FILED SEP 29, 2016 DOCUMENT NO. 07848-16 FPSC - COMMISSION CLERK



Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

- DATE: September 29, 2016
- **TO:** Office of Commission Clerk (Stauffer)
- **FROM:** Division of Engineering (Wooten, Ellis) Dur USANT Office of the General Counsel (Trierweiler)
- **RE:** Docket No. 160140-EQ Petition for approval of modifications to standard interconnection agreement contained in the approved tariff by Duke Energy Florida, LLC.
- AGENDA: 10/11/16 Regular Agenda Tariff Filing Interested Persons May Participate

COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER: Administrative

CRITICAL DATES: 02/02/17 (8-Month Effective Date)

SPECIAL INSTRUCTIONS: None

Case Background

On June 2, 2016, Duke Energy Florida, LLC (Duke or Company) filed a petition for approval of modifications to its Interconnection Agreement (Agreement) contained in the approved tariff. The Agreement was created in 2014 by Order No. PSC-14-0589-PAA-EI, which separated the Company's as-available tariff from the Agreement for Qualifying Facilities (QFs).¹ The

¹Order No. PSC-14-0589-PAA-EI, issued October 21, 2014, in Docket No. 140137-EI, *In re: Petition for approval of modifications to tariff sheet Nos. 9.100 through 9.330 and tariff sheet Nos. 9.700 through 9.709 as-available purchase tariff and interconnection agreement, by Duke Energy Florida, Inc.*

agreement was last modified in 2015 by Order No. PSC-15-305-PAA-EQ along with Duke's Standard Offer Contract.²

On July 21, 2016, the Commission suspended the agreement to allow sufficient time for Commission staff to review the application and gather pertinent information.³

The Commission has jurisdiction over this matter pursuant to Sections 366.03, 366.04, 366.05, and 366.06, Florida Statutes (F.S.).

²Order No. PSC-15-305-PAA-EQ, issued July 28, 2015, in Docket No. 150106-EQ, In re: Petition for approval of amended standard offer contract (Schedule COG-2) and amended interconnection agreement, by Duke Energy Florida, Inc.

³Order No. PSC-16-0279-PCO-EQ, issued July 21, 2016, in Docket No. 160140-EQ, In re: Petition for approval of modifications to standard interconnection agreement contained in the approved tariff by Duke Energy Florida, LLC.

Discussion of Issues

Issue 1: Should the Commission approve Duke's proposed modifications to the Interconnection Agreement contained in its approved tariffs?

Recommendation: Yes. Staff recommends the Commission approve Duke's modifications to its Interconnection Agreement as shown in Attachment A. The new requirements clarify that the Agreement is intended for interconnections with Duke only and improves security to ratepayers by requiring insurance similar to other contracts. The proposed tariff modifications should not place an undue burden on QFs that seek to interconnect with Duke's system and deliver power to the Company. (Wooten)

Staff Analysis: In its petition Duke proposes to make certain changes to the approved tariff sheets 9.700 through 9.715 which contains the terms and conditions of Duke's Interconnection Agreement for QFs. The Company submitted a total of 15 revised sheets of the Interconnection Agreement. The type-and-strike format versions of the revised tariff sheets are included as Attachment A to this recommendation.

Interconnection Agreement Modifications

In its petition and in response to staff data requests, Duke notes that some of the proposed tariff changes are meant to reflect that the Agreement is to address non-Federal Energy Regulatory Commission (FERC) jurisdictional interconnections only. For example, proposed tariff sheet 9.700, paragraph 1.0 is modified to reflect that all net output will be sold to Duke. As a result, any QF wishing to sell power to another party would instead, use the Company's FERC interconnection tariff, instead of the proposed Agreement.

The proposed Agreement includes a new component to the preliminary cost study, a Feasibility Study, which is meant to provide a list of options available to the QF for its interconnection to narrow the analysis in determining costs. The estimated interconnection costs for all feasibility studies for a 50 MW QF is less than \$70,000, or approximately \$0.0014/watt. Section 4.2.2 on proposed Tariff Sheet 9.705 also adds a requirement that the QF provides cash or a letter of credit to Duke prior to interconnection field work being conducted. These new requirements seem reasonable, in that the Feasibility Study allows a QF to determine its desired interconnection option, while the credit requirement protects the Company's ratepayers in the event a QF would not reimburse Duke for interconnection costs.

Section 12 of the proposed Agreement adds liability insurance requirements, including consequences that clarify the results of failing to acquire or maintain insurance coverage. The minimum liability insurance requirement is \$1,000,000 per occurrence for bodily injury or property damage. While this increases costs to QFs, the requirement represents a reasonable practice and the language is similar to the insurance requirements included in the Company's Standard Offer Contract.⁴

⁴See Order No. PSC-16-0252-PAA-EQ, issued June 26, 2016, in Docket No. 160073-EQ, In re: Petition for approval of amended standard offer contract (Schedule COG-2), by Duke Energy Florida, LLC.

Additional legal terms are added to the agreement, including events of default, termination, assignment, references to controlling statutes, and representations that the parties are capable of legally conducting the agreement. These terms are reasonable and provide clarity in the event of a dispute regarding the contract terms. Other revisions to the Agreement include modifications to terminology and definitions with minor substantive changes.

Conclusion

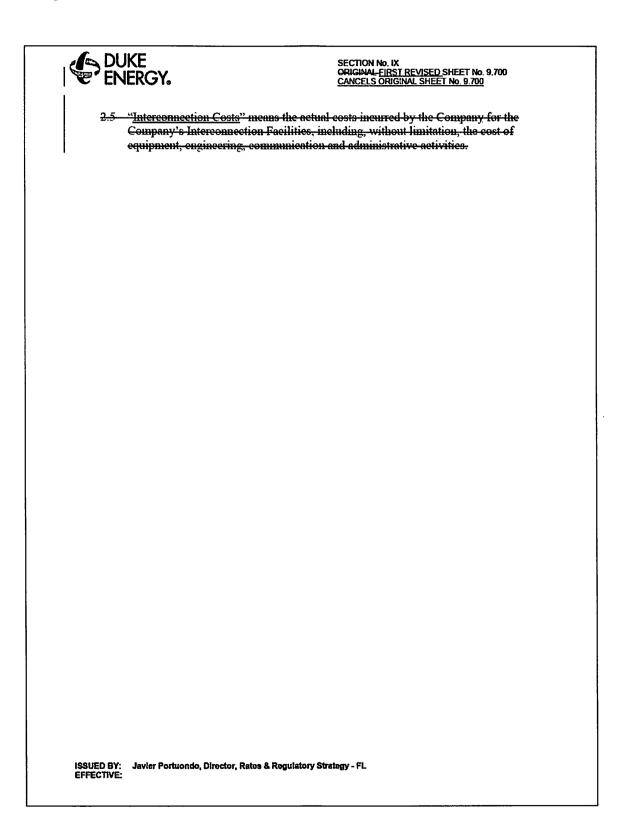
Staff recommends the Commission approve Duke's modifications to its Interconnection Agreement as shown in Attachment A. The new requirements clarify that the Agreement is intended for interconnections with Duke only and improves security to ratepayers by requiring insurance similar to other contracts. The proposed tariff modifications should not place an undue burden on QFs that seek to interconnect with Duke's system and deliver power to the Company.

Issue 2: Should this docket be closed?

Recommendation: Yes. If a protest is filed within 21 days of the issuance of the order, this tariff should remain in effect, with any revenues held subject to refund, pending resolution of the protest. If no timely protest is filed, this docket should be closed upon the issuance of a consummating order. (Trierweiler)

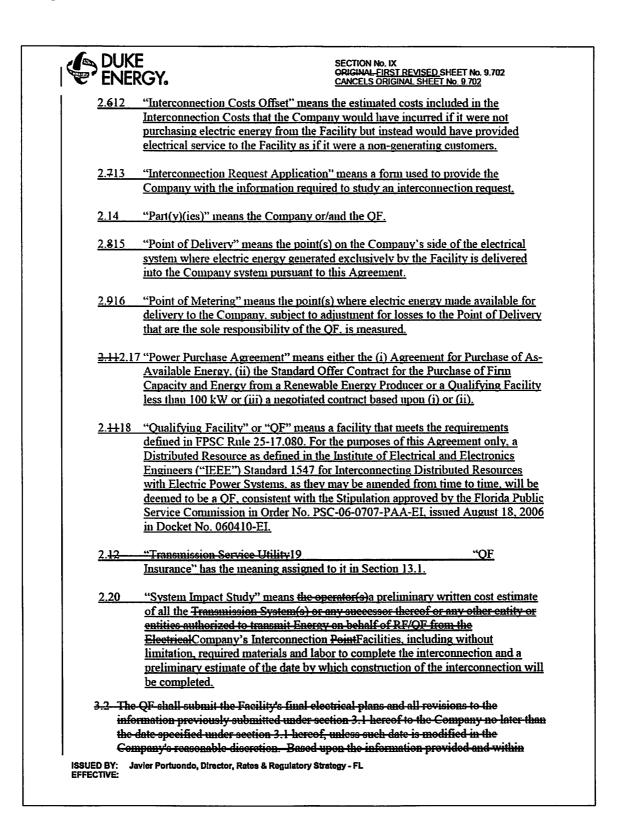
Staff Analysis: If a protest is filed within 21 days of the issuance of the order, this tariff should remain in effect, with any revenues held subject to refund, pending resolution of the protest. If no timely protest is filed, this docket should be closed upon the issuance of a consummating order.

EN	JKE SECTION NO. IX ORIGINAL <u>FIRST REVISED</u> SHEET NO. 9,700 CANCELS ORIGINAL SHEET NO. 9,700			
INTERCONNECTION AGREEMENT				
	ONNECTION ARRANGEMENTSSCHEDULING AND COST RESPONSIBILITY			
which Florida. L. provides t Facilities a Interconne inspection Company' be directly sale to the	se <u>connection Agreement ("Agreement") sets forth the terms and conditions pursuant to</u> <u>("QF") has agreed to comply with and pay Duke Energy</u> <u>LC ("Company") to interconnect with Company's electrical system.</u> This Agreement he procedures for the scheduling of construction for the Company's Interconnection as well as the cost responsibility of the a QF <u>Facility</u> for the payment of ection Costs. This Agreement also provides general for operating, testing, and procedures intended to promote <u>for</u> the safe parallel operation of the Facility with the s <u>electrical system</u> . This Agreement applies to QF's, whether or not their Facility will v interconnected with the Company's system <u>and providing all net electrical output for</u> <u>Company</u> . All requirements contained herein shall apply in addition to and not in provisions of the Power Purchase Agreement.			
2.0 Defin	itions			
2.1	" <u>Agreement</u> " means this Interconnection Agreement.			
2.1	" <u>Company</u> " means Duke Energy Florida <u>, LLC</u> .			
2.2	" <u>Company's Interconnection Facilities</u> " means all equipment located on the Company's side of the Point of Delivery, including without limitation, equipment for connection, switching, transmission, distribution, protective relaying and safety provisions which in the Company's judgment sole discretion are required to be installed for the delivery and into the Company's system, measurement of electric energy into the Company's system on behalf of injected into the Company's system, and upgrades to the Company's electrical system required for the Company to receive, use, and deliver the energy to Company's loadQF, including all metering and telemetering equipment installed for the measurement of such energy delivered by the Facility, regardless of its the Facility's location in relation to the Point of Delivery.			
2.3	"Default" means the failure of a breaching Party to cure its breach under this Agreement."Execution Date" means the date on which the Company executes this Agreement.			
2.4 -	<u>"Facility" means all equipment, as described in this Agreement, used to produce electric energy and, for a cogeneration facility, used to produce useful thermal energy through the sequential use of energy.</u>			



	CANCELS ORIGINAL SHEET No. 9.701
2.4	"Emergency Condition" means (a) any urgent, abnormal, operationally unstable.
	dangerous, and/or public safety condition that is existing on the Company's
	system: (b) any urgent, abnormal, operationally unstable, dangerous, and/or
	public safety condition that is likely to result in any of the following: (i) loss or
	damage to the Facility and/or the Company's system. (ii) disruption of generation
	by the Facility, (iii) disruption of service or stability on the Company's system,
	and/or (iv) endangerment to human life or public safety; and/or. (c) any
	circumstance that requires action by the Company's System Operator to comply
	with standing NERC regulations or standards, including without limitation action to respond to, prevent, limit, or manage loss or damage to the Facility, loss or
	damage to the Company's system, disruption of generation by the Facility,
	disruption of service on the Company's system, an abnormal condition on the
	<u>Company's system, and/or endangerment to human life or safety. An Emergency</u>
	Condition will be an excuse to QF's performance only if such condition is not du
	to OF's negligence, willful misconduct, and/or failure to perform as required
	under this Agreement.
2.5	"Execution Date" means the date on which the Company executes this
	Agreement.
2.6	"Facility" means all equipment used to produce electrical output and, for a
	cogeneration facility, used to produce useful thermal energy through the
	sequential use of energy.
2.7	"Facilities Study" means a written cost estimate of all the required materials and
<u> </u>	labor to complete the interconnection of the Facility with the Company's
	electrical system, and an estimate of the date by which construction of the
	interconnection will be completed.
2.8	"Feasibility Study" means a review of the alternatives and operational
	requirements reasonably available to interconnect the Facility to the Company's
	electric system and identification of a feasible interconnection alternative.
<u>2.9</u>	"Indemnified Party" has the meaning assigned to it in Section 12.1.
2.10	"Indemnifying Party" has the meaning assigned to it in Section 12.2
<u>2.11</u>	"Interconnection Costs" means the actual costs incurred by the Company under
	this Agreement and for the Company's Interconnection Facilities, including,
	without limitation, the cost of equipment, engineering, communication, labor, and
	operations. maintenance, and administrative activities.
<u>2.6 "I</u>	nterconnection Costs Offset" means the estimated costs included in the
	tereonnection Costs that the Company would have incurred if it were not
b	webasing electric energy but instead itself generated or purchased from other
IED BY: J	avier Portuondo, Director, Rates & Regulatory Strategy - FL

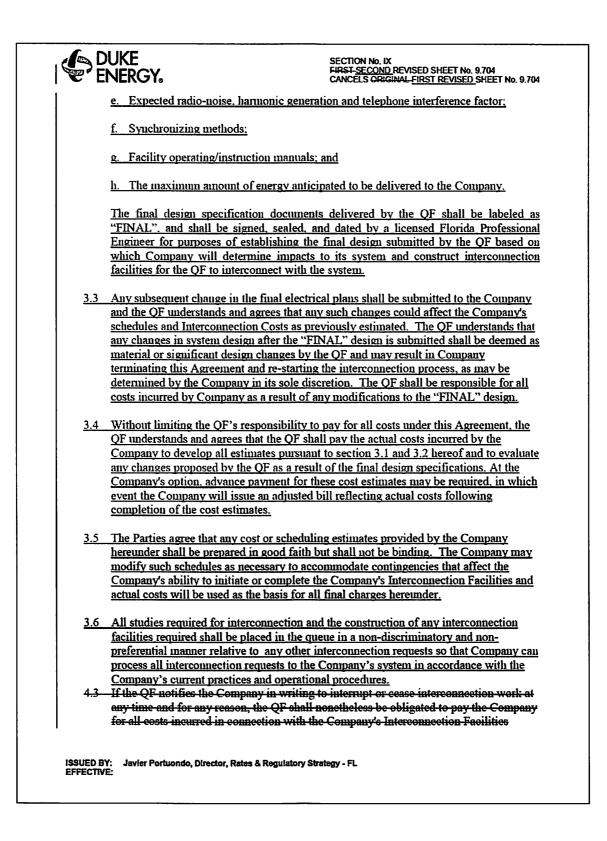
	DUKE ENERGY.	SECTION No. IX ORIGINAL <u>FIRST REVISED</u> SHEET No. 9.701 CANCELS ORIGINAL SHEET No. 9.701
		ount of electric energy and provided normal service to the
	Facility as if it were a non	
÷	.7-" <u>Part(y)(ies)</u> " means the C	Company or/and the QF.
2	.8 " <u>Point of Delivery</u> " mean	s the point(s) where electric energy delivered to the
	Company pursuant to this	Agreement enters the Company's system.
Ð		s the point(s) where electric energy made available for
	delivery to the Company,	subject to adjustment for losses, is measured.
2	.10 " <u>Point of Ownership</u> " mea interconnected utility.	nus the interconnection point(s) between the Facility and the
2		ent" means either the (i) Agreement for Purchase of As-
		Standard Offer Contract for the Purchase of Firm Capacity while Energy Producer or a Qualifying Facility less than 100
		white intergy i rouncer of a Quantying Facinty its main roo
2	.11 " <u>Qualifying Facility</u> " or " FPSC Rule 25 17.080.	QF" means a facility that meets the requirements defined in
2		ility" means the operator(s) of the Transmission System(s)
		r any other entity or entities authorized to transmit Energy t he Electrical Interconnection Point.
3.0 Su	bmission of Plans and Develo	pment of Interconnection Schedules and Cost Estimates
3.	1 No later than sixty (60) day	s after the Execution Date, the QF shall specify the date it
		connection Facilities to be available for receipt of the ovide a preliminary written description of the Facility and, if
	applicable, the QF's anticipa	ated arrangements with the Transmission Service Utility,
		h, a one line diagram, anticipated Facility site data and any
		ted to be needed by the Transmission Service Utility. Provided, the Company shall develop preliminary written
	Interconnection Costs and s	eheduling estimates for the Company's Interconnection
	Facilities within sixty (60) (lays after the information is provided. The schedule
		idicate when the QF's final electrical plans must be pursuant to section 3.2 hereof.
	suomineu to me company j	Jursuum 19 Scenon 9.2 neteor.
SSUED		os & Regulatory Strategy - FL
ares I	1 V La.	



D D E E	UKE SECTION NO. IX ORIGINAL FIRST REVISED SHEET NO. 9.702 CANCELS ORIGINAL SHEET NO. 9.702
	sixty (60) days after the information is provided, the Company shall update its written Interconnection Costs and schedule estimates, provide the estimated time period required for construction of the Company's Interconnection Facilities, and specify the date by which the Company must receive notice from the QF to initiate construction, which date shall, to the extent practical, be consistent with the QF's schedule for delivery of energy into the Company's system. The final electrical plans shall include the following information, unless all or a portion of such information is waived by the Company in its discretion:
	n. Physical-layout drawings, including dimensions;
	b. All associated equipment specifications and characteristics including technical parameters, ratings, basic impulse lovels, electrical main one-line diagrams, schematic diagrams, system protections, frequency, voltage, current and interconnection distance;
	e: - Functional and logic diagrams, control and meter diagrams, conductor sizes and length, and any other relevant data which might be necessary to understand the Facility's proposed system and to be able to make a coordinated system;
	d. Power requirements in watts and vars:
	e.—Expected radio-noise, harmonic generation and telephone interference factor;
	f.—Synchronizing methods; and
	g. Facility operating/instruction manuals.
	h.—If applicable, a detailed description of the facilities to be utilized by the Transmission Service Utility to deliver energy to the Point of Delivery.
3.3	Any subsequent change in the final electrical plans shall be submitted to the Company and it is understood and agreed that any such changes may affect the Company's schedules and Interconnection Costs as previously estimated.
3.4	The QF shall pay the actual costs incurred by the Company to develop all estimates pursuant to section 3.1 and 3.2 hereof and to evaluate any changes proposed by the QF under section 3.3 hereof, as such costs are billed pursuant to the Power Purchase Agreement. At the Company's option, advance payment for these cost estimates may be required, in which event the Company will issue an adjusted bill reflecting actual costs following completion of the cost estimates.
SUED B FECTIV	

DUKE ENERGY. SECTION No. IX CANCELS ORIGINALFIRST REVISED SHEET No. 9.703 3.0 Submission of Plans and Development of Interconnection Schedules and Cost Estimates 3.1 No later than sixty (60) days after the Execution Date, the QF shall specify the date it desires the Company's Interconnection Facilities to be available for receipt of the electric energy and shall complete an Interconnection Request Application. At such time, the QF shall deliver to Company the Facility's preliminary design, engineering, and operational specifications for purposes of interconnecting with Company's system. Based upon the information provided, the Company shall consider the reasonable alternatives available to interconnect the QF in a Feasibility Study. The Company and the OF shall meet and discuss interconnection alternatives and the QF's reasonable preference for interconnecting the Facility to the Company's electrical system. Once the OF has communicated a reasonable interconnection preference, the Company shall develop in a System Impact Study preliminary written Interconnection Costs and scheduling estimates for the Company's Interconnection Facilities within sixty (60) days after all information requested by the Company is provided by the QF. The schedule developed hereunder will indicate when the QF's final electrical plans must be submitted to the Company pursuant to section 3.2 hereof. 3.2 The OF shall submit the Facility's final design, engineering, and operational specifications and all revisions to the information previously submitted under section 3.1 hereof to the Company no later than the date specified pursuant to the last sentence of Section 3.1 hereof, unless such date is modified in the Company's sole discretion. Based upon the information provided and within sixty (60) days after the information is provided, the Company shall update its written Interconnection Costs and schedule estimates, provide the estimated time period required for construction of the Company's Interconnection Facilities, and specify the date by which the Company must receive notice from the QF to initiate construction, which date shall, to the extent practical, be consistent with the QF's schedule for delivery of energy into the Company's system in a Facilities Study. The final electrical plans shall include the following information, unless all or a portion of such information is waived by the Company in its discretion: a. Physical layout drawings, including dimensions; b. All associated equipment specifications and characteristics including technical parameters, ratings, basic impulse levels, electrical main one-line diagrams. schematic diagrams, system protections, frequency, voltage, current and interconnection distance; c. Functional and logic diagrams, control and meter diagrams, conductor sizes and length, and any other relevant data which might be necessary to understand the Facility's proposed system and to be able to make a coordinated system; d. Power requirements in watts and vars; **ISSUED BY:** Javier Portuondo, Director, Rates & Regulatory Strategy - FL EFFECTIVE

	UKE NERGY.	SECTION No. IX FIRST-<u>SECOND</u> REVISED SHEET No. 9.703 CANCELS ORIGINAL<u>FIRST REVISED</u> SHEET No. 9.703
3.5	The Parties agree that any cos	t or scheduling estimates provided by the Company
		good faith but shall not be binding. The Company may
		essary to accommodate contingencies that affect the
		r complete the Company's Interconnection Facilities and
		e basis for all-final charges hereunder.
3.6 -	All studies required for intere	onnection and the construction of any interconnection
		ced in the queue with any other interconnection requests
		ion requests to the Company's system promote current
		sonable, and are not discriminatory or preferential.
4.0 Pay	ment-Obligations for Intercom	ection Costs.
4.1	-The Company shall have no a	bligation to initiate construction of the Company's
		or to a written notice from the QF agreeing to the
		esign requirements and notifying the Company to initiate
		Company's Interconnection Facilities; provided, however,
		ved not later than the date specified by the Company
		QF shall be liable for and agrees to pay all
	Interconnection Costs incurre	d by the Company on or after the specified date for
	initiation of construction.	a by the company on of aller the operation and for
	minimon of construction.	
4.2	The QF agrees to pay all of th	e Company's actual Interconnection Costs as such costs
	are incurred and billed in acco	ordance with the Power-Purchase AgreementSuch
	amounts shall be billed pursue	ant to section 4.2.1 if the QF elects the payment option
		7.087(3). Otherwise the QF shall be billed pursuant to
	section 4.2.2.	
4	.2.1-Upon a showing of credit	worthiness, the QF shall have the option of making
	monthly installment paym	ents for Interconnection Costs over a period no longer
		5. The period selected is months. Principal
		the estimated Interconnection Costs less the
	Interconnection Costs Off	set, divided by the repayment period in months to
		neipal payment. Payments will be invoiced in the first
		rence of Interconnection Costs by the Company.
		clude principal payments plus interest on the unpaid
		at a rate equal to the thirty (30) day highest grade
		published in the Wall Street Journal on the first business
	day of each month. The f	inal payment or payments will be adjusted to cause the
	sum of principal payment	s to equal the actual Interconnection Costs.
4		sts are incurred by the Company, such costs will be billed
	to the QF to the extent the	t they exceed the Interconnection Costs Offset.
	Y: Javier Portuondo, Director, Rates	



.

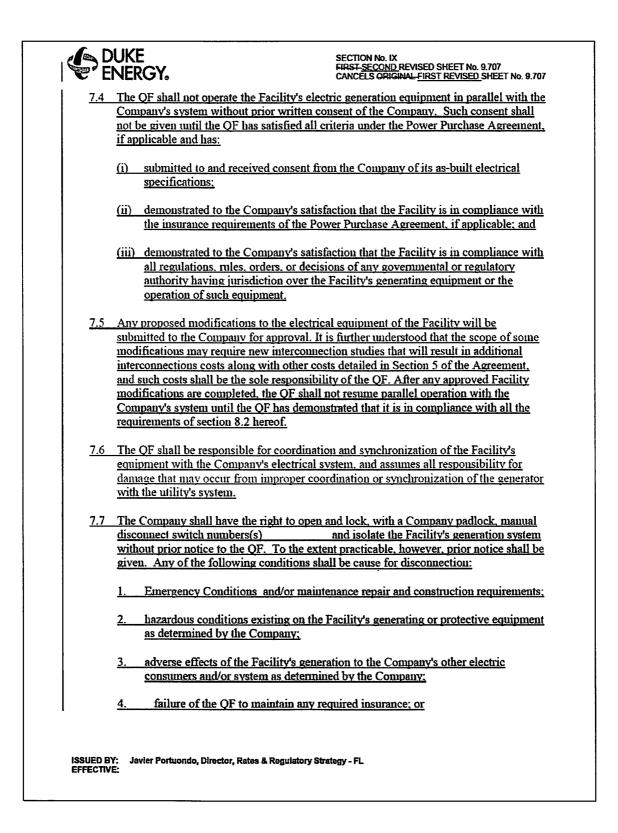
DUKE ENERGY.	SECTION No. IX F IRST<u>SECOND</u> REVISED SHEET No. 9.704 CANCELS ORIGINAL FIRST REVISED SHEET No. 9.704
	cation and for all additional costs for which the Company ling contracts with third parties.
5.0 Payment Obligation for Operation, Interconnection Facilities	Maintenance and Repair of the Company's
maintenance, and repair of the inte- inspections of the interconnection (l led monthly for the costs associated with the operation, reonnection. These include (a) the Company's and (b) maintenance of any equipment beyond that which al electric service to the Qualifying Facility if no sales to
	-monthly charge equal to 0.50% of the Interconnection
5.0 Schematic Diagram	
major circuit components connecti showing the Point of Delivery and different. All switch number desig	ade a part hereof, is a schematic diagram showing the ng the Facility and the Company's [substation] and the Point of Metering and/or Point of Ownership, if nations initially left blank on Exhibit B-1 will be inserted ate on which the Facility first operates in parallel with the
7.0 Operating Standards	
	independently provide for the safe operation of their periods during which the other Party's facilities are energized.
action for so long as it is rease Company may be necessary to	ex-interrupt electrical generation or take other appropriate mably necessary, which in the judgment of the QF or the operate and maintain a part of either Party's system, to geney on either Party's system.
	all not exceed the amount studied and approved by the adies performed in Section 3 of this Agreement.
SSUED BY: Javier Portuondo, Director, Rates &	Regulatory Strategy - FL

4.1 Th Int Co its tha unu Int 4.2 Th are apj pa bil for day con	erconnection Facilities prior to a writte mpany's interconnection design requir- activities to construct the Company's I t such notice shall be received not late ler Section 3.2 hereof. The QF shall b erconnection Costs incurred by the Co e QF agrees to pay all of the Company incurred and billed in accordance with blicable. Such amounts shall be billed ment option permitted by FPSC Rule ed pursuant to section 4.2.2. If the QF the Facility, then the QF agrees to pay 's after Company notifies the QF that s upleted. .1 Upon a showing of credit worthines monthly installment payments for In than thirty six (36) months. The pe payments will be based on the estim Interconnection Costs Offset, divide	 <u>o initiate construction of the Company's</u> <u>en notice from the QF agreeing to the</u> <u>rements and notifying the Company to initiate</u> <u>Interconnection Facilities; provided, however,</u> <u>er than the date specified by the Company</u> <u>we liable for and agrees to pay all</u> <u>ompany.</u> <u>r's actual Interconnection Costs as such costs</u> <u>h the Power Purchase Agreement, if</u> <u>d pursuant to section 4.2.1 if the QF elects the</u> <u>25-17.087(3). Otherwise the QF shall be</u> <u>F does not have a Power Purchase Agreement</u> <u>y the amounts billed by Company within 30</u> <u>such interconnection work has been</u> <u>ss, the QF shall have the option of making</u> <u>interconnection Costs over a period no longer</u>
Int Co its tha un Int A.2 Th Are ap pa bil for da co	erconnection Facilities prior to a writte mpany's interconnection design requir- activities to construct the Company's I t such notice shall be received not late ler Section 3.2 hereof. The QF shall b erconnection Costs incurred by the Co e QF agrees to pay all of the Company incurred and billed in accordance with blicable. Such amounts shall be billed ment option permitted by FPSC Rule ed pursuant to section 4.2.2. If the QF the Facility, then the QF agrees to pay 's after Company notifies the QF that s upleted. .1 Upon a showing of credit worthines monthly installment payments for In than thirty six (36) months. The pe payments will be based on the estim Interconnection Costs Offset, divide	en notice from the QF agreeing to the rements and notifying the Company to initiate Interconnection Facilities; provided, however, er than the date specified by the Company be liable for and agrees to pay all ompany. It's actual Interconnection Costs as such costs in the Power Purchase Agreement, if d pursuant to section 4.2.1 if the QF elects the 25-17.087(3). Otherwise the QF shall be F does not have a Power Purchase Agreement y the announts billed by Company within 30 such interconnection work has been ss, the QF shall have the option of making interconnection Costs over a period no longer triod selected is months. Principal mated Interconnection Costs less the
un Int 4.2 Th are apj pa bil for da con	ler Section 3.2 hereof. The QF shall be erconnection Costs incurred by the Co- e QF agrees to pay all of the Company incurred and billed in accordance with blicable. Such amounts shall be billed ment option permitted by FPSC Rule ed pursuant to section 4.2.2. If the QF the Facility, then the QF agrees to pay after Company notifies the QF that s mpleted. .1 Upon a showing of credit worthines monthly installment payments for In than thirty six (36) months. The per payments will be based on the estim Interconnection Costs Offset, divide	 be liable for and agrees to pay all puppany. c's actual Interconnection Costs as such costs to the Power Purchase Agreement, if the Power Purchase Agreement, if the QF elects the 25-17.087(3). Otherwise the QF shall be the Power Purchase Agreement of the amounts billed by Company within 30 such interconnection work has been ss, the QF shall have the option of making interconnection Costs over a period no longer priod selected is in months. Principal mated Interconnection Costs less the
are apj pa bil for da co	incurred and billed in accordance with blicable. Such amounts shall be billed ment option permitted by FPSC Rule ed pursuant to section 4.2.2. If the QI the Facility, then the QF agrees to pay after Company notifies the QF that s mpleted. .1 Upon a showing of credit worthines monthly installment payments for In than thirty six (36) months. The per payments will be based on the estim Interconnection Costs Offset, divided	h the Power Purchase Agreement, if d pursuant to section 4.2.1 if the QF elects the 25-17.087(3). Otherwise the QF shall be F does not have a Power Purchase Agreement y the amounts billed by Company within 30 such interconnection work has been ss, the QF shall have the option of making interconnection Costs over a period no longer triod selected is months. Principal mated Interconnection Costs less the
<u>da</u> coi	<u>after Company notifies the OF that supleted.</u> <u>.1 Upon a showing of credit worthines</u> <u>monthly installment payments for In</u> <u>than thirty six (36) months. The pe</u> <u>payments will be based on the estin</u> <u>Interconnection Costs Offset, divide</u>	such interconnection work has been ss, the QF shall have the option of making interconnection Costs over a period no longer priod selected is months. Principal mated Interconnection Costs less the
<u>4.2</u>	monthly installment payments for In than thirty six (36) months. The per payments will be based on the estin Interconnection Costs Offset, divide	nterconnection Costs over a period no longer riod selected is months. Principal nated Interconnection Costs less the
	month following first incurrence of Invoices to the OF will include prin balance, if any, calculated at a rate of commercial paper rate as published	yment. Payments will be invoiced in the first Interconnection Costs by the Company. Incipal payments plus interest on the unpaid equal to the thirty (30) day highest grade I in the Wall Street Journal on the first business ment or payments will be adjusted to cause the
<u>4.2</u>	billed to the QF to the extent that th The OF agrees to provide, at least 1 interconnection field work, cash or	curred by the Company, such costs will be nev exceed the Interconnection Costs Offset. 15 calendar days before the initiation of a letter of credit as adequate assurances, in a sole discretion, to cover the estimated
an for thr	time and for any reason, the OF shall all costs incurred in connection with t	g to interrupt or cease interconnection work at I nonetheless be obligated to pay the Company the Company's Interconnection Facilities for all additional costs for which the Company cts with third parties.
7.4 As	may be provided in the Power Purcha	use Agreement, the QF shall not operate the n parallel with the Company's system without
		Strategy - FL

PE	DUKE SECTION NO. IX FIRST-SECOND REVISED SHEE ENERGY. CANCELS ORIGINAL FIRST REV	T No. 9.705 <u>ISED </u> SHEET No. 9.705
	prior written consent of the Company. Such consent shall not be given satisfied all criteria under the Power Purchase Agreement and has:	i until the QF has
	(i) — submitted to and received consent from the Company of its as by specifications;	uilt electrical
	(ii) — demonstrated to the Company's satisfaction that the Facility is in the insurance requirements of the Power Purchase Agreement; an	
	(iii) <u>demonstrated to the Company's satisfaction that the Facility is in</u> all regulations, rules, orders, or decisions of any governmental or authority having jurisdiction over the Facility's generating equips operation of such equipment.	regulatory
7.5 -	- Any proposed modifications to the electrical equipment of the Facility submitted to the Company for approval. It is further understood that the modifications may require new interconnection studies that will result interconnections costs along with other costs detailed in Section 5 of the After any approved Facility modifications are completed, the QF shall parallel operation with the Company's system until the QF has demons compliance with all the requirements of section 8.2 hereof.	e scope of some in additional w Agreement. not resume
7.6	The QF shall be responsible for coordination and synchronization of the equipment with the Company's electrical system, and assumes all responsible for manage that may occur from improper coordination or synchronization with the utility's system.	onsibility for
7.7	— The Company shall have the right to open and lock, with a Company p disconnect switch numbers(s)and isolate the Facility's g without prior notice to the QF. To the extent practicable, however, pri given. Any of the following conditions shall be cause for disconnection	eneration system or notice shall be
	 Company system emergencies and/or maintenance repair and control requirements; 	astruction
	2. hazardous conditions existing on the Facility's generating or prot as determined by the Company;	ective-equipment
	 adverse effects of the Facility's generation to the Company's othe consumers and/or system as determined by the Company; 	or electric
	4. <u>failure of the QF to maintain any required insurance; or</u>	
ISSUED B		

DUKE ENERGY.	SECTION No. IX F IRST_SECOND REVISED SHEET No. 9.706 CANCELS ORIGINAL_ <u>FIRST REVISED</u> SHEET No. 9.706
5.0 Payment Obligation Interconnection Fa	a for Operation. Maintenance and Repair of the Company's cilities
repair of the interco interconnection and	led monthly for the costs associated with the operation, maintenance, and onnection. These include (a) the Company's inspections of the 1 (b) maintenance of any equipment beyond that which would be required electric service to the Qualifying Facility if no sales to the Company were
<u>The QF shall pay a</u> Interconnection Co	monthly charge equal to 0.50% of the Interconnection Costs less the sts Offset.
5.0 Schematic Diagram	L .
major circuit comp showing the Point different. All swite	ed hereto and made a part hereof, is a schematic diagram showing the onents connecting the Facility and the Company's [substation] and of Delivery and the Point of Metering and/or Point of Ownership, if ch number designations initially left blank on Exhibit B-1 will be inserted a or before the date on which the Facility first operates in parallel with the
.0 Operating Standard	<u>s</u>
respective faci	e Company will independently provide for the safe operation of their lities, including periods during which the other Party's facilities are energized or de-energized.
action for so le Company may address, if app	educe, curtail, or interrupt electrical generation or take other appropriate ong as it is reasonably necessary, which in the judgment of the QF or the the necessary to operate and maintain a part of either Party's system, to licable, an Emergency Condition on either Party's system. The QF shall utail, or interrupt electrical generation during the situations defined in 6, F.A.C.
action for so le Company may address, if app also reduce, cu Rule 25-17.08 7.3 The operation the amount stu under this Age 5. failure o or decisi	ong as it is reasonably necessary, which in the judgment of the QF or the be necessary to operate and maintain a part of either Party's system, to licable, an Emergency Condition on either Party's system. The QF shall rtail, or interrupt electrical generation during the situations defined in 6, F.A.C. and net energy deliveries to the Company from the QF shall not exceed idied and approved by the Company's pursuant to the studies performed

DUKE ENERGY.		SECTION No. IX F IRST_SECOND REVISE CANCELS ORIGINAL-<u>FII</u>	D SHEET No. 9.706 <u>IST REVISED </u> SHEET No. 9.706
7.9 Neither Par Company 1	rty shall operate swit	— hing devices owned by the othe disconnect switch number(s)— £	r Party, except that the ownod by the
		e the operating position of a sw procedures shall be followed:	ritching device owned
repres opera	sentative of the other	vitching change shall orally agr Party rogarding which switch o vition of each switching device,	r switches are to be
		equested switching shall notify ing change has been completed	
electr on its	ical isolation necess side of the Point of	ely on the other party's switchin ry for personnel safety. Each P Dwnership as if its facilities are prior to beginning work.	arty will perform work
eondi		sible for returning its facilities t val of grounds, prior to the Cor ation.	
Exhil Com	oit B-2 attached here pany personnel on th	one or more red tags similar to o and made a part hereof, on all Company's switching and tagg aring a Company red tag under	open switches. Only ing-list shall remove
maintenand aball bo dia the QF sha	ee or construction rec	equipment fail or be removed fr uirements, the Facility's electric Company's system. To accompl generator breaker number(s) er(c)	-generation equipment ish this disconnection,

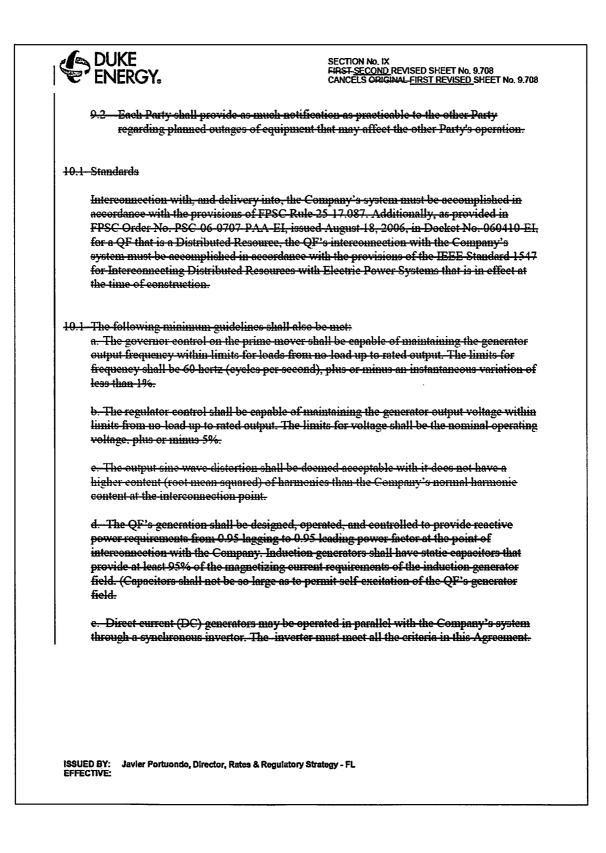


Ì

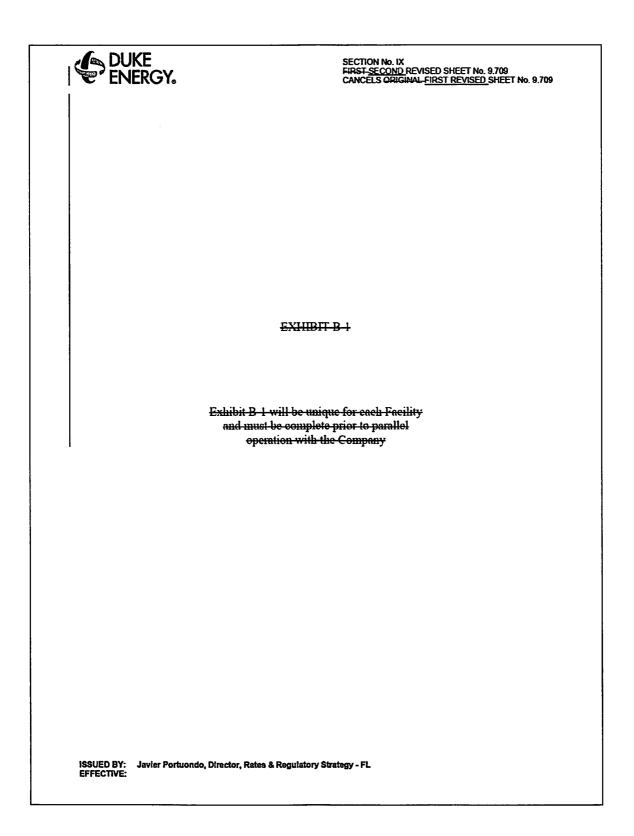
	IKE IERGY .	SECTION No. IX F IRST.<u>SECOND</u> REVISED SHEET No. 9.707 CANCELS ORIGINAL <u>FIRST REVISED</u> SHEET No. 9.70
÷	by QF personnel. As promp	breaker assembly shall be opened and drawn out by as practicable, Company personnel shall install- tag on the breaker enclosure door.
-		te switch shall be opened by QF personnel or by promptly as practicable, Company personnel will ad a red tag.
8.0-Inspe	tion and Testing	
8.1	generator's circuit breaker shall be	ectrical relays governing the operation of the performed in accordance with manufacturor's ess than once every 12 months. This inspection and uted to, the following:
	(i) electrical checks on all relay	s and verification of settings electrically;
	(ii) cleaning of all contacts;	
	(iii) complete testing of tripping to proper time intervals; and (iv) visual inspection of the gene	nechanisms for correct operating sequence and ral condition of the relays.
8.2	or in need of repair, the QF shall n parallel operation of the generator	y or protective equipment is found to be inoperative otify the Company of the problem and cease until repairs or replacements have been made. The ining records of all inspections and repairs and o the Company upon request.
8.3 -	equipment to assure accuracy and	to operate and test any of the Facility's protective proper operation. This testing shall not relieve the proper operation of its equipment and to perform
9.0 Notifi	eation	
9.1	Communications made for emerge following persons and shall therea	ney or operational reasons may be made to the fter be confirmed promptly in writing:
	To The Company: <u>System Dispat</u> Title: <u>System Dispatcher</u> Telephone: <u>(727)384-7211</u> Telecopier: <u>(727)384-7865</u>	cher on Duty
	Javier Portuondo, Director, Rates & Regula	

	JKE JERGY .	SECTION No. IX F IRST-<u>SECOND</u> REVISED SHEET No. 9.708 CANCELS ORIGINAL <u>FIRST REVISED</u> SHEET No. 9.708
	or decisions of any go	omply with any existing or future regulations, rules, orders overnmental or regulatory authority having jurisdiction over generating equipment or the operation of such equipment.
		ration equipment shall not be operated in parallel with the ixiliary power is being provided from a source other than the a equipment.
		switching devices owned by the other Party, except that the nual disconnect switch nunber(s) owned by the hereof.
		change the operating position of a switching device owned wing procedures shall be followed:
	representative of the c	the switching change shall orally agree with an authorized other Party regarding which switch or switches are to be ed position of each switching device, and when each switch
		the requested switching shall notify the requesting Party witching change has been completed.
	electrical isolation nee on its side of the Poin	ly solely on the other party's switching device to provide cessary for personnel safety. Each Party will perform work t of Ownership as if its facilities are energized or test for bunds prior to beginning work.
		sponsible for returning its facilities to approved operating removal of grounds, prior to the Company authorizing the operation.
	Company personnel o	nstall one or more red tags on all open switches. Only on the Company's switching and tagging list shall remove ch bearing a Company red tag under any circumstances.
7.11	maintenance or construct equipment shall be discor disconnection, the QF sha or (ii) open the manual di To The QF: Name:	
ISSUED BY: EFFECTIVE		es & Regulatory Strategy - FL

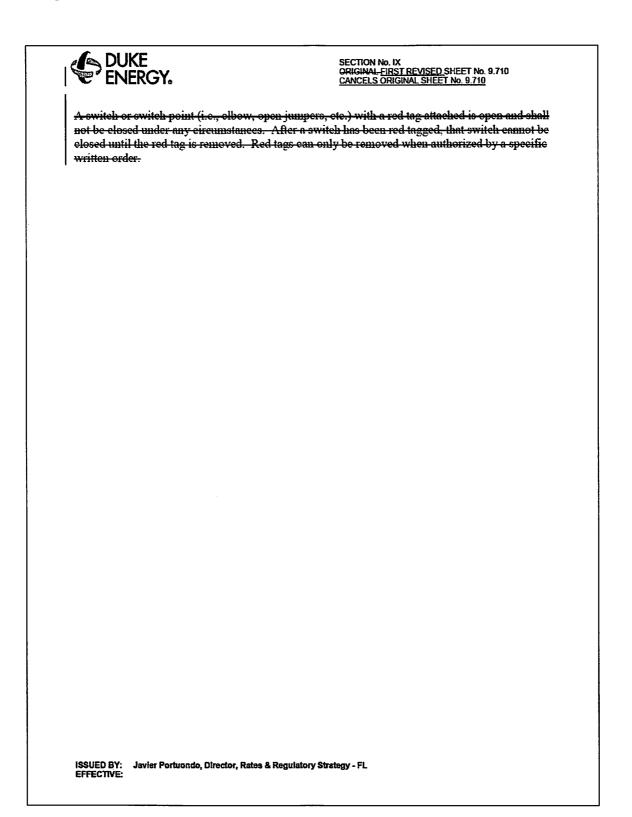
•



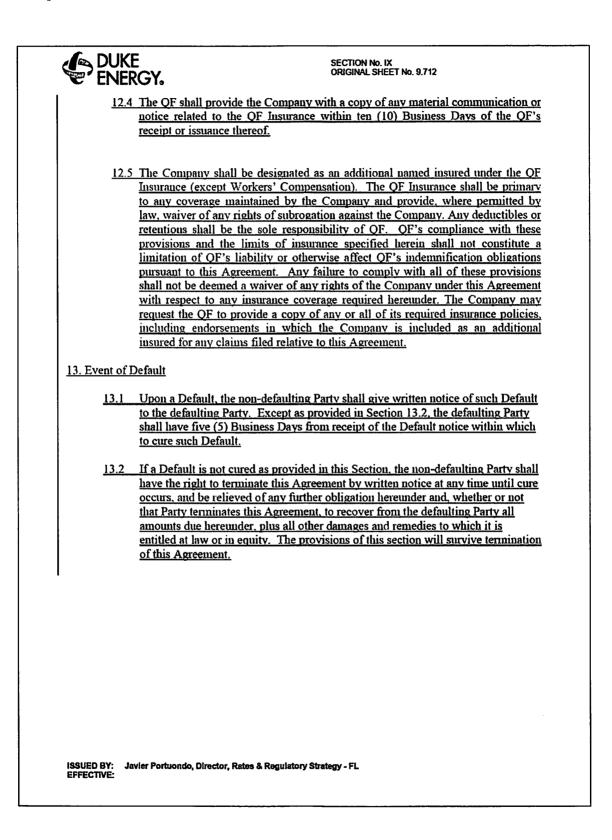
	IKE SECTION NO. IX FIRST-SECOND REVISED SHEET NO. 9.709 CANCELS ORIGINAL-FIRST REVISED SHEET NO. 9.709
7	<u>11.1 If the QF elects option (i), the breaker assembly shall be opened and drawn out by QF personnel. As promptly as practicable, Company personnel shall install a Company padlock and a red tag on the breaker enclosure door.</u>
7	.11.2 If the QF elects option (ii), the switch shall be opened by QF personnel or by Company personnel and, as promptly as practicable. Company personnel will install a Company padlock and a red tag.
8.0 Inspec	ction and Testing
<u>8.1</u>	The inspection and testing of all electrical relays governing the operation of the generator's circuit breaker shall be performed in accordance with manufacturer's recommendations, but in no case less than once every 12 months. This inspection and testing shall include, but not be limited to, the following:
	(i) electrical checks on all relays and verification of settings electrically:
	(ii) cleaning of all contacts:
	(iii) complete testing of tripping mechanisms for correct operating sequence and proper time intervals; and
	(iv) visual inspection of the general condition of the relays.
<u>8.2</u>	In the event that any essential relay or protective equipment is found to be inoperative or in need of repair, the QF shall notify the Company of the problem and cease parallel operation of the generator until repairs or replacements have been made. The QF shall be responsible for maintaining records of all inspections and repairs and shall make said records available to the Company upon request.
<u>8.3</u>	The Company shall have the right to operate and test any of the Facility's protective equipment to assure accuracy and proper operation. This testing shall not relieve the QF of the responsibility to assure proper operation of its equipment and to perform routine maintenance and testing.
9.0 Notifi	cation
<u>9.1</u>	Communications made for emergency or operational reasons may be made to the following persons and shall thereafter be confirmed promptly in writing:
	To The Company: System Dispatcher on Duty <u>Title: System Dispatcher</u> <u>Telephone: (727)384-7211</u> <u>Telecopier: (727)384-7865</u>
ISSUED BY:	Javier Portuondo, Director, Rates & Regulatory Strategy - FL



DUKE ENERGY.	SECTION No. IX ORIGINAL <u>FIRST REVISED</u> SHEET No. 9.710 CANCELS ORIGINAL SHEET No. 9.710
<u>To The OF: Name:</u> <u>Title:</u> <u>Telephone:</u> Telecopier:	
	ovide as much notification as practicable to the other Party autages of equipment that may affect the other Party's operation.
10.0 Standards	
accordance with the prov FPSC Order No. PSC-06- for a QF that is a Distribu system must be accompli	delivery into. the Company's system must be accomplished in isions of FPSC Rule 25-17.087. Additionally, as provided in -0707-PAA-EL issued August 18, 2006, in Docket No. 060410-EL ted Resource, the QF's interconnection with the Company's shed in accordance with the provisions of the IEEE Standard 1547 buted Resources with Electric Power Systems that is in effect at
10.1 The following minin	num guidelines shall also be met:
generator output freque	ol on the prime mover shall be capable of maintaining the ncy within limits for loads from no-load up to rated output. The all be 60 hertz (cycles per second), plus or minus an instantaneous <u>%.</u>
	ol shall be capable of maintaining the generator output voltage bad up to rated output. The limits for voltage shall be the nominal or minus 5%.
	ve distortion shall be deemed acceptable when it does not have a an squared) of harmonics than the Company's normal harmonic ection point.
reactive power requiren of interconnection with that provide at least 959	a equipment shall be designed, operated, and controlled to provide ments from 0.95 lagging to 0.95 leading power factor at the point the Company. Induction generators shall have static capacitors % of the magnetizing current requirements of the induction fors shall not be so large as to permit self-excitation of the QF's
	generators may be operated in parallel with the Company's ronous invertor. The inverter must meet all the criteria in this
	EXHIBIT B-2
' ISSUED BY: Javier Portuondo, Direct EFFECTIVE:	tor, Rates & Regulatory Strategy - FL



DUKE ENERGY. SECTION No. IX ORIGINAL SHEET No. 9.711 11.0 **OF Standing and Qualification** (corporation, partnership, or other, as applicable) duly The QF is a organized and validly existing in good standing under the laws of and has all necessary power and authority to carry on its business as presently conducted to own or hold under lease its properties and to enter into and perform its obligations under this Agreement and all other related documents and agreements to which it is or shall be a Party. OF is duly qualified or licensed to do business in the State of Florida and in all other jurisdictions wherein the nature of its business and operations or the character of the properties owned or leased by it makes such qualification or licensing necessary and where the failure to be so qualified or licensed would impair its ability to perform its obligations under this Agreement or would result in a liability to Company or would have any adverse effect on Company. 12. Insurance 12.1 The QF shall procure or cause to be procured and shall maintain throughout the entire Term of this Agreement, a policy or policies of liability insurance issued by an insurer acceptable in the state of Florida on a standard "Insurance Services Office" commercial general liability and/or excess liability form or equivalent and Workers' Compensation in accordance with the statutory requirements of the state of Florida (such policy or policies, collectively, the "QF Insurance"). A certificate of insurance shall be delivered to the Company at least fifteen (15) calendar days prior to the start of any interconnection work. At a minimum, the OF Insurance shall contain (a) an endorsement providing coverage, including products liability/completed operations coverage for the term of this Agreement, and (b) premises and operations liability, (c) a broad form contractual liability endorsement covering liabilities (i) which might arise under, or in the performance or nonperformance of, this Agreement or (ii) caused by operation of the Facility or any of the OF's equipment Without limiting the foregoing, the QF Insurance must be reasonably acceptable to the Company. Any premium assessment or deductible shall be for the account of the OF and not the Company. 12.2 The OF Insurance for liability shall have a minimum limit of one million dollars (\$1,000,000.00) per occurrence for bodily injury (including death) or property damage. This liability limit can be met by any combination of commercial general and excess liability insurance policies. 12.3 To the extent that the QF Insurance is on a " claims made " basis, the retroactive date of the policy(ies) shall be the Effective Date of this Agreement or an earlier date. Furthermore, to the extent the QF Insurance is on a "claims made" basis, the OF's duty to provide insurance coverage shall survive the termination of this Agreement until the expiration of the maximum statutory period of limitations in the State of Florida for actions based in contract or in tort. To the extent the QF Insurance is on an "occurrence" basis, such insurance shall be maintained in effect at all times by the QF during the term of this Agreement. **ISSUED BY:** Javier Portuondo, Director, Rates & Regulatory Strategy - FL EFFECTIVE



DUKE ENERGY.	SECTION No. IX ORIGINAL SHEET No. 9.713
14. Termination	
This Agreement shall t	erminate upon any of the following events:
	he nature of the QF's service changes in such a way as to alter the ne QF delivers power to the Company: or
(b) pursuant to the pro	cedure set forth in Section 13.2: or
(c) as set forth in Section	<u>on 3.3; or</u>
(d) termination of the	Power Purchase Agreement: or
(e) upon 30 days' noti	ce by the QF to the Company.
15. Assignment	
be made only with the	F of this Agreement and the rights and obligations hereunder shall ne written consent of the Company, which consent shall not be and shall be subject to credit, payment, tax, and performance
16. Governing Law and Jurisd	liction.
	ne rights and duties hereunder shall be governed by and construed, ed in accordance with the Laws of the State of Florida, without conflicts of law.
17. Mutual Representations	
has the capacity, aut Agreement; (ii) this enforceable against it; party has full and com an authorized represer made its own independ	a hereby represents and warrants to the other the following: (i) each hority, and power to execute, deliver, and perform under this Agreement constitutes legal, valid, and binding obligations (iii) each person who executes this Agreement on behalf of each plete authority to execute and bind such party to this Agreement as tative of such party; (iv) each is acting on its own behalf and has lent decision to bind itself under this Agreement; and, (v) each has y understands, and voluntarily accepts every provision of this
18. Entire Agreement	
Company relating to the effective unless duly e	tutes the entire agreement and arrangement between the QF and as subject matter herein. This Agreement shall not be binding and executed by an authorized officer of QF and delivered by QF to executed for such duly executed document is executed by Company pany to QF.
ISSUED BY: Javier Portuondo, Direc EFFECTIVE:	ctor, Rates & Regulatory Strategy - FL

DUKE ENERGY.	SECTION No. IX ORIGINAL SHEET No. 9.714
	EXHIBIT B-1
	Exhibit B-1 will be unique for each Facility and must be complete prior to parallel operation with the Company
ISSUED BY: Javier Portu EFFECTIVE:	iondo, Director, Rates & Regulatory Strategy - FL

DUKE ENERGY.	SECTION NO. IX ORIGINAL SHEET NO. 9.715
	has executed this Agreement on the date set forth below.
OF	
Signature	
Print Name	
That Name	
Title	
Date	
	Company has acknowledged receipt of this executed
Agreement.	
agreement.	
a <u>greement.</u> DUKE ENERGY FLORIDA, LLC.	
agreement. DUKE ENERGY FLORIDA, LLC. Signature	
Agreement. DUKE ENERGY FLORIDA, LLC. Signature Print Name	
Agreement. DUKE ENERGY FLORIDA, LLC. Signature Print Name Title	