable for credit-worthy facilities. The Commission believes that the manner of reimbursements (which may include amortization over a reasonable period of time) is best left to the State regulatory authorities and nonregulated utilities. In the determination of any standard rates for purchases established pursuant to § 292.304(c)(i), if the State approves some manner of amortization, it might consider assignment of uncollected interconnection costs to the class for which the rate is established.

*§ 292.307 System emergencies.*

Paragraph (a) provides that, except as provided under section 202(c) of the Federal Power Act, no qualifying facility shall be compelled to provide energy or capacity to the electric utility during an emergency beyond the extent provided by agreement between the qualifying facility and the utility.

The Commission finds that a qualifying facility should not be required to make available all of its generation to the utility during a system emergency. Such a requirement might interrupt industrial processes with resulting damage to equipment and manufactured goods. Many industries install their own generating equipment in order to ensure that even during a system emergency, their supply of power is not interrupted. To put in jeopardy the availability of power to a qualifying facility during a system emergency because of the facility's ability to provide power to the system during non-emergency periods would result in the discouragement of interconnected operation and a resultant discouragement of cogeneration and small power production. The Commission therefore provides that the qualifying facility's obligation to provide energy and capacity in emergencies be established through contract.

In order to receive full credit for capacity, a qualifying facility must offer energy and capacity during system emergencies to the same extent that it has agreed to provide energy and capacity during non-emergency situations. For example, a 30 megawatt cogenerator may require 20 megawatts for its own industrial purposes, and thus may contract to provide 10 megawatts of capacity to the purchasing utility. During an emergency, the cogenerator must provide the 10 megawatts contracted for to the utility; it need not disrupt its industrial processes by supplying its full capability of 30 megawatts. Of course, if it should so desire, a cogenerator could contractually agree to supply the full 30 megawatts during system emergencies. The availability of such additional backup capacity should increase utility system reliability, and should be accounted for in the utility's rates for purchases from the cogenerator.

Paragraph (b) provides that an electric utility may discontinue purchases from a qualifying facility during a system emergency if such purchases would contribute to the emergency. In addition, during system emergencies, a qualifying facility must be treated on a nondiscriminatory basis in any load shedding program—*i.e.*, on the same basis that other customers of a similar class with similar load characteristics are treated with regard to interruption of service.

Credit for capacity (as noted in § 292.304(e)(2)(v)) will also take into account the ability of the qualifying facility to separate its load and generation during system emergencies. However, the qualifying facility may well be eligible for some capacity credit even if it cannot separate its load and generation.

*§ 292.308 Standards for operating reliability.*

Section 210(a) of PURPA states that the rules requiring electric utilities to buy from and sell to qualifying facilities shall include provisions respecting minimum reliability of qualifying facilities (including reliability of such facilities during emergencies) and rules respecting reliability of electric utilities during emergencies. The Commission believes that the reliability of qualifying facilities can be accounted for through price; namely, the less reliable a qualifying facility might be, the less it should be entitled to receive for purchases from it by the utility.

As a result, the Commission has not included specific standards relating to the reliability in the sense of the ability of qualifying facilities to provide energy or capacity.

The Commission has determined that safety equipment exists which can ensure that qualifying facilities do not energize utility lines during utility outages. This section accordingly provides that each State regulatory authority or nonregulated electric utility may establish standards for interconnected operation between electric utilities and qualifying facilities. These standards may be recommended by any utility, any qualifying facility, or any other person. These standards must be accompanied by a statement showing the need for the standard on the basis of system safety and operating requirements.

*Subpart D—Implementation*

*Summary of this Subpart*

Rules in this subpart are intended to carry out the responsibility of the Commission to encourage cogeneration and small power production by clarifying the nature of the obligation to implement the Commission's rules under section 210.

These rules afford the State regulatory authorities and nonregulated electric utilities great latitude in determining the manner of implementation of the

Commission's rules, provided that the manner chosen is reasonably designed to implement the requirements of Subpart C. The Commission recognizes that many States and individual nonregulated electric utilities have ongoing programs to encourage small power production and cogeneration. The Commission also recognizes that economic and regulatory circumstances vary from State to State and utility to utility. It is within this context—in recognition of the work already begun and of the variety of local conditions—that the Commission promulgates its regulations requiring implementation of rules issued under section 210.

Because of the Commission's desire not to create unnecessary burdens at the State level, these rules provide a procedure whereby a State regulatory authority or nonregulated electric utility may apply to the Commission for a waiver if it can demonstrate that compliance with certain requirements of Subpart C is not necessary to encourage cogeneration or small power production and is not otherwise required under section 210.

Several commenters expressed their concern that State regulatory authorities would not be able adequately to implement the Commission's rules, and therefore, recommended that the Commission issue specific rules which the State regulatory authorities would adopt without change. The Commission does not find this proposal to be appropriate at this time, and believes that providing an opportunity for experimentation by the States is more conducive to development of these difficult rate principles.

*Implementation*

Section 210(f) of PURPA requires that within one year after the date that this Commission prescribes its rules under subsection (a), and within one year of the date any of these rules is revised, each State regulatory authority and each nonregulated electric utility, after notice and opportunity for hearing, must implement the rules or revisions thereof, as the case may be.

The obligation to implement section 210 rules is a continuing obligation which begins within one year after promulgation of such rules. The requirement to implement may be fulfilled either (1) through the enactment of laws or regulations at the State level, (2) by application on a case-by-case basis by the State regulatory authority, or nonregulated utility, of the rules adopted by the Commission, or (3) by any other action reasonably designed to implement the Commission's rules.

*Review and Enforcement*

Section 210(g) of PURPA provides one of the means of obtaining judicial review of a proceeding conducted by a State regulatory authority or nonregulated utility for purposes of implementing the Commission's rules under section 210. Under subsection (g), review may be obtained pursuant to procedures set forth in section 123 of PURPA. Section 123(c)(1) contains provisions concerning judicial review and enforcement of determinations made by State regulatory authorities and nonregulated utilities under Subtitle A, B, or C of Title I in the appropriate State court. These provisions also apply to review of any action taken to implement the rules under section 210. This means that persons can bring an action in State court to require the State regulatory authorities or nonregulated utilities to implement these regulations.

Section 123(c)(2) of PURPA provides that persons seeking review of any determination made by a Federal agency may bring an action in the appropriate Federal court. This distinction between Federal agencies and non-Federal agencies also applies to review of enforcement of the implementation of the rules under section 210.

Finally, the Commission believes that review and enforcement of implementation under section 210 of PURPA can consist not only of review and enforcement as to whether the State regulatory authority or nonregulated electric utility has conducted the initial implementation properly—namely, put into effect regulations implementing section 210 rules or procedures for that implementation, after notice and an opportunity for a hearing. It can also consist of review and enforcement of the application by a State regulatory authority or nonregulated electric utility, on a case-by-case basis, of its regulations or of any other provision it may have adopted to implement the Commission's rules under section 210.

Section 210(h)(2)(A) of PURPA states that the Commission may enforce the implementation of regulations under section 210(f). The Congress has provided not only for private causes of action in State courts to obtain judicial review and enforcement of the implementation of the Commission's rules under section 210, but also provided that the Commission may serve as a forum for review and enforcement of the implementation of this program.

*§ 292.401 Implementation by state regulatory authorities and nonregulated electric utilities*

Paragraph (a) of § 292.401 sets forth the obligation of each State regulatory authority to commence implementation of Subpart C within one year of the date these rules take effect. In complying with this paragraph the State regulatory authorities are required to provide for notice of and opportunity for public hearing. As described in the summary of this subpart, such implementation may consist of the adoption of the Commission's rules, an undertaking to resolve disputes between qualifying facilities and electric utilities arising under Subpart C, or any other action reasonably designed to implement Subpart C.

This section does not cover one provision of Subpart C which is not required to be implemented by the State regulatory authority or nonregulated electric utility. This provision is § 292.302 (Availability of electric utility system cost data), the implementation of which is subject to § 292.402, discussed below.

Subsection (b) sets forth the obligaton of each nonregulated electric utility to commence, after notice and opportunity for public hearing, implementation of Subpart C. The nonregulated electric utilities, being both the regulator and the utility subject to the regulation, may satisfy the obligation to commence implementation of Subpart C through issuance of regulations, an undertaking to comply with Subpart C, or any other action reasonably designed to implement that subpart.

Paragraph (c) sets forth a reporting requirement under which each State regulatory authority and nonregulated electric utility is to file with the Commission, not later than one year after these rules take effect, a report describing the manner in which it is proceeding to implement Subpart C.

Comments received regarding this section indicated a concern that the obligation of a State regulatory authority or nonregulated utility "to commence implementation * * * within one year * * *" did not provide any guidance as to when the process must be completed. The Commission notes that the intention of this section is that the State regulatory authorities and nonregulated utilities have one year in which to establish procedures and that at the end of that year each State must be prepared to entertain applications. The phrase "commence implementation" is intended by the Commission to connote that implementation of these rules is a continuing process and that oversight will be ongoing.

*§ 292.402 Implementation of reporting objectives.*

The obligation to comply with § 292.302 is imposed directly on electric utilities. This is different from the rest of Subpart C where the obligation to act is imposed on the State regulatory authority or the nonregulated electric utility in its role as regulator. The Commission is exercising its authority under section 133 of PURPA and other laws within the Commission's authority to require this reporting.

Any electric utility which fails to comply with the requirements of § 292.302(b) is subject to the same penalties as it might receive as a result of a failure to comply with the requirements of the Commission's regulations issued under section 133 of PURPA. As stated earlier in this preamble, the data required by § 292.302 will form the basis from which the rates for purchases will be derived; § 292.302 is thus a critical element in this program. The Commission believes that, with regard to utilities subject to section 133 of PURPA, the Commission may exercise its authority under section 133 to require the data required by § 292.302(b) on the basis that the Commission finds such information necessary to allow determination of the costs associated with providing electric services. With regard to utilities not subject to section 133, if they fail to provide the data called for in § 292.302(c), the Commission may compel its production under the Federal Power Act and other statutes which provide the Commission with authority to require reporting of such data.

*§ 292.403 Waivers.*

Paragraph (a) provides for a procedure by which any State regulatory authority or nonregulated electric utility may apply for a waiver from the application of any of the requirements of Subpart C other than § 292.302. (Section 292.302(d) has been revised to permit a State regulatory authority or nonregulated utility to adopt a substitute method for the provision of system cost data without prior Commission approval.)

Paragraph (b) provides that the Commission will grant such a waiver only if the applicant can show that compliance with any of the requirements is not necessary to encourage cogeneration or small power production and is not otherwise required under section 210 of PURPA.

This section is included in recognition of the need for the Commission to afford flexibility to the States and nonregulated utilities to implement the Commission's rules under section 210.

Several comments suggested that the Commission set forth procedures for considering applications for waivers which would allow formal participation by qualifying facilities in a public hearing. The Commission notes that interested parties would be given an opportunity to be heard in any proceeding it conducts to determine whether or not a waiver should be granted.

**Subpart F—Exemption of Qualifying Small Power Production and Cogeneration Facilities From Certain Federal and State Laws and Regulations**

*§ 292.601 Exemption of qualifying facilities from the Federal Power Act.*

Section 210(e) of PURPA states that the Commission shall prescribe rules under which qualifying facilities are exempt, in part, from the Federal Power Act; from the Public Utility Holding Company Act of 1935, from the State laws and regulations respecting the rates, or respecting the financial or organization regulation, of electric utilities, or from any combination of the foregoing, if the Commission determines such exemption is necessary to encourage cogeneration and small power production. As noted in the Staff Discussion Paper, the Congress intended the Commission to make liberal use of its exemption authority in order to remove the disincentive of utility-type regulation. The Commission believes that broad exemption is appropriate.

Section 210(e)(2) of PURPA provides that the Commission is not authorized to exempt small power production facilities of 30 to 80 megawatt capacity from these laws. An exception is made for small power production facilities using biomass as a primary energy source. Such facilities between 30 and 80 megawatts may be exempted from the Public Utility Holding Company Act of 1935 and from State laws and regulations but may not be exempted from the Federal Power Act. The Commission will establish procedures for the determination of rates for these facilities in a separate proceeding.

Paragraph (a) sets forth those facilities which are eligible for exemption. Paragraph (b) provides that facilities described in paragraph (a) shall be exempted from all but certain specified sections of the Federal Power Act.

Section 210(e)(3)(C) of PURPA provides that no qualifying facility may be exempted from any license or permit requirement under Part I of the Federal Power Act. Accordingly, no qualifying facilities will be exempt from Part I of the Federal Power Act. The Commission recently issued simplified procedures for obtaining water power licenses for hydroelectric projects of 1.5 megawatts or less, and has issued proposed regulations to expedite licensing of existing facilities.[21]

The Commission believes cogeneration and small power production facilities could be the subject of an order under section 202(c) of the Federal Power Act requiring them to provide energy if the Economic Regulatory Administration determines that an emergency situation exists. Because application of this section is limited to emergency situations and is not affected by the fact that a facility attains qualifying status or engages in interchanges with an electric utility, the Commission notes that qualifying facilities will not be exempted from section 202(c) of the Act.

Furthermore, in response to comment, the Commission has revised this paragraph to provide that qualifying facilities are not exempt from sections 210, 211, and 212 of the Federal Power Act, as required by section 210(e)(3)(B) of PURPA.

Sections 203, 204, 205, 206, 208, 301, 302, and 304 of the Federal Power Act reflect traditional rate regulation or regulation of securities of public utilities. The Commission has determined that qualifying facilities shall be exempted from these sections of the Federal Power Act.

Section 305(c) of the Act imposes certain reporting requirements on interlocking directorates. The Commission believes that any person who otherwise is required to file a report regarding interlocking positions should not be exempted from such requirement because he or she is also a director or officer of a qualifying facility.

Finally, the enforcement provisions of Part III of the Federal Power Act will continue to apply with respect to the sections of the Federal Power Act from which qualifying facilities are not exempt.

*§ 292.602 Exemption of qualifying facilities from the Public Utility Holding Company Act and certain State law and regulation.*

Under section 210(e) of PURPA the Commission can exempt qualifying facilities from regulation under the

[21] *See* Order No. 11, Simplified Procedures for Certain Water Power Licenses, Docket No. RM79-9, issued September 5, 1978, and Application for License for Major Projects—Existing Dam, Docket No. RM79-36, 44 FR 24095 (April 21, 1979).

Public Utility Holding Company Act of 1935 and State laws and regulations concerning rates or financial organization. Only cogeneration facilities and small power production facilities of 30 megawatts or less may be exempted from both of these laws, with the exception that any qualifying small power production facility (*i.e.*, up to 80 megawatts) using biomass as a primary energy source can be exempted from these laws.

The Commission has determined that where a qualifying facility is subjected to more stringent regulation than other companies solely by reason of the fact that it is engaged in the production of electric energy, these more stringent requirements should be eased through exemption of qualifying facilities. By excluding any qualifying facility from the definition of an "electric utility company" under section 2(a)(3) of the Public Utility Holding Company Act of 1935, such facilities would be removed from Public Utility Holding Company Act regulation which is applied exclusively to electric utility companies. Moreover, by excluding qualifying facilities from this definition, parent companies of qualifying facilities would not be subject to additional regulation as a result of electric production by their subsidiaries. The Commission therefore believes that in order to encourage cogeneration and small power production it is necessary to exempt cogenerators and small power producers from all of the provisions of the Public Utility Holding Company Act of 1935 related to electric utilities.

Accordingly, paragraph (b) states that no qualifying facility shall be considered to be an "electric utility company", as defined in section 2(a)(3) of the Public Utility Holding Company Act of 1935, 15 U.S.C. § 79b(a)(3).

Section 210(e) of PURPA states that qualifying facilities which may be exempted from the Public Utility Holding Company Act may also be exempted from State laws and regulations respecting the rates or financial organization of electric utilities.

The Commission has decided to provide a broad exemption from State laws and regulations which would conflict with the State's implementation of the Commission's rules under section 210.

The Commission believes that such broad exemption is necessary to encourage cogeneration or small power production. Accordingly, subparagraph (c)(1) provides that any qualifying facility shall be exempt from State laws and regulations respecting rates of electric utilities, and from financial and organizational regulation of electric utilities. Several commenters noted that this section might be interpreted as exempting qualifying facilities from state laws or regulations implementing the Commission's rules, under section 210(f) of PURPA. In order to clarify that qualifying facilities are not to be exempt from these rules, the Commission has added subparagraph (c)(2) prohibiting any exemptions from State laws and regulations promulgated pursuant to Subpart C of these rules.

Some commenters indicated that § 292.301(b)(1) might be interpreted as prohibiting a State from reviewing contracts for purchases. These commenters stated that, as a part of a State's regulation of electric utilities, a State regulatory authority needs to be able to review contracts entered into by electric utilities it regulates.

These rules, and the exemptions being provided by these rules, are not intended to divest a State regulatory agency of its authority under State law to review contracts for purchases as part of its regulation of electric utilities. Such authority may continue to be exercised if consistent with the terms, policies and practices under sections 210 and 201 of PURPA and this Commission's implementing regulations. If the authority or its exercise is in conflict with these sections of PURPA or the Commission's regulations thereunder, the State must yield to the Federal requirements. The Commission does not believe it possible or advisable to attempt to establish more precise guidelines than these. Accordingly, States which have questions in this regard should seek an interpretive ruling from the Commission's General Counsel.

Subparagraph (c)(3) provides that, upon request of a State regulatory authority or nonregulated electric utility, the Commission may limit the applicability of the broad exemption from the State laws. This provision is intended to add flexibility to the exemption.

The Commission perceives that there may be instances in which a qualifying facility would wish to have an interpretation of whether or not it is subject to a particular State law in order to remove any uncertainty. Under subparagraph (c)(4), the Commission may determine whether a qualifying facility is exempt from a particular State law or regulation.

(Public Utility Regulatory Policies Act of 1978, 16 U.S.C. § 2601, *et seq.*, Energy Supply and Environmental Coordination Act, 15 U.S.C. § 791 *et seq.*, Federal Power Act, as amended, 16 U.S.C. § 792 *et seq.*, Department of Energy Organization Act, 42 U.S.C. § 7101 *et seq.*, E.O. 12009, 42 Fed. Reg. 46267)

## IV. Effective Date

The regulations promulgated in this order are effective March 20, 1980.

In consideration of the foregoing, the Commission amends Part 292 of Chapter I, Title 18, Code of Federal Regulations, as set forth below, effective March 20, 1980. By the Commission.

Kenneth F. Plumb,
*Secretary.*

(1) Subchapter K is amended in the table of contents and in the text of the regulation by deleting the title for Part 292 and substituting the following in lieu thereof:

Part 292—Regulations Under Sections 201 and 210 of the Public Utility Regulatory Policies Act of 1978 With Regard to Small Power Production and Cogeneration.

(2) Subchapter K is further amended in the table of contents to Part 292 and in the text of the regulations by reserving Subpart B and by adding new Subparts A, C, D, and F to read as follows:

## PART 292—REGULATIONS UNDER SECTIONS 201 AND 210 OF THE PUBLIC UTILITY REGULATORY POLICIES ACT OF 1978 WITH REGARD TO SMALL POWER PRODUCTION AND COGENERATION

Act and Certain State Law and Regulation.

Authority: This part issued under the Public Utility Regulatory Policies Act of 1978, 16 U.S.C. § 2601 *et seq.*, Energy Supply and Environmental Coordination Act, 15 U.S.C. § 791 *et seq.*, Federal Power Act, 16 U.S.C. § 792 *et seq.*, Department of Energy Organization Act, 42 U.S.C. § 7101 *et seq.*, E.O. 12009, 42 FR 46267.

## Subpart A—General Provisions

### § 292.101 Definitions.

(a) *General rule.* Terms defined in the Public Utility Regulatory Policies Act of 1978 (PURPA) shall have the same meaning for purposes of this part as they have under PURPA, unless further defined in this part.

(b) *Definitions.* The following definitions apply for purposes of this part.

(1) "Qualifying facility" means a cogeneration facility or a small power production facility which is a qualifying facility under Subpart B of this part of the Commission's regulations.

(2) "Purchase" means the purchase of electric energy or capacity or both from a qualifying facility by an electric utility.

(3) "Sale" means the sale of electric energy or capacity or both by an electric utility to a qualifying facility.

(4) "System emergency" means a condition on a utility's system which is likely to result in imminent significant disruption of service to customers or is imminently likely to endanger life or property.

(5) "Rate" means any price, rate, charge, or classification made, demanded, observed or received with respect to the sale or purchase of electric energy or capacity, or any rule, regulation, or practice respecting any such rate, charge, or classification, and any contract pertaining to the sale or purchase of electric energy or capacity.

(6) "Avoided costs" means the incremental costs to an electric utility of electric energy or capacity or both which, but for the purchase from the qualifying facility or qualifying facilities, such utility would generate itself or purchase from another source.

(7) "Interconnection costs" means the reasonable costs of connection, switching, metering, transmission, distribution, safety provisions and administrative costs incurred by the electric utility directly related to the installation and maintenance of the physical facilities necessary to permit interconnected operations with a qualifying facility, to the extent such costs are in excess of the corresponding costs which the electric utility would have incurred if it had not engaged in interconnected operations, but instead generated an equivalent amount of electric energy itself or purchased an equivalent amount of electric energy or capacity from other sources. Interconnection costs do not include any costs included in the calculation of avoided costs.

(8) "Supplementary power" means electric energy or capacity supplied by an electric utility, regularly used by a qualifying facility in addition to that which the facility generates itself.

(9) "Back-up power" means electric energy or capacity supplied by an electric utility to replace energy ordinarily generated by a facility's own generation equipment during an unscheduled outage of the facility.

(10) "Interruptible power" means electric energy or capacity supplied by an electric utility subject to interruption by the electric utility under specified conditions.

(11) "Maintenance power" means electric energy or capacity supplied by an electric utility during scheduled outages of the qualifying facility.

## Subpart B—[Reserved]

## Subpart C—Arrangements Between Electric Utilities and Qualifying Cogeneration and Small Power Production Facilities Under Section 210 of the Public Utility Regulatory Policies Act of 1978

### § 292.301 Scope.

(a) *Applicability.* This subpart applies to the regulation of sales and purchases between qualifying facilities and electric utilities.

(b) *Negotiated rates or terms.* Nothing in this subpart:

(1) Limits the authority of any electric utility or any qualifying facility to agree to a rate for any purchase, or terms or conditions relating to any purchase, which differ from the rate or terms or conditions which would otherwise be required by this subpart; or

(2) Affects the validity of any contract entered into between a qualifying facility and an electric utility for any purchase.

### § 292.302 Availability of electric utility system cost data.

(a) *Applicability.* (1) Except as provided in paragraph (a)(2) of this section, paragraph (b) applies to each electric utility, in any calendar year, if the total sales of electric energy by such utility for purposes other than resale exceeded 500 million kilowatt-hours during any calendar year beginning after December 31, 1975, and before the immediately preceding calendar year.

(2) Each utility having total sales of electric energy for purposes other than resale of less than one billion kilowatt-hours during any calendar year beginning after December 31, 1975, and before the immediately preceding year, shall not be subject to the provisions of this section until May 31, 1982.

(b) *General rule.* To make available data from which avoided costs may be derived, not later than November 1, 1980, May 31, 1982, and not less often than every two years thereafter, each regulated electric utility described in paragraph (a) of this section shall provide to its State regulatory authority, and shall maintain for public inspection, and each nonregulated electric utility described in paragraph (a) of this section shall maintain for public inspection, the following data:

(1) The estimated avoided cost on the electric utility's system, solely with respect to the energy component, for various levels of purchases from qualifying facilities. Such levels of purchases shall be stated in blocks of not more than 100 megawatts for systems with peak demand of 1000 megawatts or more, and in blocks equivalent to not more than 10 percent of the system peak demand for systems of less than 1000 megawatts. The avoided costs shall be stated on a cents per kilowatt-hour basis, during daily and seasonal peak and off-peak periods, by year, for the current calendar year and each of the next 5 years;

(2) The electric utility's plan for the addition of capacity by amount and type, for purchases of firm energy and capacity, and for capacity retirements for each year during the succeeding 10 years; and

(3) The estimated capacity costs at completion of the planned capacity additions and planned capacity firm purchases, on the basis of dollars per kilowatt, and the associated energy costs of each unit, expressed in cents per kilowatt hour. These costs shall be expressed in terms of individual generating units and of individual planned firm purchases.

(c) *Special rule for small electric utilities.*

(1) Each electric utility (other than any electric utility to which paragraph (b) of this section applies) shall, upon request:

(i) Provide comparable data to that required under paragraph (b) of this section to enable qualifying facilities to estimate the electric utility's avoided costs for periods described in paragraph (b) of this section; or

(ii) With regard to an electric utility which is legally obligated to obtain all its requirements for electric energy and capacity from another electric utility, provide the data of its supplying utility and the rates at which it currently purchases such energy and capacity.

(2) If any such electric utility fails to provide such information on request, the qualifying facility may apply to the State regulatory authority (which has ratemaking authority over the electric utility) or the Commission for an order requiring that the information be provided.

(d) *Substitution of alternative method.* (1) After public notice in the area served by the electric utility, and after opportunity for public comment, any State regulatory authority may require (with respect to any electric utility over which it has ratemaking authority), or any non-regulated electric utility may provide, data different than those which are otherwise required by this section if it determines that avoided costs can be derived from such data.

(2) Any State regulatory authority (with respect to any electric utility over which it has ratemaking authority) or nonregulated utility which requires such different data shall notify the Commission within 30 days of making such determination.

(e) *State Review.* (1) Any data submitted by an electric utility under this section shall be subject to review by the State regulatory authority which has ratemaking authority over such electric utility.

(2) In any such review, the electric utility has the burden of coming forward with justification for its data.

**§ 292.303 Electric utility obligations under this subpart.**

(a) *Obligation to purchase from qualifying facilities.* Each electric utility shall purchase, in accordance with § 292.304, any energy and capacity which is made available from a qualifying facility:

(1) Directly to the electric utility; or

(2) Indirectly to the electric utility in accordance with paragraph (d) of this section.

(b) *Obligation to sell to qualifying facilities.* Each electric utility shall sell to any qualifying facility, in accordance with § 292.305, any energy and capacity requested by the qualifying facility.

(c) *Obligation to interconnect.* (1) Subject to paragraph (c)(2) of this section, any electric utility shall make such interconnections with any qualifying facility as may be necessary to accomplish purchases or sales under this subpart. The obligation to pay for any interconnection costs shall be determined in accordance with § 292.306.

(2) No electric utility is required to interconnect with any qualifying facility if, solely by reason of purchases or sales over the interconnection, the electric utility would become subject to regulation as a public utility under Part II of the Federal Power Act.

(d) *Transmission to other electric utilities.* If a qualifying facility agrees, an electric utility which would otherwise be obligated to purchase energy or capacity from such qualifying facility may transmit the energy or capacity to any other electric utility. Any electric utility to which such energy or capacity is transmitted shall purchase such energy or capacity under this subpart as if the qualifying facility were supplying energy or capacity directly to such electric utility. The rate for purchase by the electric utility to which such energy is transmitted shall be adjusted up or down to reflect line losses pursuant to § 292.304(e)(4) and shall not include any charges for transmission

(e) *Parallel operation.* Each electric utility shall offer to operate in parallel with a qualifying facility, provided that the qualifying facility complies with any applicable standards established in accordance with § 292.308.

**§ 292.304 Rates for purchases.**

(a) *Rates for purchases.* (1) Rates for purchases shall:

(i) Be just and reasonable to the electric consumer of the electric utility and in the public interest; and

(ii) Not discriminate against qualifying cogeneration and small power production facilities.

(2) Nothing in this subpart requires any electric utility to pay more than the avoided costs for purchases.

(b) *Relationship to avoided costs.* (1) For purposes of this paragraph, "new capacity" means any purchase from capacity of a qualifying facility, construction of which was commenced on or after November 9, 1978.

(2) Subject to paragraph (b)(3) of this section, a rate for purchases satisfies the requirements of paragraph (a) of this section if the rate equals the avoided costs determined after consideration of the factors set forth in paragraph (e) of this section

(3) A rate for purchases (other than from new capacity) may be less than the avoided cost if the State regulatory authority (with respect to any electric utility over which it has ratemaking authority) or the nonregulated electric utility determines that a lower rate is consistent with paragraph (a) of this section, and is sufficient to encourage cogeneration and small power production.

(4) Rates for purchases from new capacity shall be in accordance with paragraph (b)(2) of this section, regardless of whether the electric utility making such purchases is simultaneously making sales to the qualifying facility.

(5) In the case in which the rates for purchases are based upon estimates of avoided costs over the specific term of the contract or other legally enforceable obligation, the rates for such purchases do not violate this subpart if the rates for such purchases differ from avoided costs at the time of delivery.

(c) *Standard rates for purchases.* (1) There shall be put into effect (with respect to each electric utility) standard rates for purchases from qualifying facilities with a design capacity of 100 kilowatts or less.

(2) There may be put into effect standard rates for purchases from qualifying facilities with a design capacity of more than 100 kilowatts.

(3) The standard rates for purchases under this paragraph:

(i) Shall be consistent with paragraphs (a) and (e) of this section; and

(ii) May differentiate among qualifying facilities using various technologies on the basis of the supply characteristics of the different technologies.

(d) *Purchases "as available" or pursuant to a legally enforceable obligation.* Each qualifying facility shall have the option either:

(1) To provide energy as the qualifying facility determines such energy to be available for such purchases, in which case the rates for such purchases shall be based on the purchasing utility's avoided costs calculated at the time of delivery; or

(2) To provide energy or capacity pursuant to a legally enforceable obligation for the delivery of energy or capacity over a specified term, in which case the rates for such purchases shall, at the option of the qualifying facility exercised prior to the beginning of the specified term, be based on either:

(i) The avoided costs calculated at the time of delivery; or

(ii) The avoided costs calculated at the time the obligation is incurred.

(e) *Factors affecting rates for purchases.* In determining avoided costs, the following factors shall, to the extent practicable, be taken into account:

(1) The data provided pursuant to § 292.302(b), (c), or (d), including State review of any such data;

(2) The availability of capacity or energy from a qualifying facility during the system daily and seasonal peak periods, including:

(i) The ability of the utility to dispatch the qualifying facility;

(ii) The expected or demonstrated reliability of the qualifying facility;

(iii) The terms of any contract or other legally enforceable obligation, including the duration of the obligation, termination notice requirement and sanctions for non-compliance;

(iv) The extent to which scheduled outages of the qualifying facility can be usefully coordinated with scheduled outages of the utility's facilities;

(v) The usefulness of energy and capacity supplied from a qualifying facility during system emergencies, including its ability to separate its load from its generation;

(vi) The individual and aggregate value of energy and capacity from qualifying facilities on the electric utility's system; and

(vii) The smaller capacity increments and the shorter lead times available with additions of capacity from qualifying facilities; and

(3) The relationship of the availability of energy or capacity from the qualifying facility as derived in paragraph (e)(2) of this section, to the ability of the electric utility to avoid costs, including the deferral of capacity additions and the reduction of fossil fuel use; and

(4) The costs or savings resulting from variations in line losses from those that would have existed in the absence of purchases from a qualifying facility, if the purchasing electric utility generated an equivalent amount of energy itself or purchased an equivalent amount of electric energy or capacity.

(f) *Periods during which purchases not required.*

(1) Any electric utility which gives notice pursuant to paragraph (f)(2) of this section will not be required to purchase electric energy or capacity during any period during which, due to operational circumstances, purchases from qualifying facilities will result in costs greater than those which the utility would incur if it did not make such purchases, but instead generated an equivalent amount of energy itself.

(2) Any electric utility seeking to invoke paragraph (f)(1) of this section must notify, in accordance with applicable State law or regulation, each affected qualifying facility in time for the qualifying facility to cease the delivery of energy or capacity to the electric utility.

(3) Any electric utility which fails to comply with the provisions of paragraph (f)(2) of this section will be required to pay the same rate for such purchase of energy or capacity as would be required had the period described in paragraph (f)(1) of this section not occurred.

(4) A claim by an electric utility that such a period has occurred or will occur is subject to such verification by its State regulatory authority as the State regulatory authority determines necessary or appropriate, either before or after the occurrence.

**§ 292.305 Rates for sales.**

(a) *General rules.* (1) Rates for sales:

(i) Shall be just and reasonable and in the public interest; and

(ii) Shall not discriminate against any qualifying facility in comparison to rates for sales to other customers served by the electric utility.

(2) Rates for sales which are based on accurate data and consistent systemwide costing principles shall not be considered to discriminate against any qualifying facility to the extent that such rates apply to the utility's other customers with similar load or other cost-related characteristics.

(b) *Additional Services to be Provided to Qualifying Facilities.* (1) Upon request of a qualifying facility, each electric utility shall provide:

(i) Supplementary power;

(ii) Back-up power;

(iii) Maintenance power; and

(iv) Interruptible power.

(2) The State regulatory authority (with respect to any electric utility over which it has ratemaking authority) and the Commission (with respect to any nonregulated electric utility) may waive any requirement of paragraph (b)(1) of this section if, after notice in the area served by the electric utility and after opportunity for public comment, the electric utility demonstrates and the State regulatory authority or the Commission, as the case may be, finds that compliance with such requirement will:

(i) Impair the electric utility's ability to render adequate service to its customers; or

(ii) Place an undue burden on the electric utility.

(c) *Rates for sales of back-up and maintenance power.* The rate for sales of back-up power or maintenance power:

(1) shall not be based upon an assumption (unless supported by factual data) that forced outages or other reductions in electric output by all qualifying facilities on an electric utility's system will occur simultaneously, or during the system peak, or both; and

(2) shall take into account the extent to which scheduled outages of the qualifying facilities can be usefully coordinated with scheduled outages of the utility's facilities.

**§ 292.306 Interconnection costs.**

(a) *Obligation to pay.* Each qualifying facility shall be obligated to pay any interconnection costs which the State regulatory authority (with respect to any electric utility over which it has ratemaking authority) or nonregulated electric utility may assess against the qualifying facility on a nondiscriminatory basis with respect to other customers with similar load characteristics.

(b) *Reimbursement of interconnection costs.* Each State regulatory authority (with respect to any electric utility over which it has ratemaking authority) and nonregulated utility shall determine the manner for payments of interconnection costs, which may include reimbursement over a reasonable period of time.

**§ 292.307 System emergencies.**

(a) *Qualifying facility obligation to provide power during system emergencies.* A qualifying facility shall be required to provide energy or capacity to an electric utility during a system emergency only to the extent:

(1) Provided by agreement between such qualifying facility and electric utility; or

(2) Ordered under section 202(c) of the Federal Power Act.

(b) *Discontinuance of purchases and sales during system emergencies.* During any system emergency, an electric utility may discontinue:

(1) Purchases from a qualifying facility if such purchases would contribute to such emergency; and

(2) Sales to a qualifying facility, provided that such discontinuance is on a nondiscriminatory basis.

**§ 292.308 Standards for operating reliability.**

Any State regulatory authority (with respect to any electric utility over which it has ratemaking authority) or nonregulated electric utility may establish reasonable standards to ensure system safety and reliability of interconnected operations. Such standards may be recommended by any electric utility, any qualifying facility, or any other person. If any State regulatory authority (with respect to any electric utility over which it has ratemaking authority) or nonregulated electric utility establishes such standards, it shall specify the need for such standards on the basis of system safety and reliability.

## Subpart D—Implementation

**§ 292.401 Implementation by State regulatory authorities and nonregulated electric utilities.**

(a) *State regulatory authorities.* Not later than one year after these rules take effect, each State regulatory authority shall, after notice and an opportunity for public hearing, commence implementation of Subpart C (other than § 292.302 thereof). Such implementation may consist of the issuance of regulations, an undertaking to resolve disputes between qualifying facilities and electric utilities arising under Subpart C, or any other action reasonably designed to implement such subpart (other than § 292.302 thereof).

(b) *Nonregulated electric utilities.* Not later than one year after these rules take effect, each nonregulated electric utility shall, after notice and an opportunity for public hearing, commence implementation of Subpart C (other than § 292.302 thereof). Such implementation may consist of the issuance of regulations, an undertaking to comply with Subpart C, or any other action reasonably designed to implement such subpart (other than § 292.302 thereof).

(c) *Reporting requirement.* Not later than one year after these rules take effect, each State regulatory authority and nonreguated electric utility shall file with the Commission a report describing the manner in which it will implement Subpart C (other than § 292.302 thereof).

**§ 292.402 Implementation of certain reporting requirements.**

Any electric utility which fails to comply with the requirements of § 292.302(b) shall be subject to the same penalties to which it may be subjected for failure to comply with the requirements of the Commission's regulations issued under section 133 of PURPA.

**§ 292.403 Waivers.**

(a) *State regulatory authority and nonregulated electric utility waivers.* Any State regulatory authority (with respect to any electric utility over which it has ratemaking authority) or nonregulated electric utility may, after public notice in the area served by the electric utility, apply for a waiver from the application of any of the requirements of Subpart C (other than § 292.302 thereof).

(b) *Commission action.* The Commission will grant such a wavier only if an applicant under paragraph (a) of this section demonstrates that compliance with any of the requirements of Subpart C is not necessary to encourage cogeneration and small power production and is not otherwise required under section 210 of PURPA.

**Subpart F—Exemption of Qualifying Small Power Production Facilities and Cogeneration Facilities from Certain Federal and State Laws and Regulations**

**§ 292.601 Exemption to qualifying facilities from the Federal Power Act.**

(a) *Applicability.* This section applies to:

(1) qualifying cogeneration facilities: and

(2) qualifying small power production facilities which have a power production capacity which does not exceed 30 megawatts.

(b) *General rule.* Any qualifying facility described in paragraph (a) shall be exempt from all sections of the Federal Power Act, except:

(1) Sections 1–30;

(2) Sections 202(c), 210, 211, and 212;

(3) Sections 305(c); and

(4) Any necessary enforcement provision of Part III with regard to the sections listed in paragraphs (b) (1), (2) and (3) of this section.

**§ 292.602 Exemption to qualifying facilities from the Public Utility Holding Company Act and certain State law and regulation.**

(a) *Applicability.* This section applies to any qualifying facility described in § 292.601(a), and to any qualifying small power production facility with a power production capacity over 30 megawatts if such facility produces electric energy solely by the use of biomass as a primary energy source.

(b) *Exemption from the Public Utility Holding Company Act of 1935.* A qualifying facility described in paragraph (a) shall not be considered to be an "electric utility company" as defined in section 2(a)(3) of the Public Utility Holding Company Act of 1935, 15 U.S.C. 79b(a)(3).

(c) *Exemption from certain State law and regulation.*

(1) Any qualifying facility shall be exempted (except as provided in paragraph (c)(2)) of this section from State law or regulation respecting:

(i) The rates of electric utilities; and

(ii) The financial and organizational regulation of electric utilities.

(2) A qualifying facility may not be exempted from State law and regulation implementing Subpart C.

(3) Upon request of a State regulatory authority or nonregulated electric utility, the Commission may consider a limitation on the exemptions specified in subparagraph (1).

(4) Upon request of any person, the Commission may determine whether a qualifying facility is exempt from a particular State law or regulation.

[FR Doc. 80-5720 Filed 2-22-80; 8:45 am]

BILLING CODE 6450-85-M

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24126 Wednesday, April 9, 1980

**18 CFR Part 292**

**[Docket No. RM79-55]**

**Rates and Exemptions for Qualifying Small Power Production and Cogeneration Facilities; Correction**

April 3, 1980.

**AGENCY:** Federal Energy Regulatory Commission, DOE.

**ACTION:** Erratum notice.

**SUMMARY:** This notice contains a correction of § 292.302 (a) and (b) of the Federal Energy Regulatory Commission's final regulations.

**FOR FURTHER INFORMATION CONTACT:** Deborah Gottheil, Office of the General Counsel, Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, D.C. 20426 (202) 357-8000.

**SUPPLEMENTARY INFORMATION:** In the Federal Energy Regulatory Commission's Final Regulations, issued February 19, 1980, entitled Regulations Under Section 210 of the Public Utility Regulatory Policies Act of 1978 (45 FR 12214, February 25, 1980), at 45 FR 12234, in § 292.302 (a) and (b), the reference to May 31, 1982 should be changed to June 30, 1982. This revision will accurately carry out the Commission's intent, as stated in the preamble to the rule, to "conform to the dates required by the Commission's regulations implementing section 133 of PURPA."

Kenneth F. Plumb,

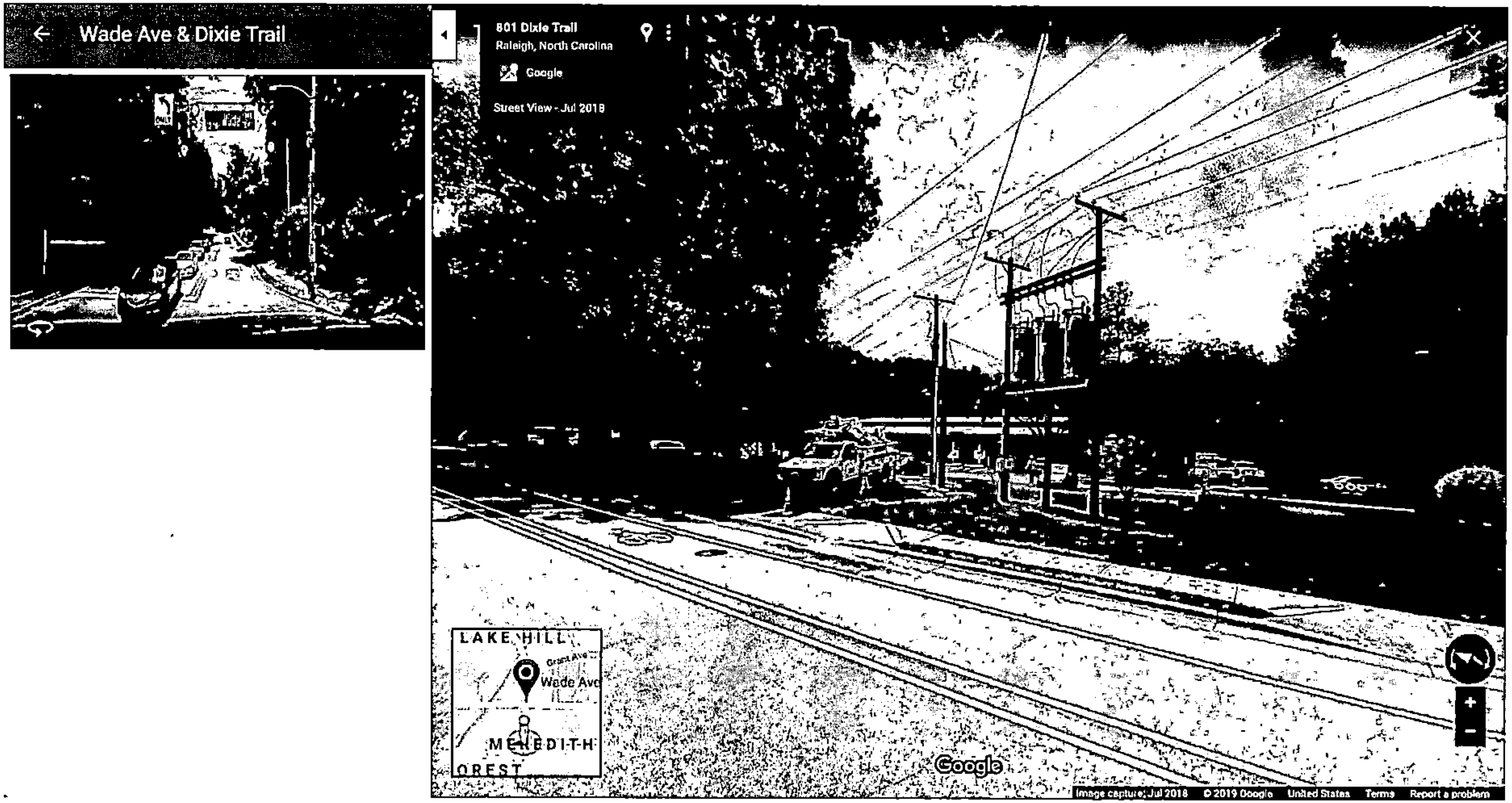
*Secretary.*

[FR Doc. 80-10766 Filed 4-8-80; 8:45 am]

BILLING CODE 6450-35-M

I/A

NCSEA Duke Cross Exhibit 3



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NCSEA Duke Cross Exhibit 4



**North Carolina** Transmission Planning Collaborative

# Report on the NCTPC 2018-2028 Collaborative Transmission Plan

**December 7, 2018**

**DRAFT REPORT**

# 2018 – 2028 NCTPC Transmission Plan
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# I. Executive Summary

The North Carolina Transmission Planning Collaborative ("NCTPC") was established to:

1) provide the Participants (Duke Energy Carolinas ("DEC"), Duke Energy Progress ("DEP"), North Carolina Electric Membership Corporation ("NCEMC"), and ElectriCities of North Carolina and other stakeholders an opportunity to participate in the electric transmission planning process for the areas of North Carolina and South Carolina served by the Participants;

2) preserve the integrity of the current reliability and least-cost planning processes;

3) expand the transmission planning process to include analysis of increasing transmission access to supply resources inside and outside the Balancing Authority Areas ("BAAs") of DEC and DEP; and

4) develop a single coordinated transmission plan for the Participants that includes Reliability and Local Economic Study Transmission Planning while appropriately balancing costs, benefits and risks associated with the use of transmission and generation resources.

The overall NCTPC Process is performed annually and includes the Reliability Planning and Local Economic Study Planning Processes, which are intended to be concurrent and iterative in nature. The NCTPC Process is designed such that there will be considerable feedback and iteration between the two processes as each effort's solution alternatives affect the other's solutions.

The 2017-2027 Collaborative Transmission Plan (the "2017 Collaborative Transmission Plan" or the "2017 Plan") was published in January 2018.

This report documents the current 2018 – 2028 Collaborative Transmission Plan ("2018 Collaborative Transmission Plan" or the "2018 Plan") for the Participants. The initial sections of this report provide an overview of the NCTPC Process as well as the specifics of the 2018 reliability planning study scope and methodology. The NCTPC Process document and 2018 Study scope document are posted in their entirety on the NCTPC website at http://www.nctpc.org/nctpc/.

The scope of the 2018 reliability planning process was focused on the annual base reliability study. The base reliability study assessed the reliability of the transmission systems of both DEC and DEP in order to ensure reliability of service in accordance with North American Electric Reliability Corporation ("NERC"), SERC Reliability Corporation ("SERC"), and DEC and DEP requirements. The purpose of the base reliability study was to evaluate the transmission systems' ability to meet load growth projected for 2018 through 2028 with the Participants' planned Designated Network Resources ("DNRs").

The 2018 Study[1] model included the following modelling assumptions related to CPLW upgrades:

- DEP assumed that Asheville 1 and 2 coal units will be shut down in all three study cases, and the two planned Asheville combined cycle ("CC") units (260/280 MW Summer/Winter each, 520/560 MW Summer/Winter total) were added to all three study cases.

- One of the planned Asheville CC units was connected to the Asheville 230 kV switchyard and the other was connected to the Asheville 115 kV switchyard. The 2023 summer case includes a CPLW import of 37 MW (23 MW from SCPSA, and 14 MW from TVA).

- The 2023/2024 winter case includes a CPLW import of 287 MW (100 MW from CPLE, 150 MW from DEC-Rowan, 23 MW from SCPSA, and 14 MW from TVA). The 2028/2029 winter case includes a CPLW import of 364 MW (200 MW from

[1] The term "2018 Study" is a generic term referring to all the study work that was done in 2018 which includes the reliability analysis as well the additional stress tests to the transmission systems of DEC and DEP as a part of the Reliability Planning Process.

CPLE, 150 MW from DEC-Rowan, 0 MW from SCPSA, and 14 MW from TVA).

- To meet the remaining CPLW load, CPLW generation was dispatched in the following order: Walters, Marshall, planned Asheville CC units, and finally the existing Asheville CTs. The projects needed for the installation of these units were modeled in the cases.

Based on the study's input assumptions, the 2018 Study allowed for identification of any new system impacts not currently addressed by existing transmission plans, in which case solutions were developed. The 2018 Study also allowed for adjustments to existing plans where necessary.

The NCTPC reliability study results affirmed that the planned DEC and DEP transmission projects identified in the 2017 Plan continue to satisfactorily address the reliability concerns identified in the 2018 Study for the near-term (5 year) and the long-term (10 year) planning horizons. The 2018 Plan is detailed in Appendix B which identifies the new and updated projects planned with an estimated cost of greater than $10 million.

The total estimated cost for the 19 reliability projects included in the 2018 Plan is $657 million as documented in Appendix B. This compares to the 2017 Plan estimate of $426 million for 17 reliability projects. In-service dates and cost estimates for some projects that are planned or underway have been revised based on updated information. See Appendix D for a detailed comparison of this year's Plan to the 2017 Plan.

The list of major projects will continue to be modified on an ongoing basis as new improvements are identified through the NCTPC Process and projects are completed or eliminated from the list. Appendix C provides a more detailed description of each project in the 2018 Plan.

The 2018 Plan, relative to the 2017 Plan, includes 4 new DEC projects and 1 new DEP project.

The 4 new DEC projects in the 2018 Plan are:

- Windmere 100 kV Line (Dan River-Sadler), Construct
- NTE II, Generator Interconnection
- Wilkes 230/100 kV Tie Station, Construct
- Ballantyne Switching Station, Construct

The 1 new DEP project in the 2018 Plan is:

- Craggy-Enka 230kV Line, Construct

There are revised in-service dates, estimated cost changes, and scope changes for the following DEC and DEP projects:

- Raeford 230 kV substation, project to loop-in Richmond - Ft Bragg Woodruff St 230 kV Line and the added third bank had an increase in estimated cost.
- Durham - RTP 230 kV Line Reconductor had its in-service date pushed out.
- Jacksonville - Grants Creek 230 kV Line and Grants Creek 230/115 kV Substation project had an increase in estimated cost.
- Newport - Harlowe 230 kV Line, Newport SS and Harlowe 230/115 kV Substation had an increase in estimated cost.
- Fort Bragg Woodruff St. 230 kV Sub, project to replace 150 MVA 230/115 kV transformer with two 300 MVA banks and reconductor Manchester 115 kV feeder was placed in service 2/24/2017 and was removed.
- Sutton - Castle Hayne 115 kV North line Rebuild had an increase in estimated cost and its in-service date was pushed out.
- Harley 100 kV Lines (Tiger - Campobello) Reconductor had a decrease in estimated cost, and its in-service date was pushed out.
- Asheboro-Asheboro East 115kV North Line Reconductor had an increase in estimated cost.

- Delco 230kV Substation, Convert to Double Breaker had an increase in estimated cost.

- Castle Hayne 230kV Substation, Convert to Double Breaker was placed in service 6/1/2018.

- Asheville Plant, Replace 2-300 MVA 230/115 kV Banks with 2-400 MVA Banks, Reconductor 115 kV Ties to Switchyard, Upgrade Breakers, and Add 230 kV Capacitor Bank was placed in service 11/1/2018.

No Public Policy Study requests were received from TAG stakeholders by the February 7$^{th}$ deadline for the 2018 Study year. Therefore there were no evaluations of Public Policy impacts as a part of the 2018 Study.

For a variety of reasons (such as load growth, generation retirements, or power purchase agreements expiring), LSEs may wish to evaluate other resource supply options to meet future load demand. These resource supply options can be either in the form of transactions or some "hypothetical" generators which are added to meet the resource adequacy requirements for this study.

In 2017, the Planning Working Group ("PWG") analyzed resource supply options that examined the impacts of sixteen different hypothetical transfers into and out of the DEC and DEP systems.

In 2018, the Oversight Steering Committee ("OSC") decided to evaluate six potential economic development sites in North Carolina[2] as part of the Local Economic Study Process. The potential economic development sites were selected to evaluate the transmission system impact of 300 MW of new load at each site where the customer can choose their electric service provider. The six economic development sites selected are listed in Table 1 below:

[2] https://edpnc.com/relocate-or-expand/available-sites-location-data/

**Table 1**
**Local Economic Studies**
**2028/2029 Hypothetical Loads (300 MW)**

| Name | Latitude (°) | Longitude (°) | BAA |
|---|---|---|---|
| Chatham-Siler City Advanced Manufacturing Site | 35.74167067 | -79.5412302 | DEP |
| GTP Parcel 1 | 35.32759074 | -77.61823654 | DEP |
| Highway 70 East | 35.751578 | -80.761313 | DEC |
| Peppercorn Plantation | 35.82102763 | -80.84566802 | DEC |
| SouthPark Phase II – Duplin County Business & Industry | 34.760981 | -77.969416 | DEP |
| US 401 North Site | 35.169472 | -78.846784 | DEP |

In this 2018 NCTPC Process, the Participants validated and continued to build on the information learned from previous years' efforts. Each year the Participants will look for ways to improve and enhance the planning process. The study process confirmed again this year that the joint planning approach produces benefits for all Participants that would not have been realized without a collaborative effort.

# II. North Carolina Transmission Planning Collaborative Process

## II.A. Overview of the Process

The NCTPC Process was established by the Participants to:

1) provide the Participants (DEC, DEP, North Carolina Electric Membership Corporation, and ElectriCities of North Carolina) and other stakeholders an opportunity to participate in the electric transmission planning process for the areas of North Carolina and South Carolina served by the Participants;

2) preserve the integrity of the current reliability and least-cost planning processes;

3) expand the transmission planning process to include analysis of increasing transmission access to supply resources inside and outside the Balancing Authority Areas of DEC and DEP; and

4) develop a single coordinated transmission plan for the Participants that includes reliability and economic considerations while appropriately balancing costs, benefits and risks associated with the use of transmission and generation resources.

The NCTPC Process is a coordinated Local Transmission Planning process conducted on an annual basis. The entire, iterative process ultimately results in a single Local Transmission Plan that appropriately balances the costs, benefits and risks associated with the use of transmission, generation, and demand-side resources. The Local Transmission Plan will identify local transmission projects (Local Projects). A Local Project is defined as a transmission facility that is (1) located solely within the combined DEC-DEP transmission system footprint and (2) not selected in the regional transmission plan for purposes of regional cost allocation.

The Local Planning Process addresses transmission upgrades needed to maintain reliability and to integrate new generation resources and/or loads. The overall Local Planning Process includes several components:

- Reliability Planning Process
- Resource Supply Options Process
- Local Economic Study Process
- Local Public Policy Process

The Reliability Planning Process (base reliability study) evaluates each Transmission System's ability to meet projected load with a defined set of resources as well as the needs of firm point-to-point customers, whose needs are reflected in their transmission contracts and reservations. The Resource Supply Options Process is conducted to evaluate transmission system impacts for other potential resource supply options to meet future load requirements.

The overall Local Planning Process is designed such that there will be considerable feedback and iteration between the Reliability Planning Process and Resource Supply Options Process. This is necessary as the alternative solutions from one process affect the alternative solutions in the other process.

The Local Economic Study Process allows the TAG participants to propose economic upgrades to be studied as part of the Local Planning Process. This process evaluates the means to increase transmission access to potential supply resources inside and outside the Balancing Authority Areas of the DEC and DEP. This economic analysis provides the opportunity to study the transmission upgrades that would be required to reliably integrate new resources.

The Local Public Policy Process identifies if there are any public policies that are driving the need for local projects. Either the OSC or the TAG could identify those public policies that may drive the need for local transmission.

The Oversight Steering Committee ("OSC") manages the NCTPC Process. The PWG implements the development of the NCTPC Process and coordinates the study development. The Transmission Advisory Group ("TAG") provides advice and makes recommendations regarding the development of the NCTPC Process and the study results.

The final results of the Local Planning Process include summaries of the estimated costs and schedules to provide any transmission upgrades and/or additions needed to maintain a sufficient level of reliability necessary to serve customers. Throughout the Local Planning Process, TAG participants (including TAG participants representing transmission solutions, generation solutions, and solutions utilizing demand resources) may participate.

The purpose of the NCTPC Process is more fully described in the current Participation Agreement which is posted at http://www.nctpc.org/nctpc/.

## II.B. Reliability Planning Process and Resource Supply Options Processes

The Reliability Planning Process is the Transmission Planning Process that has traditionally been used by the transmission owners to provide safe and reliable transmission service at the lowest reasonable cost. Through the NCTPC, this Transmission Planning Process was expanded to include the active participation of the Participants and input from other stakeholders through the TAG.

The Reliability Planning Process is designed to follow the steps outlined below. The OSC approves the scope of the reliability study, oversees the study analysis being performed by the PWG, evaluates the study results, and approves the final reliability study results. The Reliability Planning Process begins with the incumbent transmission owners' most recent reliability planning studies and planned transmission upgrade projects.

In addition, the PWG solicits input from the Participants for different scenarios on where to include alternative supply resources to meet their load demand forecasts in the study. This is known as the Resource Supply Options Process. This step provides the opportunity for the Participants to propose the evaluation of other resource supply options to meet future load demand due to load growth, generation retirements, or the expiration of purchase power agreements. The PWG analyzes the proposed interchange transactions and/or the location of generators to determine if those transactions or generators create any reliability criteria violations. Based on this analysis, the PWG provides feedback to the Participants on the viability of the proposed interchange transactions or generator locations for meeting future load requirements. The PWG coordinates the development of the reliability study and the resource supply option study based upon the OSC-approved scope and prepares a report with the recommended transmission reliability solutions.

The overall Local Planning Process is designed such that there will be considerable feedback and iteration between the Reliability Planning Process and the Resource Supply Options Process. This is necessary as the alternative solutions from one process may affect the alternative solutions in the other process.

The results of the Reliability Planning Process include summaries of the estimated costs and schedules to provide any transmission upgrades and/or additions: (i) needed to maintain a sufficient level of reliability necessary to serve the native load of all Participants and (ii) needed to reliably support the resource supply options studied. The reliability study results are reviewed with the TAG, and the TAG participants are given an opportunity to provide comments on the results. All TAG feedback is reviewed by the OSC for consideration for incorporation into the final Collaborative Transmission Plan.

For the 2018 Study, the NCTPC evaluated no resource supply scenarios.

## II.C. *Local Economic Study Process*

The Local Economic Study Process allows the TAG participants to propose economic hypothetical transfers to be studied as part of the Local Planning Process. The Local Economic Study Process provides the means to evaluate the impact of potential supply resources inside and outside the BAAs of the Transmission Providers. This local economic analysis provides the opportunity to study what transmission upgrades would be required to reliably integrate new resources.

The Local Economic Study Process begins with the TAG members proposing scenarios and interfaces to be studied. The proposed scenarios and interfaces are compiled by the PWG and then evaluated by the OSC to determine which ones will be included for analysis in the current planning cycle.

The OSC approves the scope of the local economic study scenarios (including any changes in the assumptions and study from those used in the reliability analysis), oversees the study analysis being coordinated by the PWG, evaluates the study results, and approves the final local economic study results.

The PWG coordinates the development of the local economic studies based upon the OSC-approved scope and prepares a report which identifies recommended transmission solutions that could increase transmission access.

The results of the Local Economic Study Process include the estimated costs and schedules to provide the increased transmission capabilities. The local economic study results are reviewed with the TAG, and the TAG participants are given an opportunity to provide comments on the results. All TAG feedback is reviewed by the OSC for consideration for incorporation into the final Local Transmission Plan.

While the overall NCTPC Process includes both a Reliability Planning

Process and the Local Economic Study Process, some planning cycles may only focus on the Reliability Planning Process if stakeholders do not request any economic study scenarios for a particular planning cycle.

For the 2018 Study, the NCTPC evaluated six potential economic development sites in North Carolina.

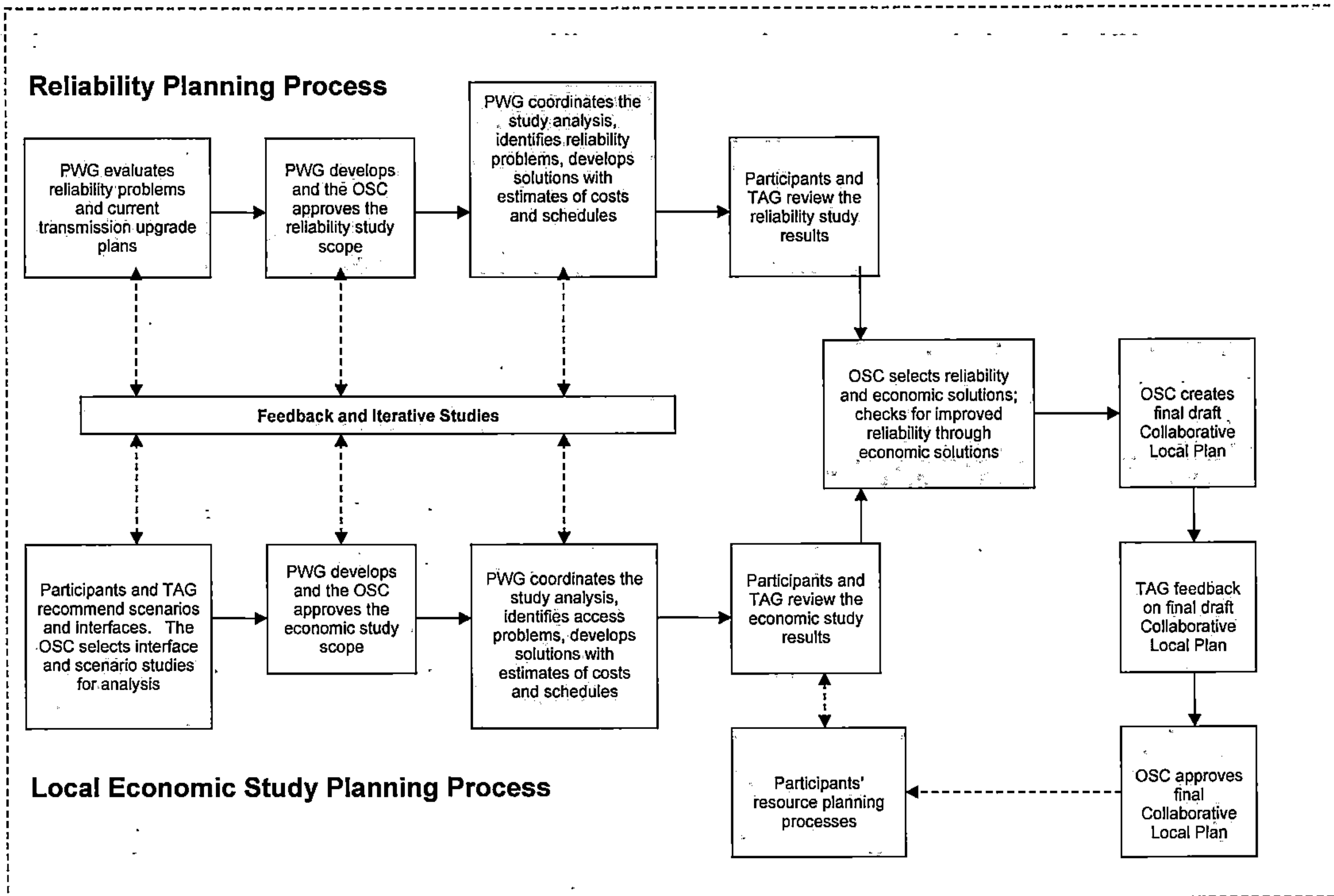
## II.D. *Local Public Policy Process*

Each year, the OSC will determine if there are any public policies driving the need for local transmission upgrades. Through this process the OSC will seek input from TAG participants to identify any public policy impacts to be evaluated as part of the Local Planning Process. The OSC may itself identify public policies to be evaluated. The OSC will use the criteria below to determine if there are any public policies driving the need for local transmission as follows:

- The public policy must be reflected in state, federal, or local law or regulation (including order of a state, federal, or local agency).
- There must be existence of facts showing that the identified need cannot be met absent the construction of additional transmission facilities.

For the 2018 Study, the NCTPC evaluated no local public policy impacts as no public policy requests were received from TAG stakeholders by the deadline of February 7, 2018. Local public policy requests will be solicited again for the 2019 Study and included if appropriate.

## 2018 NCTPC Process Flow Chart



## II.E. Local Transmission Plan

Once the reliability and local economic studies are completed, including any evaluations due to public policies, the OSC evaluates the results and the PWG recommendations to determine if any proposed economic projects and/or resource supply option projects will be incorporated into the Local Transmission Plan. If so, the initial plan developed based on the results of the reliability studies is modified accordingly. This process results in a single Local Transmission Plan being developed that appropriately balances the costs, benefits and risks associated with the use of transmission and generation resources. This plan is reviewed with the TAG, and the TAG participants are given an opportunity to provide comments. All TAG feedback is reviewed by the OSC for consideration for incorporation into the final Local Transmission Plan..

The annual Local Transmission Plan information is available to Participants for identification of any alternative least cost resources for potential inclusion in their respective Integrated Resource Plans. Other stakeholders can similarly use this information for their resource planning purposes.

# III. 2018 Reliability Planning Study Scope and Methodology

The scope of the 2018 Reliability Planning Process was focused on the annual base reliability study. The base reliability study assessed the transmission systems of both DEC and DEP in order to ensure reliability of service in accordance with North American Electric Reliability Corporation ("NERC"), SERC Reliability Corporation ("SERC"), and DEC and DEP requirements. The 2018 Study models assume that DEP's Asheville 1 and 2 coal units were shut down in all three study cases, and the two planned Asheville combined cycle (CC) units (260/280 MW Summer/Winter each, 520/560 MW total Summer/Winter total) were added to all three study cases. One of the planned Asheville CC units was connected to the Asheville 230 kV switchyard and the other was connected to the Asheville 115 kV switchyard. The purpose of the base reliability study was to evaluate the transmission systems' ability to meet load growth projected for 2023 summer through 2028/2029 winter with the Participants' planned Designated Network Resources ("DNRs"). The 2018 Study allowed for identification of any new system impacts not currently addressed by existing transmission plans in which case solutions were developed. The 2018 Study also allowed for adjustments to existing plans where necessary.

## *III.A. Assumptions*

### 1. Study Year and Planning Horizon

The 2018 Plan addressed a ten-year planning horizon through 2028. The study years chosen for the 2018 Study are listed in Table 2.

**Table 2**
**Study Years**

| Study Year / Season | Analysis |
|---|---|
| 2023 Summer | Near-term base reliability |
| 2023/2024 Winter | Near-term base reliability |
| 2028/2029 Winter | Long-term base reliability |

To identify projects required in years other than the base study years of 2023, 2023/2024 and 2028/2029, line loading results for those base study years were extrapolated into future years assuming the line loading growth rates in Table 3. This allowed assessment of transmission needs throughout the planning horizon. The line loading growth rates are based on each BAAs individual load growth projection at the time the study process was initiated.

**Table 3**
**Line Loading Growth Rates**

| Company | Line Loading Growth Rate |
|---|---|
| DEC[3] | 1.2 % per year (summer)<br>1.2% per year (winter) |
| DEP | 0.8% per year (summer)<br>0.7% per year (winter) |

## 2. Network Modeling

The network models developed for the 2018 Study included new transmission facilities and upgrades for the 2023, 2023/2024 and 2028/2029 models, as appropriate, from the current transmission plans of DEC and DEP and from the 2017 Plan. Table 4 lists the planned major transmission facility projects (with an estimated cost of $10 million or more each) included in the 2023, 2023/2024 and 2028/2029 models. Table 5 lists the generation facility changes included in the 2023, 2023/2024 and 2028/2029 models.

[3] For the purpose of planning a transmission system with appropriate robustness, DEC line loading growth rates shown in Table 3 exceed the growth rates provided in DEC's IRP.

**Table 4**

**Major Transmission Facility Projects Included in Models**

| Company | Transmission Facility | 2023 | 2028/2029 |
|---|---|---|---|
| DEP | Raeford 230 kV Substation, Loop-in Richmond - Ft Bragg Woodruff St 230 kV Line and add 3rd bank | Yes | Yes |
| DEP | Jacksonville - Grants Creek 230 kV Line, Grants Creek 230/115 kV Substation | Yes | Yes |
| DEP | Newport - Harlowe 230 kV Line, Newport Switching Station, Harlowe 230/115 kV Substation | Yes | Yes |
| DEP | Sutton - Castle Hayne 115 kV North line rebuild | Yes | Yes |
| DEP | Asheville Plant, Replace 2-300 MVA 230/115 kV banks with 2-400 MVA banks, reconductor 115 kV ties to switchyard, upgrade breakers, and add 230 kV capacitor bank | Yes | Yes |
| DEP | Cane River 230 kV Substation, Construct 150 MVAR SVC | Yes | Yes |
| DEP | Asheboro-Asheboro East 115kV North Line, Reconductor | Yes | Yes |
| DEC | Orchard Tie 230/100 kV Tie Station, Construct | Yes | Yes |

**Table 5**
**Major Generation[4] Facility Changes in Models**

| Company | Generation Facility | 2023 | 2028/2029 |
|---|---|---|---|
| DEC | Added Lee CC (776 MW) | Yes | Yes |
| DEC | Added Kings Mountain Energy CC (452 MW) | Yes | Yes |
| DEC | Added Lincoln County CT (402 MW) | No | Yes |
| DEC | Added Reidsville Energy Center (477 MW) | Yes | Yes |
| DEC | Retired Allen 1-3 (617 MW) | No | Yes |
| DEC | Retired Allen 4-5 (564 MW) | No | Yes |
| DEP | Asheville 1-2 not dispatched | Yes | Yes |
| DEP | Added Asheville CC (2 x 280 MW) | Yes | Yes |
| DEP | Frazier Solar (50.2 MW) | Yes | Yes |
| DEP | Buckleberry Canal Solar (52.1 MW) | Yes | Yes |
| DEP | Willard Solar (34.2 MW) | Yes | Yes |
| DEP | Louisburg Fox Creek Solar (49.3 MW) | Yes | Yes |
| DEP | Sandy Bottom Solar (48.9 MW) | Yes | Yes |

## 3. Interchange and Generation Dispatch

Each Participant provided a resource dispatch order for each of its DNRs for the DEC and DEP BAAs. Generation was dispatched for each Participant to meet that Participant's load in accordance with the designated dispatch order.

DEC models distribution-connected generation as being netted against the load at the transmission bus. Transmission-connected generation is modeled if it is either in-service or has an executed generator

[4] Major Generation Threshold is considered to be 20 MW or greater and connected to the transmission system

interconnection agreement at the time the models are built. Because only transmission-connected generation is modeled explicitly, the following assumptions do not apply to distribution-connected generation. Solar generation is available for dispatch up to the generator interconnection agreement value but is only dispatched at 80% of that value in summer models. This level of dispatch is jurisdiction-specific and is supported by operating data that can be reflective of various factors such as geography and plant design. Solar generation is not dispatched in winter models. These dispatch assumptions reflect the expected solar generation output coincident with the DEC peak load. DEC models 201 MW of transmission-connected solar generation available for dispatch, dispatched consistent with the aforementioned dispatch assumptions.

DEP models solar generation in its power flow cases that is either in-service or has an executed generator interconnection agreement at the time the models are built. This includes transmission-connected as well as distribution-connected solar generation. The current 2023 summer power flow case has approximately 735 MW of transmission-connected and 1446 MW of distribution-connected solar generation for a total of 2181 MW. In its summer peak cases, DEP scales the solar generation down to 50% of its maximum capacity to approximate the amount of solar generation that will be on-line coincident with the DEP peak load. This level of dispatch is jurisdiction-specific and is supported by operating data that can be reflective of various factors such as geography and plant design. For winter peak studies, DEP makes the assumption that no solar generation will be available at the time of the winter peak. DEP models all transmission upgrades that are determined necessary by the respective generation interconnection studies.

## *III.B. Study Criteria*

The results of the base reliability study, the resource supply option study and the local economic study were evaluated using established planning criteria. The planning criteria used to evaluate the results include:

1) NERC Reliability Standards;
2) SERC requirements; and
3) Individual company criteria.

## III.C. Case Development

The base case for the base reliability study was developed using the most current 2017 series NERC Multiregional Modeling Working Group ('MMWG") model for the systems external to DEC and DEP. The MMWG model of the external systems, in accordance with NERC MMWG criteria, included modeling known long-term firm transmission reservations. Detailed internal models of the DEC and DEP East/West systems were merged into the base case, including DEC and DEP transmission additions planned to be in service by the period under study. In the base cases, all confirmed long-term firm transmission reservations with roll-over rights were modeled.

## III.D. Transmission Reliability Margin

NERC defines Transmission Reliability Margin as:

> *The amount of transmission transfer capability necessary to provide reasonable assurance that the interconnected transmission network will be secure. TRM accounts for the inherent uncertainty in system conditions and the need for operating flexibility to ensure reliable system operation as system conditions change.*

DEP's reliability planning studies model all confirmed transmission obligations for its BAA in its base case. Included in this is TRM for use by all LSEs. TRM is composed of contracted VACAR reserve sharing and inrush impacts. DEP models TRM by scheduling the reserved amount on actual reserved interfaces as posted on the DEP Open Access Same-time Information System ("OASIS").

In the planning horizon, DEC ensures VACAR reserve sharing requirements can be met through decrementing Total Transfer Capability ("TTC") by the TRM value required on each interface. Sufficient TRM is maintained on all DEC - VACAR interfaces to allow both export and import of the required VACAR reserves. DEC posts the TRM value for each interface on the DEC OASIS.

Both DEP and DEC ensure that TRM is maintained consistent with NERC requirements. The major difference between the methodologies used in planning by the two companies to calculate TRM is that DEP uses a flow-based methodology, while DEC decrements previously calculated TTC values on each interface.

## III.E. Technical Analysis and Study Results

Contingency screenings on the base case and scenarios were performed using Power System Simulator for Engineering ("PSS/E") power flow or equivalent. Each transmission planner simulated its own transmission and generation down contingencies on its own transmission system.

DEC created generator maintenance cases that assume a major unit is removed from service and the system is economically redispatched to make up for the loss of generation.

Generator maintenance cases were developed for the following units:

| | | |
|---|---|---|
| Allen 4 | Allen 5 | Bad Creek 1 |
| Belews Creek 1 | Catawba 1 | Cliffside 5 |
| Cliffside 6 | Broad River 1 | Mill Creek 1 |
| Jocassee 1 | Lee 3 | Marshall 3 |
| McGuire 1 | McGuire 2 | Nantahala |
| Oconee 1 | Oconee 3 | Buck CC |
| Dan River CC | Rowan CC | Rockingham 1 |
| Thorpe | Lincoln 1 | Lee CC |

DEP created generation down cases which included the use of TRM, as discussed in Section III.D. DEP TRM cases model interchange to avoid netting against imports, thereby creating a worst case import scenario. To model this worst case import scenario for TRM, cases were developed from the 2023 summer, 2023/2024 winter and 2028/2029 winter peak base cases. TRM cases were developed for the following units:

| | |
|---|---|
| Brunswick 1 | Robinson 2 |
| Harris | Asheville CC1 |

To understand impacts on each other's system, DEC and DEP have exchanged their transmission contingency and monitored elements files in order for each company to simulate the impact of the other company's contingencies on its own transmission system. In addition, each company coordinated generation adjustments to accurately reflect the impact of each company's generation patterns.

The technical analysis was performed in accordance with the study methodology. The results from the technical analysis for the DEC and DEP systems were shared with all Participants. Solutions of known issues within DEC and DEP were discussed. New or emerging issues identified in the 2018 Study were also discussed with all Participants so that all are aware of potential issues. Appropriate solutions were developed and tested.

The results of the technical analysis were discussed throughout the study area based on thermal loadings greater than 90% for base reliability, and greater than 80% for resource supply options and local economic studies to allow evaluation of project acceleration.

## *III.F. Assessment and Problem Identification*

DEC and DEP performed an assessment in accordance with the methodology and criteria discussed earlier in this section of this report, with the analysis work shared by DEC and DEP. The reliability issues identified from the assessments of both the base reliability cases and the local economic study scenarios were documented and shared within the PWG. These results will be reviewed and discussed with the stakeholder group for feedback.

## *III.G. Solution Development*

The 2018 Study performed by the PWG confirmed base reliability problems already identified (i) by DEC and DEP in company-specific planning studies performed individually by the transmission owners and (ii) by the 2017 Study. The PWG participated in the review of potential solution alternatives to the identified base reliability problems and to the issues identified in the resource supply option analysis. The solution alternatives were simulated using the same assumptions and criteria described in Sections III.A through III.E. DEC and DEP developed planning cost estimates and construction schedules for the solution alternatives.

## *III.H. Selection of Preferred Reliability Solutions*

For the base reliability study, the PWG compared solution alternatives and selected the preferred solution, balancing cost, benefit and risk. The PWG selected a preferred set of transmission improvements that provide a reliable and cost-effective transmission solution to meet customers' needs while prudently managing the associated risks.

## *III.I. Contrast NCTPC Report to Other Regional Transfer Assessments*

For both the DEC and DEP BAAs, the results of the PWG study are consistent with SERC Long-Term Study Group ("LTSG") studies performed for similar timeframes. LTSG studies have recently been performed for 2022 winter and 2023 summer timeframes. The limiting facilities identified in the PWG study of base reliability have been previously identified in the LTSG studies for similar scenarios. These limiting facilities have also been identified in the individual transmission owner's internal assessments required by NERC reliability standards.

# IV. Base Reliability Study Results

The 2018 Study verified that DEC and DEP have projects already planned to address reliability concerns for the near-term (5 year) and long-term (10 year) planning horizons. There were no unforeseen problems identified in the reliability studies performed on the base cases.

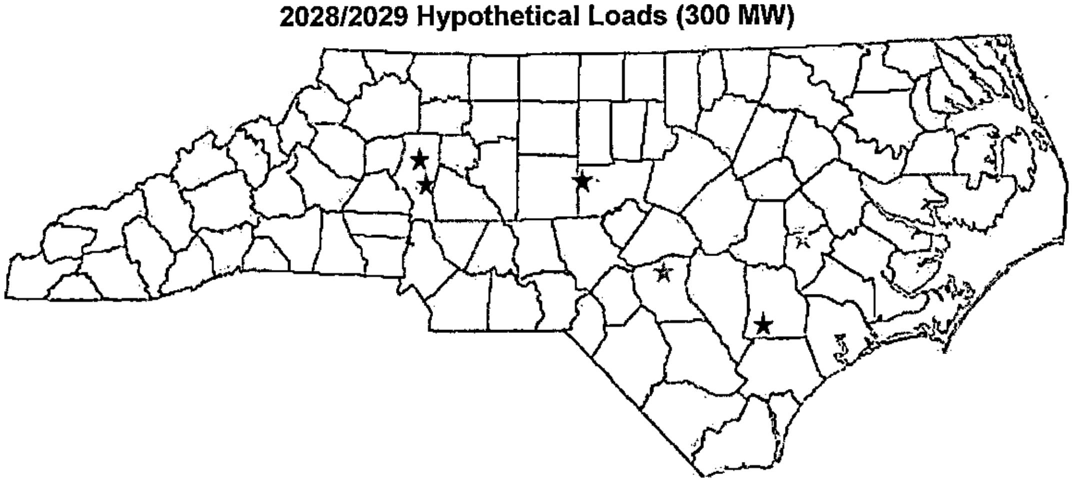
The 2018 Plan is detailed in Appendix B which identifies the new and updated projects planned with an estimated cost of greater than $10 million. Projects in the 2018 Plan are those projects identified in the base reliability study. For each of these projects, Appendix B provides the project status, the estimated cost, the planned in-service date, and the estimated time to complete the project.

The total estimated cost for the 19 reliability projects included in the 2018 Plan is $657 million as documented in Appendix B. This compares to the 2017 Plan estimate of $426 million for 17 reliability projects. In-service dates and cost estimates for some projects that are planned or underway have been revised based on updated information. See Appendix D for a detailed comparison of this year's Plan to the 2017 Plan.

## V. Local Economic Study Development Sites Study

In 2018, the PWG analyzed as part of the local economic studies, cases that examine the impacts of 6 hypothetical loads in the DEC and DEP footprints — see Figure 1. Each of these hypothetical loads were analyzed, some in a single case. Where issues requiring solutions within the applicable planning window were identified, alternative solutions were discussed, and a primary set of solutions was determined.

**Figure 1**
**Local Economic Studies**
**2028/2029 Hypothetical Loads (300 MW)**



★Chatham-Siler City Advanced Manufacturing Site
☆GTP Parcel 1
★Highway 70 East
★Peppercorn Plantation
★SouthPark Phase II – Duplin County Business & Industry
★US 401 North Site

The six economic development sites selected are listed in Table 6 below:

**Table 6**

**Local Economic Studies**

**2028/2029 Hypothetical Loads (300 MW) Sites**

| Name | Latitude (°) | Longitude (°) | BAA |
|---|---|---|---|
| Chatham-Siler City Advanced Manufacturing Site | 35.74167067 | -79.5412302 | DEP |
| GTP Parcel 1 | 35.32759074 | -77.61823654 | DEP |
| Highway 70 East | 35.751578 | -80.761313 | DEC |
| Peppercorn Plantation | 35.82102763 | -80.84566802 | DEC |
| SouthPark Phase II – Duplin County Business & Industry | 34.760981 | -77.969416 | DEP |
| US 401 North Site | 35.169472 | -78.846784 | DEP |

For the purpose of this study, interconnection costs describe costs to make the interconnection to the transmission system (i.e. fold-in, station), and network upgrades costs describe additional costs to mitigate thermal loading issues. The estimated Interconnection and Network Upgrade costs for the 6 hypothetical loads are listed in Table 7 below:

**Table 7**

**Local Economic Studies**

**Hypothetical Loads Transmission Costs**

| Name | Estimated Interconnection Costs, $ | Estimated Network Upgrade Costs, $ | BAA |
|---|---|---|---|
| Chatham-Siler City Advanced Manufacturing Site | $ 11,800,000 | $ 15,920,000 | DEP |
| GTP Parcel 1 | $ 23,250,000 | $ 500,000 | DEP |
| Highway 70 East | $ 17,500,000 | $ - | DEC |
| Peppercorn Plantation (Option 1) | $ 28,500,000 | $ - | DEC |
| Peppercorn Plantation (Option 2) | $ 27,000,000 | $ - | DEC |
| SouthPark Phase II – Duplin County Business & Industry | $ 10,300,000 | $ - | DEP |
| US 401 North Site | $ 17,860,000 | $ 24,100,000 | DEP |

# VI. Collaborative Transmission Plan

The 2018 Plan includes 18 reliability projects with an estimated cost of $10 million or more each. These projects are listed in Appendix B. The total estimated cost for these 19 reliability projects in the 2018 Plan is $657 million. This compares to the 2017 Plan estimate of $426 million for 17 reliability projects. In-service dates and cost estimates for some projects that are planned or underway have been revised based on updated information. See Appendix D for a detailed comparison of this year's Plan to the 2017 Plan. The list of major projects will continue to be modified on an ongoing basis as new improvements are identified through the NCTPC Process and projects are completed or eliminated from the list. Appendix C provides a more detailed description of each project in the 2018 Plan, and includes the following information:

1) Reliability Projects: Description of the project.

2) Issue Resolved: Specific driver for project.

3) Status: Status of development of the project as described below:

    a. In-Service – Projects with this status are in-service.
    b. Underway – Projects with this status range from the Transmission Owner having some money in its current year budget for the project to the Transmission Owner having completed some construction activities for the project.
    c. Planned – Projects with this status do not have money in the Transmission Owner's current year budget and the project is subject to change.
    d. Conceptual – Projects with this status are not Planned at this time but will continue to be evaluated as a potential project in the future.
    e. Deferred – Projects with this status were identified in the 2017 Report and have been deferred beyond the end of the planning horizon based on the 2018 Study results.

4) Transmission Owner: Responsible equipment owner designated to design and implement the project.

5) Projected In-Service Date: The date the project is expected to be placed in service.

6) Estimated Cost: The estimated cost, in nominal dollars, which reflects the sum of the estimated annual cash flows over the expected development period for the specific project (typically 2 – 5 years), including direct costs, loadings and overheads; but not including AFUDC. Each year's cash flow is escalated to the year of the expenditures. The sum of the expected cash flows is the estimated cost.

7) Project lead time: Number of years needed to complete project. For projects with the status of Underway, the project lead time is the time remaining to complete construction of the project and place the project in service.

# Appendix A
# Interchange Tables

**2023 SUMMER PEAK, 2023/20242 WINTER PEAK, 2028/2029 WINTER PEAK**

**DUKE ENERGY CAROLINAS**

**DETAILED INTERCHANGE (BASE)**

**Duke Energy Carolinas Modeled Imports – MW**

| | 23S | 23/24W | 28/29W |
|---|---|---|---|
| CPLE (NCEMC-Hamlet) | 4 | 0 | 0 |
| PJM (DVP) | 2 | 2 | 2 |
| SCEG (Chappells) | 2 | 2 | 2 |
| SCPSA (PMPA) | 173 | 57 | 61 |
| SCPSA (Seneca) | 48 | 29 | 31 |
| SEPA (Hartwell) | 155 | 155 | 155 |
| SEPA (Thurmond) | 113 | 113 | 113 |
| SOCO (EU) | 0 | 0 | 670 |
| **Total** | **497** | **358** | **1034** |

**Duke Energy Carolinas Modeled Exports – MW**

| | 23S | 23/24W | 28/29W |
|---|---|---|---|
| CPLE (Broad River) | 850 | 850 | 850 |
| CPLE (NCEMC-Catawba) | 281 | 281 | 281 |
| CPLE (CPLC) | 150 | 0 | 0 |
| CPLW (Rowan) | 0 | 150 | 150 |
| PJM (NCEMC-Catawba) | 100 | 100 | 100 |
| SCPSA (Haile) | 10 | 10 | 10 |
| **Total** | **1391** | **1391** | **1391** |

**Duke Energy Carolinas Net Interchange – MW**

| | 23S | 23/24W | 28/29W |
|---|---|---|---|
| | **894** | **1033** | **357** |

Note: Positive net interchange indicates an export and negative interchange an import.

**2023 SUMMER PEAK, 2023/2024 WINTER PEAK, 2028/2029 DUKE ENERGY PROGRESS (EAST)**

**DETAILED INTERCHANGE (BASE)**



**Duke Energy Progress (East) Modeled Imports – MW**

| | 23S | 23/24W | 28/29W |
|---|---|---|---|
| PJM (NCEMC-AEP) | 100 | 100 | 100 |
| DUK (Broad River) | 850 | 850 | 850 |
| DUK (NCEMC-Catawba) | 281 | 281 | 281 |
| DUK (CPLC) | 150 | 0 | 0 |
| PJM (SEPA-KERR) | 95 | 95 | 95 |
| **Total** | **1476** | **1326** | **1326** |

**Duke Energy Progress (East) Modeled Exports – MW**

| | 23S | 23/24W | 28/29W |
|---|---|---|---|
| CPLW (Transfer) | 0 | 100 | 200 |
| PJM (Ingenco) | 6 | 6 | 6 |
| PJM (NCEMC-Hamlet) | 165 | 165 | 165 |
| DUK (NCEMC-Hamlet) | 4 | 0 | 0 |
| **Total** | **175** | **271** | **371** |

**Duke Energy Progress (East) Net Interchange - MW**

| | 23S | 23/24W | 28/29W |
|---|---|---|---|
| | **-1301** | **-1055** | **-955** |

Note: Positive net interchange indicates an export and negative interchange an import.

## 2023 SUMMER PEAK, 2023/2024 WINTER PEAK, 2028/2029 DUKE ENERGY PROGRESS (WEST)

## DETAILED INTERCHANGE (BASE)

**Duke Energy Progress (West) Modeled Imports – MW**

| | 23S | 23/24W | 28/29W |
|---|---|---|---|
| CPLE (Transfer) | 0 | 100 | 200 |
| DUK (Rowan) | 0 | 150 | 150 |
| SCPSA (Waynesville) | 23 | 23 | 0 |
| TVA (SEPA) | 14 | 14 | 14 |
| **Total** | **37** | **287** | **364** |

**Duke Energy Progress (West) Modeled Exports – MW**

| | 23S | 23/24W | 28/29W |
|---|---|---|---|
| --- | --- | --- | --- |
| **Total** | --- | --- | --- |

**Duke Energy Progress (West) Net Interchange – MW**

| | 23S | 23/24W | 28/29W |
|---|---|---|---|
| | **-37** | **-287** | **-364** |

Note: Positive net interchange indicates an export and negative interchange an import.

**2023 SUMMER PEAK, 2023/2024 WINTER PEAK, 2028/2029 WINTER PEAK**
**DUKE ENERGY PROGRESS (WEST), DUKE ENERGY PROGRESS (EAST)**
**DETAILED INTERCHANGE (TRM)**

**Duke Energy Progress (West) Modeled Imports – MW**

| | 23S, 23/24W, 28/29W |
|---|---|
| AEP (TRM) | 70 |
| DUK (TRM) | 191 |
| TVA (TRM) | 19 |
| **Total** | **280** |

**Duke Energy Progress (East) Modeled Imports – MW**

| | 23S, 23/24W, 28/29W |
|---|---|
| AEP (TRM) | 100 |
| DUK (TRM) | 773 |
| DVP (TRM) | 427 |
| SCEG (TRM) | 200 |
| SCPSA (TRM) | 326 |
| **Total** | **1826** |

Note: Positive net interchange indicates an export and negative interchange an import

Note: Imports and exports for TRM are in addition to Base transfers

# Appendix B
# Transmission Plan Major Project Listings - Reliability Projects

| 2018 Collaborative Transmission Plan – Reliability Projects (Estimated Cost > $10M) | | | | | | |
|---|---|---|---|---|---|---|
| Project ID | Reliability Project | Status[1] | Transmission Owner | Projected In-Service Date | Estimated Cost ($M)[2] | Project Lead Time (Years)[3] |
| 0024 | Durham - RTP 230 kV Line, Reconductor | Conceptual | DEP | TBD | 15 | 4 |
| 0028 | Brunswick #1 – Jacksonville 230 kV Line, Loop into Folkstone 230 kV Substation | Planned | DEP | 6/1/2024 | 14 | 4 |
| 0030 | Raeford 230 kV Substation, Loop-in Richmond - Ft Bragg Woodruff St 230 kV Line and Add 3rd Bank | Underway | DEP | 12/1/2018 | 29 | 0.1 |
| 0031 | Jacksonville - Grants Creek 230 kV Line and Grants Creek 230/115 kV Substation | Underway | DEP | 6/1/2020 | 73 | 2 |
| 0032 | Newport - Harlowe 230 kV Line, Newport SS and Harlowe 230/115 kV Substation | Underway | DEP | 6/1/2020 | 64 | 2 |
| 0034 | Sutton - Castle Hayne 115 kV North Line, Rebuild | Underway | DEP | 12/31/2019 | 25 | 1 |

| 2018 Collaborative Transmission Plan – Reliability Projects (Estimated Cost > $10M) | | | | | | |
|---|---|---|---|---|---|---|
| Project ID | Reliability Project | Status[1] | Transmission Owner | Projected In-Service Date | Estimated Cost ($M)[2] | Project Lead Time (Years)[3] |
| 0036 | Asheville Plant, Replace 2-300 MVA 230/115 kV Banks with 2-400 MVA Banks, Reconductor 115 kV Ties to Switchyard, Upgrade Breakers, and Add 230 kV Capacitor Bank | In-Service | DEP | 11/1/2018 | 40 | - |
| 0037 | Cane River 230 kV Substation, Construct 150 MVAR SVC | Underway | DEP | 6/1/2019 | 42 | 0.5 |
| 0038 | Harley 100 kV Lines (Tiger -Campobello), Reconductor | Conceptual | DEC | TBD | 18 | 3 |
| 0039 | Asheboro-Asheboro East 115kV North Line, Reconductor | Underway | DEP | 6/1/2019 | 15 | 0.5 |
| 0040 | Delco 230kV Substation, Convert to Double Breaker | Underway | DEP | 6/1/2019 | 15 | 0.5 |
| 0041 | Castle Hayne 230kV Substation, Convert to Double Breaker | In-Service | DEP | 6/1/2018 | 11 | - |
| 0042 | Rural Hall 100 kV, Install SVC | Underway | DEC | 12/1/2019 | 50 | 1 |

| 2018 Collaborative Transmission Plan – Reliability Projects (Estimated Cost > $10M) | | | | | | |
|---|---|---|---|---|---|---|
| Project ID | Reliability Project | Status[1] | Transmission Owner | Projected In-Service Date | Estimated Cost ($M)[2] | Project Lead Time (Years)[3] |
| 0043 | Orchard Tie 230/100 kV Tie Station, Construct | Planned | DEC | 12/1/2020 | 80 | 2 |
| 0044 | Reidsville 100 kV Lines (Dan River-Sadler), Reconductor | Removed | DEC | - | - | - |
| 0045 | Wolf Creek 100 kV Lines (Dan River-Sadler), Reconductor | Removed | DEC | - | - | - |
| 0046 | Windmere 100 kV Line (Dan River-Sadler), Construct | Planned | DEC | 12/1/2021 | 26 | 3 |
| 0047 | NTE II, Generator Interconnection | Underway | DEC | 12/1/2021 | 53 | 3 |
| 0048 | Wilkes 230/100 kV Tie Station, Construct | Planned | DEC | 12/1/2023 | 22 | 3 |

| 2018 Collaborative Transmission Plan – Reliability Projects (Estimated Cost > $10M) | | | | | | |
|---|---|---|---|---|---|---|
| **Project ID** | **Reliability Project** | **Status[1]** | **Transmission Owner** | **Projected In-Service Date** | **Estimated Cost ($M)[2]** | **Project Lead Time (Years)[3]** |
| 0049 | Ballantyne Switching Station, Construct | Underway | DEC | 12/1/2019 | 15 | 1 |
| 0050 | Craggy-Enka 230 kV Line, Construct | Conceptual | DEP | 12/1/2025 | 50 | 4 |
| TOTAL | | | | | **657** | |

[1] Status: ***In-service:*** Projects with this status are in-service.

***Underway:*** Projects with this status range from the Transmission Owner having some money in its current year budget for the project to the Transmission Owner having completed some construction activities for the project.

***Planned:*** Projects with this status do not have money in the Transmission Owner's current year budget; and the project is subject to change.

***Conceptual:*** Projects with this status are not *planned* at this time but will continue to be evaluated as a potential project in the future.

***Deferred:*** Projects with this status were identified in the 2017 Report and have been deferred beyond the end of the planning horizon based on analysis performed to develop the 2018 Collaborative Transmission Plan.

[2] The estimated cost is in nominal dollars which reflects the sum of the estimated annual cash flows over the expected development period for the specific project (typically 2 – 5 years), including direct costs, loadings and overheads; but not including AFUDC. Each year's cash flow is escalated to the year of the expenditures. The sum of the expected cash flows is the estimated cost.

[3] For projects with a status of Underway, the project lead time is the time remaining to complete construction and place in-service.

# Appendix C
# Transmission Plan Major Project Descriptions - Reliability Projects

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Note: The estimated cost for each of the projects described in Appendix C is in nominal dollars which reflects the sum of the estimated annual cash flows over the expected development period for the specific project (typically 2 – 5 years), including direct costs, loadings and overheads; but not including AFUDC. Each year's cash flow is escalated to the year of the expenditures. The sum of the expected cash flows is the estimated cost.

# Project ID and Name: 0024 – Durham - RTP 230 kV Line, Reconductor

| **Project Description** |
|---|
| Reconductor approximately 10 miles of 230 kV line with 6-1590 ACSR conductor. |

| | |
|---|---|
| **Status** | Conceptual |
| **Transmission Owner** | DEP |
| **Planned In-Service Date** | TBD |
| **Estimated Time to Complete** | 4 years |
| **Estimated Cost** | $15 M |

| **Narrative Description of the Need for this Project** |
|---|
| With Harris Plant down, a common tower outage of the Method - (DEC) East Durham and the Durham - Method 230 kV Lines will cause an overload of the Durham 500 kV Sub - RTP 230 kV Switching Station Line. |

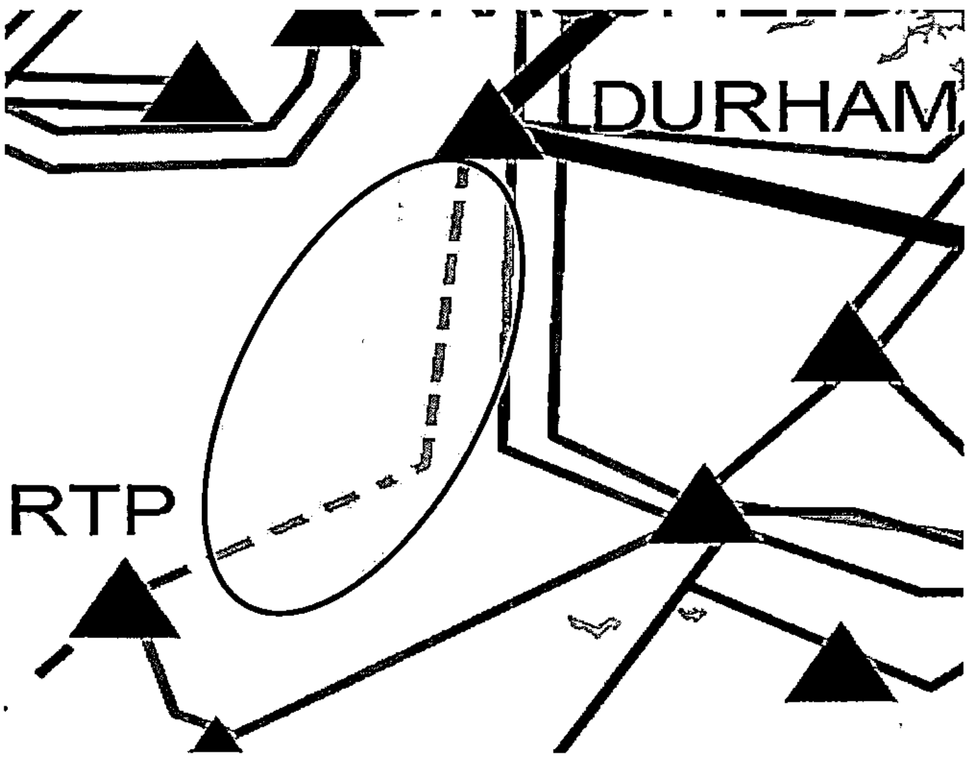
| **Other Transmission Solutions Considered** |
|---|
| Construct a new line between Durham and RTP 230 kV subs. |

| **Why this Project was Selected as the Preferred Solution** |
|---|
| Cost and feasibility. Reconductoring is much more cost effective. |

C-1

## Durham - RTP 230 kV Line

- **NERC Category P3 Violation**
- **Problem:** With Harris Plant down, a common tower outage of the Method - (DEC) East Durham and the Durham - Method 230 kV Lines will cause an overload of the Durham 500 kV Sub - RTP 230 kV Switching Station Line.
- **Solution:** Reconductor approximately 10 miles of 230 kV line with 6-1590 ACSR conductor.



# Project ID and Name: 0028 – Brunswick #1 – Jacksonville 230 kV Line, Loop into Folkstone 230 kV Substation

| Project Description |
|---|
| Loop existing Brunswick Plant Unit 1 – Jacksonville 230 kV Line into the Folkstone 230 kV Substation. Also convert the Folkstone 230 kV bus configuration to breaker-and-one-half by installing three (3) new 230 kV breakers. |

| | |
|---|---|
| **Status** | Planned |
| **Transmission Owner** | DEP |
| **Planned In-Service Date** | 6/1/2024 |
| **Estimated Time to Complete** | 4 years |
| **Estimated Cost** | $14 M |

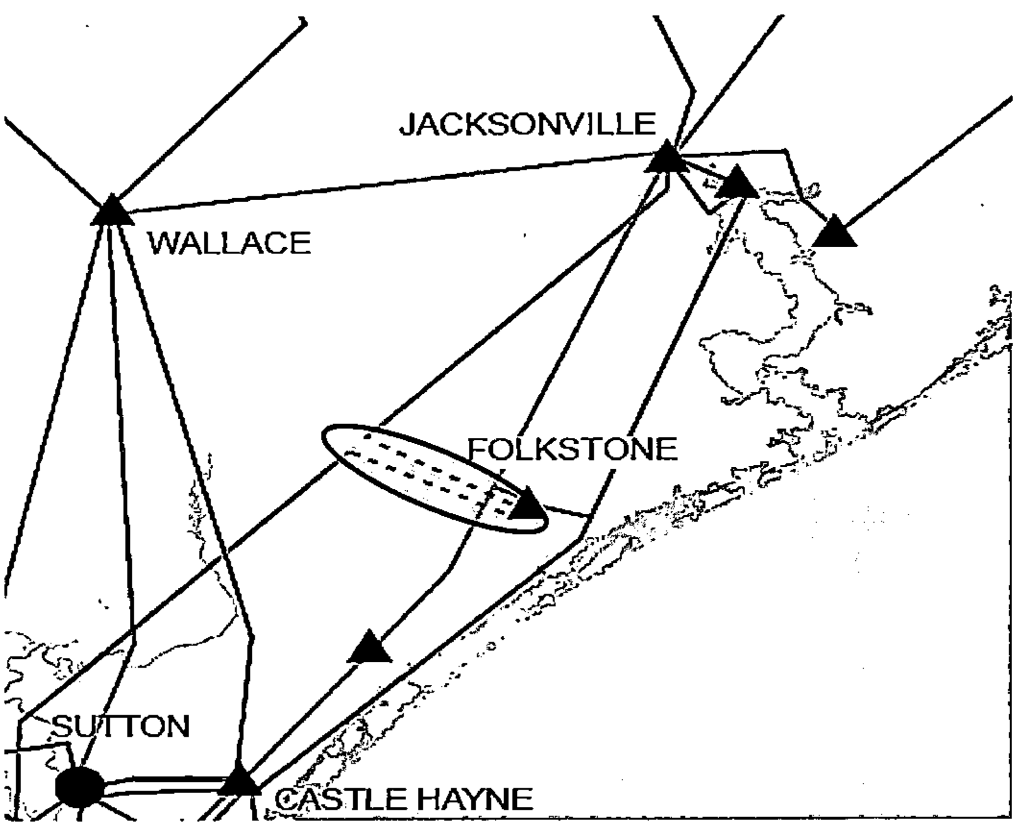
| Narrative Description of the Need for this Project |
|---|
| This project is needed to alleviate loading on the Castle Hayne-Folkstone 115 kV Line under the contingency of losing Castle Hayne-Folkstone 230 kV Line. |

| Other Transmission Solutions Considered |
|---|
| Rebuild, reconductor existing Castle Hayne-Folkstone 115 kV line. |

| Why this Project was Selected as the Preferred Solution |
|---|
| The selected project fixes additional transmission contingencies that the alternate solution does not. |

## Brunswick #1 – Jacksonville 230 kV Line Loop Into Folkstone 230 kV Substation

- **NERC Category P1 Violation**
- **Problem:** Outage of the Folkstone – Jacksonville 230 kV Line can cause the thermal rating of the Folkstone – Jacksonville City 115 kV Line to be exceeded.
- **Solution:** Loop existing Brunswick Plant Unit 1 – Jacksonville 230 kV Line into the Folkstone 230 kV Substation.



# Project ID and Name: 0030 – Raeford 230 kV Substation, Loop-in Richmond - Ft Bragg Woodruff St 230 kV Line and Add 3rd Bank

| Project Description |
|---|
| This project will require the loop-in of the Richmond – Ft. Bragg Woodruff St. 230 kV Line into the Raeford 230kV Substation and add a 300 MVA 230/115kV transformer. |

| | |
|---|---|
| **Status** | Underway |
| **Transmission Owner** | DEP |
| **Planned In-Service Date** | 12/1/2018 |
| **Estimated Time to Complete** | 0.1 year |
| **Estimated Cost** | $29 M |

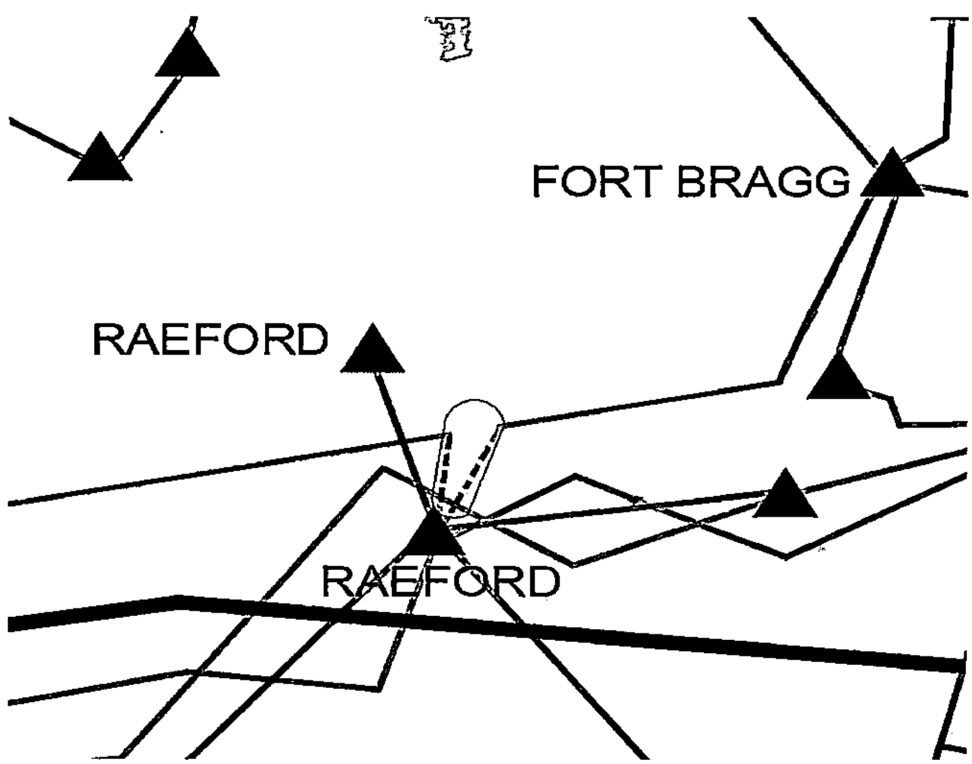
| Narrative Description of the Need for this Project |
|---|
| By 2018, with a Brunswick Unit down, loss of the common tower Fayetteville – Rockingham 230 kV and Fayetteville – Raeford 230 kV Lines may cause the Weatherspoon – Raeford 115 kV Line to overload. In addition, by 2018, the N-1-1 contingency of losing both of the Raeford 230/115 kV, 200 MVA transformers at the Raeford 230 kV Substation may overload the Laurinburg - Raeford 115 kV Line. This project will mitigate each of these contingencies. |

| Other Transmission Solutions Considered |
|---|
| Construct Arabia 230kV Substation. |

| Why this Project was Selected as the Preferred Solution |
|---|
| Arabia had a higher cost and did not mitigate other contingencies of concern. |

## Raeford 230 kV Substation, Loop-in Richmond - Ft Bragg Woodruff St 230 kV Line and Add 3rd Bank

- **NERC Category P5 Violation**
- **Problem:** By 2018, with a Brunswick Unit down, loss of the common tower Fayetteville – Rockingham 230 kV and Fayetteville – Raeford 230 kV Lines may cause the Weatherspoon – Raeford 115 kV Line to overload. In addition, by 2018, the N-1-1 contingency of losing both of the Raeford 230/115 kV, 200 MVA transformers at the Raeford 230 kV Substation may overload the Laurinburg - Raeford 115 kV Line.
- **Solution:** At the Raeford 230kV Substation, loop-in the Richmond – Ft. Bragg Woodruff St. 230 kV Line and add a 300 MVA transformer.



# Project ID and Name: 0031 – Jacksonville - Grants Creek 230 kV Line and Grants Creek 230/115 kV Substation

| Project Description |
|---|
| The project scope consists of constructing a new 230 kV Line from Jacksonville 230 kV to a new 230 kV substation in the Grants Creek area. The 230 kV line shall be constructed with 6-1590 MCM ACSR or equivalent and will convert the existing Jacksonville - Havelock 230 kV Line into Jacksonville - Grants Creek 230 kV Line and Grants Creek - Havelock 230 kV Line. The new 230 kV Grants Creek Substation will be built with 4-230 kV breakers, a new 230/115 kV transformer, and tap into the Jacksonville City - Harmon POD 115 kV Feeder with 1-115 kV breaker. |

| | |
|---|---|
| **Status** | Underway |
| **Transmission Owner** | DEP |
| **Planned In-Service Date** | 6/1/2020 |
| **Estimated Time to Complete** | 1.5 years |
| **Estimated Cost** | $73 M |

| Narrative Description of the Need for this Project |
|---|
| The common tower outage of Jacksonville – Havelock 230 kV Line and Jacksonville – Jacksonville City 115 kV Line may cause the voltages in the Camp Lejeune area to fall below the planning criteria. Also, outage of the Jacksonville - New Bern 230 kV Line may cause the Havelock- Jacksonville 230 kV to overload. |

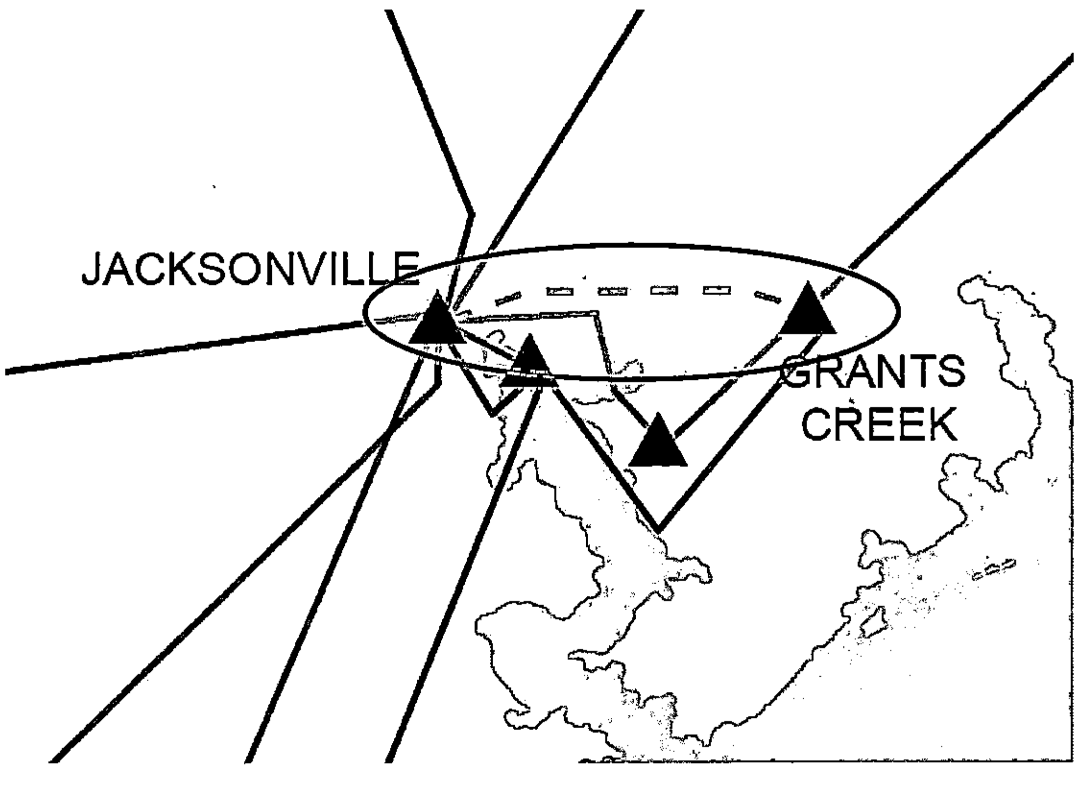
| Other Transmission Solutions Considered |
|---|
| Construct 230 kV feeder from Jacksonville to Camp Lejeune Tap. |

| Why this Project was Selected as the Preferred Solution |
|---|
| The alternate solution was determined to be infeasible due to routing challenges. |

**C-4**

## Jacksonville - Grants Creek 230 kV Line and Grants Creek 230/115 kV Substation

- **NERC Category P7 violation**
- **Problem:** The common tower outage of Jacksonville – Havelock 230 kV Line and Jacksonville – Jacksonville City 115 kV Line may cause the voltages in the Camp Lejeune area to fall below the planning criteria. Also, outage of the Jacksonville - New Bern 230 kV Line may cause the Havelock - Jacksonville 230 kV Line to overload.
- **Solution:** Construct new 230 kV line and substation.



# Project ID and Name: 0032 – Newport - Harlowe 230 kV Line, Newport SS and Harlowe 230/115 kV Substation

| **Project Description** |
|---|
| Construct new 230kV Switching Station in the Newport Area, construct new 230kV Substation in the Harlowe Area, and construct the Newport Area - Harlowe Area 230kV line comprised of 3-1590 MCM ACSR or equivalent. The Newport Area 230kV Switching Station will initially consist of a 3-breaker ring bus but should be laid out for future development as a standard 230/115 kV substation with breaker-and-a-half configuration in the 230kV yard. The Harlowe Area 230kV Substation will initially consist of one 200 MVA (or 300MVA), 230/115kV transformer and 3-115kV breakers, and should be laid out for future development as a standard 230/115 kV substation with breaker-and-a-half configuration in the 230kV yard. |

| | |
|---|---|
| **Status** | Underway |
| **Transmission Owner** | DEP |
| **Planned In-Service Date** | 6/1/2020 |
| **Estimated Time to Complete** | 1.5 years |
| **Estimated Cost** | $64 M |

| **Narrative Description of the Need for this Project** |
|---|
| By summer 2020, an outage of the Havelock terminal of the Havelock - Morehead Wildwood 115 kV North Line will cause the voltages in the Havelock area to fall below planning criteria. The construction of this new line will mitigate this voltage problem. |

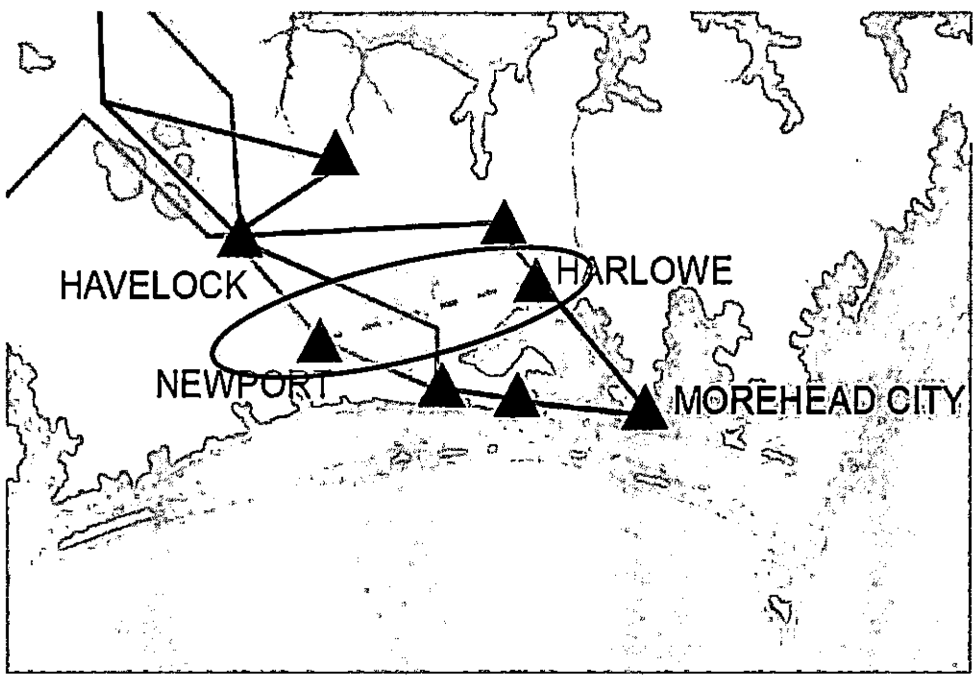
| **Other Transmission Solutions Considered** |
|---|
| Convert Havelock-Morehead Wildwood115 kV North Line to 230 kV. |

| **Why this Project was Selected as the Preferred Solution** |
|---|
| The cost and construction feasibility is much better with selected alternative. |

C-5

## Newport - Harlowe 230 kV Line, Newport SS and Harlowe 230/115 kV Substation

- **NERC Category P1 violation**
- **Problem:** By summer 2020, an outage of the Havelock terminal of the Havelock - Morehead Wildwood 115 kV North Line will cause the voltages in the Havelock area to fall below planning criteria. The construction of this new line will mitigate this voltage problem.
- **Solution:** Construct new 230 kV line, switching station and substation.



# Project ID and Name: 0034 – Sutton - Castle Hayne 115 kV North Line, Rebuild

| Project Description |
|---|
| This project consists of rebuilding the Sutton Plant – Castle Hayne 115 kV North Line using 1272 MCM ACSR conductor or equivalent (approximately 8 miles). The line traps at both Sutton and Castle Hayne terminals will be removed in conjunction with the installation of OPGW. The 800A current transformers at both line terminals will have to be uprated as part of this project. |

| | |
|---|---|
| **Status** | Underway |
| **Transmission Owner** | DEP |
| **Planned In-Service Date** | 12/31/2019 |
| **Estimated Time to Complete** | 1 year |
| **Estimated Cost** | $25 M |

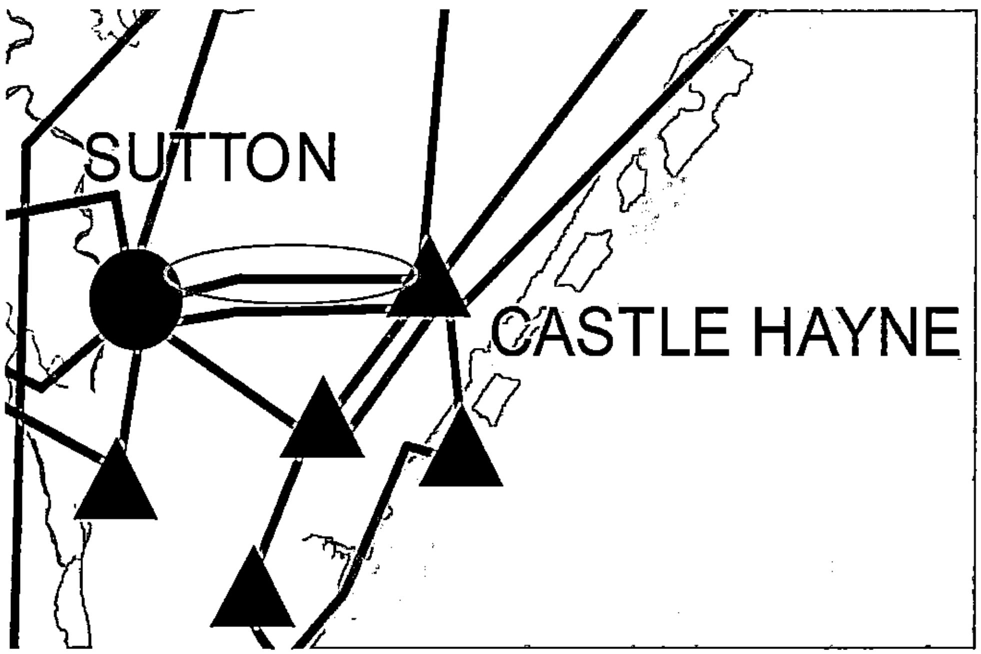
| Narrative Description of the Need for this Project |
|---|
| By 2019, with all area generation online, the loss of the Sutton Plant - Castle Hayne 115 kV South Line will cause the Sutton Plant - Castle Hayne 115 kV North Line to exceed its thermal rating. |

| Other Transmission Solutions Considered |
|---|
| Convert 115 kV line to 230 kV. |

| Why this Project was Selected as the Preferred Solution |
|---|
| Cost and feasibility is much improved with selected alternative. |

## Sutton - Castle Hayne 115 kV North Line, Rebuild

- **NERC Category P1 violation**
- **Problem:** By 2019, with all area generation online, the loss of the Sutton Plant - Castle Hayne 115 kV South Line will cause the Sutton Plant - Castle Hayne 115 kV North Line to exceed its thermal rating.
- **Solution:** Rebuild 115 kV line.



# Project ID and Name: 0036 – Asheville Plant, Replace 2-300 MVA 230/115 kV Banks with 2-400 MVA Banks, Reconductor 115 kV Ties to Switchyard, Upgrade Breakers, and Add 230 kV Capacitor Bank

| Project Description |
|---|
| This project consists of upgrading Asheville Plant to interconnect two combined cycle units. The project includes upgrading the existing 230/115 kV transformers to 400 MVA each, reconductoring the 115 kV north and south transformer tie lines, replacing breakers, and adding a 230 kV capacitor bank. |

| | |
|---|---|
| **Status** | In-Service |
| **Transmission Owner** | DEP |
| **Planned In-Service Date** | 11/1/2018 |
| **Estimated Time to Complete** | - |
| **Estimated Cost** | $40 M |

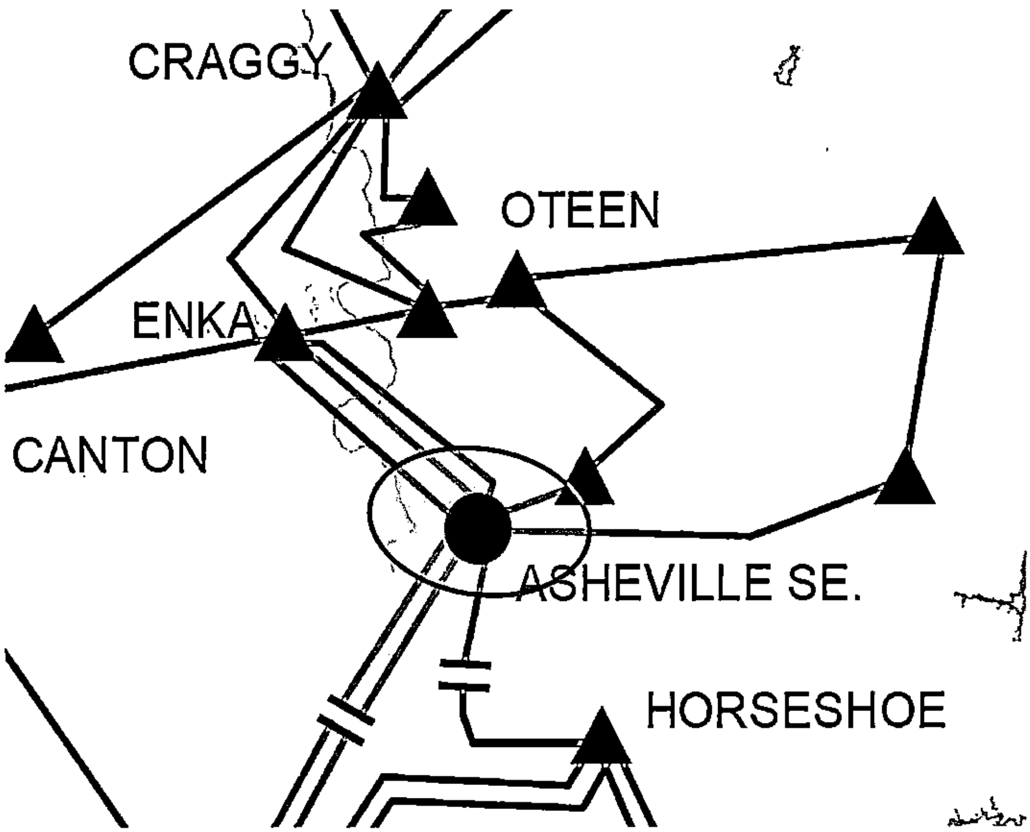
| Narrative Description of the Need for this Project |
|---|
| Interconnect two combined cycle units. |

| Other Transmission Solutions Considered |
|---|
| These are generation interconnection network upgrade facilities without a feasible alternative. |

| Why this Project was Selected as the Preferred Solution |
|---|
| There is not a feasible alternative. |

## Asheville Plant, Replace 2-300 MVA 230/115 kV Banks with 2-400 MVA Banks, Reconductor 115 kV Ties to Switchyard, Upgrade Breakers, and Add 230 kV Capacitor Bank

- **NERC Category P3 violation**
- **Problem:** Interconnect two combined cycle units at Asheville Plant in 2019.
- **Solution:** Upgrade the existing 230/115 kV transformers to 400 MVA each, reconductor the 115 kV north and south transformer tie lines, replace breakers, and add a 230 kV capacitor bank.



# Project ID and Name: 0037 – Cane River 230 kV Substation, Construct 150 MVAR SVC

| Project Description |
|---|
| This project consists of upgrading Cane River 230 kV Substation by adding a +150/-50 MVAR 230 kV static VAR compensator (SVC). |

| | |
|---|---|
| **Status** | Underway |
| **Transmission Owner** | DEP |
| **Planned In-Service Date** | 6/1/2019 |
| **Estimated Time to Complete** | 0.5 years |
| **Estimated Cost** | $42 M |

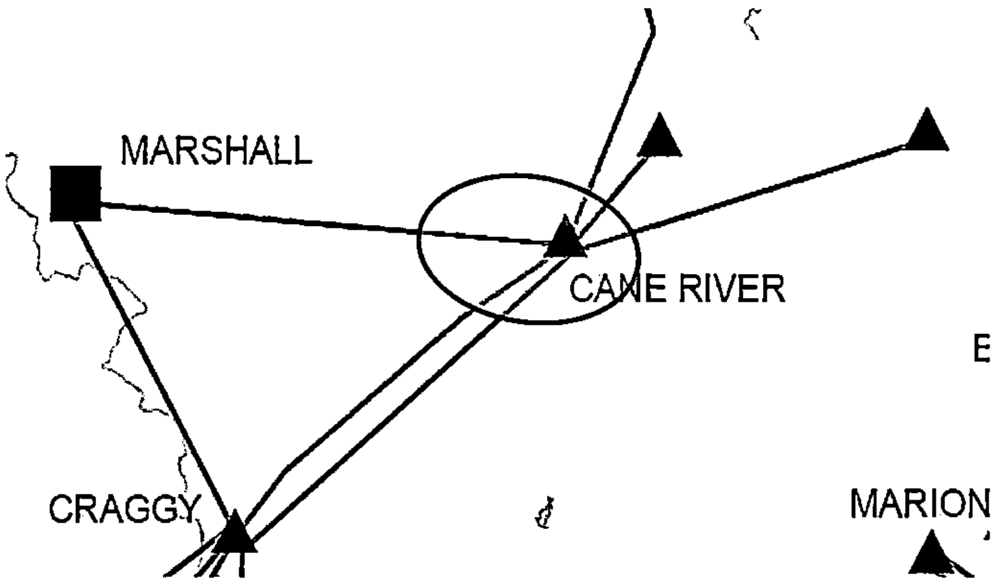
| Narrative Description of the Need for this Project |
|---|
| Interconnect two combined cycle units. |

| Other Transmission Solutions Considered |
|---|
| Considered constructing new interconnections between AEP and DEP. |

| Why this Project was Selected as the Preferred Solution |
|---|
| It was determined that constructing new interconnections was not feasible due to difficulty obtaining ROW. |

## Cane River 230 kV Substation, Construct 150 MVAR SVC

- **NERC Category B violation**
- **Problem:** Interconnect two combined cycle units at Asheville Plant in 2019.
- **Solution:** Upgrade the Cane River 230 kV Substation by adding a 150 MVAR 230 kV static VAR compensator (SVC).



# Project ID and Name: 0038 –Harley 100 kV Lines (Tiger - Campobello), Reconductor

| Project Description |
|---|
| This project consists of rebuilding 11.8 miles of the existing 336 ACSR conductor with 1158 ACSS/TW. |

| | |
|---|---|
| **Status** | Conceptual |
| **Transmission Owner** | DEC |
| **Planned In-Service Date** | TBD |
| **Estimated Time to Complete** | 3 years |
| **Estimated Cost** | $18 M |

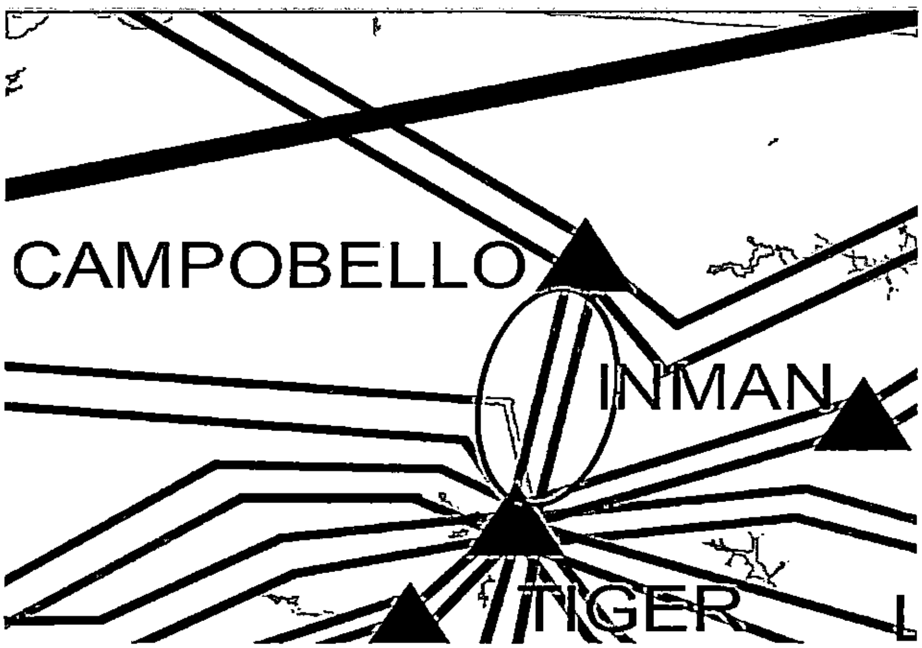
| Narrative Description of the Need for this Project |
|---|
| Under high levels of transfer to CPLW, these lines may become overloaded because they are on one of the two 100 kV paths that connect DEC to CPLW. |

| Other Transmission Solutions Considered |
|---|
| New transmission line(s). |

| Why this Project was Selected as the Preferred Solution |
|---|
| New transmission line(s) would require additional right-of-way, adding to the cost of the project. |

## Harley 100 kV Lines (Tiger - Campobello), Reconductor

- **NERC Category P7 violation**
- **Problem:** The outage of both Pisgah - Shiloh 230 kV lines may overload these lines.
- **Solution:** Rebuild 100 kV lines with higher capacity conductors.



## Project ID and Name: 0039 – Asheboro-Asheboro East 115kV North Line, Reconductor

| **Project Description** |
|---|
| This project consists of rebuilding/reconductoring approximately 6.5 miles of the existing 115kV line using 3-1590 or equivalent conductor. This project requires the replacement of disconnect switches at Asheboro 230kV and the replacement of the breaker, the disconnect switches, and the 115 kV east bus at Asheboro East 115kV associated with this line. Both ends of the line will also require CT/metering equipment upgrades such that they are not the limit to the line rating. The upgraded equipment for this line should be 2000 amp minimum. |

| | |
|---|---|
| **Status** | Underway |
| **Transmission Owner** | DEP |
| **Planned In-Service Date** | 6/1/2019 |
| **Estimated Time to Complete** | 0.5 years |
| **Estimated Cost** | $15 M |

| **Narrative Description of the Need for this Project** |
|---|
| This project is needed to alleviate loading on the Asheboro-Asheboro East 115kV North line under the contingency of losing the Asheboro-Asheboro-East 115kV South line with Harris Plant down. |

| **Other Transmission Solutions Considered** |
|---|
| Construct a new 115kV line from Asheboro to Asheboro East. |

| **Why this Project was Selected as the Preferred Solution** |
|---|
| Cost and feasibility. |

## Asheboro-Asheboro East 115kV North Line, Reconductor

- **NERC Category P3 violation**
- **Problem:** By the summer of 2019, with Harris down, the loss of the Asheboro-Asheboro East 115kV South line will cause the Asheboro-Asheboro East 115kV North line to overload.
- **Solution:** Rebuild/reconductor the Asheboro-Asheboro East 115kV North Line and upgrade equipment.

# Project ID and Name: 0040 – Delco 230kV Substation, Convert to Double Breaker

| Project Description |
|---|
| This project consists of relocating the Cumberland and Brunswick Plant East 230kV Line Terminals, converting the Sutton Plant 230kV Terminal and Brunswick Plant 230kV West Terminal to a double breaker scheme, and converting the Cumberland 230kV Terminal and Brunswick Plant 230kV East Terminal to a double breaker scheme. |

| | |
|---|---|
| **Status** | Underway |
| **Transmission Owner** | DEP |
| **Planned In-Service Date** | 6/1/2019 |
| **Estimated Time to Complete** | 1.5 years |
| **Estimated Cost** | $15 M |

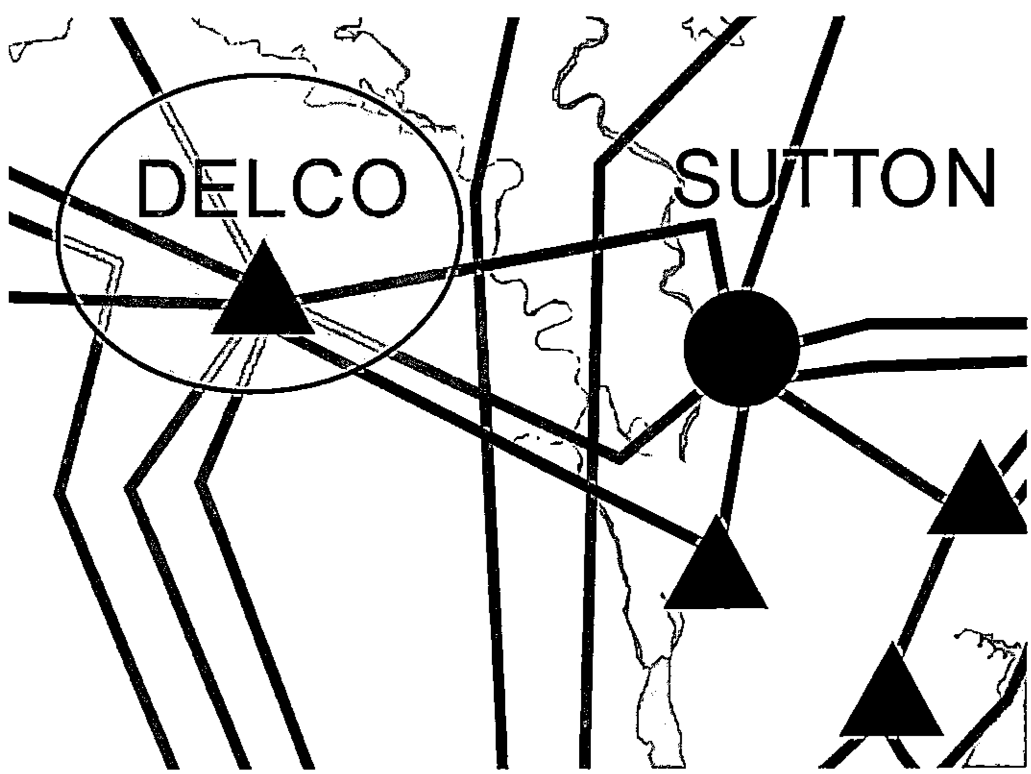
| Narrative Description of the Need for this Project |
|---|
| The conversion of the Delco 230kV bus scheme will improve system reliability and thereby reduce interruption exposure to the customers in the area in case of an event; while maintaining compliance with NERC Transmission Planning Standards. |

| Other Transmission Solutions Considered |
|---|
| There is not a feasible alternative. |

| Why this Project was Selected as the Preferred Solution |
|---|
| There is not a feasible alternative. |

## Delco 230kV Substation, Convert to Double Breaker

- **NERC Category P4 violation**
- **Problem:** The conversion of the Delco 230kV bus scheme will improve system reliability and thereby reduce interruption exposure to the customers in the area in case of an event; while maintaining compliance with NERC Transmission Planning Standards.
- **Solution:** At Delco 230kV Substation, relocate the Cumberland and Brunswick Plant East 230kV Line Terminals. Convert the Sutton Plant 230kV Terminal and Brunswick Plant 230kV West Terminal to a double breaker scheme. Convert the Cumberland 230kV Terminal and Brunswick Plant 230kV East Terminal to a double breaker scheme.



# Project ID and Name: 0041 – Castle Hayne 230kV Substation, Convert to Double Breaker

| Project Description |
|---|
| This project consists of relocating the Sutton Plant 230kV and Folkstone 230kV Line Terminals, converting the new Folkstone 230kV Terminal and Wilmington Corning 230kV Terminal to a double breaker scheme, and converting the new Sutton Plant 230kV Terminal and Brunswick Plant Unit 1 230kV Terminal to a double breaker scheme. |

| | |
|---|---|
| **Status** | In-Service |
| **Transmission Owner** | DEP |
| **Planned In-Service Date** | 6/1/2018 |
| **Estimated Time to Complete** | - |
| **Estimated Cost** | $11 M |

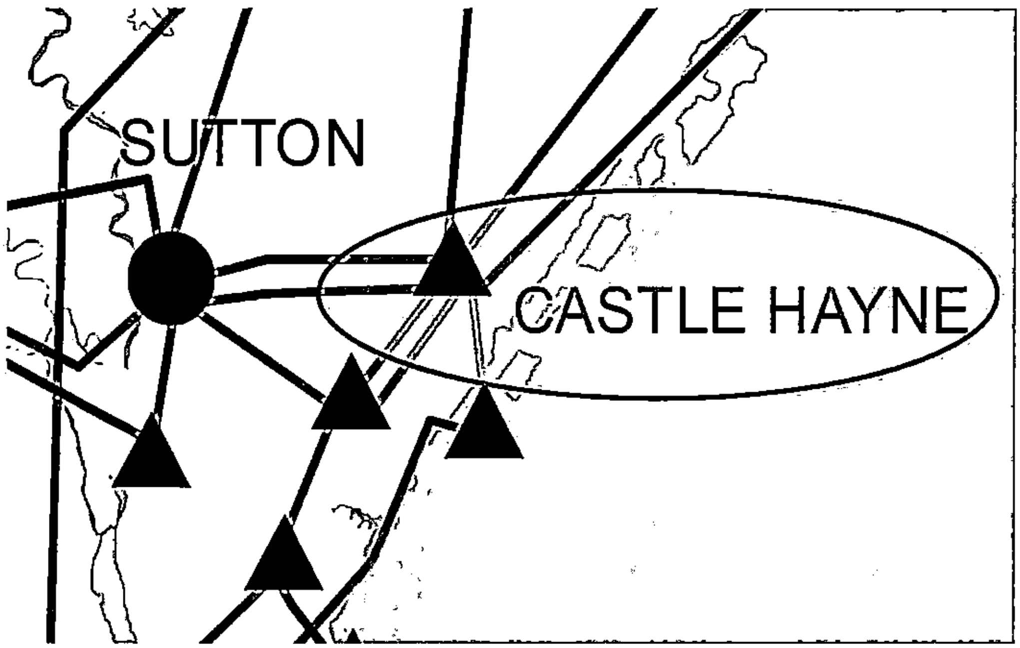
| Narrative Description of the Need for this Project |
|---|
| The conversion of the Castle Hayne 230kV bus scheme will improve system reliability and thereby reduce interruption exposure to the customers in the area in case of an event, while maintaining compliance with NERC Transmission Planning Standards. |

| Other Transmission Solutions Considered |
|---|
| There is not a feasible alternative. |

| Why this Project was Selected as the Preferred Solution |
|---|
| There is not a feasible alternative. |

## Castle Hayne 230kV Substation, Convert to Double Breaker

- **NERC Category P4 violation**
- **Problem:** The conversion of the Castle Hayne 230kV bus scheme will improve system reliability and thereby reduce interruption exposure to the customers in the area in case of an event, while maintaining compliance with NERC Transmission Planning Standards.
- **Solution:** At Castle Hayne 230kV Substation, relocate the Sutton Plant 230kV and Folkstone 230kV Line Terminals. Convert the new Folkstone 230kV Terminal and Wilmington Corning 230kV Terminal to a double breaker scheme. Convert the new Sutton Plant 230kV Terminal and Brunswick Plant Unit 1 230kV Terminal to a double breaker scheme.



# Project ID and Name: 0042 – Rural Hall 100 kV, Install SVC

| **Project Description** |
|---|
| This project consists of installing a -100/+300 MVAR SVC at Rural Hall 100 kV. |

| | |
|---|---|
| **Status** | Underway |
| **Transmission Owner** | DEC |
| **Planned In-Service Date** | 12/1/2019 |
| **Estimated Time to Complete** | 1 year |
| **Estimated Cost** | $50 M |

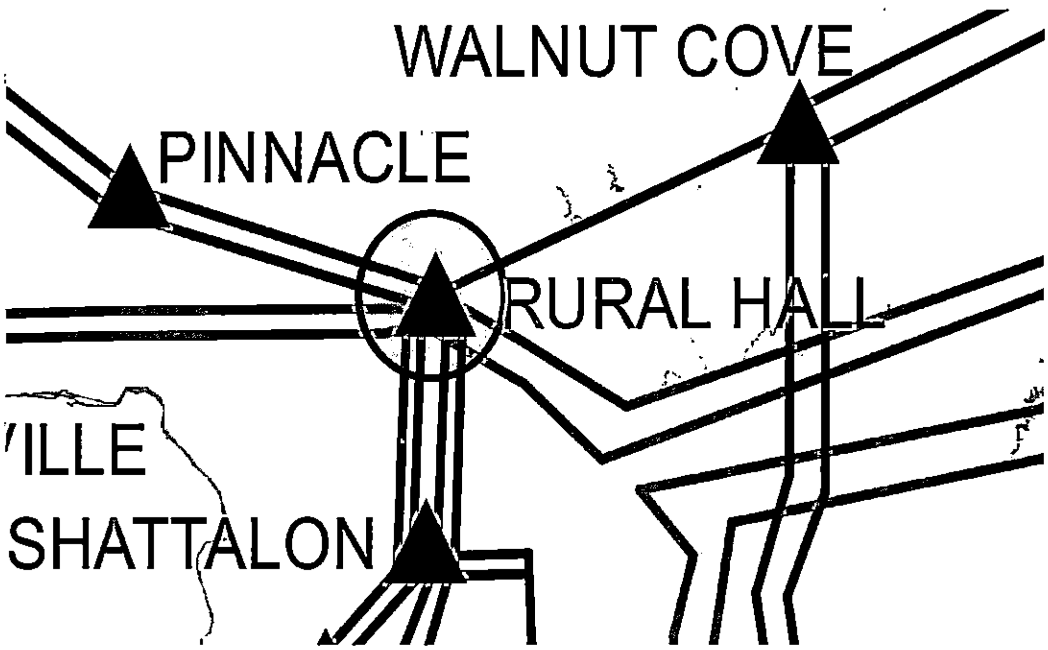
| **Narrative Description of the Need for this Project** |
|---|
| Installation of a SVC at Rural Hall will mitigate dynamic voltage concerns driven by certain contingency conditions in DEC. |

| **Other Transmission Solutions Considered** |
|---|
| New generation. |

| **Why this Project was Selected as the Preferred Solution** |
|---|
| Solution can be implemented quicker than new generation and at a lower cost. |

## Rural Hall 100 kV, Install SVC

- **Problem:** Under certain conditions, additional voltage support is required in order to maintain system reliability.
- **Solution:** The installation of a SVC at Rural Hall 100 kV will provide voltage support to the region and increase system reliability under certain conditions. As part of the project there will be a reconfiguration of the 100 kV capacitors at Rural Hall.



# Project ID and Name: 0043 – Orchard Tie 230/100 kV Tie Station, Construct

| Project Description |
|---|
| This project consists of constructing the Orchard Tie 230/100 kV Tie Station |

| | |
|---|---|
| **Status** | Planned |
| **Transmission Owner** | DEC |
| **Planned In-Service Date** | 12/1/2020 |
| **Estimated Time to Complete** | 2 years |
| **Estimated Cost** | $80 M |

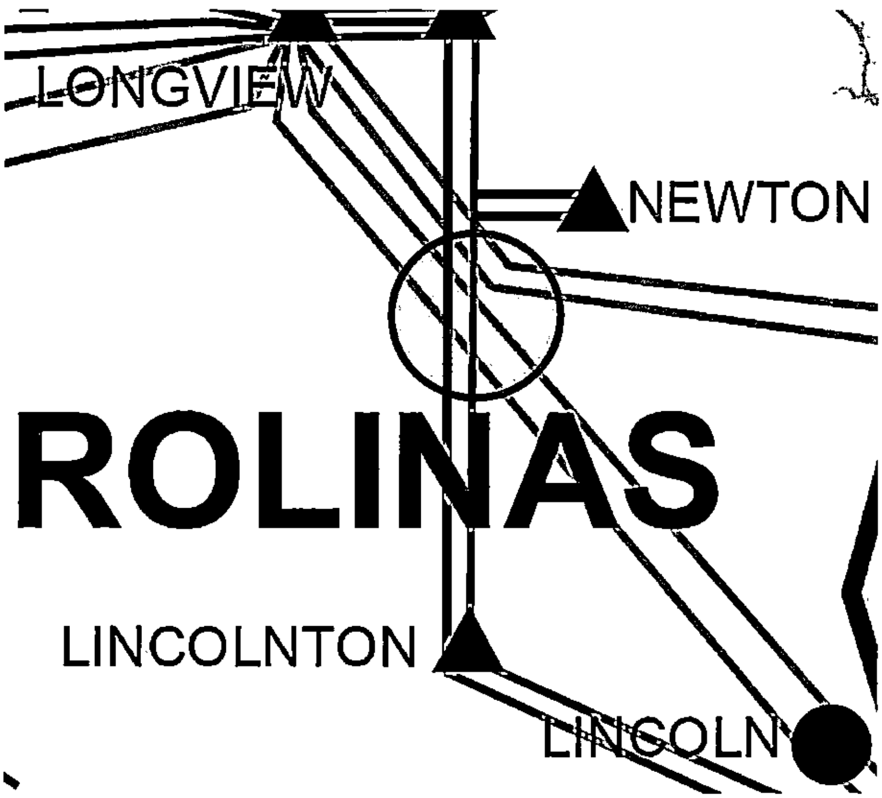
| Narrative Description of the Need for this Project |
|---|
| The installation of this new 230/100 kV tie station will provide greater ability to meet local load growth and maintain compliance with NERC Transmission Planning Standards. |

| Other Transmission Solutions Considered |
|---|
| Upgrade ≈30 miles of 100 kV. |

| Why this Project was Selected as the Preferred Solution |
|---|
| Ability to meet local load growth and cost of rebuilding 100kV line. |

## Orchard Tie 230/100 kV Tie Station, Construct

- **Problem:** Existing transmission lines are not sufficient to meet local load growth.
- **Solution:** Fold-in existing 230 kV and 100 kV lines to new station. Add sufficient transformation between 230 kV and 100 kV.



## Project ID and Name: 0046 – Windmere 100 kV Line (Dan River-Sadler), Construct

| Project Description |
|---|
| This project consists of building a new 100 kV line (954 AAC) along an existing ROW. |

| | |
|---|---|
| **Status** | Planned |
| **Transmission Owner** | DEC |
| **Planned In-Service Date** | TBD |
| **Estimated Time to Complete** | 3 years |
| **Estimated Cost** | $26 M |

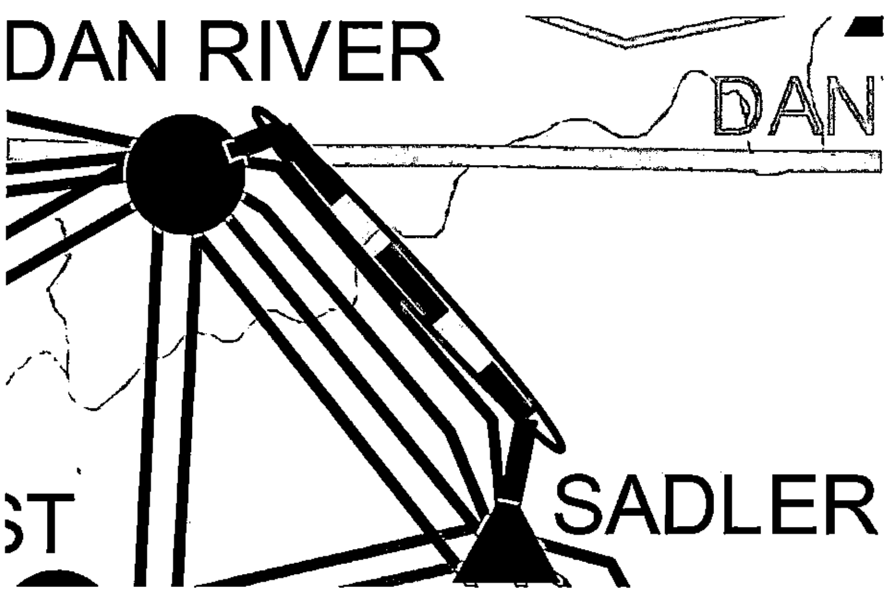
| Narrative Description of the Need for this Project |
|---|
| The Reidsville and Wolf Creek 100 kV lines (Dan River-Sadler) can become overloaded for the loss of any of the circuits between Dan River and Sadler. |

| Other Transmission Solutions Considered |
|---|
| Rebuilding both double circuit 100 kV lines (≈8 miles each) between Dan River and Sadler. |

| Why this Project was Selected as the Preferred Solution |
|---|
| Greater operational flexibility in the area. |

## Windmere 100 kV Line (Dan River-Sadler), Construct

- **NERC Category P3 violation**
- **Problem:** Loss of any of the four existing 100 kV circuits between Dan River and Sadler and can overload the remaining circuits.
- **Solution:** Construct new 100 kV line.



# Project ID and Name: 0047 – NTE II, Generator Interconnection

| **Project Description** |
| --- |
| This project consists of the network upgrades driven by the interconnection of a 1x1 combined cycle unit at Ernest Switching Station The project includes upgrading 13.71 miles of 230 kV lines (Ernest-Belews Creek) to B-1272 ACSR, adding a 230/100 kV transformer at Sadler, and installing switchable 2% series reactors on 230 kV lines (Ernest-Sadler). |

| | |
| --- | --- |
| **Status** | Planned |
| **Transmission Owner** | DEC |
| **Planned In-Service Date** | 12/1/21 |
| **Estimated Time to Complete** | 3 years |
| **Estimated Cost** | $53 M |

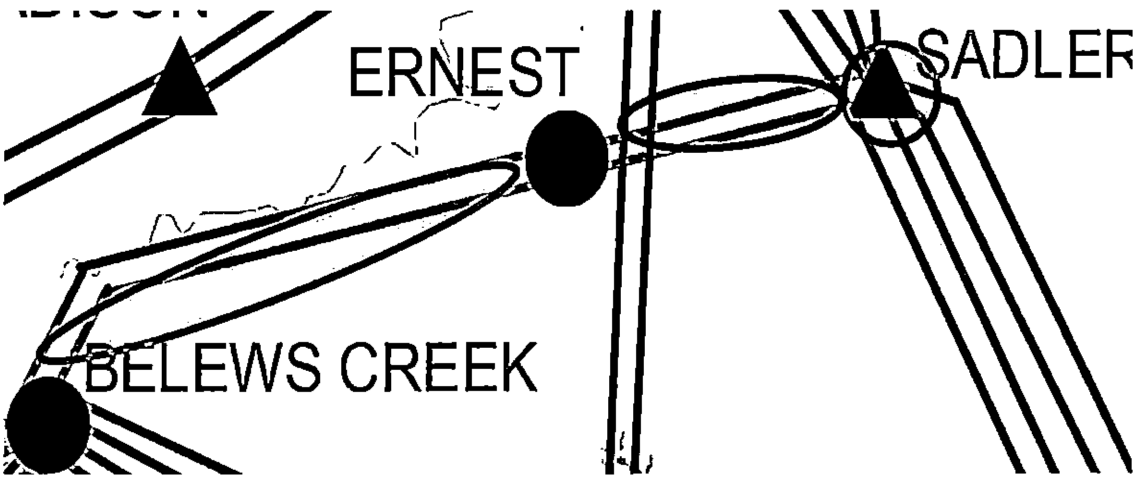
| **Narrative Description of the Need for this Project** |
| --- |
| Interconnect a 1x1 combined cycle unit. |

| **Other Transmission Solutions Considered** |
| --- |
| These are generation interconnection network upgrade facilities without a feasible alternative. |

| **Why this Project was Selected as the Preferred Solution** |
| --- |
| There is not a feasible alternative. |

## NTE II, Generator Interconnection

- **NERC Category P3 violation**
- **Problem:** Thermal and stability issues driven by installation of new generation at Ernest Switching Station.
- **Solution:** Upgrading 13.71 miles of 230 kV lines (Ernest-Belews Creek) to B-1272 ACSR, add a 230/100 kV transformer at Sadler, and install switchable 2% series reactors on 230 kV lines (Ernest-Sadler).



# Project ID and Name: 0048 – Wilkes 230/100 kV Tie Station, Construct

| Project Description |
|---|
| This project consists of building a new 230/100 kV Wilkes tie station and re-routing local transmission lines. |

| | |
|---|---|
| **Status** | Planned |
| **Transmission Owner** | DEC |
| **Planned In-Service Date** | 12/1/23 |
| **Estimated Time to Complete** | 3 years |
| **Estimated Cost** | $22 M |

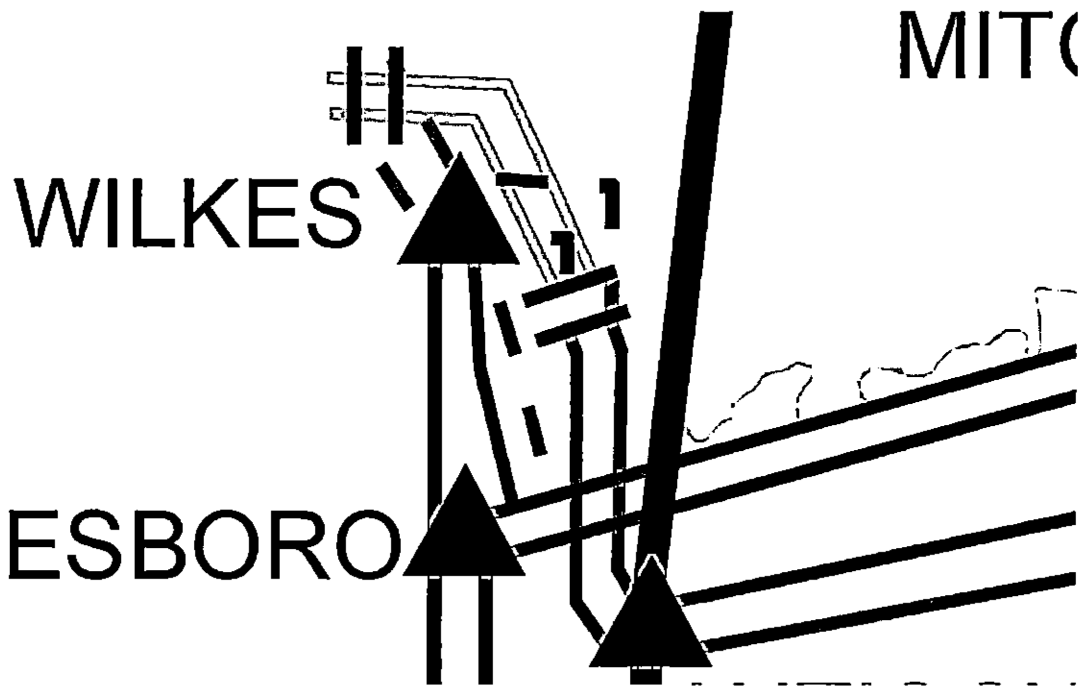
| Narrative Description of the Need for this Project |
|---|
| The primary driver for this project is to increase support in the area around Wilkesboro NC. Contingencies, especially in the winter, have the tendency to drop voltage in the area as well as some thermal loading concerns with the loss of the Oxford 100kV line. The secondary driver is to alleviate the need to rebuild N Wilkesboro Tie as a result of the need to install a bus junction breaker at N Wilkesboro Tie. Presently, loss of the single N Wilkesboro bus takes out six 100 kV lines, causes loss of load and low voltage problems in the area. Installation of a bus junction breaker would also cause thermal loading issues requiring a line upgrade. This project also makes use of 230 kV transmission lines that pass adjacent to the new 230/100 kV tie station. |

| Other Transmission Solutions Considered |
|---|
| Rebuild N Wilkesboro Tie to allow installation of a bus tie breaker. |

| Why this Project was Selected as the Preferred Solution |
|---|
| Greater long term value to system and operational flexibility in the area. |

## Wilkes 230/100 kV Tie Station, Construct

- **NERC Category P1, P2, & P3 violation**
- **Problem:** Contingency events in the Wilkesboro, NC area cause thermal loading issues, loss of load and low voltage problems in the area..
- **Solution:** Construct new 230/100 kV tie station.



# Project ID and Name: 0049 – Ballantyne Switching Station, Construct

| Project Description |
|---|
| Construction of new switching station on 100 kV lines between Wylie Switching Station and Morning Star Tie. |

| | |
|---|---|
| **Status** | Planned |
| **Transmission Owner** | DEC |
| **Planned In-Service Date** | 12/1/19 |
| **Estimated Time to Complete** | 1 years |
| **Estimated Cost** | $15 M[5] |

| Narrative Description of the Need for this Project |
|---|
| Construction of new switching station mitigates loading issues under contingency and provides greater operational flexibility. |

| Other Transmission Solutions Considered |
|---|
| Rebuilding existing 100 kV lines between Wylie Switching Station and Morning Star Tie (up to 21 miles). |

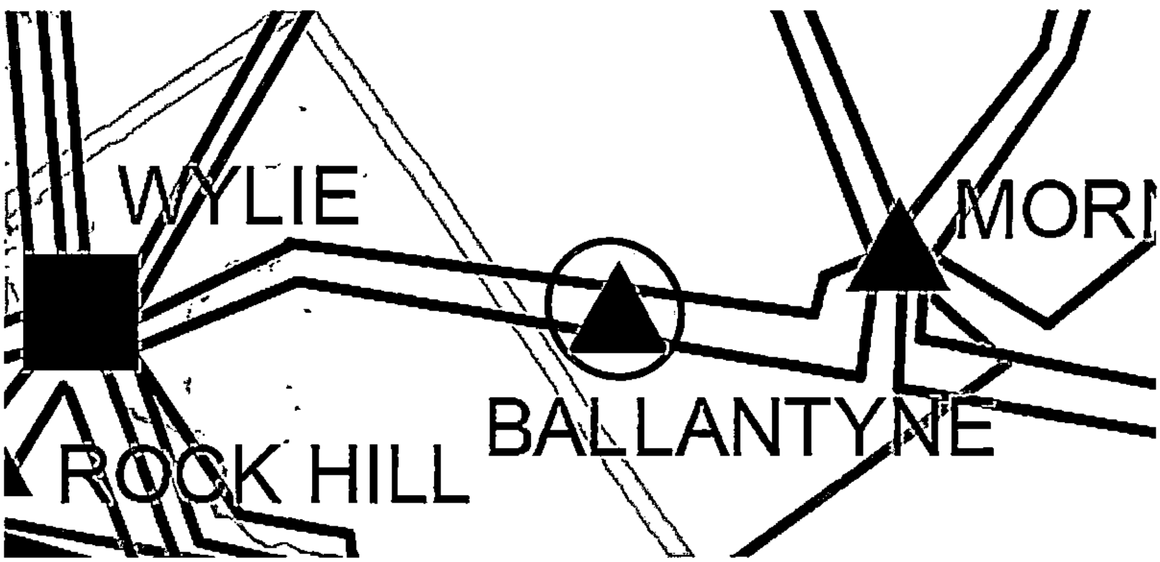
| Why this Project was Selected as the Preferred Solution |
|---|
| Greater operational flexibility in the area. |



[5] Initial project estimates didn't exceed $10 M, but factors such as station siting increased the cost of the project.

## Ballantyne Switching Station, Construct

- **NERC Category P3 violation**
- **Problem:** Thermal issues driven by loss of either circuit between Wylie and Morning Star.
- **Solution:** Rebuild 100 kV line.



# Project ID and Name: 0050 – Craggy - Enka 230 kV Line, Construct

| Project Description |
|---|
| This project consists of constructing approximately 10 miles of new 230kV transmission line between the Craggy and Enka Substations. |

| | |
|---|---|
| **Status** | Conceptual |
| **Transmission Owner** | DEP |
| **Planned In-Service Date** | 12/1/2025 |
| **Estimated Time to Complete** | 4 years |
| **Estimated Cost** | $50 M |

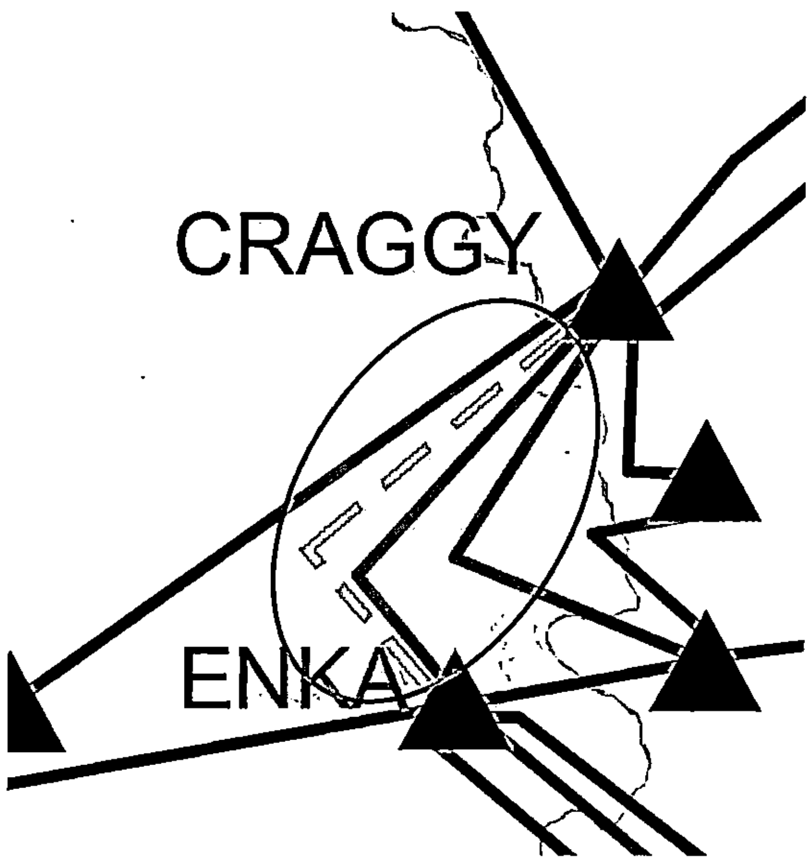
| Narrative Description of the Need for this Project |
|---|
| Opening the Asheville end of the Oteen 115 kV West line overloads the Enka – West Asheville 115 kV line. Also, a NERC P6 outage of Craggy-Enka 115 and Asheville-Oteen 115 West lines has no viable operating procedure beginning 12/1/2026. Outage of the West Asheville 115 kV bus overloads the Craggy-Enka 115 kV line. |

| Other Transmission Solutions Considered |
|---|
| Reconductoring multiple transmission lines. These include the Enka-West Asheville 115 kV Line, the Craggy-Enka 115 kV line, the Canton-Craggy 115 kV Line, and the Asheville-Oteen 115 kV East Line. |

| Why this Project was Selected as the Preferred Solution |
|---|
| Cost and feasibility. |

## Craggy-Enka 230 kV Line, Construct

- **NERC Category P3 & P6 violation**
- **Problem:** Opening the Asheville end of the Oteen 115 kV West line overloads the Enka – West Asheville 115 kV line. Also, a NERC P6 outage of Craggy-Enka 115 and Asheville-Oteen 115 West lines has no viable operating procedure beginning 12-2026. Outage of the West Asheville 115 kV bus overloads the Craggy-Enka 115 kV line.
- **Solution:** Construct the Craggy-Enka 230 kV Line.



# Appendix D
# Collaborative Plan Comparisons

| NCTPC Update on Major Projects – (Estimated Cost ≥ $10M) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 2017 Plan[1] | | | 2018 Plan | | | |
| Project ID | Reliability Project | Transmission Owner | Status[2] | Projected In-Service Date | Estimated Cost ($M)[3] | Status[2] | Projected In-Service Date | Estimated Cost ($M)[3] |
| 0024 | Durham - RTP 230 kV Line, Reconductor | DEP | Planned | 6/1/2024 | 15 | Conceptual | TBD | 15 |
| 0028 | Brunswick #1 – Jacksonville 230 kV Line Loop into Folkstone 230 kV Substation | DEP | Planned | 6/1/2024 | 14 | Planned | 6/1/2024 | 14 |
| 0030 | Raeford 230 kV Substation, Loop-in Richmond - Ft Bragg Woodruff St 230 kV Line and Add 3rd Bank | DEP | Planned | 6/1/2018 | 20 | Underway | 12/1/2018 | 29 |
| 0031 | Jacksonville - Grants Creek 230 kV Line and Grants Creek 230/115 kV Substation | DEP | Planned | 6/1/2020 | 51 | Underway | 6/1/2020 | 73 |

| NCTPC Update on Major Projects – (Estimated Cost ≥ $10M) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 2017 Plan[1] | | | 2018 Plan | | | |
| Project ID | Reliability Project | Transmission Owner | Status[2] | Projected In-Service Date | Estimated Cost ($M)[3] | Status[2] | Projected In-Service Date | Estimated Cost ($M)[3] |
| 0032 | Newport - Harlowe 230 kV Line, Newport SS and Harlowe 230/115 kV Substation | DEP | Planned | 6/1/2020 | 40 | Underway | 6/1/2020 | 64 |
| 0033 | Fort Bragg Woodruff St 230 kV Sub, Replace 150 MVA 230/115 kV Transformer with Two 300 MVA Banks & Reconductor Manchester 115 kV Feeder | DEP | In-Service | 2/24/2017 | 19 | Removed | — | — |
| 0034 | Sutton - Castle Hayne 115 kV North Line, Rebuild | DEP | Underway | 6/1/2019 | 11 | Underway | 12/31/2019 | 25 |

| NCTPC Update on Major Projects – (Estimated Cost ≥ $10M) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 2017 Plan[1] | | | 2018 Plan | | | |
| Project ID | Reliability Project | Transmission Owner | Status[2] | Projected In-Service Date | Estimated Cost ($M)[3] | Status[2] | Projected In-Service Date | Estimated Cost ($M)[3] |
| 0036 | Asheville Plant, Replace 2-300 MVA 230/115 kV Banks with 2-400 MVA Banks, Reconductor 115 kV Ties to Switchyard, Upgrade Breakers, and Add 230 kV Capacitor Bank | DEP | Planned | 12/1/2019 | 40 | In-Service | 11/1/2018 | 40 |
| 0037 | Cane River 230 kV Substation, Construct 150 MVAR SVC | DEP | Planned | 12/1/2019 | 42 | Underway | 6/1/2019 | 42 |
| 0038 | Harley 100 kV Lines (Tiger - Campobello), Reconductor | DEC | Planned | 6/1/2020 | 18 | Conceptual | TBD | 18 |
| 0039 | Asheboro-Asheboro East 115kV North Line, Reconductor | DEP | Underway | 6/1/2019 | 12 | Underway | 6/1/2019 | 15 |
| 0040 | Delco 230kV Substation, Convert to Double Breaker | DEP | Underway | 6/1/2019 | 13 | Underway | 6/1/2019 | 15 |

| NCTPC Update on Major Projects – (Estimated Cost ≥ $10M) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 2017 Plan[1] | | | 2018 Plan | | | |
| Project ID | Reliability Project | Transmission Owner | Status[2] | Projected In-Service Date | Estimated Cost ($M)[3] | Status[2] | Projected In-Service Date | Estimated Cost ($M)[3] |
| 0041 | Castle Hayne 230kV Substation, Convert to Double Breaker | DEP | Underway | 6/1/2019 | 10 | In-Service | 6/1/2018 | 11 |
| 0042 | Rural Hall 100 kV, Install SVC | DEC | Planned | 6/1/2020 | 50 | Underway | 12/1/2019 | 50 |
| 0043 | Orchard 230/100 kV Tie Station, Construct | DEC | Planned | 12/1/2021 | 45 | Planned | 12/1/2020 | 80 |
| 0044 | Reidsville 100 kV Lines (Dan River-Sadler), Reconductor | DEC | Conceptual | TBD | 13 | Removed | - | - |
| 0045 | Wolf Creek 100 kV Lines (Dan River-Sadler), Reconductor | DEC | Conceptual | TBD | 13 | Removed | - | - |

| NCTPC Update on Major Projects – (Estimated Cost ≥ $10M) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 2017 Plan[1] | | | 2018 Plan | | | |
| Project ID | Reliability Project | Transmission Owner | Status[2] | Projected In-Service Date | Estimated Cost ($M)[3] | Status[2] | Projected In-Service Date | Estimated Cost ($M)[3] |
| 0046 | Windmere 100 kV Line (Dan River-Sadler), Construct | DEC | - | - | - | Planned | 12/1/2021 | 26 |
| 0047 | NTE II, Generator Interconnection | DEC | - | - | - | Underway | 12/1/2021 | 53 |
| 0048 | Wilkes 230/100 kV Tie Station, Construct | DEC | - | - | - | Planned | 12/1/2023 | 22 |
| 0049 | Ballantyne Switching Station, Construct | DEC | - | - | - | Underway | 12/1/2019 | 15 |
| 0050 | Craggy-Enka 230 kV Line, Construct | DEP | - | - | - | Conceptual | 12/1/2025 | 50 |

| NCTPC Update on Major Projects – (Estimated Cost ≥ $10M) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 2017 Plan[1] | | | 2018 Plan | | |
| Project ID | Reliability Project | Transmission Owner | Status[2] | Projected In-Service Date | Estimated Cost ($M)[3] | Status[2] | Projected In-Service Date | Estimated Cost ($M)[3] |
| TOTAL | | | | | **426** | | | **657** |

[1] Information reported in Appendix B of the NCTPC 2017 - 2027 Collaborative Transmission Plan" dated January 16, 2018.

[2] Status: ***In-service:*** Projects with this status are in-service.

***Underway:*** Projects with this status range from the Transmission Owner having some money in its current year budget for the project to the Transmission Owner having completed some construction activities for the project.

***Planned:*** Projects with this status do not have money in the Transmission Owner's current year budget; and the project is subject to change.

***Conceptual:*** Projects with this status are not *planned* at this time but will continue to be evaluated as a potential project in the future.

***Deferred:*** Projects with this status were identified in the 2017 Report and have been deferred beyond the end of the planning horizon based on analysis performed to develop the 2018 Collaborative Transmission Plan.

[3] The estimated cost is in nominal dollars which reflects the sum of the estimated annual cash flows over the expected development period for the specific project (typically 2 – 5 years), including direct costs, loadings and overheads; but not including AFUDC. Each year's cash flow is escalated to the year of the expenditures. The sum of the expected cash flows is the estimated cost.

# Appendix E
# Acronyms

## ACRONYMS

| | |
|---|---|
| ACSR | Aluminum Conductor Steel Reinforced |
| ACSS/TW | Aluminum Conductor, Steel Supported/Trapezoidal Wire |
| AEP | American Electric Power |
| AFUDC | Allowance for Funds Used During Construction |
| BAA | Balancing Authority Area |
| CC | Combined Cycle |
| CPLE | Carolina Power & Light East, or DEP East |
| CPLW | Carolina Power & Light West, or DEP West |
| CT | Combustion Turbine |
| DEC | Duke Energy Carolinas |
| DEP | Duke Energy Progress |
| DNR | Designated Network Resource |
| DVP | Dominion Virginia Power |
| ERAG | Eastern Interconnection Reliability Assessment Group |
| EU | Energy United |
| FSA | Facilities Study Agreement |
| GTP | North Carolina Global TransPark |
| ISA | Interconnection Service Agreement |
| kV | Kilovolt |
| LGIA | Large Generator Interconnection Agreement |
| LSE | Load Serving Entity |
| LTSG | SERC Long-Term Study Group |
| M | Million |
| MCM | Thousand Circular Mils |
| MMWG | Multiregional Modeling Working Group |
| MVA | Megavolt-Ampere |
| MVAR | Megavolt Ampere Reactive |
| MW | Megawatt |
| NCEMC | North Carolina Electric Membership Corporation |
| NCEMPA | North Carolina Eastern Municipal Power Agency |

| | |
|---|---|
| NCMPA1 | North Carolina Municipal Power Agency Number 1 |
| NCTPC | North Carolina Transmission Planning Collaborative |
| NERC | North American Electric Reliability Corporation |
| NTE | NTE Energy |
| OASIS | Open Access Same-time Information System |
| OATT | Open Access Transmission Tariff |
| OSC | Oversight Steering Committee |
| OTDF | Outage Transfer Distribution Factor |
| PJM | PJM Interconnection, LLC |
| PMPA | Piedmont Municipal Power Agency |
| PSS/E | Power System Simulator for Engineering |
| PWG | Planning Working Group |
| RTP | Research Triangle Park |
| SCEG | South Carolina Electric & Gas Company |
| SCPSA | South Carolina Public Service Authority |
| SE | Steam Electric (Plant) |
| SEPA | South Eastern Power Administration |
| SERC | SERC Reliability Corporation |
| SOCO | Southern Company |
| SS | Switching Station |
| SVC | Static VAR Compensator |
| TAG | Transmission Advisory Group |
| TRM | Transmission Reliability Margin |
| TSR | Transmission Service Request |
| TTC | Total Transfer Capability |
| TVA | Tennessee Valley Authority |
| VACAR | Virginia-Carolinas Reliability Agreement |
| VAR | Volt Ampere Reactive |

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Initial Issues for Discussion
May 25, 2017
Interconnection Stakeholder Group
Docket No. E-100, Sub 101

- What are the goals of any changes to the interconnection standard?

- Are the engineering screens and requirements that have been unilaterally imposed by Duke justified? If so, should they be added to the interconnection standard and how?
    - Circuit Stiffness Review (CSR)
        - Is the CSR threshold set at the appropriate level?
    - Line Voltage Regulator screen
        - Is this impacted by Duke's grid modernization plan?
    - Requirement that additional material modification language be added to engineering drawings
- Are the construction standards and post-construction review that have been unilaterally imposed by Duke justified? If so, should they be added to the interconnection standard and how?
- Because of the imposition of these screens and requirements, do we really have a good understanding of whether the current interconnection standard is not working?
- If additional engineering screens are necessary in the future, how should those be implemented? What Commission oversight should be necessary?

- Are structural changes to the interconnection queue necessary?
    - Should separate interconnection queues be established for poultry and swine waste projects?
    - Should a separate interconnection queue, with an expedited review process, be established for projects under 1 MW in capacity (regardless of whether a system is net metered or sell-all)?
    - Should the distribution and transmission queues be merged?
    - Should cluster studies be adopted?
        - If so, how should upgrade costs be divided among projects in the cluster?
    - Are projects being studied out-of-order? If so, how can that be addressed?

- What changes can be made to identify projects that will have economically prohibitive interconnection costs, or other flaws that would render a project unfeasible, earlier in the process?
    - Feasibility studies
    - Pre-application meetings

- What can be done to improve transparency of data? What data can the utilities make available to project developers that would allow developers to better evaluate the viability of a project prior to submitting an interconnection application?
    - Grid data
    - Substation loading

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- What can be done to improve communication between the utilities and project developers?
  - How are the utilities held accountable for failures to communicate with project developers?
  - Responsiveness to communications from project developers
  - Accounting of deposits from project developers and timely issuance of refunds
  - Website or online portal for project developers to check the status of their projects

- What can be done to reduce delays in the interconnection process? What can give project developers certainty about when they will receive study results?
  - Do the deadlines in the interconnection standard need to be changed?
    - For utilities?
    - For project developers?
  - What can be done to require the utilities meet the deadlines in the interconnection standard? How are the utilities held accountable if they fail to meet deadlines? Are penalties necessary for utilities that fail to meet deadlines?
  - What can be done to require project developers respond to utility inquiries in a timely manner?
  - Are the utilities properly staffing their interconnection groups?
    - Are project developers willing to pay larger deposits to allow for increased staffing?
    - Are outside engineers/consultants necessary?

- How to delays in the interconnection process impact other proceedings? How do other proceedings impact the interconnection process?
  - Are changes to the 30-month rule necessary because of the delays in interconnection studies?

- What can be done to ensure that the utility constructs upgrades in a timely manner?

- Are the conflict resolution procedures working as they should?
  - For project developers?
  - For utilities?
  - For the Public Staff?

- Does the interconnection standard make the best use of the services that can be provided by inverters?
  - California Rule 21
  - Can inverters be better utilized to address issues of in-rush after re-energization?

- Does the interconnection standard make the best use of the services that can be provided by distributed generation?

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  - Do the utilities have the data to identify locations on the grid where distributed generation can be beneficial? Are the utilities willing to share this data?
  - How does the interconnection standard interact with other utility planning processes, such as integrated resource planning?

- How will Duke's grid modernization plan allow for increased deployment of distributed generation?
  - Should interconnection deposits be reduced in light of Duke's expected investment in the grid?

- Is Duke's refusal to allow project developers access to their poles for feeders a good utility practice?

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