



*Appendix I-1*

*CCGT/CT Preliminary Due Diligence List  
For  
Summer 2008  
Request For Proposals (RFP)  
For  
Limited-Term and Long-Term  
Supply-Side Resources*

Entergy Services, Inc.  
July 28, 2008

**Entergy Services, Inc.**  
**Preliminary Due Diligence List**  
**(CCGT/CT)**

**\* Denotes information must be provided within the two week preliminary due diligence period, if applicable. Bidders are requested to provide the date by which they can, on a best efforts basis, provide any information that cannot be provided within the two week period.**

**1. Plant and Equipment**

- 1.1. Site Plan and General Arrangement Drawings\*
  - 1.1.1. Fuel supply and transport information\*
  - 1.1.2. Natural gas interconnection points\*
  - 1.1.3. Transportation infrastructure (railroad, waterways, highways)\*
  - 1.1.4. Major one line diagrams
  
- 1.2. Station Description and Major Equipment List\*
  - 1.2.1. Turbines\*
  - 1.2.2. Boiler (HRSG) Contract Data Sheet\*
  - 1.2.3. P&ID's of the Units
  - 1.2.4. Electrical Single Line Drawings\*
  - 1.2.5. Major Modifications to Units\*
  - 1.2.6. Instrumentation and Control System (DCS) and Updates
  - 1.2.7. Water Supply and Wastewater Discharge\*
  - 1.2.8. Fire Protection\*
  - 1.2.9. Fuel systems\*
  - 1.2.10. Status of warranties, including expiration dates, for the major equipment\*
  - 1.2.11. Plant Cooling System (wet, dry, hybrid), including annual plant water requirements\*
  
- 1.3. Plant Design Life\*
  
- 1.4. Operational Characteristics\*
  - 1.4.1. Provide a description of the various modes of operation of the generating unit.\*
  - 1.4.2. Provide the minimum and maximum load range in each mode of operation.\*
  - 1.4.3. Provide maximum ramp rates over the load range for each mode of operation.\*
  - 1.4.4. Provide minimum run times.\*
  - 1.4.5. Provide a typical start-up MW and Fuel Gas usage profile versus time for each type of start-up (hot, warm and cold). Define hot, warm and cold start-up in terms of time off-line. Provide the typical shutdown time.\*
  - 1.4.6. Provide the MVar capability range of the generator. (Include 'as tested results').\*
  - 1.4.7. Is the unit equipped with automatic generation control (AGC)?\*

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## 2. Operations and Maintenance

- 2.1. Timeline of entities in charge of operation and maintenance of the plant including any major sub-contractors
  
- 2.2. Electric Generating Statistics (Historic COD - 2007, Projected 2008-2012)
  - 2.2.1. Gross, Auxiliary, and Net Generation\*
  - 2.2.2. Unit Heat Rate\*
  - 2.2.3. Heat Rate Curves\*
    - 2.2.3.1. Summer Min.-Max.\*
    - 2.2.3.2. Winter Min.-Max.\*
    - 2.2.3.3. Max., 75%, 50%; Min. %\*
  - 2.2.4. EFOR\*
  - 2.2.5. Outage Event Summary\*
  - 2.2.6. Historic and Projected Capacity Factors
  - 2.2.7. Service Hours\*
  - 2.2.8. Derate Causes, Time, and kWh\*
  - 2.2.9. History of Planned Outages Major Units\*
  - 2.2.10. Provide detailed information on all major capital expenditures (over \$1 million) made on the generating resource over the last three years\*
  - 2.2.11. Planned Outage Schedules Major Units\*
  - 2.2.12. Turbine Overhaul Cycle (Year) & Outage Time (Weeks)\*
  - 2.2.13. Reports from any boiler, turbine, or unit Performance Tests\*
  - 2.2.14. Combustion Turbine Cold and Hot Starts\*
  - 2.2.15. Turbine Generator Ramp Rate\*
  - 2.2.16. System Cold Start Time\*
  - 2.2.17. System Hot Start Time\*
  - 2.2.18. System Minimum Down Time\*
  - 2.2.19. Historic Outage Rates (forced, maintenance, planned, etc.)\*
  - 2.2.20. Historic Operating Factors\*
  - 2.2.21. Projected Outage Rate (forced, maintenance, planned, etc.)
  - 2.2.22. Projected Operating Factors
  
- 2.3. Inspection Reports
  - 2.3.1. Boilers (HRSG's)
  - 2.3.2. Turbines
  - 2.3.3. Generators
  - 2.3.4. Combustion Turbine
    - 2.3.4.1. Combustion Inspections (CI)
  
- 2.4. Site Spares Inventory Major Components and Value\*
  - 2.4.1. Turbines (CGT & STA)\*
  - 2.4.2. Generators\*
  - 2.4.3. Boiler (HRSG's)\*
  - 2.4.4. Other (Include BOP)\*

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- 2.5. Site Black Start Capability\*
  - 2.5.1. Air Permit Status\*
- 2.6. Balance of Plant Routine, Predictive and Preventive Maintenance Activities
- 2.7. Capital Work Requests and Major Maintenance Expenditures planned for 2007-2012.\*
- 2.8. Operation/Maintenance Contracts (copies of all documents including all amendments thereto)
  - 2.8.1. Operating Agreements
  - 2.8.2. Service Agreements (Internal and External) including LTSA
  - 2.8.3. Warranty Contracts
  - 2.8.4. Vendor/Procurement
  - 2.8.5. Water Contracts/Rights
  - 2.8.6. NO<sub>x</sub>/SO<sub>2</sub> Allowance or Allocation Agreements\*
  - 2.8.7. Guaranties/Credit Support
- 2.9. Capital Projects/Commitments (copies of all documents including all amendments thereto)
  - 2.9.1. Commitments or Purchase Orders
  - 2.9.2. Construction/Engineering Agreements
  - 2.9.3. Utility Service Agreements (copies of all documents including all amendments thereto)
  - 2.9.4. Potable Water
  - 2.9.5. Wastewater/Sewer
  - 2.9.6. Station Service Agreement
  - 2.9.7. Other Material Contracts (copies of all documents including all amendments thereto)
  - 2.9.8. Lease Agreements and Contracts ≥ \$100,000 Per Year\*
  - 2.9.9. Summary Value of All Other Leases and Contracts\*

### **3. Environmental**

- 3.1. Provide a list of any potentially contaminated activities at nearby facilities/sites that may have been identified.\*
- 3.2. Provide a list of all environmental permits/registrations, including any federal, state or municipal permits issued related to the Facility or site.\*
- 3.3. Describe any pending permit-renewal proceedings, any pending requests for modification, and any expected hurdles to re-issuance.\*
- 3.4. Identify any compliance actions as a result of prior environmental audit findings.\*

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- 3.5. Provide copies of any past or current environmental site assessments, including any draft and final reports of investigations or remediation studies of site or Facility conditions, regarding past or current environmental conditions whether prepared on behalf of the Owner or in the Owner's possession or control.\*
- 3.6. Describe the Facility environmental performance over the past five years (i.e., annual wastewater violations, excess air emissions unrelated to startup and shutdown, reportable spills and releases).\*
- 3.7. Has the site or Facility been evaluated for a change in operations or alteration, including Start-up and Shut-down emissions and any expansion? If so, state whether any environmental review of the alteration has been undertaken by the Owners or requested by or submitted to any government agency. Provide copies of all relevant documents, including any assessment, form, statement, or environmental report, and specify the status of such document(s) and the process.\*
- 3.8. Provide a list of all groundwater monitoring or production wells at the site or facility and provide copies of state registrations for each well. Additionally, provide copies of geological and hydro geological maps that provide details of the soil and groundwater underneath the plant.\*

#### **4. Transmission**

##### Transmission Interconnection

- 4.1. Description of Transmission and Interconnection Facilities\*
- 4.2. Description of switchyard protection schemes associated with the plant along with any historic operation of these schemes
- 4.3. Maximum Generator/Facility Capability as studied in the Large Generator Interconnection Study (P<sub>MAX</sub> Value)
- 4.4. Overview of Monitoring and Control Systems
- 4.5. Load Flow Study Summaries\*
  - 4.5.1. Interconnection Study\*
  - 4.5.2. Transmission Study\*
- 4.6. Reliability\*
  - 4.6.1. List of Issues Effecting the Grid Relative to the Operation (Loss) of Site Generation\*
  - 4.6.2. List of Issues Effecting Operation Relative to the Loss of Local Transmission\*
- 4.7. Transmission Agreements

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- 4.7.1. Current status of interconnection agreement including agreements for required and optional system upgrades.
- 4.7.2. List of mandatory thermal, stability and short circuit upgrades along with cost and time frames to implement the mitigation. *(Based upon ESI facility study, if completed and available.)\**
- 4.8. Does the unit have separate power flow metering equipment distinct from other units located at the plant site?

#### Transmission Service

- 4.9. Current status as to any information provided by Bidder's proposal regarding transmission service including known constraints, delivery flexibility, etc.
- 4.10. List of any transmission rights currently granted, requested or planned to be requested from the plant along with any associated rollover rights and transmission credits.\*
- 4.11. Control Area arrangements including generator imbalance arrangements or necessary ancillary services.\*

### **5. Financial Information**

- 5.1. Current ownership structure\*
- 5.2. List of Inventory write-offs or potential obsolete inventory. Materials & supplies/inventory detail/subledger.
- 5.3. Detailed General Ledger related to plant
- 5.4. Plant-related Procurement Contract Liabilities (i.e., contracts committed to but not paid)
- 5.5. O&M for COC - 2007 by Significant Category and Projected O&M for 2008-2012
- 5.6. Summary of Property, Plant and Equipment
- 5.7. Site Capital Expenditures since commercial operation
- 5.8. Site Capital Expenditure Plans for 2008-2012
- 5.9. List of plant-specific debt instruments; credit agreements, indentures, letters of credit, reimbursement agreements, guarantees, indemnity or assumption agreements and agreements relating to contingent obligations and any amendments thereto; security or

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pledge agreements and any agreements or instruments evidencing a lien or encumbrance on or other right with respect to any of the assets of the plant.

- 5.10. Financial statements for the past three years for the Bidder and/or the Bidder's credit support provider; including balance sheet, income statement and cash flow along with the long-term debt structure. Any ratings (if available) from the major ratings agencies, S&P, Moody's, Fitch). Lien information that might impact the credit worthiness of the Bidder and/or the Bidder's credit support provider.\*
- 5.11. Tax abatement agreements with state or local authorities and any amendments thereto
- 5.12. Copies of any material contracts/commitments not otherwise requested and any amendments thereto
- 5.13. A list of any pending claims, actions, disputes or other proceedings currently pending or threatened against the project
- 5.14. Copies of all bankruptcy court orders, including the order discharging the project and debtor from the bankruptcy proceedings
- 5.15. Copies of project contracts not rejected during the bankruptcy proceedings and still in effect, in any
- 5.16. Advise as to whether any project funds are subject to a constructive trust or equitable lien in favor of third parties (per ruling of bankruptcy court)
- 5.17. A list of any pending claims, actions, disputes or other proceedings currently pending or threatened against the project
- 5.18. A list of contracts rejected by the debtor/project and terminated during the bankruptcy proceedings
- 5.19. All property tax renditions, assessments, property tax bills and related payment support for the last three assessment periods for the generation facility; and a copy of the assessment for the current assessment period if not yet paid
- 5.20. Documents related to any formal or informal property tax protests, litigation filed, related correspondence, legal opinions received, and judicial or administrative decisions rendered during the last ten years and year-to-date, and current status of any such proceedings
- 5.21. Copies of any formal or informal property tax agreements (i.e. PILOT, TIP, etc.) with state or local authorities in force during the preceding five years, or effective in the current year or succeeding years

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- 5.22. List of all applicable tax jurisdictions, tax rates, millage rates, assessment ratios, current equalization ratio
- 5.23. List of real estate and related facilities, both owned and leased, with legal description
- 5.24. Other tax information that a buyer would reasonable expect the seller to disclose to them before determination of the sale/purchase price (based on willing and informed buyer and seller) and efficient transition after the sale transaction is closed

## 6. Fuel & Power Supply

### 6.1. Fuel

- 6.1.1. Fuel Consumption, Costs, Historic Suppliers\*
  - 6.1.1.1. Projected Fuel Costs\*
- 6.1.2. Gas (copies of all documents and any amendments thereto)\*
  - 6.1.2.1. Commodity Contracts\*
  - 6.1.2.2. Transportation Contracts\*
  - 6.1.2.3. Swing or Flexibility Contracts\*
  - 6.1.2.4. Storage – Provide information regarding any gas storage facility directly connected to the generation facility.\*
  - 6.1.2.5. Operational Balancing Arrangements / Imbalance procedures\*
  - 6.1.2.6. State or Local Taxing as applies to commodity
  - 6.1.2.7. Current Pipeline Infrastructure and design capacity\*
  - 6.1.2.8. Local Area Pipelines not currently connected and any potential additional pipeline interconnects in the area, and approximate distance to the facility.
  - 6.1.2.9. Ownership of gas pipelines connected to the plant\*
  - 6.1.2.10. If pipeline(s) owned by plant, provide any O&M agreements in place for the pipeline(s)
  - 6.1.2.11. Provide the capacity size of the meter station for each pipeline. Are there any restrictions other than meter station capacity on the pipeline?\*
  - 6.1.2.12. For multiple pipeline interconnects, the capability (whether design or demonstrated) to flow several pipelines simultaneously and in what mode the pipelines can operate (whether each can operate in ratable flow or flow control mode or if each can operate in load following or pressure control mode)\*
  - 6.1.2.13. Describe any pipeline switching capability
  - 6.1.2.14. Any known capacity constraints into generator or upstream pipelines.
  - 6.1.2.15. Any known credit information on connected pipelines
  - 6.1.2.16. Any known credit information on historical suppliers
  - 6.1.2.17. Any fuel commitments\*
  - 6.1.2.18. Any hedges or hedging commitments\*
  - 6.1.2.19. Applicable Tariffs detailing swing and delivery capabilities and applicable rates/charges.
  - 6.1.2.20. Pipeline pressure / Unit pressure requirement (including minimum gas pressure required to operate the unit), along with any pressure concerns.\*

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- 6.1.2.21. Current supply sources and typical pricing structure. For existing commodity and transportation contracts: primary receipt points; alternative receipt and delivery points; hourly and daily swing rights; pricing terms; rights of assignment or capacity release; type of contract: FT/IT, swing, NNS, etc...\*
- 6.1.2.22. Does the unit have dual fuel capability? If so, please describe and provide key contractual terms for such fuel arrangements.\*
- 6.1.2.23. Alternative fuels: Provide any operating limitations which exist when operating on those alternative fuels. Also provide information on any on-site and off-site alternative fuel storage facilities.\*
- 6.1.2.24. Does the unit have separate fuel metering equipment distinct from other units located at the plant site?
- 6.1.2.25. Provide fuel quality and measurement requirements / issues for the facility.

## 6.2. Power Supply

### 6.2.1. Copies of all documents and any amendments thereto

- 6.2.1.1. Short-term contracts/commitments\*
- 6.2.1.2. Long-Term contracts\*
- 6.2.1.3. Ownership/Joint Ownership agreements\*
- 6.2.1.4. Contracts for the sale of Other Associated Electric Products (Ancillary Services)\*
- 6.2.1.5. Common facilities or systems arrangements if unit is co-located with other units

## 6.3. Insurance

- 6.3.1. Provide the estimated value (on a replacement cost basis) split by buildings, machinery and equipment, transformers, transmission and distribution assets and other supporting structures of the generating plant.
- 6.3.2. Provide the loss history, if any, including date of loss, cause of loss, type of loss, duration of associated outage, and gross loss figures for both property and boiler & machinery losses.
- 6.3.3. Provide detail regarding any building(s) included in the generating plant such as the area (in square feet), general construction type (e.g. masonry, frame, metal, concrete, etc.), general description of use (office, warehouse, machine shop, turbine building, etc.), whether or not combustibles/chemicals are stored in them, and whether or not the building has a fire suppression system.
- 6.3.4. For buildings with fire suppression systems provide system design details, equipment protected, and the design basis (gallons per minute sprinkler demand).
- 6.3.5. Detail on the location of the closest emergency response facility and approximate response time.

## 7. Compliance

### 7.1. NERC Compliance

#### 7.1.1. Information on what RRO this plant was registered with and when

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- 7.1.2. Copy of current NERC compliance program document, and all policies and procedures relating to NERC compliance and all data proving compliance these procedures and policies.
- 7.1.3. Copy of any past audit documents, internal audits, self certifications, reporting forms and self reports of non-compliance including mitigation plans
- 7.1.4. Facility and Modeling data including: Steady state modeling data (real(max and min) and reactive(leading and lagging) capability including auxiliary loads), dynamic models for the generators, excitation systems, governors, power system stabilizers, transformer design data and current tap settings, short circuit data and all interconnection data.
- 7.1.5. Maintenance records on protective system maintenance including protective relays, dc systems, potential and current transformers, station batteries and special protection systems. Also any past mis-operation reports.
- 7.1.6. Large Generator Interconnect documents provided to the transmission provider.
- 7.1.7. Study results of the interconnect process.

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