ORIGINAL

CARLTON FIELDS

ATTORNEYS AT LAW

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January 27, 2000

VIA FEDERAL EXPRESS

Ms. Blanca S. Bayo, Director Division of Records and Reporting Florida Public Service Commission 2540 Shumard Oak Boulevard Tallahassee, FL 32399-0850

Re: Florida Power Corporation's Request for Proposals

Dear Ms. Bayo:

Pursuant to Rule 25-22.082, Florida Administrative Code, Florida Power Corporation is filing herewith an original and fifteen (15) copies of Florida Power Corporation's Request for Proposals.

We request you acknowledge receipt and filing of the above by stamping the additional copy of this letter and returning it to me in the self-addressed, stamped envelope provided.

If you or your Staff have any questions regarding this filing, please contact me at (727) 821-7000.

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REQUEST FOR PROPOSALS January 26, 2000

I. <u>Purpose And Scope</u>

In accordance with Rule 25-22.082, F.A.C., Florida Power Corporation (FPC) issues this request for proposals (RFP) to solicit and screen, for subsequent contract negotiations, competitive proposals for supply-side alternatives to its next planned generating unit. FPC invites proposals that will offer exceptional value to FPC and its customers. Proposals submitted pursuant to this RFP will be considered and evaluated against each other and against FPC's self-build options. FPC's next planned generating unit addition, in the absence of alternate arrangements developed as a result of this solicitation, is a natural gas fired combined cycle installation of approximately 530 MW (net) to be located at the Hines Energy Complex in Polk County, Florida and available November 30, 2003. For a more detailed description of this planned unit, refer to Attachment D.

Respondents are asked to provide capacity offered in their proposal at a level of firmness that is dedicated solely to FPC's use and subject to dispatch by FPC. For purposes of this solicitation, FPC is interested in long-term proposals with flexible contract options.

EVENT	DATE	COMMENTS
Solicitation issued	1/26/2000	
Notice of Intent to Bid (NOI) Due	2/10/2000	NOIs should be received by FPC's RFP Contact by 3:00 P.M. EST
Pre-Bid Meeting	2/18/2000	Tampa Airport Marriott 10:00 A.M 12:30 P.M. EST Room To Be Determined
Proposals Due	3/27/2000	Proposals must be received by the RFP Contact by 3:00 P.M. EST

II. <u>Tentative Solicitation Schedule</u>

Short-list Determination	5/19/2000	If applicable	
Complete Negotiations	8/1/2000	If applicable	
File contract(s) with state Public Service Commission for approval	8/15/2000- 9/29/2000	If applicable	

FPC reserves the right to revise, suspend, or terminate this schedule at its sole discretion. Any changes to the schedule will be provided, as appropriate, to Respondents that have submitted a timely NOI.

III. Proposal Guidelines

A. <u>Instructions for Completing Forms</u>

- 1. All Respondents are encouraged to submit a written Notice of Intent to Bid (NOI), using the form provided in Attachment A. Please submit the NOIs to the FPC RFP Contact by facsimile, Registered or Certified Mail, Return Receipt Requested, or overnight courier, by 3:00 P.M. EST, February 10, 2000. Voice telephone notices will not be acknowledged.
- 2. Respondents are also encouraged to attend the February 18, 2000 pre-bid meeting. This meeting is tentatively set to be held from 10:00 A.M. to 12:30 P.M. at the Tampa Airport Marriott (Room TBD). If this time or location change, FPC will notify Respondents who have submitted a NOI.
- 3. All Respondents must submit with their proposal a Proposal Summary using the form provided in Attachment B.
- 4. All proposals must be submitted in the format shown in the RFP response forms Attachment C and E. Respondents should, at the time of proposal submittal, supply any additional information not included in the forms if such information may be needed for a thorough understanding or evaluation of the proposal. All responses will be considered commitments to be used in defining any agreement between FPC and the Respondent that may arise from this RFP.
- 5. Proposals must be signed by a duly authorized officer of the Respondent.
- 6. A signed original and ten (10) copies of the proposal, including all attachments,

must be submitted along with the electronic forms provided on a 3.5" floppy diskette. The electronic forms may be obtained from FPC on floppy disk or downloaded from the Company website (www.fpc.com). In the event of a discrepancy between the electronic forms and the hard copy, the hard copy will be considered to be correct.

7. All proposals, including all attachments, must be properly completed and returned by overnight courier or Registered or Certified Mail, Return Receipt Requested, in both hard copy and electronic versions, to FPC's RFP Contact:

Michael D. Rib Director, Resource Planning Florida Power Corporation 263 13th Avenue South St. Petersburg, FL 33701 Phone: (727)826-4387 Fax: (727)826-4333 E-mail: rfpresponse@fpc.com

All proposals shall be received by FPC's RFP contact no later than 3:00 P.M. EST on March 27, 2000. Late or incomplete offers may be rejected by FPC. Offers must remain open until at least October 1, 2000. All inquiries and other communications relating in any manner to this RFP must be directed in writing or by facsimile or E-mail to FPC's RFP Contact. FPC may distribute Respondents' questions and FPC's answers to such questions to all other Respondents if FPC deems the question to be of general interest. Unsolicited contact about this process with other FPC personnel or attorneys or consultants retained by FPC may result in disqualification.

- 8. Complete information is needed to facilitate a timely evaluation. FPC may request clarifying or additional information at any time during the evaluation process, and Respondents will be expected to provide timely responses to facilitate the evaluation and decisionmaking process within the time constraints. Respondents must provide all data requested in the RFP and the applicable attachments. FPC may reject non-specific offers from further consideration.
- 9. Proposals must reflect any and all of the costs that FPC would be expected to pay for power delivered to FPC's System. If any portion of the total delivered cost of power is not intended to be clearly defined in the pricing outlined in the proposal, then a detailed description of the proposed approach regarding that portion of cost must be clearly delineated in the proposal. Prices and dollar figures quoted must be clearly stated in \$US as nominal for the year in which they occur. For non-nominal prices, the appropriate year for the stated dollars must be identified along with applicable escalation rates to be used for subsequent years.

B. <u>Confidentiality</u>

FPC will take reasonable precautions and use reasonable efforts to protect any proprietary and confidential information contained in a proposal provided that such information is clearly identified by the Respondent as "Proprietary and Confidential" on the page on which proprietary and confidential information appears. Such information may, however, be made available under applicable state or federal law to regulatory commission(s), their staff(s), or other governmental agencies having an interest in these matters. FPC reserves the right to release such information to agents, contractors, or to its parent company or to subsidiaries thereof, for the purpose of evaluating the Respondent's proposal but such companies, agents, or contractors will be required to observe the same care with respect to disclosure as FPC. Under no circumstances will FPC or Florida Progress Corporation or their subsidiaries, agents, or contractors, be liable for any damages resulting from any disclosure during or after the solicitation process.

C. <u>Proposal Evaluation Costs</u>

- 1. To help defray the cost of performing the proposal evaluations, Respondents are required to submit, with the proposal, a non-refundable check payable to Florida Power Corporation for \$10,000 for each proposal. Changes in the physical attributes, such as site, output, fuel, or technology changes will require the submission of a separate proposal and payment of another fee.
- 2. Neither FPC nor its representatives, affiliate companies, or parent company shall be liable for any expenses incurred in connection with preparation of a response to this RFP or for any costs, fees, or lost or foregone profits of unsuccessful Respondents. Respondents should prepare their proposals simply and economically, providing a straightforward and concise description of the Respondent's ability to meet the requirements of the RFP. Any Respondent that submits in its proposal to FPC any information that is determined by FPC to be substantially inaccurate, misleading, exaggerated, or incorrect shall be disqualified from consideration.

D. <u>Regulatory Provisions</u>

1. Any negotiated contract for the purchase of power between FPC and the Respondent will be conditioned upon approval or acceptance without substantial change by any and all regulatory authorities that have, or claim to have, jurisdiction over any or all of the subject matter of this solicitation, including, without limitation, the Florida Public Service Commission and the Federal Energy Regulatory Commission. 2. The following regulatory requirement applies to Respondents that propose to construct electric generation facilities in the state of Florida:

Each participant in this solicitation must publish a notice in a newspaper of general circulation in each county in which the participant's proposed generating facility would be located. The notice shall be at least one quarter of a page and shall be published no later than ten (10) days after the date that the proposals are due. The notice shall state that the participant has submitted a proposal to build an electric power plant, and shall include the name and address of the participant submitting the proposal, the name and address of the proposals, and a general description of the proposed power plant and its location.

Respondents are required to forward copies of these actual published notices to FPC when they are available.

IV. <u>General Specifications</u>

A. <u>Minimum Requirements for Proposals</u>

In addition to the requirements of Section III above, proposals must also meet the minimum requirements set forth below. FPC, in its sole discretion, may reject any proposal that fails to respond adequately or completely to all or any part of this RFP.

- 1. Capacity offered must be at a level that is dedicated solely to FPC's use and subject to dispatch by FPC. Proposals with no assurance of firmness or with no indication of the availability of actual firm resources will not be evaluated and will be rejected. Proposals must allow FPC the right to use this generating resource, including, but not limited to, electrical transmission services associated with the project, for any purpose that the company deems appropriate in its sole discretion.
- 2. The capacity must be available no later than November 30, 2003.
- 3. Proposal prices must reflect any and all costs that FPC will be expected to pay for power delivered to its system, as outlined in this RFP. Further, Respondents shall be responsible for absorbing all charges and costs for firm transmission service (including the cost of all attendant equipment, including but not limited to generator step-up transformers) to deliver each generating resource included in the proposal to the FPC control area, or to interconnect a generating resource to the FPC Transmission System.
- 4. A Respondent whose proposal is selected shall take all necessary actions to

satisfy any regulatory requirements, including but not limited to all licenses and permits that may be imposed on the Respondent by any federal, state, or local law, or ordinance, rule, or regulation concerning the generation, sale, or delivery of the power. FPC will cooperate with the Respondent to provide information or such other assistance as may reasonably be necessary for the Respondent to satisfy such regulatory requirements. The Respondent shall likewise fully support all of FPC's regulatory requirements associated with this potential power supply arrangement.

- 5. A Respondent whose proposal is selected shall be completely and solely responsible for obtaining and paying for any and all emission allowances or any other regulatory allowances, fees, or taxes that may be required for the generation, sale, or delivery of power for the entire term of the proposed contract, and the Respondent shall include any such costs in its proposal.
- 6. The proposal must include unit commitment notification and dispatch scheduling provision details for the contract sale. Respondents must describe provisions that can and would be made to allow FPC to dispatch the proposed generating resources directly from FPC's control area energy management control system.
- 7. The Respondent's proposal must provide a milestone schedule that identifies key dates, including but not limited to dates for regulatory approvals, finalization of transmission and interconnection agreements, finalization of fuel supply arrangements, pre-construction milestones, and construction milestones, along with terms for default.

B. <u>Electrical Transmission Requirements</u>

Respondents are asked to provide the information that is necessary to understand and assess the transmission delivery path(s) and the FPC system impacts of the proposed power supply arrangements. Under the guidelines outlined herein, Attachments C and E provide detailed information requirements for each resource included in the proposal. Respondents who are placed on the "short list" shall provide reasonable assurances that they will be able to provide or secure adequate and reliable firm transmission capability for each generating resource included in the Respondent's proposal for the duration of the term of the power supply to FPC.

- 1. Definition of Terms
 - FPC Transmission System: Transmission facilities owned, controlled, or operated by FPC.
 - FPC Control Area: The FPC Transmission System bounded by FPC tie-line metering and telemetry which controls generation directly to maintain

interchange schedules and frequency.

- Resource: Each specific generating resource or system power resource included in the Respondent's proposal.
- 2. External Resource Information Requirements
 - a. For each Resource included in the proposal not directly connected to the FPC Transmission System (External Resource), the Respondent shall describe the location of the External Resource and specify in detail all transmission path(s) that will be utilized, the transmission service that will be purchased, and the name of each transmission provider required to deliver the External Resource to the FPC Control Area. The description of the location of each External Resource should include:
 - For specific generation, the specific delivery point on the transmission system where the generation is located.
 - For a system power offer, the transmission system(s) on which the power resources are located.
 - b. Respondents are responsible for paying for and clearly delineating in their price quotes all charges and costs for firm transmission service to deliver power to the FPC Control Area.
 - c. The Respondent must supply detailed information with the proposal for new generation that is not modeled in the current Florida Reliability Coordinating Council (FRCC) load flow cases (i.e., FY99) by completing the asterisked items on the "Florida Power Corporation Generation Interconnection Study Data Request Form," a copy of which is provided in Attachment E.
 - d. For proposals included in the "short list" that include External Resources, the Respondents must demonstrate during the "short list" evaluation phase of this RFP that firm transmission service can be secured on all transmission paths required to deliver the External Resource to the FPC Control Area.
- 3. Internal Resource Information Requirements
 - a. For each Resource included in the proposal that is directly connected to the FPC Transmission System (Internal Resource), the Respondent must

describe the specific delivery point on the FPC Transmission System where the Resource is or is proposed to be located.

- b. The Respondent shall include in the proposal the costs of all generation equipment up to and including the generator step-up transformer(s).
- c. The Respondent must supply detailed information with the proposal for new generation that is not modeled in the current FRCC load flow cases (i.e., FY99) by completing the asterisked items on the "Florida Power Corporation Generation Interconnection Study Data Request Form," a copy of which is provided in Attachment E.
- 4. Transmission System Impact Study

During the "short list" evaluation phase of this RFP, FPC will perform a transmission system impact study to evaluate all proposals on the "short list" at the same time. All required information to conduct this study must have already been provided to FPC in accordance with the schedule provisions of this RFP. The cost of this study shall be pro-rated among all Respondents whose proposals are included on the "short list." Coincident with the determination by FPC of the "short list," FPC will issue System Impact Study Agreements to each Respondent included on the "short list."

C. <u>Non-Price Attributes</u>

- 1. At this time, FPC would view more favorably proposals that:
 - Offer a greater degree of firmness and reliability;
 - Offer shorter unit commitment notification and greater dispatch flexibility;
 - Offer greater contract flexibility through creative proposal options potentially including, but not limited to:
 - The right for FPC to terminate early,
 - Supplemental capacity call options
 - Options to buy the generating asset at pre-determined prices.

(Respondents must provide discrete cost or fee structures for proposed contract flexibility attributes.)

• Offer greater supplier performance assurances through parent guarantees, securities, deposits, or other means;

- Promote FPC transmission system reliability and integrity;
- Utilize commercially proven technologies;
- Minimize potential adverse environmental impacts; and
- Offer larger megawatt block sizes.
- 2. FPC will consider the following additional non-price attributes in its evaluation of proposals:
 - Respondent's qualifications and experience;
 - Technical and financial viability of the proposal;
 - Project location (for example: grid location, zoning, community acceptance);
 - Resource scheduling and dispatchability;
 - Deliverability (interconnection and transmission), including system reliability and transmission related issues;
 - Fuel supply, including, but not limited to:
 - Firmness of fuel supply,
 - Backup fuel supply,
 - Dual fuel capability,
 - Transportation flexibility,
 - Fuel management or tolling requirements;
 - Water supply;
 - Environmental compliance;
 - Operational and maintenance plans;
 - Performance criteria;
 - Pricing structure;

- Potential for increases or decreases in FPC's cost of capital;
- The effect of Respondent's financing arrangements on FPC's system reliability;
- Any competitive advantage the financing arrangement may give the Respondent; and
- All factors that must be considered or discussed by FPC pursuant to F.A.C. Rule 25-22.081, .082.
- 3. This list of attributes is not intended to be all inclusive. Other innovative and cost effective offerings, which provide value to FPC and its customers, will be viewed favorably.

D. <u>Performance Assurances</u>

FPC will rely on this contracted power to meet the electric needs of its customers with dependable and reliable electric service. Suitable liquidated damages provisions will be required in any negotiated power purchase agreement and should be included in the Respondent's proposal. Performance guarantees and financial credit assurances will also be required of the Respondents, subject to negotiation, at FPC's discretion, and also should be included in Respondent's proposal.

V. <u>Proposal Evaluation</u>

A. <u>Proposal Evaluation Procedure</u>

- 1. FPC and/or independent consultants will evaluate proposals and recommend proposals, if any, which provide the most value to FPC and its customers. FPC reserves the right to evaluate the proposals in a manner that ultimately produces the most competitive responses from which to begin negotiations. Proposals that offer less than 530 MW may be combined with other proposals as supply-side alternatives to FPC's next planned generating unit. FPC shall determine in its sole discretion the value of any proposals and of any resulting agreement to FPC and its customers.
- 2. Information provided from each Respondent by the proposal due date will be used to develop a short list of proposals from which selection(s) could be made for direct negotiations. No additional information will be accepted after the proposal due date, except for clarifications requested by FPC and possible

transmission study results. FPC will evaluate the proposals in terms of price and non-price attributes.

- 3. FPC will perform an initial screening evaluation to identify and eliminate any proposals that are not responsive to the RFP, do not meet the minimum requirements set forth in the RFP, are clearly not economically competitive with other proposals, or are submitted by Respondents that lack appropriate creditworthiness or sufficient financial resources or qualifications to provide dependable and reliable service.
- 4. The proposals that pass the initial evaluation screen will be further evaluated based on qualitative and non-price attributes, as discussed at Section IV. C above, and using production costing methods and other models so that all reasonable cost impacts can be quantified. A selection of the best proposals will be chosen as a short-list for negotiations. Short-listed proposals will compete with each other and with any self-build options before FPC makes any final selection.

B. <u>Reservation of Rights</u>

- 1. FPC reserves the right, without qualification and in its sole discretion, to accept or reject any or all proposals for any reason or to make the award to that Respondent, who, in the opinion of FPC, will provide the most value to FPC and its customers. FPC also reserves the right to make an award to other than the lowest price offer or to the proposal evidencing the greatest technical ability if FPC determines that to do so would result in the greatest value to FPC and its customers. FPC may make an award of contract without further discussion.
- 2. FPC reserves the right to reject any, all, or portions of the proposals received for failure to meet any criteria set forth in this RFP. FPC also may decline to enter into a power purchase arrangement with any Respondent, or to abandon the project in its entirety. FPC reserves the right to revise the capacity needs forecast at any point during the RFP process or during negotiations and any such change may reduce, eliminate, or increase the amount of power sought.
- 3. Respondents should be aware that the following, without limitation, will be classified as non-responsive and will not be considered or evaluated if submitted:
 - proposals offering non-firm capacity or energy;
 - demand-side proposals;
 - incomplete, inaccurate, conditional, deceptive, misleading, ambiguous,

exaggerated, or non-specific offers; or

- proposals that are not in conformance with the requirements and instructions contained herein.
- 4. Those who submit proposals do so without recourse against FPC or Florida Progress Corporation or any of Florida Progress Corporation's subsidiary companies for either rejection of their proposal(s) or for failure to execute a power purchase agreement for any reason.

Attachment A

Notice of Intent to Bid Form

Project Bidder				
Respondent Contact N	ame:			
Title:	•			
Company Name:				
Address:		· · · · · · · · · · · · · · · · · · ·		
Telephone:			· · · · · · · · · · · · · · · · · · ·	
Facsimile:				
Project Name:				
Project Location:				

General Description of the Proposed Project:

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(Attach additional sheets as needed)

Proposed Capacity Delivered to FPC: Contract Term: Power Generation Technology: Primary Fuel: Back-up Fuel: Specific Entity to Contract with FPC:

Respondent Classification: (e.g., Utility, Power Marketer, EWG, QF, etc.):

Other Parties Involved in the Proposal:

Respondent Qualifications:

Describe similar projects developed by Respondent, identifying project capacity, location, contract commencement date and term, and any other information the Respondent considers appropriate. (*Attach additional sheets as needed*)

Respondent's Signature:

(Title/Position)

Attachment **B**

Proposal Summary Form

Company/Respondent:	
Respondent Contact Name:	
Mailing Address:	
Telephone	
Facsimile:	
General Description of the Proposed Project:	
(Attach additional sheets as needed)	
Power Generation Technology:	
Unit(s) Name:	
Project Location:	
Contract Term:	
Unit(s) Summer MW Rating:	10.944
Unit(s) Winter MW Rating:	
Unit(s) Fuel Type(s):	
Proposed Capacity (MW) Delivered to FPC:	
Proposed delivery point to FPC:	
Other Parties with an Interest in the Proposal:	

Certification: Respondent hereby certifies that all of the statements and representations made in this proposal, including all attachments, are true to the best of Respondent's knowledge and belief. Respondent agrees to be bound by its representations and the terms and conditions of the Request for Proposals. This proposal shall remain in effect until at least October 1, 2000.

Signed:		
Name:		
	(Typed)	
Title:		
Date:		

Attachment C

Respondents are requested to respond to the following data requests. All of this information is important to assist FPC in better understanding, among other things, the price and non-price attributes addressed in each alternative generating proposal, including their technical and financial viability, pricing structure, dispatchability, deliverability, water supply, environmental compliance, and performance criteria.

Certain data requirements in this RFP reference "Seasons," which will, for consistency, be defined as:

Winter	[December through February]
Summer	[June through September]
Shoulder	[Balance of the Months]

Section 1: General Proposal Information

Respondents are requested to provide brief but concise answers to the Data Requests below. If annual escalation is expected or if contract price will vary, include any such rates or indices.

- 1. Provide documentation of Respondent's previous experience providing the proposed product.
- 2. Provide the following information for your company:
 - a. Annual reports and Form 10-K for the past three years. If these documents are not readily available, then audited financial statements for the past three years will be accepted.
 - b. Dunn and Bradstreet identification number credit rating of the Respondent's senior debt securities. Any additional documentation needed to allow FPC to determine the Respondent's financial strength.
 - c. Ten year summary of litigation activity related to (1) provision of energy products and services (fuel, power, ancillary services, engineering, on-site services), (2) lease option arrangements for assets, (3) purchases of energy products and services (as above), or (4) industrial construction projects (power plants, industrial plants, cogeneration facilities, etc.).
- 3. Provide copies of notices to be published, per Section III.D.2 of the RFP.
- 4. Provide a complete schedule of the proposed contract terms and conditions.
- 5. Provide a detailed list and summary of contract flexibility attributes included in the proposal as well as discrete cost or fee structures for each of the proposed attributes.

- 6. Present a detailed description of any security or credit instruments proposed by the Respondent to back its performance obligation.
- 7. Provide a detailed summary of any liquidated damages provisions included in the proposal and a description of the particular circumstance(s) they are intended to mitigate.
- 8. Describe whether or not this capacity has been offered in another RFP or is in any other way obligated or may be obligated to others, and under what conditions it would be released to serve this proposed sale.
- 9. Describe the firmness of the capacity in your offer.
- 10. Explain what will be done to rectify any shortfalls if power is not available when needed. (Describe any penalties that would be associated with failing to deliver the energy after it has been scheduled.)

Section 2: Specific Supply Resource Information

- 1. For a proposal involving a specific unit(s), provide the following information using the data tables included where appropriate:
 - a. (Proposed) Unit name and location.
 - b. For new units, provide the schedule for licensing, permitting and construction, including the projected date of commercial operation.
 - c. Descriptions (including models and manufacturers) of all of the major components.
 - d. Provide a detailed schedule of the fixed price components of the proposal and complete the attached data tables. Respondents may choose to separate pricing for fixed O&M, fixed fuel transportation or other fixed price components. Clearly delineate whether each price component and/or the all-in price offering are guaranteed prices or forecast prices. (See Table 1)
 - e. Provide a detailed schedule of the variable price components of the proposal and complete the attached data tables. Respondents are encouraged to provide as much discrete information as possible to assist in the proper evaluation of the proposal. Additional tables may be used, if needed. If pricing is to be based on a standard index, make the formula basis for pricing and the exact reference index explicitly clear. Clearly delineate whether each price component or the all-in price offering are guaranteed prices or forecast prices. (See Table 2)
 - f. Seasonal Unit ratings (MW, MVAR, MVA) based on the ambient condition

assumptions of Winter (40°F), Summer (90°F), and Shoulder (59°F). If capacity being offered is less than the full capability of the generating unit(s), provide the full capability information for these same ambient conditions. Explain if and how unit performance degradation is accounted for over time. (See Table 3)

- g. Generator capability curve.
- h. Guaranteed availability. (See Table 4)
- i. Equivalent forced outage rates (for existing units, calculated using the NERC equation for the last five years; for proposed units, as expected in operation). (See Table 5)
- j. For planned maintenance requirements, discuss the means by which FPC will be entitled to schedule the planned maintenance periods. (See Table 6)
- k. Detailed Fuel Supply Plan (primary and secondary).
 - i. Fuel type, on-site storage capability and inventory management plan, applicable fuel specifications, metering requirements. (See Table 9)
 - Natural Gas: Include interstate pipeline supplier, connection point, lateral length, type and quantity of firm, recallable, and interruptible transportation.
 - Oil: Include type, special specifications, storage tank description, number of hours of full load operation supported by the tank.
 - Other Fuels.
 - ii. Any proposed tolling or other fuel procurement arrangements that would involve FPC in the fuel management process.
 - iii. Operating limits on either the primary or secondary fuels, if any.
- 1. Describe any dispatch notice or scheduling requirements for this offer, including, but not limited to:
 - i. Minimum run time per dispatch call, if any.
 - ii. Minimum down time, if any.
 - iii. Start up energy requirements.
 - iv. Ramp Rate(s).

- iv. Start up time from cold start and from hot start.
- v. Start up costs from cold start and from hot start.
- vi. Quick start capability (less than 10 minutes). (See Table 7)
- m. Maximum and minimum operating levels, capacity breakpoints and corresponding net heat rates (in Btu/kWh, on a higher heating value basis). Provide on a seasonal basis, as outlined in the tables. (See Table 8a and 8b)
- n. Maximum or minimum energy take per month, season, year, or contract period, if any.
- o. A detailed water supply plan, including data requirements. (See Table 10).
- p. A thorough description of anticipated environmental impact, environmental permitting requirements, and actions for compliance.
- q. A complete description of any cogeneration aspects of the facility(s) including, but not limited to, fuel, steam, water, or power sales and any details related to qualifying facility status, if any.
- r. A complete description of any actual or proposed energy or capacity sales, or sales of any other energy-related products (ancillary services, steam, tankage, etc.) to any other parties from this facility(s).
- s. Any other limit on use or availability of resource's output, if any.

Section 3: System Supply Resource Information

- 1. For a system sale or other sales, please provide the following information. It is difficult to anticipate all possible system supply scenarios, but please use the existing tables to the extent that it is practical and provide any additional information needed in separate schedules, tables and/or forms.
 - a. Seasonal Capacity (MW, MVAR, MVA) available for use on the FPC System. (See Table 3)
 - b. Provide a detailed schedule of the fixed price components of the proposal and complete the attached data tables. Respondents may choose to separate pricing for fixed O&M, fixed fuel transportation, or other fixed price components. Clearly delineate whether each price component or the all-in price offering are guaranteed prices or forecast prices. (See Table 1)

- c. Provide a detailed schedule of the variable price components of the proposal and complete the attached data tables. Respondents are encouraged to provide as much discrete information as possible to assist in the proper evaluation of the proposal. Additional tables may be used, if needed. If pricing is to be based on a standard index, make the formula basis for pricing and the exact reference index explicitly clear. Clearly delineate whether each price component or the all-in price offering are guaranteed prices or forecast prices. (See Table 2)
- d. A description of the system from which the power will be provided, including the name, location, the installed capacity, capacity mix, fuel mix, technology mix, peak hour load, and reserve projections (with and without the proposed capacity sale) during the proposal period. In addition, provide all data requested in the tables. (See Table 11).
- e. A detailed history of the system operations for the past five years including, but not limited to fuel mix, power sales and purchases (energy and demand) to native load and to non-native load, emergency power purchase requirements, historical reserve levels, and incidences of firm transmission interruptions. In addition, provide all data requested in the tables. (See Table 11)
- f. In conjunction with the information and data provided in b. and c., please provide copies of the 1999 and 2000 EIA-411 filings and the 1999 Ten Year Site Plan for all systems from which power is to be sold under this proposal offering.
- g. An explanation of the priority of this proposed transaction relative to all other supply commitments (existing and future) and any criteria under which the supply of system power by the Respondent might be curtailed or interrupted.
- h. A description of any dispatch notice or scheduling requirements for this offer.
- i. Guaranteed availability. (See Table 4)
- j. Maximum or minimum energy take per month, year, contract period, if any.
- k. A thorough description of anticipated environmental impact and compliance resulting from these power sales.
- 1. Any other limit on use or availability of resource, if any.

Section 4: Supplemental Transmission Information

1. Provide all information required in Section IV.B, Transmission Information Requirements,

of this RFP for each Internal or External Resource included in the Respondent's proposal. This data must be included with the Respondent's proposal when it is submitted.

- 2. If this data has already been supplied to FPC Transmission Planning associated with a current generation interconnection request on the FPC Transmission System, please clearly identify the request, the date of the request and the project(s) associated with the request.
- 3. Provide a schedule of the costs that the bidder will be responsible for paying for transmission service to deliver power to FPC's Control Area.
- 4. Describe the transmission arrangements that have been or will be made to provide the firm transmission capacity necessary to deliver the power to the FPC Control Area. If transmission agreements are not in place, please describe the status of the negotiations for those arrangements.
- 5. Describe whether or to what extent the Respondent would assume the risk of a curtailment or interruption of transmission service.

Section 5: Data Tables

Respondents are requested to complete the tables in the attached excel file labeled "Data Tables", as represented herein. Once the tables are completed electronically, the respondent is required to print the resulting data tables and include these printed tables in their proposal document. Add rows as necessary for additional years. If annual escalation is expected, include such escalation rates or indices. Please note any additions or modifications made to the tables. Do not leave blanks: write in "N/A" if topic is not applicable, or "0" if the value is zero. Respondents may provide additional tables, as required to better clarify their proposals. Such additional tables should follow the Water Requirements table, and be labeled "Additional Table - (Description)," and include appropriate units.

Season	Year: 2003	Capacity	0 & M	Other	All-In	Fuel Transportation	Season	Year: 2016	Capacity	0 & M	Other	All-In	Fuel Transportation
Winter	Price						Winter	Price					
	Escal. / Index							Escal. / Index					
Shoulder	Escal. / Index						Shoulder	Escal. / Index					
Summer	Price						Summer	Price					
Summer	Escal. / Index						Summer	Escal. / Index					
Season	Year: 2004	Capacity	0 & M	Other	All-In	Fuel Transportation	Season	Year: 2017	Capacity	0&M	Other	All-In	Fuel Transportation
Winter	Price Escal / Index						Winter	Escal. / Index					
Chavildan	Price						Shoulder	Price					
Shoulder	Escal. / Index						Shourder	Escal. / Index					
Summer	Price						Summer	Price Escal / Index					
Season	Vear: 2005	Canacity	0.& M	Other	All-In	Fuel Transportation	Season	Year: 2018	Capacity	0&M	Other	All-ln	Fuel Transportation
Winter	Price	coputity					Winter	Price					
winter	Escal. / Index						winter	Escal. / Index					
Shoulder	Price						Shoulder	Price Escal / Index					
	Price							Price					
Summer	Escal. / Index						Summer	Escal. / Index					
Season	Year: 2006	Capacity	0&M	Other	All-In	Fuel Transportation	Season	Year: 2019	Capacity	0 & M	Other	All-In	Fuel Transportation
Winter	Price						Winter	Price					<u> </u>
	Escal. / Index				· · · · · · · · · · · · · · · · · · ·			Price					
Shoulder	Escal. / Index						Shoulder	Escal. / Index					
Summer	Price						Summer	Price					
	Escal. / Index		0.0.14	Other	A 11 T-	E. al Transmontation	Fanan	Escal. / Index	Canagity	ORM	Other	All In	Fuel Transportation
Season	Year: 2007	Capacity	U&M	Other	All-III	Fuel Transportation	Season	Price	Capacity	U & M	Oulei	All-m	Puer transportation
Winter	Escal. / Index						Winter	Escal. / Index					
Shoulder	Price						Shoulder	Price					
	Escal. / Index							Escal. / Index					
Summer	Escal. / Index						Summer	Escal. / Index					
Season	Year: 2008	Capacity	0 & M	Other	All-In	Fuel Transportation	Season	Year: 2021	Capacity	0 & M	Other	All-In	Fuel Transportation
Winter	Price						Winter	Price					
	Escal. / Index							Escal. / Index					
Shoulder	Escal. / Index						Shoulder	Escal. / Index					
Summer	Price						Summer	Price					
Summer	Escal. / Index							Escal. / Index					
Season	Year: 2009	Capacity	0&M	Other	Ali-In	Fuel Transportation	Season	Year: 2022	Capacity	0&M	Other	All-In	Fuel Transportation
Winter	Escal. / Index						Winter	Escal. / Index					
Shoulder	Price						Shoulder	Price					
Shoulder	Escal. / Index						Shoulder	Escal. / Index		l			
Summer	Price Escal / Index						Summer	Escal / Index					
Season	Year: 2010	Capacity	0&M	Other	All-In	Fuel Transportation	Season	Year: 2023	Capacity	0&M	Other	All-In	Fuel Transportation
Winter	Price	1					Winter	Price					
winter	Escal. / Index							Escal. / Index					
Shoulder	Frice						Shoulder	Escal. / Index	<u> </u>				
	Price						Cummon	Price	· · ·				
Sunumer	Escal. / Index						Summer	Escal. / Index					
Season	Year: 2011	Capacity	0&M	Other	All-In	Fuel Transportation	Season	Year: 2024	Capacity	0&M	Other	All-In	Fuel Transportation
Winter	Price						Winter	Frice Escal / Index					
Ch., 14.	Price	+					Shoulda-	Price					
Snoulder	11	1					Shoulder	Escal. / Index					
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Summer Season	Escal. / Index Price Escal. / Index Year: 2012 Price	Capacity	0 & M	Other	All-In	Fuel Transportation	Season	Escal. / Index Year: 2025 Price	Capacity	0 & M	Other	All-In	Fuel Transportation
Summer Season Winter	Escal. / Index Price Escal. / Index Year: 2012 Price Escal. / Index	Capacity	0 & M	Other	All-In	Fuel Transportation	Season Winter	Escal. / Index Year: 2025 Price Escal. / Index	Capacity	0 & M	Other	All-In	Fuel Transportation
Summer Season Winter Shoulder	Escal. / Index Price Escal. / Index Year: 2012 Price Escal. / Index Price	Capacity	0 & M	Other	All-In	Fuel Transportation	Season Winter Shoulder	Escal. / Index Year: 2025 Price Escal. / Index Price	Capacity	0 & M	Other	All-In	Fuel Transportation
Summer Season Winter Shoulder	Escal. / Index Price Escal. / Index Year: 2012 Price Escal. / Index Price Escal. / Index	Capacity	0 & M	Other	All-In	Fuel Transportation	Season Winter Shoulder	Escal. / Index Year: 2025 Price Escal. / Index Price Escal. / Index Price	Capacity	0 & M	Other	All-In	Fuel Transportation

Table 1. Fixed Capacity Price Structure- (\$/kW-month)

						Table 2	 a. Variable Price Struc 	ture, Primary F	uel- (units below)				
	Year: 2003	T		Emi	sions	All-In			Year: 2016			Emis	sions	All-In
	Eu-1	0.644	Commention	602	Other	During	Evel Tennentetion	Samon	Engli	OBM	Commodia	602	Other	Derigo
Season	ruer	U U Cam	Commonly	302	Unter	Price	Fuel mansportation	Season	ruçı.	Odelvi	Commounty	304	Other	Flice
		(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)			(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)
	Price								Price					
Winter	Essel / Is day							Winter	Eccel / Indee					
	Escal / Index								Escal / Index					
Shoulder	Price							Shoulder	Price					
Shoulder	Escal / Index							Shoulder	Escal / Index					
	Derive								Drice					
Summer	Frice	<u> </u>						Summer	Filce					
	Escal / Index								Escal / Index					
	Year: 2004	1	r – – – – – – – – – – – – – – – – – – –	Emis	sions	All-In		1	Year: 2017			Ėmis	sions	All-In
e	E.s.t.	0.04	Commention	602	Other	Derina	Eucl Transmostation	Concen.	Fuel	OBM	Commoditu	602	Other	Price
Season	ruer	Uaciwi	Commonly	302	Outer	Flice	Fuel transportation	Season	iruei.	Octivi	Commounty	302	Other	FILCE
		(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)			(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)
	Price								Price					
Winter	E 1/1 1	<u> </u>			·			Winter	Eccel / Index					
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	Ver: 2005	1	<u>1</u>	Ēmi	sions	All In	1	1	Vear: 2018			Emis	sions	All.In
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		(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)			(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)
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	escal / Index							4	Escal / Index					
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Summer	Escal / Index								Escal / Index					
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	Year: 2006			Emis	sions	Ali-in			Year: 2019			Emis	sions	All-in
Season	Fuel:	O&M	Commodity	SO2	Other	Price	Fuel Transportation	Season	Fuel:	0&M	Commodity	SO2	Other	Price
		(\$/MWh)	(#/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWb)	(units:)			(\$/MWh)	(#/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)
		(4/11/11/11)	(c) minibia	(4)(01)	(4/11/11)	(4:11111)	(units)		D 1	(0)10111	(()	(@/ton)	(0,)	()
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	Escal / Index								Escal / Index					
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	Local / Index						1 1		Louis mach					
1	Year: 2007			Emis	sions	All-In	1		Year: 2020			Emis	sions	All-In
Season	Fuel:	0&M	Commodity	SO2	Other	Price	Fuel Transportation	Season	Fuel:	O&M	Commodity	SO2	Other	Price
		(\$/M33/b)	(A/MADON)	(S/ton)	(\$/NA3376)	(\$/M37b)	(unite:)	1	1	(\$/MWb)	(d/MMP	(Stron)	(\$/MWb)	(C/MWh)
		(3/14/14/11)	(c/wiwibiu)	(3/1011)	(3/141 (7))	(\$/141 4411)	(ums)			(4) 141 44 11)	(envirusiu)	(3,101)	(3/14/11)	(5/141 (1))
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	Price								Price					
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	Year: 2008	1		Emis	sions	All-In			Year: 2021			Emis	sions	All-In
Season	Fuel:	0&M	Commodity	SO2	Other	Price	Fuel Transportation	Season	Fuel:	0&M	Commodity	SO2	Other	Price
	II	(SIMANTA)	(A) O (De)	(\$/+)	(CANDA)	(CAMANA)	(unite:			(\$/M37b)	(d/MMD	(\$/ton)	(\$/M11/h)	(S/MUL)
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Winter	Price	l		l	L		l	Winter	Price					
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	Price	+ • • • • • • • • • • • • • • • • • • •					· · · · · · · · · · · · · · · · · · ·	1	Price					
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	Escal / Index		L		L	1			Escal / Index					
	Price							6	Price					
Summer	Escal / Inday	· · ·						Summer	Fecal / Index					
	Lacal / muex	L	L		1				Tracat / mucx					
	Year: 2009		1	Emis	sions	All-In		8	Year: 2022			Emis	sions	All-In
Season	Fuel	0&M	Commodity	\$02	Other	Price	Fuel Transportation	Season	Fuel:	0&M	Commodity	SO2	Other	Price
Souson.		(CANA)	(40.0 (Dw))	(6/4)	(\$7,000.)	(60.000)	(unital			(6/14)1(1)	(d) AN (Dun)	(8/4)	(6/1/1/1)	(CANDA)
	11	(a⊭rw1wn)	(¢/mMBtu)	(3/ton)	(3/1V1 W h)	(\$/MWN)		1		(.)/////////	(¢/wiwiBtu)	(3/10N)	(\$/1V1WR)	(5/1V1 W D)
	J						L	Winter	Price					
Winter	Price							winter	Escal / Index					
Winter	Price Escal / Index			····										
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Winter Shoulder	Price Escal / Index Price Escal / Index							Shoulder	Price Escal / Index					
Winter Shoulder	Price Escal / Index Price Escal / Index Price							Shoulder	Price Escal / Index Price					
Winter Shoulder Summer	Price Escal / Index Price Escal / Index Price							Shoulder Summer	Price Escal / Index Price					
Winter Shoulder Summer	Price Escal / Index Price Escal / Index Price Escal / Index							Shoulder Summer	Price Escal / Index Price Escal / Index					
Winter Shoulder Summer	Price Escal / Index Price Escal / Index Price Escal / Index Year: 2010			Emis	sions	All-In		Shoulder Summer	Price Escal / Index Price Escal / Index Year: 2023			Emis	sions	All-In
Winter Shoulder Summer	Price Escal / Index Price Escal / Index Price Escal / Index Year: 2010 Evel:	0.8M	Commodition	Emis	sions	All-In Price	Fuel Trapenostation	Shoulder Summer	Price Escal / Index Price Escal / Index Year: 2023	0&M	Commoditu	Emis	sions Other	All-In Price
Winter Shoulder Summer Season	Price Escal / Index Price Escal / Index Price Escal / Index Year: 2010 Fuel:	O&M	Commodity	Emis SO2	sions Other	All-In Price	Fuel Transportation	Shoulder Summer Season	Price Escal / Index Price Escal / Index Year: 2023 Fuel:	O&M	Commodity	Emis SO2	sions Other	All-In Price
Winter Shoulder Summer Season	Price Escal / Index Price Escal / Index Price Escal / Index Year: 2010 Fuel:	O&M (\$/MWh)	Commodity (¢/MBtu)	Emis SO2 (\$/ton)	sions Other (\$/MWh)	All-In Price (\$/MWh)	Fuel Transportation	Shoulder Summer Season	Price Escal / Index Price Escal / Index Year: 2023 Fuel:	O&M (\$/MWh)	Commodity (¢/MMBtu)	Emis SO2 (\$/ton)	sions Other (\$/MWh)	All-In Price (\$/MWh)
Winter Shoulder Summer Season	Price Escal / Index Price Escal / Index Price Escal / Index Year: 2010 Fuel: Price	O&M (\$/MWh)	Commodity (¢/MMBtu)	Emis SO2 (\$/ton)	sions Other (\$/MWh)	All-In Price (\$/MWh)	Fuel Transportation (units:)	Shoulder Summer Season	Price Escal / Index Price Escal / Index Year: 2023 Fuel: Price	O&M (\$/MWh)	Commodity (¢/MMBtu)	Emis SO2 (\$/ton)	sions Other (\$/MWh)	All-In Price (\$/MWh)
Winter Shoulder Summer Season Winter	Price Escal / Index Price Escal / Index Price Escal / Index Year: 2010 Fuel: Price Price	O&M (\$/MWh)	Commodity (¢/MBtu)	Emis SO2 (\$/ton)	sions Other (\$/MWh)	All-In Price (\$/MWh)	Fuel Transportation (units:)	Shoulder Summer Season Winter	Price Escal / Index Price Escal / Index Year: 2023 Fuel: Price Price	O&M (\$/MWh)	Commodity (¢/MMBtu)	Emis SO2 (\$/ton)	sions Other (\$/MWh)	All-In Price (\$/MWh)

Table 2a. Variable Price Structure, Primary Fuel- (units below

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Tabl	e 3. Resourc	e Capacity Rating- (u	nits below)		
		40°F	59°F	90°F	
Guaranteed Contract Rating	MW				
	MVAR				
	MVA				
Maximum Unit Rating	MW				
	MVAR				
	MVA				

Table 4. Guaranteed Availability- (%)

		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Winter	On-Peak													
winter	Off-Peak													
Shoulder	On-Peak													
Shoulder	Off-Peak													
Summer	On-Peak													
Summer	Off-Peak									-				
				L										
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Winter	On-Peak	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Winter	On-Peak Off-Peak	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Winter	On-Peak Off-Peak On-Peak	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Winter Shoulder	On-Peak Off-Peak On-Peak Off-Peak	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Winter Shoulder	On-Peak Off-Peak On-Peak Off-Peak On-Peak	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028

Table 5. Equivalent Forced Outage Rate- (%)

		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Winter	On-Peak													
	Off-Peak													
Shoulder	On-Peak					-								
Shourder	Off-Peak													
Summer	On-Peak													
Summer	Off-Peak													L
[2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Winter	On-Peak													
, white	Off-Peak													
Shoulder	On-Peak													
Shoulder	Off-Peak													
Summer	On-Peak													
Summer	Off-Peak													

Table 6. Planned Maintenance Requirements- (Number of Outages/Year, Total Hours/Year)

						- 6		<u> </u>				and the second se	
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Number/year													
Maint Hrs/yr													
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Number/year			1										
		1				1							

Table 7. Operational Parameters- (units below)

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Minimum run time per dispatch call	Hours
Minimum down time between calls	Hours
Startup Energy	MMBtu
Ramp Rate	MW / minute
Ramp Rate	minutes to full load
Number of Hot Starts per year	Maximum
Number of Hot Starts per year	Included in bid proce
Cost of Each Hot Start Beyond Those Included	Dollars
Number of Cold Starts per year	Maximum
Number of Cold Starts per year	Included in bid proce
Cost of Each Cold Start Beyond Those Included	Dollars
Quick Start Capability- Minutes to 1st MW	Minutes
Quick Start Capability- MW in ten minutes	MW
Start up time from cold start	Minutes
Start up cost from cold start	\$
Start up time from hot start	Minutes
Start up costs from hot start	\$

Table 8a. Capacity States on Primary Fuel (units below)

Table 8a. Capacity States	on Primary Fu	el (ullits below)	
Fuel:	40°F	59°F	90°F
Min Plant Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			
1st Breakpt Plant Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			
2nd Breakpt Plant Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			
Expected Max Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			
Overcapacity Plant Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			

Table 8b. Capacity States on Secondary Fuel (units below)

Fuel:	40°F	59°F	90°F
Min Plant Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			
1st Breakpt Plant Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			
2nd Breakpt Plant Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			
Expected Max Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			
Overcapacity Plant Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			

NOTE: Net Heat Rates are to be based on Higher Heating Value (HHV)

Table 9. Fuel Supply Requirements	Units
Primary Fuel Maximum Flow rate	
Primary Fuel Pressure Requirement	
Primary Fuel Metering Requirement	
Primary Fuel Storage Capacity	
Secondary Fuel Maximum Flow rate	
Secondary Fuel Pressure Requirement	
Secondary Fuel Metering Requirement	
Secondary Fuel Storage Capacity	

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Table 10. Water Requirements	Units	
Cooling		
Consumptive Use		
Other		

			Actual			1		Forecast		
			Actual					Forecast		
	1995	1996	1997	1998	1999	2003	2004	2005	2006	2007
Installed Capacity										
Contracted System										
Firm Capacity										
Purchases										
Contracted System										
Firm Capacity Sales										
Load Control		-								
Capability										
Seasonal Peak										
Requirements										
before Direct Load										
Control										
Firm Peak										
Requirements after										
Direct Load Control										
Capacity Margin										
before Direct Load										
Control										
Firm Reserve										
Margin after Direct										
Load Control										

Table 11. System Reliability Parameters

Attachment D - Planned Unit Data

The following data represent the planned unit data estimates, which FPC utilizes in its planning and is provided for information purposes only. These planning estimates have not been refined by site specific costs, detailed engineering, or vendor quotes. The final actual cost of a project could be appreciably greater or smaller than that shown. Parties responding to this RFP should rely on their own independent evaluations and estimates of project costs in formulating their proposals.

- 1. A combined cycle generating unit to be located on FPC's existing Hines Energy Complex site in Polk County, Florida.
- 2. Planned Size 530 MW (nominal).
- 3. Commercial Operation of the facility is proposed to be November 30, 2003.
- 4. The primary fuel is natural gas. Oil will be used as a backup fuel source.
- 5. The estimated total direct cost is \$197.6 million.
- 6. The estimated annual levelized revenue requirement is \$35.6 million over 25 years.
- 7. The estimated annual value of deferral of this unit is \$48.95/kW-yr (03\$).
- 8. The estimated annual fixed O&M is \$2.2 million (03\$). The estimated variable O&M is \$1.11/MWH (03\$).
- 9. The estimated delivered fuel cost is \$2.66/MMBtu (03\$), plus fixed transportation at the prevailing rate.
- 10. The following are estimates for:

Planned outage rate	7, 7, 14, 7, 7, 22 days/year (or 2.92%)
Forced outage rate	3.5 %
Heat rate at maximum capacity	6,975 Btu/kWh
Minimum load	250 MW
Ramp Rate	1 Hr.

- 11. The estimated transmission and interconnection costs for this unit are \$5.6 million.
- 12. Supplemental site certification as well as amendment to related environmental permits will be required for this unit. It is FPC's plan to comply with all environmental standards of Local, Regional, State and Federal governments.
- 13. The major financial assumptions in the development of these numbers were:

Construction escalation:	2.5 % per year
General escalation:	3.1 % per year
Fuel escalation:	Varies by year
Capital structure:	45 % debt @ 7.3 %
•	55 % equity @ 12.0 %

Attachment E

Florida Power Corporation Generation Interconnection Study Data Request Form

INSTRUCTIONS

(*) denotes items that are required for both a Generation Interconnection Feasibility Study and a Generation Interconnection Study and must be completed and included in Respondent's proposal. All items on this form are required prior to the start of engineering design.

If a data item is unavailable, please provide an estimate and indicate it as an estimate. Please note that a restudy could be required if data assumptions change while the study is in progress.

Please fill out and attach a copy of Section II for each generator on the site.

Please use this form to supply the requested data. Submittal of manufacturer data sheets, other than generator characteristic curves, is not an acceptable alternative to completing this form.

SECTION I - Generation Site Data

A) Contact Person - Provide name and address of person completing this form

	(*)1. Name:	
	(*)2. Address:	
	(*)3. City/State/Zip:	
	(*)4. Telephone:	
	(*)5. Date:	
B)	Site Location	
	(*)1. County:	

(*)2.	Section /	Township /	Range:
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(*)3. Site Drawing: Include a site drawing indicating county, section, township, and range. In addition, for a Generation Interconnection Study, a preliminary equipment layout on the site, suitable for site plan permitting, is required.

C) Proposed Load Requirements for Site

(*)1. Required Date:

(*)2. Nature of Load (Station Service, Start-up Power, Etc.)

(*)3. Connected kVA Load:

(*)4. Peak Demand kVA Load:

(*)5. Expected Power Factor:

(*)6. Service Voltage:

(*)7. Anticipated Future Load Requirements (please describe):

D) Other Site Information

- (*)1. Net Generation Output (MVA) for Site @ 59°F Outdoor Ambient:
- (*)2. Net Generation Output (MVA) for Site @ 90°F Outdoor Ambient:

(*)3. Proposed Interconnections with Other Systems (please describe):

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E) In-Service Dates

(*)1. Required connection to grid for generator testing:

(*)2. Commercial in-service date:

SECTION II – Individual Generator Data

A) Unit Identification

(*) 1. Plant Name and Unit Number	
2. Manufacturer	
3. Generator Serial Number	
4. Turbine Serial Number	

B) Ratings and Capabilities

1. Nameplate kV Rating (nominal design voltage)

2. MVA Rating		MVA Rating	@ Hydrogen Pressure
	a.		
	b.		
	с.		
	d.		
(*) 3. Gross MW Rating	@ 59°F Outdoor	Ambient	
(*) 4. Net MW Rating @	59°F Outdoor A	mbient	
(*) 5. Gross MW Rating	@ 90°F Outdoor	Ambient	

	(*) 6. Net MW Rating @ 90°F Outdoor Ambient		
	7. Rated Power Factor		
	8. Rated Speed		
	9. Rated Turbine Capability		
	10. Field Voltage at Rated Load	<u></u>	
	11. Field Current at Rated Load		
	12. No-load Field Voltage at Generator Rated Voltage		
	13. Air Gap Field Voltage at Generator Rated Voltage		
	14. Field Resistance	ohms @	•C
C)	Inertia		
	(*) 1. WR ² for Generator and Exciter	lb-ft	2
	(*) 2. WR ² for Turbine	lb-ft	2
	(*) 3. Calculated H Constant	_sec. @	MVA
D)	Losses and Efficiency		
	1. Open circuit core loss		kW
	2. Windage loss		kW
	3. H ₂ seal and exciter friction loss		kW
	4. Stator I ² R Loss at rated power and voltage	°C	kW
	5. Rotor I ² R Loss at rated power and voltage	°C	kW
	6. Stray Load loss	k	W
	7. Excitation losses		kW

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E)

F)

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Generator Time Constants

1.	T' _{do} (Di	rect axis open circuit transient time constant)	sec
2.	T" _{do} (D	irect axis open circuit subtransient time constant)	sec
3.	T' _{qo} (Qu	adature axis open circuit transient time constant)	sec
4.	T" _{qo} (Q	uadature axis open circuit subtransient time constant)	sec
5.	T _{a3} (Sho	ort circuit time constant)	sec
Gener	ator In	npedances	
(*) 1.	MVA	base for all impedance data	MVA
(*) 2.	kV bas	se for all impedance data	kV
Param	eter	Description	<u>p.u. value</u>
(*) 3.	\mathbf{X}_{d}	Direct axis synchronous reactance (unsaturated)	
4.	\mathbf{X}_{q}	Quadrature axis synchronous reactance (unsaturated)	
(*) 5.	X' _d	Direct axis transient reactance (unsaturated)	
6.	X'_{ds}	Direct axis transient reactance (saturated)	
7.	X' _q	Quadrature axis transient reactance (unsaturated)	
	X'_{qs}	Quadrature axis transient reactance (saturated)	
(*) 9.	X" _d	Direct axis subtransient reactance (unsaturated)	
10.	X" _q	Quadrature axis subtransient reactance (unsaturated)	
11.	X_L	Armature leakage reactance	
12.	R ₁	Positive sequence armature resistance at 75° C	
13.	R ₂	Negative sequence armature resistance at 75° C	
14.	X,	Negative sequence armature reactance at rated voltage	

15.	\mathbf{X}_{0}	Positive sequence armature resistance at 75° C	
16.	R _{dc}	Direct current armature resistance at 75° C	
17.	Genera	tor neutral grounding resistance	ohms
(*)18.	Genera	tor neutral grounding reactance	ohms

G) Required Characteristic Curves and Diagrams

- (*) 1. Real and reactive power capability curves (Maximum var capability, lagging and leading, is sufficient for Feasibility Study)
 - 2. Saturation curve, full load and no-load
 - 3. "V" curves
 - 4. Governor overspeed response curve
 - 5. One-Line diagram showing generator and substation equipment connections

H) Excitation System Data

- 1. Excitation system type
- 2. Voltage regulator model name_____
- 3. Excitation system model, supply block diagram and model parameters in IEEE¹ or PSS/E format
- 4. Voltage compensation, supply block diagram and settings if used
- 5. Voltage regulator overexcitation limiters, supply block diagram and model parameters in IEEE² format.
- 6. Power System Stabilizer (if used), supply Power System Stabilizer block diagram and model parameters in IEEE or PSS/E format

I) Turbine Governor Data

1. Speed/Load governor model name

¹ IEEE Standard 421.5-1992 "IEEE Recommended Practice for Excitation System Models for Power System Stability Studies"

² IEEE Committee Report, "Recommended Models for Overexcitation Limiting Devices," <u>IEEE Transactions on</u> <u>Energy Conversion</u>, Vol. 10, No. 4, December 1995

2. Governor model, supply block diagram and model parameters in IEEE^{3,4} or PSS/E format

1. Manufacturer	
2. Model Type	
3. Serial Number	-
(*) 4. Rating	MVA
(*) 5. High voltage winding, nominal vo	ltage kV
(*) 6. High voltage winding connection	wye/delta)
(*) 7. Low voltage winding, nominal vol	tage kV
(*) 8. Low voltage winding connection (wye/delta)
9. Transformer resistance	p.u.
(*)10. Transformer reactance	p.u.
(*)11. Transformer impedance base valu	es MVA kV
12. Available tap settings	
HV taps	kV
LV taps	kV
13. Expected tap settings	
HV taps	kV
LV taps	kV

J) Generator Step-up Transformer Data

³ IEEE Committee Report, "Dynamic Models for Steam and Hydro Turbine Control Models for System Dynamic Studies," <u>IEEE transactions on Power Apparatus and Systems</u>, Vol. PAS-92, November, 1973

⁴ W.I. Rowen, "simplified Mathematical Representations of Heavy Duty Gas Turbines," <u>Transactions of ASME</u>, Vol.105(1), 1983

				Table 1.	-ixed Capaci	ty Price Structure- (\$/I	kW-month)						
Season	Year: 2003	Capacity	0&M	Other	All-In	Fuel Transportation	Season	Year: 2016	Capacity	0 & M	Other	All-In	Fuel Transportation
Winter	Price	1					Winter	Price			1		
water	Escal / Index	1					winter	Escal. / Index			1		
<u> </u>	Price	1	· · · · · ·				01	Price			· · · · ·		
Shoulder	Escal / Index						Shoulder	Escal / Index				r	
	Price	t	l					Price				·	
Summer	Fecal / Index	<u> </u>					Summer	Escal / Index					
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Shoulder	Price					·	Shoulder	Price				L	
	Escal. / Index	ļ						Escal. / Index		<u> </u>		L	
Summer	Price						Summer	Price			ļ	L	
	Escal. / Index	1					<u> </u>	Escal. / Index					Į
Season	Year: 2005	Capacity	0 & M	Other	All-In	Fuel Transportation	Season	Year: 2018	Capacity	0 & M	Other	All-In	Fuel Transportation
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<u> </u>	Price							Price			1	· · · · · ·	
Shoulder	Escal / Index						Shoulder	Escal / Index					
	Price	+						Price					<u> </u>
Summer	Escal / Index	<u> </u>					Summer	Escal / Index					
	Escal. / Index							Liscal. 7 million				<u> </u>	
Season	Year: 2006	Capacity	O&M	Other	All-In	Fuel Transportation	Season	Year: 2019	Capacity	0&M	Other	All-ln	Fuel Transportation
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Summer	Escal. / Index						Summer	Escal. / Index					
Senson	Ver: 2007	Capacity	0 & M	Other	All_In	Fuel Transportation	Season	Vear: 2020	Capacity	0.8 M	Other	All-In	Fuel Transportation
Season	Prior	Capacity	Oaw	Outer	Au-III	ruer mansportation	Season	Drice	Capacity	O & M	Outer	<u></u>	Fuel mansportation
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Shoulder	Price	<u> </u>					Shoulder	Price				 	
	Escal. / Index	1					L	Escal. / Index		L		i	
Summer	Price						Summer	Price		1		l	
	Escal. / Index						_	Escal. / Index		1		1	
Season	Year: 2008	Capacity	0&M	Other	All-In	Fuel Transportation	Season	Year: 2021	Capacity	0&M	Other	All-In	Fuel Transportation
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Summer	Price		-				Summer	Price				L	
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Season	Year: 2009	Capacity	0 & M	Other	All-In	Fuel Transportation	Season	Year: 2022	Capacity	0 & M	Other	All-In	Fuel Transportation
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Shoulder	Escal / Index						Shoulder	Escal / Index				1	
	Price							Price					
Summer	Escal / Index						Summer	Escal / Index				h	
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Shoulder	Price						Shoulder	Price		L		L	
0.104.40.	Escal. / Index							Escal. / Index				l	
Summer	Price						Summer	Price		(· · · · ·		1	
Summer	Escal. / Index						Junnier	Escal. / Index					
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						Table 2a.	Variable Price Struct	ure, Primary F	uel- (units belo	w)					
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Winter	Price							Winter	Price						
Shoulda	Escal / Index Price							Shoulde	Price						
- Sik/aloc	Escal / Index							DACUAL	Escal / Index						
Summe	Escal / Index							Summer	Escal / Index						
	Year: 2004			Emis	ssions	All-in	E IT III		Year: 2017	()#14	0	Emis	sions	All-In Drive	E. J.T.
Season	Puel:	(\$/MWh)	(c/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)	Season	Puel:	(\$/MWh)	(¢/MMBtu).	(\$/ton)	(\$/MWh)	(S/MWh)	(units:)
Winter	Price							Winter	Price						
	Escal / Index Price		<u> </u>						Price						
Shoulde	Escal / Index							Shoulde	Escal / Index		·				
Summe	Price Escal / Index							Summer	Price Escal / Index						
	Year: 2005			Emia	ssions	All-In			Year: 2018	* * ***		Emis	ssions	All-In	
Season	Fuel:	O&M (SAWA)	Commodity	SO2	Other (S/MWh)	Price (S/MWh)	Fuel Transportation	Season	Fuel:	O&M (\$/MWb)	Commodity (#/MMBnu)	SO2 (\$/ton)	Other (S/MWh)	Price (\$/MWb)	Fuel Transportation (units:)
Winter	Price	(aminu)	(c/wiwibia)	(2/00)	(\$2.11 ma)	(2001004)	(uuns)	Winter	Price	(4-111-11)	(0.1111111111	(4-10-1)	(0.1.1.1.1)	100000	/
	Escal / Index								Escal / Index						
Shoulde	Escal / Index							Shoulde	Escal / Index						
Summe	Price							Summer	Price						
	Year: 2006			Emis	sions	All-In			Year: 2019		-	Emis	sions	All-In	
Season	Fuel:	O& M	Commodity	SO2	Other	Price	Fuel Transportation	Season	Fuel:	O&M	Commodity	SO2	Other	Price	Fuel Transportation
	Price	(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(5/MWh)	(units:)	Winter	Price	(5/MWR)	(¢/MMBtu)	(S/ton)	(3/M WR)	(3/MWh)	(units:)
winter	Escal / Index							winter	Escal / Index						
Shoulde	Price Escal / Index							Shoulde	Escal / Index						
Summe	Price							Summer	Price						
<u> </u>	Escal / Index Vear: 2007			Emi	ssions	All-In			Year: 2020			Emis	sions	All-In	
Season	Fuel:	O&M	Commodity	SO2	Other	Price	Fuel Transportation	Season	Fuel:	∩&M	Commodity	SO2	Other	Price	Fuel Transportation
	Price	(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)		Price	(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)
Winter	Escal / Index			-				Winter	Escal / Index						
Shoulde	Price Essent / Indus							Shoulde	Price Fucal / Index						
Summe	Price							Summer	Price						
	Escal / Index							L	Escal / Index			Emi	L	A 11 F.	
Season	Year: 2008 Fuel:	O&M	Commodity	SO2	Other	All-In Price	Fuel Transportation	Season	Year: 2021 Fuel:	0&M	Commodity	SO2	Other	Price	Fuel Transportation
		(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)			(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)
Winter	Price Escal / Index							Winter	Escal / Index						
Shoulde	Price							Shoulde	Price						
	Escal / Index Price							0	Escal / Index Price						
Summe	Escal / Index							Summer	Escal / Index						
Sugar	Year: 2009	0834	Commodity	Emir SO2	ssions Other	All-In Price	Fuel Transportation	Season	Year: 2022 Fuel:	O&M	Commodity	Emis SO2	isions Other	All-In Price	Fuel Transportation
Season	r uei.	(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)	Season		(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)
Winter	Price							Winter	Price Escal / Index						
Shoulde	Price							Shoulde	Price						
	Escal / Index								Escal / Index Price						
Summe	Escal / Index							Summer	Escal / Index						
	Year: 2010			Emis	ssions	All-In	E I T		Year: 2023	0534	Communities	Emia	stons	All-In Dai-to	Kool Temporation
Season	Fuel:	(\$/MWh)	(¢/MMBtu)	SO2 (\$/ton)	(\$/MWh)	(\$/MWh)	(units:)	Season	Fuer	(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)
Winter	Ртісе							Winter	Price						
	Escal / Index Price							Shoulda	Price						
Shoulde	Escal / Index							Shoulde	Escal / Index						
Summe	Price Escal / Index						• • • • • • • • • • • • • • • • • • • •	Summer	Escal / Index						
	Year: 2011			Emi	ssions	All-In			Year: 2024			Emi	ssions	All-In	
Season	Fuel:	O&M CMWb	Commodity	SO2	Other (SA(WI))	Price	Fuel Transportation	Season	Fuel:	O&M (S/MWb)	Commodity (#/MMBtu)	SO2 (\$/ton)	Other (\$/MWh)	Price (\$/MWh)	Fuel Transportation ((units:)
Winter	Price	(as in term)	(continition)	(secon)	Contral	(4-111 117	/	Winter	Price		0				
	Escal / Index								Escal / Index Price						
Shoulde	Escal / Index							Shoulde	Escal / Index						
Summe	Price Escal / Isolan							Summer	Price Escal / Index				 		
	Year: 2012			Emi	ssions	All-In			Year: 2025		Ì	Emi	ssions	Ali-In	
Season	Fuel:	O&M (SAME)	Commodity	SO2	Other (S/AND)	Price (S/MUL)	Fuel Transportation	Season	Fuel:	O&M (S/MWb)	Commodity (#/MM14++-)	SO2 (\$/top)	Other (S/MWA)	Price (S/MWh)	Fuel Transportation
Winter	Price	(20.91 Will)	(PANIMINI)	(arion)	(30101 1011)	(and with		Wipter	Price	(0.1111)		(as Any		Ver. 14. 11/	
	Escal / Index								Escal / Index Price						
Shoulde	Escal / Index		<u> </u>					Shoulde	Escal / Index						
Summe	Price							Summer	Price						
	Year: 2013		<u> </u>	Emi	ssions	All-In			Year: 2026			Emi	ssions	All-In	
Season	Fuel:	O&M	Commodity	SO2	Other	Price	Fuel Transportation	Season	Fuel:	O&M	Commodity	SO2	Other	Price	Fuel Transportation
W/:-+	Ртісе	(ə/MWh)	(¢/MMBtu)	(5/ton)	(s/M₩h)	(\$∕MWh)	(units:)	Winter	Price	(arivi wh)	(#/MIMBIU)	(s/ton)	(s/mwh)	(a/:viwh)	(units)
winter	Escal / Index		<u> </u>						Escal / Index						
Shoulde	Price Escal / Index		<u> </u>			<u> </u>		Shoulde	Escal / Index						
Summe	Price							Summer	Price						
	Escal / Index Year: 2014			Emi	ssions	All-In			Year: 2027			Emis	ssions	All-in	
Season	Fuel:	O&M	Commodity	SO2	Other	Price	Fuel Transportation	Season	Fuel:	O&M	Commodity	SO2	Other	Price	Fuel Transportation
	Price	(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)		Price	(5/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)
Winter	Escal / Index							Winter	Escal / Index						
Shoulde	Price							Shoulde	Price Escal / Index	<u> </u>					
Summe	Price							Summer	Price						
	Escal / Index				L	A11.1			Escal / Index			Erec.		A12 fr	
Season	Year: 2015 Fuel:	O&M	Commodity	Emi: SO2	Other	Ail-In Price	Fuel Transportation	Season	rear: 2028 Fuel:	O&M	Commodity	SO2	Other	Price	Fuel Transportation
		(\$/MWh)	(¢/MMBtu)	(S/ton)	(\$/MWh)	(\$/MWh)	(units:)		Defen	(\$/MWh)	(r/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)
Winter	Price Escal / Index	~						Winter	Escal / Index						
Shoulde	Price							Shoulde	Price		1				
	Escal / Index							3	Price		 				
Summe	Escal / Index		I				İ	Suturier	Escai / Index	I	· · · · · · · · · · · · · · · · · · ·		T		

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						Table 2b. V	ariable Price Structur	re, Secondary	Fuel- (units bel	ow)					
	Year: 2003	O#M	Commodity	Emis	Other	All-In Price	Fuel Transportation	Senson	Year: 2016 Enel:	O&M	Commodity	Emis SO2	sions Other	All-In Price	Fuel Transportation
Season	ruei.	(\$/MWh)	(e/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)	ocaent		(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)
Winter	Price							Winter	Price Escal / Index						
en e	Price							Shoulde	Price					-	
Shoulde	Escal / Index								Escal / Index						
Summe	Price Escal / Index							Summer	Escal / Index						
	Year: 2004			Emis	sions	All-In			Year: 2017	0.634	0	Emis	sions	All-In	Kool Transmission
Season	Fuel:	(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)	Season	Puer	(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)
Winter	Price							Winter	Price						
	Escal / Index Price							Shoulda	Price						
Shoulde	Escal / Index							3Bourde	Escal / Index						
Summe	Price Escal / Index							Summer	Escal / Index						
	Year: 2005			Emis	sions	All-In	F 17	0	Year: 2018	0644	C	Emis	sions	All-In Paica	Fuel Transportation
Season	Fuel:	(\$/MWh)	(e/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)	Season	ruer.	(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)
Winter	Price							Winter	Price						
	Escal / Index Price							Shoulda	Price						
Shoulde	Escal / Index							Shoulde	Escal / Index						
Summe	Price Escal / Index							Summer	Escal / Index						
	Year: 2006			Emis	sions	All-In			Year: 2019	0.00	a	Emis	sions	All-In	Line 1 Transmission
Season	Fuel:	(\$/MWh)	Commodity (e/MMBtu)	SO2 (\$/ton)	Other (\$/MWh)	(\$/MWh)	(units:)	Season	Puer	(\$/MWh)	(¢/MMB1u)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)
Winter	Price							Winter	Price						
	Escal / Index Price							Shoulde	Price						
Shoulde	Escal / Index							Billion	Escal / Index						
Summe	Price Escal / Index							Summer	Escal / Index						
	Year: 2007			Emis	sions	All-In	E 12	ð	Year: 2020	OBM	Commodity	Emis	sions	All-In Brian	Fuel Transportation
Season	ruel:	(\$/MWh)	(¢/MMBtu)	\$O2 (\$/ton)	(\$/MWh)	(\$/MWh)	(units:)	Season	r uet.	(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWb)	(units:)
Winter	Price		ļ					Winter	Price Feeal / Indo-						
Should	nscal / Index Price							Shoulde	Price						
Shoulde	Escal / Index							Shoulde	Escal / Index						
Summe	Escal / Index							Summer	Escal / Index				······		
	Year: 2008	0614	C	Emis	sions	All-In Beige	Fuel Temperature	Samaan	Year: 2021	0.8 M	Commodity	Emis S()2	sions Other	All-In Price	Fuel Temsportation
Season	ruei.	(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWb)	(\$/MWb)	(units:)			(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)
Winter	Price Feast / Index							Winter	Price Escal / Index						
Shouide	Price							Shoulde	Price						
	Escal / Index Price								Escal / Index Price						
Summe	Escal / Index							Summer	Escal / Index						
Season	Year: 2009 Fuel:	O&M	Commodity	Emis SO2	Other	All-In Price	Fuel Transportation	Season	Year: 2022 Fuel:	O&M	Commodity	SO2	Other	All-In Price	Fuel Transportation
		(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units)			(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)
Winter	Price Escal / Index	• •						Winter	Escal / Index						
Shouide	Price							Shoulde	Price						
	Escal / Index Price							Summer	Price						
Sultine	Escal / Index			Emi	aiona	A11 In			Escal / Index			Emis	sions	All-In	
Season	Fuel:	O&M	Commodity	SO2	Other	Price	Fuel Transportation	Season	Fuel:	O&M	Commodity	SO2	Other	Price	Fuel Transportation
	Price	(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)		Price	(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)
Winter	Escal / Index							winter	Escal / Index						
Shoulde	Price Excal / Index			· · · ·				Shoulde	Price Escal / Index						
Summe	Price							Summer	Price						
	Escal / Index Year: 2011			Emi	sions	Ail-In			Year: 2024		· · · · · · · · · · · · · · · · · · ·	Emis	sions	Alt-In	
Season	Fuel	0&M	Commodity	SO2	Other	Price	Fuel Transportation	Season	Fuel:	O&M	Commodity	SO2	Other	Price	Fuel Transportation
Winter	Price	(\$/MWh)	(∉/MMBtu)	(\$/ton)	(\$/MWh)	(S/MWb)	(units:)	Winter	Price	(\$MWh)	(¢/MMBiu)	(\$/10h)	(5/MWh)	(\$/24 WII)	(units:)
winter	Escal / Index								Escal / Index						
Shoulde	Price Escal / Index							Shoulde	Escal / Index						
Summe	Price							Summer	Price Ecol / Indur						
	Year: 2012			Emi	sions	All-In			Year: 2025			Emis	sions	Alt-In	
Season	Fuel:	O&M (S/MWAY	Commodity	SO2	Other (S/MW/W)	Price (S/MWb)	Fuel Transportation	Season	Fuel:	0&M (\$/MWb)	Commodity (c/MMBno)	SO2 (\$/top)	Other (\$/MWb)	Price (\$/MWh)	Fuel Transportation (units:
Winter	Price	(<u></u>	(second second	(2* 101)	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1			Winter	Price		[
	Escal / Index Price							She-12	Price		<u> </u>	L			
Shoulde	Escal / Index							Shoulde	Escal / Index		-			[
Summe	Price Escal / Index		<u> </u>					Summer	Escal / Index		L				
	Year: 2013	()	0	Emis	sions	All-In	Enal T	Samo	Year: 2026	0.64	Commention	Emis	sions	All-In Price	Fuel Teanonsatation
Season	ruel:	(\$/MWh)	Commodity (¢/MMBtu)	SO2 (\$/ton)	(\$/MWh)	(\$/MWh)	ruer transportation (units:)	Season	ruel:	(\$/MWh)	(¢/MMBtu)	502 (\$/ton)	(\$/MWh)	(\$/MWh)	(units:)
Winter	Price	·						Winter	Price Escal / Indus						
Should	Price			<u> </u>				Shoulde	Price	<u> </u>					
(Judanae	Escal / Index Price								Escal / Index Price					<u> </u>	
Summe	Escal / Index			ļ				Summer	Escal / Index						
Seguro	Year: 2014 Fuel:	()#M	Commodite	Emi:	Other	All-In Price	Fuel Transportation	Season	Year: 2027 Fuel:	O&M	Commodity	Emis SO?	other	All-In Price	Fuel Transportation
		(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)			(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(S/MWh)	(units:)
Winter	Price Escal / Index			<u> </u>				Winter	Price Escal / Index						
Shouide	Price		L					Shoulde	Price	İ					
	Escal / Index Price					<u> </u>		e	Escal / Index Price	<u> </u>		-		}	<u> </u>
Summe	Escal / Index			<u> </u>	1			Summer	Escal / Index				L,		
Season	Year: 2015 Fuel:	O&M	Commodity	Emi SO2	ssions Other	All-In Price	Fuel Transportation	Season	Year: 2028 Fuel:	O&M	Commodity	Emis SO2	Other	All-In Price	Fuel Transportation
		(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)	I		(\$/MWh)	(¢/MMBtu)	(\$/ton)	(\$/MWh)	(\$/MWh)	(units:)
Winter	Price Escal / Index		 	<u> </u>				Winter	Escal / Index	<u> </u>	<u></u>				l
Shoulde	Price			ļ				Shoulde	Price	1					
S	Escal / Index Price		+	<u> </u>				Summer	Price					<u> </u>	
Summe	Escal / Index		1					- Summer	Escal / Index				[

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Table 3. Resource Capacity Rating- (units below)

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		40°F	59°F	90°F
Guaranteed	MW			
Contract	MVAR			
Rating	MVA			
	MW			
Maximum	MVAR			
Unit Rating	MVA			

Table 4. Guaran	eed Availability- (%	6)
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					Т	able 4. Guara	inteed Availat	oility- (%)						
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Winter	On-Peak													•
w mee	Off-Peak													
Shoulder	On-Peak													
Shoulder	Off-Peak													
Summer	On-Peak													
Summer	Off-Peak													
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Winter	On-Peak													
w inter	Off-Peak													
Shouldor	On-Peak													
Shoulder	Off-Peak													
Summer	On-Peak													
Summer	Off-Peak													

Table 5. Equivalent Forced Outage Rate- (%)

		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Winter	On-Peak													
w meet	Off-Peak													
Shoulder	On-Peak													
Shoulder	Off-Peak													
Summer	On-Peak													
Summer	Off-Peak													
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Winter	On-Peak													
w mee	Off-Peak													
Shoulder	On-Peak													
Siloulder	Off-Peak													
Summer	On-Peak													
Summer	Off-Peak													

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Number/year													
Maint Hrs/yr													
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Number/year													
Maint Hrs/yr			<u> </u>										

Table 6. Planned Maintenance Requirements- (Number of Outages/Year, Total Hours/Year)

	()				
Minimum run time per dispatch call	Hours				
Minimum down time between calls	Hours				
Startup Energy	MMBtu				
Ramp Rate	MW / minute				
Ramp Rate	minutes to full load				
Number of Hot Starts per year	Maximum				
Number of Hot Starts per year	Included in bid proce				
Cost of Each Hot Start Beyond Those Included	Dollars				
Number of Cold Starts per year	Maximum				
Number of Cold Starts per year	Included in bid proce				
Cost of Each Cold Start Beyond Those Included	Dollars				
Quick Start Capability- Minutes to 1st MW	Minutes				
Quick Start Capability- MW in ten minutes	MW				
Start up time from cold start	Minutes				
Start up cost from cold start	\$				
Start up time from hot start	Minutes				
Start up costs from hot start	\$				

Table 7. Operational Parameters- (units below)

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Table 8a. Capacity States on Primary Fuel (units below)

Fuel:	40°F	59°F	90°F
Min Plant Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			
1st Breakpt Plant Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			
2nd Breakpt Plant Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			
Expected Max Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			
Overcapacity Plant Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			

Table 8b. Capacity States on Secondary Fuel (units below)

Fuel:	40°F	59°F	90°F
Min Plant Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			
1st Breakpt Plant Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			
2nd Breakpt Plant Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			
Expected Max Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			
Overcapacity Plant Output (Net MW)			
Associated Net Heat Rate (Btu/kWh)			

Table 9. Fuel Supply Re	quirements	Units
Primary Fuel Maximum Flow rate		
Primary Fuel Pressure Requirement		
Primary Fuel Metering Requirement		
Primary Fuel Storage Capacity		
Secondary Fuel Maximum Flow rate		
Secondary Fuel Pressure Requirement		
Secondary Fuel Metering Requirement		
Secondary Fuel Storage Capacity		

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Table 10. Water Requi	rements	Units
Cooling		
Consumptive Use		
Other .		

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Table 11. System Reliability Parameters

	Actual					Forecast				
	1995	1996	1997	1998	1999	2003	2004	2005	2006	2007
Installed Capacity										
Contracted System										
Firm Capacity										
Purchases										
Contracted System										
Firm Capacity Sales										
Load Control										
Capability										
Seasonal Peak										
Requirements										
before Direct Load										
Control							[
Firm Peak										
Requirements after									ľ	
Direct Load Control										
Capacity Margin										
before Direct Load		ł					}			
Control										
Firm Reserve										
Margin after Direct										
Load Control										

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