Appendix G-3

Preliminary Due Diligence List (Existing Nuclear Resources) For 2012 Request For Proposals (RFP) For Long-Term, Supply Side, Baseload Resources

DRAFT

Entergy Services, Inc. July 25, August 28, 2012

The statements contained in this RFP are made subject to the Reservation of Rights set forth in Appendix D of this RFP and subject to the terms and acknowledgements set forth in the Proposal Submission Agreement.

2012 Baseload RFP

Preliminary Due Diligence List (Existing Nuclear Resources) APPENDIX G-3 PRELIMINARY DUE DILIGENCE LIST (EXISTING NUCLEAR RESOURCES)

As part of the RFP, ESI has posted this Appendix G-3,3 which contains a list of preliminary due diligence requests. ESI is requiring each Bidder who submits will require Bidders who intend to submit a proposal(s) originating from an Existing Nuclear Resourcea nuclear resource to provide a comprehensive response to each request (to the extentquestion accordingly and as applicable to Bidder, the resource, or Bidder's proposal). Failure to provide the requested responses such a response could negatively affect a proposal's overall viability ranking and, in exceptional cases and after consultation with the IM, could result in a Bidder's proposal being deemed non-conforming and rejected from further consideration.

Bidders submitting proposals proposing should respond to each request below by 5:00 pm CPT on the Required Proposal Submission Time. The RFP Proposal Submission Template will not be used to collect the response to this Appendix G-3. Bidders are required to submit their response to the questions below in such a way that clearly identifies the question to which each response pertains, and to provide the response to the RFP Administrator by the applicable deadline.

1. Plant and Equipment

- 1.1. Please provide a detailed analysis of the site Permits, and Zoning or Land Use Restrictions originating from the initial construction of the facility.
- 1.2. Provide a Station Description and Major Equipment List (including significant upgrades from the original equipment and Status of warranties, including expiration dates, for the major equipment) that includes:
 - 1.2.1. Reactor vessel and Head
 - 1.2.2. Steam Dryer (BRW)
 - 1.2.3. Main and Auxiliary Feed Pumps
 - 1.2.4. Pressurizer (PWR)
 - 1.2.5. Main Condensor
 - 1.2.6. Feedwater Heaters and Moisture Separator Reheaters
 - 1.2.7. Steam Generator (PWR)
 - 1.2.8. Turbines
 - 1.2.9. Main Generator
 - 1.2.10. Major Instrumentation and Control Systems
 - 1.2.11. Water Supply and Wastewater Discharge Systems
 - 1.2.12. Fire Protection Systems

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- 1.2.13. Fuel Handling Systems
- 1.2.14. Plant Cooling System including annual plant water requirement requirements
- 1.3. Please provide relevant information regarding <u>the NRC operating license and</u> license renewal including:
 - 1.3.1. Expiration date of current license
 - 1.3.2. Current or planned license renewal activities, including a copy of pending license renewal application and associated technical papers
 - 1.3.3. NRC Requirements or License Conditions regarding Future Plant Operations expected in a pending license renewal or resulting from any other requirement by the NRC.
- 1.4. Provide the Operational Characteristics of the proposed resource:
 - 1.4.1. Description of the various modes of operation of the generating unit
 - 1.4.2. Describe any current or anticipated future derates from licensed output planned and the reasons for the derates.
 - 1.4.3. Describe the typical startup durations from a forced and from a planned outage assuming no major startup delays.
 - 1.4.4. Provide typical start-up MW profile versus time
 - 1.4.5. The MVar capability range of the generator (Include 'as tested results')

2. **Operations and Maintenance**

- 2.1. Provide the following information:
 - 2.1.1. Periods during which the INPO rating was a 3 or below in the last five years
 - 2.1.2. <u>Current and historical INPO annual year end Performance Index values for the last 5 years</u>
 - 2.1.3. List any of the <u>INPO</u> accredited training programs that have been placed on probation <u>or have lost accreditation</u> in the last 5 years? Are all programs currently accredited?
- 2.2. Provide the following information regarding nuclear regulation:
 - 2.2.1. Provide details regarding time frame and causes for any NRC RROP Action Matrix Rating other than "Licensee Response" in the last five years.
 - 2.2.2. Provide time frames of any degraded cornerstone determinations by the NRC in the last five years.
 - 2.2.3. Provide time frames of any NRC identified Substantive Cross Cutting Issues in the last five years.
 - <u>2.2.4.</u> Provide details of any "Issued Significant Enforcement Actions" from the NRC in the last five years not included above.
- 2.3. Provide the following <u>current and historical Electric Generating Statistics</u> (COD <u>2011Commercial Operations Date</u> ("COD") through 2011, unless otherwise specified):
 - 2.3.1. Gross, Auxiliary, and Net Generation

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- 2.3.2. Unit Heat Rate (based on both Summer and Winter conditions)
- 2.3.3. Forced Outage Rate
- 2.3.4. Unit Capacity Rating (Explain how the number is derived)
- 2.3.4. 2.3.5. Outage Event Summary
- 2.3.5. Capacity Factors (explain basis) Design Electrical Rating) 2009 2011 three year average and 2012 YTD
- 2.3.6. Capacity Factors (Design Electrical Rating) COD through 2009
- 2.3.7. Derate Causes, Time, and kWh
- 2.3.8. History of Planned Outages
- 2.3.9. Turbine/Generator Overhaul Cycle (Year) & Outage Time (Weeks)
- 2.3.10. Major Equipment Replacement Schedule (Year) & Outage Time (Weeks)
- 2.3.11. Outage Rates (forced, maintenance, planned, etc.)
 - 2.3.11.1. Forced Outage Rate (Include an explanation of how the rate is derived)
 - 2.3.11.2. Planned Maintenance Outage Rate
- 2.4. Please supply future cycle operating plans including:
 - 2.4.1. Cycle #
 - 2.4.2. Startup date
 - 2.4.3. Shutdown date
 - 2.4.4. Refueling outage duration
 - 2.4.5. Cycle operating capacity factor (load factor)
- 2.5. Provide the following Inspection Reports:
 - 2.5.1. Turbines
 - 2.5.1.1. Turbine Blade Deposit Chemistry report
 - 2.5.1.2. Rotor Boresonic Inspection Reports
 - 2.5.1.3. Bearing Vibration Analysis & Predictive Maintenance Data
 - 2.5.2. Generators
 - 2.5.2.1. Generator Inspection Report
- 2.6. Provide the Site Spares Inventory or strategy for the Major Components (exceeding \$2 million in estimated equipment costs) including:
 - 2.6.1. Reactor
 - 2.6.2. Turbines
 - 2.6.3. Generators
 - 2.6.4. Other (Include BOP)
- 2.7. Describe the Plant Routine, Predictive and Preventive Maintenance Activities/Programs
- 2.8. Provide an organization chart that has the roles and responsibilities for those who support plant operations, environmental, regulatory compliance, and other major functions of the resource. Provide corporate support organization interfaces.

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- 2.9. Provide the Capital Work Requests and Major <u>Maintenance Expenditures</u> (exceeding \$2 Million total costs) <u>Maintenance Expenditures</u> for COD-<u>through</u> 2012
- 2.10. Provide the planned Capital Work Requests and Major major capital upgrades and projects (exceeding \$2 Million total costs) Maintenance Expenditures for planned 2012—2017. for the Facility during the proposal term
 - 2.10.1. Provide Capital Work Requests
 - 2.10.2. Provide Major Maintenance Expenditures
- <u>2.11.</u> Capacity-Related Benefits and/or Environmental Attributes (as requested in Appendix C Section 13):
 - 2.11.1. Describe any studies or other actions needed to qualify the Facility, or the portion allocated to Buyer, for capacity-related benefits and/or Environmental Attributes
 - <u>2.11.2.</u> <u>2.10.2.</u> Describe the status and any results of any such actions

2.11. Ancillary Services

- 2.12. 2.11.1. Indicate As requested in Appendix C Section 15, indicate whether the Facility is or will be capable of providing any ancillary services or Other Electrical Products to Buyer and, if so, which ones and the basis of that belief
- 2.13. 2.12. Nameplate Capacity
 - 2.13.1. 2.12.1. If As requested in Appendix C Section 9, if Bidder proposes to allocate to Buyer less than all of the nameplate capacity of the Facility, please describe in detail how Bidder intends to sub-divide the capacity (*e.g.*, by dedicating to Buyer certain generating units at the Facility), including
 - <u>2.13.1.1.</u> Proposed procedures for metering;
 - <u>2.13.1.2.</u> Tagging/scheduling with the Balancing Authority or similar action (if applicable);
 - 2.13.1.3. 2.12.1.3. Joint use of Common Facilities and
 - 2.13.1.4. 2.12.1.4. Settlement

2.14. Please provide the anticipated major maintenance schedule for the project by year for the life of the project or anticipated PPA term if not life of unit.

3. Transmission

Transmission Interconnection

3.1. Description of Transmission and Interconnection Facilities

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- 3.2. Description of switchyard protection schemes associated with the plant along with any historic operation of these schemes
- 3.1. 3.3. Maximum Generator/Facility Capability as studied in the Provide Large Generator Interconnection Study (PMAX Value) Agreement
- 3.4. Overview of Monitoring and Control Systems
- 3.5. Load Flow Study Summaries
 - 3.5.1. Interconnection Study
 - 3.5.2. Transmission Study
- 3.2. 3.6. Reliability
 - 3.2.1. 3.6.1. ListProvide a list of issues effecting the grid relative to the operation (loss) of site generation
 - 3.2.2. 3.6.2. List Provide a list of issues effecting operation relative to the loss of local transmission
- 3.7. Provide Large Generator Interconnection Agreement
- 3.8. Does the unit have separate power flow metering equipment distinct from other units located at the plant site?

Transmission Service

- 3.9. Whether Discuss whether any transmission service requests are pending associated with the generating unit, and if so, whether a System Impact Study or Facility Study is available.
- 3.4. 3.10. ListProvide a 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.
- 3.5. For Off-System Resources, provide the transmission service request number from OATI-OASIS as evidence of transmission service to the Entergy system.
- 3.6. 3.11. For Off System Resources, provide the costs For Off-System Resources, indicate whether the Bidder has estimated costs and/or considered the expected costs within the proposal to obtain and provide all transmission service necessary for the Off-System Resource to deliver the offered amount of Capacity, energy and Other Electric Products to Buyer at the Energy Delivery Point, including, without limitation, all transmission upgrades or other improvements necessary to obtain such service.

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- 4. Fuel Supply, Transportation, and Storage
 - 4.1. Please describe the fuel supply arrangements that are in place or describe the plans for procuring fuel including the following details: Fuel Requirements
 - 4.1.1. Sources of supplyPlease provide a projection of reactor requirements by year in each front end sector (U₃O₈, UF₆, SWU, Fuel Fabrication) over the relevant period, adjusted to take account of fuel cycle lead times (i.e. to define net delivery requirements).
 - 4.1.2. Counterparties
 - 4.1.3. Pricing terms
 - 4.1.4. Term of Contracts
 - 4.1.5. Refueling schedule for remainder of unit life
 - 4.1.6. Please supply copies of any existing fuel agreements
 - 4.1.7. Describe any fuel lease agreements for in core and out of core fuel.
 - 4.2. Please provide a detailed status of any fuel contract in negotiation (timeline, negotiation status, key terms and conditions, etc.) Existing Fuel Supply Arrangements
 - 4.2.1. U₃O₈: For each existing contract, please provide the following details:
 - 4.2.1.1. Supplier name
 - 4.2.1.2. Facility/production center from which supply will come, if applicable
 - 4.2.1.3. Firm delivery quantities by year
 - 4.2.1.4. Optional delivery quantities by year, if applicable, including annual flexibilities over the firm contract duration and any options for extension of the contract duration if pricing terms for such extension are defined
 - 4.2.1.5. Pricing terms, including as appropriate specific price references and/or escalation and/or market indices, under fixed schedule, base price escalated or market related contracts as applicable
 - 4.2.2. U₃O₈ to UF₆ Conversion: For each existing contract, please provide the following details:
 - 4.2.2.1. Supplier name
 - 4.2.2.2. Facility/production center from which supply will come, if applicable
 - 4.2.2.3. Firm delivery quantities by year
 - 4.2.2.4. Optional delivery quantities by year, if applicable, including annual flexibilities over the firm contract duration and any options for extension of the contract duration if pricing terms for such extension are defined

Preliminary Due Diligence List (Existing Nuclear Resources)

- 4.2.2.5. Pricing terms, including as appropriate specific price references and/or escalation and/or market indices, under fixed schedule, base price escalated or market related contracts as applicable
- 4.2.3. Enrichment: For each existing contract, please provide the following details:
 - 4.2.3.1. Supplier name
 - 4.2.3.2. Facility/production center from which supply will come, if applicable
 - 4.2.3.3. Firm delivery quantities by year
 - 4.2.3.4. Tails assay applicable to the contract
 - 4.2.3.5. Optional delivery quantities by year, if applicable, including annual flexibilities

 over the firm contract duration and any options for extension of the contract

 duration if pricing terms for such extension are defined
 - 4.2.3.6. Pricing terms, including as appropriate specific price references and/or escalation and/or market indices, under fixed schedule, base price escalated or market related contracts as applicable
- 4.2.4. Fuel Fabrication: For each existing contract, please provide the following details:
 - 4.2.4.1. Reactor name
 - 4.2.4.2. Supplier name
 - 4.2.4.3. Facility/production center from which supply will come
 - 4.2.4.4. Fuel assembly design to be delivered
 - 4.2.4.5. Delivery lead time (on-site delivery time relative to next cycle start-up)
 - 4.2.4.6. Firm delivery quantities by year
 - 4.2.4.7. Optional delivery quantities by year, if applicable, including annual flexibilities over the firm contract duration and any options for extension of the contract duration if pricing terms for such extension are defined
 - 4.2.4.8. Pricing terms, including as appropriate specific price references and/or escalation and/or market indices, under fixed schedule, base price escalated or market related contracts as applicable
- 4.2.5. Fuel Lease Arrangements: If applicable, please provide the details of any extant agreements to lease any fuel commodity form another party and/or agreements to lease any fuel commodity to another party, including financial terms and repayment commitments.
- 4.2.6. Strategic Inventory: Please provide details of the quantities and forms of any fuel held as strategic inventory. Please make a distinction, as applicable, regarding those quantities that are ring-fenced for use to mitigate a possible supply interruption and those quantities that may be used for tactical purposes in relation to commercial considerations (e.g. timing of market entry for new procurement)

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- 4.3. How is fuel transported to the facility? Fuel Supply Arrangements Currently out for Bid and/or in Negotiation
 - 4.3.1. What transportation mechanism(s) is(are) used to transport the fuel from the fabricator to the power generation facility? Please provide an outline of the scope of any ongoing procurement activity. Also provide details in line with the information requests listed in 4.1.2 through 4.1.6, to the extent possible taking into account the status of the respective procurement processes and any limitations related to confidentiality/potential impact on the bid process.
 - 4.3.2. Have transportation agreements been executed? If so, please provide a copy of the agreement(s). If not, when is this activity expected to be completed?
 - 4.3.3. For planned or executed transportation services, provide the identity of the transporter, and the area of service.
- 4.4. What storage mechanism(s) are used for spent nuclear fuel? Future Procurement Strategy/Plans
 - 4.4.1. Please provide a description of the general policy/strategy for the procurement of nuclear fuels to meet the uncovered requirements over the relevant period. This description may include but will not necessarily be restricted to, discussion of long-term versus short-term purchases, extent of diversification desired, frequency of procurement activity, preferred pricing mechanisms, relative importance of price and security of supply.

4.5. Spent Fuel Management Status:

- 4.5.1. Please provide information to help understanding of the security of reactor operations schedules vis-à-vis the availability of supporting infrastructure to facilitate the offload of spent nuclear fuel in a timely manner.
- 4.5.2. 4.4.1. Describe current mechanisms used to store spent nuclear fuel, storage capacity currently in use and remaining capacity (including but not limited to: on-site spent fuel pool, on-site or off-site dry cask storage, etc.).
- 4.5.3. 4.4.2. Please provide information on the potential need for and any current or anticipated future plans for building/obtaining additional storage for spent nuclear fuel.
- 4.5.4. Provide the status of any required NRC licenses regarding storage of spent fuel for current and future needs, including capacity limitations and current capacity.
- 4.6. 4.5. Define any applicable state and local taxes which apply to the fuel(s) planned to be in use at the facility.

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- 4.6. Provide Fuel Specifications including Design Fuel and fuel analysis reports
- 4.7. Provide the Projected Fuel Costs for the term of the proposal Supply Interruptions/Consequences/Corrective Actions
 - 4.7.1. List the fuel cost components accounting for over 95% of fuel costs Please provide information on any historical supply interruptions in any part of the fuel supply chain. If any such events occurred, please identify the root cause, what corrective actions were taken and to what extent, if any, did they impact continuity of generation.
 - 4.7.2. Please provide a summary of historical experience with unplanned outages caused by fuel assembly failures. If any such events occurred, what corrective actions were taken and to what extent, if any, did they impact continuity of generation.
- 4.8. Provide the historical Overall Fuel Costs: Please provide the Projected Fuel Costs for the term of the proposal
 - 4.8.1. Provision of information in this section should be sufficient to enable an evaluation of the reasonableness of the forecasts. Accordingly it will be necessary to provide details of assumptions for key parameters, such as market/contract prices that will be expected to apply to existing and/or future fuel supplies.
 - 4.8.2. Projected costs arising from existing contracts, by commodity/service and in total
 - 4.8.3. Projected costs relating to future contracts, by commodity/service and in total
 - 4.8.4. Combined costs for projected future fuel supplies, by commodity/service and in total
 - <u>4.8.1. List the Summary of</u> fuel cost components accounting for over 95% of fuel costs over the last 5 years, by commodity/service and in total.

5. Safety

- 5.1. Provide details of any nuclear emergency classification declared.
- 5.2. What are the modifications and estimated costs (known or expected) required to address current issues and regulations surrounding:
 - 5.2.1. Fukushima related upgrades
 - 5.2.2. Security upgrades

6. Environment

Preliminary Due Diligence List (Existing Nuclear Resources)

- 6.1. Provide a list of all current effective environmental permits/registrations, including any federal, state or municipal permits issued related to the Facility or site.
- 6.2. Describe any pending permit-renewal proceedings and any pending requests for permit modification. Define and describe any expected hurdles to permit re-issuance or permit modifications.
- 6.3. Provide a detailed overview of the environmental management procedures in place to manage compliance with both existing Permit Conditions (all media) and Federal & State proposed and newly promulgated regulations.
- 6.4. Define and describe the regulatory compliance plan for major environmental regulations proposed or promulgated with effective compliance dates that would be applicable to the facility and/or require the permitting of and future installation of control devices (including, but not limited to, regulations resulting from the experience at Fukushima). Please provide installation and operating costs for all control devices that will be installed to meet regulatory requirements
- 6.5. Describe the Facility environmental performance over the past five years (i.e., annual wastewater violations, reportable spills and releases).
- 6.6. Please provide data on any recent NPDES/SPDES permit (with any explanation of revised thermal limits).
- 6.7. Provide data on any recent RCRA & mixed waste inventory, additional characterization materials of their "mixed waste" and any/all training/management materials pertaining to the mixed waste, if available.
- 6.8. Please provide any information regarding the condition of on-site asbestos.
- 6.9. Describe the radioactive waste disposal activity including methods of disposal and cost of disposal for the last 5 years.
- 6.10. Summarize the "Annual Radioactive Effluent Release Report" and the "Annual Radiological Environmental Operating Report" submitted as required by Federal regulations for the last 5 years.

7. Miscellaneous

7.1. Power Supply

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- 7.1.1. Provide copies of all documents and any amendments thereto
 - 7.1.1.1. Short-term contracts/commitments
 - 7.1.1.2. Long-Term contracts
 - 7.1.1.3. Lease Agreements
 - 7.1.1.4. Ownership/Joint Ownership agreements
 - 7.1.1.5. Contracts for the sale of Other Associated Electric Products (Ancillary Services)
 - 7.1.1.6. Common facilities or systems arrangements if unit is co-located with other units
- 7.2. Please provide a list of all section 211 cases filed in the last three years (please delete the names of the complainants) and the current status of each
- 7.3. Please provide a list or description of all 10 CFR 50.7 investigations conducted by the Office of Investigations of the NRC, and their current status
- 7.4. What are the DOE Decontamination and Decommissioning (D&D) fee obligations for the Facility?
 - 7.4.1. Provide the current decommissioning funding amount and status related to the funding requirements.

8. Financial Information

- 8.1. Provide current ownership structure.
 - 8.2. Financial statements for the past three years for the Bidder, the Bidder's credit support provider, and/or the owner of the facility; 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, and/or Fitch). Lien information that might impact the credit worthiness of the Bidder, the Bidder's credit support provider, and/or owner of the facility.
 - 8.3. A list of any pending claims, actions, disputes or other proceedings currently pending or threatened against the project
 - 8.4. Copies of all bankruptcy court orders, including the order discharging the project and debtor from the bankruptcy proceedings
 - 8.5. Copies of project contracts not rejected during the bankruptcy proceedings and still in effect
 - 8.6. 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)

APPENDIX G-3 Preliminary Due Diligence List (Existing Nuclear Resources) 8.7. Provide documentation that all mandated nuclear specific insurance requirements are currently satisfied.

Document comparison by Workshare Professional on Monday, August 27, 2012 12:31:10 PM

Legend:	
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Statistics:	
	Count
Insertions	150
Deletions	89
Moved from	
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Style change	
Format changed	
Total changes	24