

# **Proposal Requirements**

# Mutual Confidentiality Agreement

Two signed copies of the Mutual Confidentiality Agreement (Exhibit F) must be submitted by February 15, 2010, roughly two weeks prior to the proposal due date.

# *Market Power Purchase Agreements (non-unit contingent)*

Given the time-sensitive nature of pricing Market Power Purchase Agreement (Market PPA) proposals, such proposals will be evaluated separately from other unit-contingent proposals.

Following the 2008 RFP evaluation process for Market PPAs, PSE recognized that it would be more efficient for all parties involved for the Company to identify the Market PPA structures that best fit its resource portfolio and to solicit offers for those structures, rather than ask respondents to prepare specific bids for a variety of possible structures. To address this, PSE will identify up to four structures for shorter-term Market PPAs during Phase 2 of the RFP. Also during Phase 2, the Company may seek indicative price quotes for these structures. PSE will ask pre-authorized bidders to submit bids for the specified structures during a live solicitation in summer 2010, following Phase 2 of the RFP. The date of the solicitation will be determined during the RFP process. PSE will choose a winner if the pricing evaluates attractively.

During the RFP process, PSE will provide interested bidders with PSE's required modifications to the ISDA and WSPP Agreements. To gain pre-approval to bid into the live solicitation, bidders must accept PSE's modifications to the agreements.

Bidders interested in submitting a market PPA proposal during the Phase 2 analysis should respond to PSE's 2010 RFP by submitting the Confidentiality Agreement by February 15, 2010. Bidders will also be required to complete sections one and two of the online Summary Data Form (Exhibit C) by March 2, 2010, by providing contact information and selecting "Market PPA" from the "Commercial Structure" drop down menu.

# All Other Proposals

PSE requests that respondents submit their proposals in the following format. Proposals are due to PSE by 5:00 p.m., March 2, 2010.

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# 1. Summary Data Form

Complete the Summary Data Form (Exhibit C) online at <a href="http://www.pse.com/energyEnvironment/energysupply/Pages/pse2010RFP.aspx">http://www.pse.com/energyEnvironment/energysupply/Pages/pse2010RFP.aspx</a>. Submit printed copies with your proposal.

# 2. Project Description

The proposal should include a detailed description of the project, including the project's features and all development work completed to date. Include the following information, as applicable, or indicate if requested information is not known.

Complete one of the following sections based on the type of resource proposed: hydroelectric power, thermal power, wind power, power generated from other renewables or emerging technologies, a REC-only product, or a transmission-only product.

## For power generated from hydroelectricity:

## **Project Location and Size**

- Identify the site where the project will be located. Provide a map showing the
  project area and neighboring parcels. Please provide maps that show anticipated
  layout of all project facilities, including all linear facilities such as generation tie
  lines and natural gas laterals. Also indicate the location of the transmission line
  with which the project will interconnect.
- Describe the project size (in acreage) and the land area controlled relative to project facilities. If the project can be expanded, describe the potential scope and conditions for additional development at the site.
- Provide a list of leases, easements, and/or other ownership documents demonstrating that the respondent has control of the intended project properties and the legal rights to construct, interconnect, operate and maintain the project as described throughout the life of the project.

#### **Site Description**

- Provide a description of the site, including flora and fauna, proximity to inhabited structures, proximity to areas that may be sensitive from an environmental, cultural, commercial, security and any other perspective.
- Include environmental factors such as the known or expected presence of protected, endangered or economically important fish and wildlife. Describe any existing fish passage facilities in place, fish protection programs, etc., if applicable.

#### Project Capability and Availability

- Provide the nameplate capacity and net capacity (in MW), new and clean, at ISO conditions. If the project can be expanded, describe the potential scope and conditions.
- Include the estimated annual unit availability, and any guaranteed minimum annual availability and level of production. Specify planned outage duration.
- In an Excel spreadsheet and graph, show the distribution of the expected annual and monthly output of the project (MWh), including heavy load hour and light load hour production.

#### **Operating Limits**

- Describe any known or likely flow constraints (such as minimum instream flows for fish, wildlife, aesthetics or other purposes) that would affect overall water availability or constrain facility operations (such as minimum turbine releases or ramping rates).
- Provide any existing or proposed procedures for, or limitations on, dispatching or displacing the project (or individual units, if applicable), on a prescheduled basis or in real time, throughout its full operating range, for economic reasons or for system reliability.
- Include a description of the automatic generation control (AGC) ramp rate (rate at which the unit responds to frequency changes while on control (MW/minute)), normal ramp rate (rate at which the unit can increase output while on manual control (MW/minute)), and emergency ramp rate (rate at which the unit can increase output only for emergency situations (MW/minute)).

#### **Technical Specifications**

- Provide the water exceedance curve.
- Include a statement as to the availability of water rights for the project and the nature of any potentially conflicting uses.
- Include the number, type and characteristics of proposed or existing turbines including efficiency curves; minimum, most efficient and maximum generation outputs; and the corresponding turbine discharges.
- Provide commissioning date of the units.
- Provide details of all applicable federal, state, and/or other licenses including water rights and operating licenses. Provide FERC license, exemption or settlement agreement.
- Provide an estimate of the average generation expected to be produced for at least a thirty- to fifty-year time period, including a spreadsheet showing the total expected generation by month, for each year of the time period.
- For the period of record cited above, include a hydrological record, observed or synthesized, showing the total daily average flows available each day and including flow duration curves for daily flows by month.
- For projects where a synthesized hydrological record has been used, please provide a description of the methodology used to create and calibrate the record.
   For projects where observed flow records are used, please provide the source of the information and a brief description of how the record was collected.
- For projects employing a reservoir, please provide a physical description of the reservoir and its expected operation. Indicate any known or anticipated constraints on water surface elevations and operation.

## For power generated from thermal fuels:

#### **Project Location and Size**

 Identify the site where the project will be located. Provide a map detailing the layout of the project including neighboring parcels. Show also the anticipated placement of all project facilities, and the routes of all linear facilities. Include a map that identifies the location of the transmission line with which the project will interconnect.

- Describe the project size (in acreage) and the land area controlled relative to project facilities. If the project can be expanded, describe the potential scope and conditions for additional development at the site.
- Provide a list of leases, easements, and/or other ownership documents demonstrating that the respondent has control of the intended project properties and the legal rights to construct, interconnect, operate and maintain the project as described.

#### Site Description

Provide a description of the site, including flora and fauna, proximity to inhabited structures, proximity to areas that may be sensitive from an environmental, cultural, commercial, security and any other perspective.

#### Project Capability, Availability and Heat Rate

- Provide the nameplate capacity, duct firing (if applicable), and net capacity (in MW), new and clean, at ISO conditions. If the project can be expanded, describe the potential scope and conditions.
- Provide the net capability rating and net heat rates at full load, 90%, 80%, 75%, 50% and minimum sustainable load (if possible, attach a curve). Heat rates shall be plant electric heat rate and not adjusted for cogeneration, if applicable. If output will vary with ambient temperature, respondents shall specify the net capacities and net heat rates at average annual site conditions and 95°F, 80°F, 40°F, and 20°F. Include any "must run" information as appropriate. Separately state the heat rate(s) for duct firing, if applicable.
- Include the estimated annual unit availability, and any guaranteed minimum annual availability and level of production. Specify planned outage duration.
- In an Excel spreadsheet and graph, show the distribution of the expected annual and monthly output of the project (MWh), including heavy load hour and light load hour production.

#### **Operating Limits**

• Describe any limits imposed on the number of starts that may be performed per year or per unit of time, any limits on the number of hours that a unit may be operated per year or unit of time, and any minimum run times or ramp rates.

Regulatory constraints must also be stated, including operating constraints that are either implicitly or explicitly embedded in the permit application or final permit conditions.

- Provide any existing or proposed procedures for, or limitations on, dispatching or displacing the project (or individual units, if applicable), on a prescheduled basis or in real time, throughout its full operating range, for economic reasons or for system reliability.
- Provide start-up time for cold, warm, and hot starts including respondent's definition of those terms. Include, in tabular format, the ramp profile for each of these cases. Respondent shall also specify any specific costs and maintenance penalties associated with starting the unit.
- Include a description of the AGC<sup>1</sup> ramp rate (rate at which the unit responds to frequency changes while on control (MW/minute)), normal ramp rate (rate at which the unit can increase output while on manual control (MW/minute)), and emergency ramp rate (rate at which the unit can increase output only for emergency situations (MW/minute)). For combined cycle plants, provide the gas turbine ramp rate (MW/minute) and overall plant ramp rate (MW/minute).

## **Generation and Pollution Control Technology**

- Specify the type of generation equipment and provide a description, including the manufacturers of major equipment, date of manufacture or age of major equipment, hours of operation and major maintenance performed for any previously owned/operated equipment.
- Include type of heat rejection equipment (cooling towers, ponds, etc.) and manufacturer, age, hours of operation and major maintenance, as applicable.
- Specify the type of pollution control equipment, manufacturer, age, hours of operation and major maintenance, as applicable.
- State the terms of warranties and/or guarantees on major equipment.
- Specify maintenance plans, extended purchase plans, major maintenance plans (MMP), long-term service agreements (LTSA) or other contracts. Include termination date, cost benefit of the plan/contract and early termination penalties.

<sup>&</sup>lt;sup>1</sup> AGC is an acronym for automatic generation control.

#### Permitting

- Identify any required environmental siting permits, stormwater permits, wastewater disposal permits, air permits, or waste disposal permits.
- Describe source of process and/or cooling water; wastewater disposal plan, equipment and underlying contracts; or permits for wastewater services.
- Outline waste disposal plan, if applicable, and indicate underlying contracts or permits for waste disposal.
- Describe any permitting disputes with stakeholders or litigation.

#### **Fuel Supply**

For proposals dependent upon a fuel source such as natural gas, coal, biomass, or others, respondents may propose a long-term stable price and firm supply of fuel. Any proposal for fuel supply must be made in conjunction with a specific proposal that satisfies the criteria of this RFP (i.e., stand-alone or independent fuel supply proposals do not meet such criteria). Also, any fuel supply provisions should be optional, to be included at PSE's election during the proposal selection process. If the price is "indicative", then an explanation of how the price would move up or down during the process should be included in the proposal.

The proposal should specify the source and pricing of fuel to be supplied to the project including backup alternatives. Respondents should describe and document (including copies of applicable agreements) their fuel supply plan and the extent to which they propose to provide fuel, transportation and other fuel-related services, including physical and/or financial hedges. Alternatively, respondents may propose a variable cost payment or tolling fee in which PSE would be responsible for all fuel and fuel-related costs. With respect to fuel supply proposals, PSE's preference is for proposals that address its need for reliability, mitigation of fuel price risk, and flexibility for fully-dispatchable plant operations.

# For proposals in which natural gas supply is acquired and managed by the respondent:

- Identify the maximum hourly and daily gas requirements of the plant at its rated capacity, with and without duct firing, if applicable.
- Identify the location of the proposed pipeline interconnection point and/or lateral.

- Provide a description of the pipeline interconnection, lateral facilities (size, length, capacity, etc.) and compression facilities.
- Provide an estimate of the costs of the pipeline interconnection, lateral facilities, and compression facilities.
- State whether such costs are included in the proposal price.
- Describe the supply plan (source, terms, pipeline route, etc.).
- Identify all pipeline capacity contracts that support the provision of firm transportation to the plant, including any extension options, if applicable.
- Identify all gas supply contracts that support the provision of firm gas to the plant. Provide copies of the contracts with any confidential information redacted.
- Identify the type and quantity of back-up fuel on site, if relevant.

#### For proposals in which natural gas supply is acquired and managed by PSE:

- Identify the maximum hourly and daily gas requirements of the plant at its rated capacity, with and without duct firing, if applicable.
- Identify the minimum and maximum gas pressure requirements at the plant inlet.
- Identify the location of the proposed pipeline interconnection and/or lateral.
- Provide a description of the interconnection and/or lateral facilities (size, length, capacity, etc.).
- Identify the minimum and maximum gas pressure commitments provided by the interconnecting pipeline at the interconnection facilities, and pressure requirement at the plant inlet.
- Provide an estimate of capital costs and annual operating costs of the pipeline interconnection and/or lateral facilities.
- State whether the costs of the pipeline interconnection and/or lateral facilities are included in the proposal price.
- State whether compression will be required at either the pipeline interconnection or the plant site, given the pipeline pressure commitments.
- Provide an estimate of compression capital and operating costs.
- State whether the costs of compression are included in the proposal price.
- Identify and describe all pipeline capacity contracts included in the proposal price, including any extension options, if applicable.
- Identify and describe all gas supply contracts included in the proposal price.
   Provide copies of the contracts with any confidential information redacted.

- Identify and describe any pipeline capacity contracts that are available through the respondent (but not included in the proposal price), and the pricing available for such contracts.
- Identify and describe any gas supply contracts that are available through the respondent (but not included in the proposal price), and the pricing available for such contracts.
- Identify and describe any gas supply pricing options available through the respondent or known by the respondent to be available through another party that, if exercised, would reduce the volatility of the gas supply pricing.
- Identify the type and quantity of back-up fuel on site, if relevant, and any special operational limits to the use of this fuel.

#### Emissions

Include estimates of emissions (air, liquid and solid wastes) in pounds per hour per pollutant and/or waste product at 100% load, and tons per year per pollutant and/or waste product at a specified capacity factor selected by the respondent. Any limits on emissions must be stated.

For each unit boiler or combustor (combustion turbine or reciprocating engine):

- In an Excel spreadsheet and graph, show the CO2 emissions rate distribution (lbs/MWh and lbs/MMBtu) at full load, 90%, 80%, 70%, 60%, 50%, 40%, 30%, 20% and 10% capacity.
- Describe raw materials used in process.
  - Describe primary and secondary fuel type and consumption (mass flow rate/hr/day/year). Specify natural gas, propane, waste gas (landfill gas, sewage digester gas, process gas), gasoline, coal, coke, biomass, waste-derived fuel, syngas, kerosene (#1 fuel oil), diesel (#2 fuel oil), or residual fuel (#6 fuel oil).
  - Estimate how many million cubic feet of gaseous fuel or thousands of gallons of liquid fuel will be burned annually. Alternatively, specify how many billion British thermal units per year (Btu/yr).
  - Specify upper heating value or heat content of any gas or syngas burned (in British thermal units per million feet (Btu/million ft)).

- Include the chemical composition of any waste gas or process gas burned (%, ppmv). Specify the principle components in percent, and the trace constituents (H<sub>2</sub>S, ammonia, hydrogen chloride, vinyl chloride, etc.) in parts per million by volume.
- Describe unit technologies and specific manufacturer-provided data:
  - List rated heat input (MMBtu/hr). The heat input is equal to the maximum fuel firing rate multiplied by the upper heating value of the fuel.
  - Specify the heat rate (Btu/kWh) and include the output (MW) at base and peak loads.
  - List stack exhaust flow rate (scf/min), exhaust temperature (F), exhaust stack height and diameter.
  - List make and model of unit. Specify the date when the boiler, combustor turbine or reciprocating engine was built by the manufacturer.
  - Describe the type of internal combustion engine. For turbines, specify the operating cycle (simple, regenerative, cogeneration or combined) and the type of combustor (annular, can-annular or silo). For reciprocating engines, specify the ignition system (compression or spark ignition), the air scavenging cycle (2-stroke or 4-stroke), the fuel delivery system (injection or carburetor), the air-to-fuel ratio (rich burn or lean burn), the total cubic inch displacement and the number of cylinders. For steam cycles, specify combustor type, operating temperature and pressure, steam flow rate, and any pre- or post-combustion emission control devices.
  - Describe preventive maintenance including, but not limited to, the periodic maintenance recommended by the manufacturer and its frequency.
  - Describe emission rates under different fuels and different run rates as appropriate. Estimate the emissions of each pollutant and include your calculations. Include all criteria pollutants (NOx, SO<sub>2</sub>, CO, PM, VOC, CO<sub>2</sub>) and any toxic air pollutants. Provide projected lbs/hr and parts per million (ppm) concentration (corrected to 15% Oxygen at ISO conditions); potential to emit at 8760 hours per year in tons per year. Emissions should be based on the manufacturer's warranties or measurements. For other pollutants, use emission factors from <a href="http://www.epa.gov/ttn/chief/ap42/index.html">http://www.epa.gov/ttn/chief/ap42/index.html</a>.

- Include Flow Diagram of Unit:
  - Flow diagram may be schematic. All equipment should be shown with existing equipment indicated as such.
  - o Show flow diagram of process starting with all raw materials used.
  - If more than one process is involved to generate energy, show each process and where they merge.
  - Indicate all points in process where gaseous liquid or particulate pollutants are emitted.
  - o Show pick-up and discharge points for handling or conveying equipment.
- Describe emission controls:
  - For all submittals, include type, manufacturer, technology methods, degree of redundancy or spares, pollutant removal rates or efficiencies (include pre- and post-emissions in ppm and lb/hr), emission rate guarantees by manufacturer, expected maintenance schedule and costs (including consumables).
  - For combustion turbines, specify if using water or steam injection, dry controls such as 2-stage lean/lean or 2-stage rich/lean combustors(DLN, DLE, SoLoNOx), or add-on controls such as selective catalytic reduction or other catalytic reduction systems (SCONOx, XONON).
  - For reciprocating engines, specify if using exhaust gas recirculation, ignition timing retard, pre-ignition combustion chambers, air-to-fuel ratio adjustments, engine derating, nonselective catalytic reduction (3-way catalyst), or selective catalytic reduction.

#### For power generated from wind:

#### Project Location and Size

 Identify the site where the project will be located. Provide a topographical map showing the location of key facilities. Show anticipated placement of all project facilities including turbines, substations, roads, transmission tie lines, collection systems, met towers and service buildings. Include a map that indicates the location of the transmission line with which the project will interconnect.

- Describe the project size (in acreage) and the land area controlled relative to the project facilities. If the project can be expanded, describe the potential scope and conditions for additional development at the site.
- Provide a list of leases, easements, and/or other ownership documents demonstrating that the respondent has control of the intended project properties and the legal rights to construct, interconnect, operate and maintain the project as described.

#### Site Description

Provide a description of the site, including flora and fauna, proximity to inhabited structures, proximity to areas that may be sensitive from an environmental, cultural, commercial, security and any other perspective.

#### Project Capability and Availability

- Provide nameplate capacity and number of wind turbine generators planned or installed on site. If the project can be expanded, please describe the potential scope and conditions.
- Include the estimated annual unit availability, and any guaranteed minimum annual availability and level of production. Specify planned outage duration.
- In an Excel spreadsheet and graph, show the distribution of the expected annual and monthly output of the project (MWh), including heavy load hour and light load hour production.
- As applicable, provide typical hourly energy production from the project for a oneyear period in electronic format. This will be used to evaluate the hourly variability of the resource.

#### **Operating Limits**

• Describe any operating constraints that would be required by the interconnecting transmission organization.

#### **Generation Technology**

• Specify the type of generation equipment and provide a description, including the manufacturers of major equipment, date of manufacture or age of major

equipment, hours of operation and major maintenance performed for any previously owned/operated equipment.

- State the terms of warranties and/or guarantees on major equipment.
- Wind turbine supply
  - Indicate the preferred wind turbine vendor or vendors.
  - o Describe the status of the turbine vendor review of site suitability.
  - Indicate the status of negotiations with the turbine vendor(s), including the date of the most recent pricing proposal and the date through which the vendor's proposal remains valid.
  - Describe the operations, maintenance, and warranty plans, and all associated costs.
- Provide the indicative site annual mean wind speed at hub height.
- Provide the projected average net output in MWh in an Excel 12x24 matrix (Exhibit D); that is, for each hour of each month, indicate the number of MWh expected to be generated in a typical hour.
- Provide in an Excel spreadsheet a representative year of energy production for each of 8760 hours of the MWh expected to be produced in each hour. The 8760 hours should be representative of the expected long-term behavior and, thus, be consistent with the 12x24 matrix.

#### Permitting

- Identify any required environmental siting permits, stormwater permits, wastewater disposal permits, air permits, or waste disposal permits.
- Describe source of process and/or cooling water, wastewater disposal plan, equipment and underlying contracts or permits for wastewater services.
- Outline waste disposal plan, if applicable, and indicate underlying contracts or permits for waste disposal.

#### Wind Resource Assessment

 Provide the location of all meteorological towers and instruments used for wind resource assessment and the locations of all turbines or proposed turbines on a site topographic map, and provide the corresponding coordinates.

- Provide a table illustrating the measurements made at each on-site anemometer. Include the parameters measured at each height, the date each mast was commissioned, the date each mast was decommissioned, the data recovery rate from each instrument, and the period of record used for the wind resource assessment.
- Describe the method for extrapolating wind data from anemometer measurement height to turbine hub-height, including wind shear values.
- Describe the method of estimating the long-term energy resource characteristics
  of the site. If an off-site, long-term record or other technique, such as a long-term
  numerical modeling study, is used for the adjustment, provide details of the longterm record (location, measurement configuration, period of record, data
  recovery rate) and correlation or other study method, and indicate the amount
  that such method raised or lowered an energy estimate based on on-site data
  alone.
- Provide a summary report of the energy estimate for the site, at P50 and P90 exceedance levels, developed either by independent meteorological consultant or using in-house analysis. If in-house resources are used, provide a summary of qualifications of the organization and résumé(s) of the analyst(s) performing such work, and identify the software application used to calculate the energy production at each turbine.
- Provide a table that quantifies the adjustment factors used to adjust a gross energy estimate to the net energy estimate. Include estimates for the following:
  - topographic adjustments
  - o availability
  - o substation and infrastructure maintenance and downtime
  - array (wake) losses
  - turbine performance including power curve adjustment, high wind hysteresis, turbulence and controls losses, etc.
  - electrical losses between the turbines and the point of project revenue metering, and specify clearly the point of metering (e.g., on the low side of the project transformer, or the point of interconnection with the transmission provider)
  - environmental losses including icing and blade soiling and degradation, weather losses, vegetation growth, etc.
  - o curtailment including grid curtailment, wind sector management, etc.

- o other losses
- Provide a summary of uncertainty analysis, if performed.
- In a table, a graph, and in Excel, provide an annual hub-height wind speed distribution in 0.5 m/s intervals. Such distribution should be consistent with the energy data supplied pursuant to the above requests.

# For power generated from other renewable resources or emerging technologies:

#### Project Location and Size

- Identify the site where the project will be located. Provide a map showing the location of key facilities. Show anticipated placement of all project facilities.
   Include a map that identifies the location of the transmission line with which the project will interconnect.
- Describe the project size (in acreage) and the land area controlled relative to the project facilities. If the project can be expanded, describe the potential scope and conditions for additional development at the site.
- Provide a list of leases, easements, and/or other ownership documents which demonstrate that the respondent has control of the intended project properties and the legal rights to construct, interconnect, operate and maintain the project as described.

#### Site Description

Provide a description of the site, including flora and fauna, proximity to inhabited structures, proximity to areas that may be sensitive from an environmental, cultural, commercial, security and any other perspective.

Specifically, list all avian, mammal, human, and aquatic life affected by the project, and all measures or planned measures to mitigate or minimize the impact. List all generation restrictions associated with the same.

#### Project Capability, Availability and Heat Rate

- Provide the nameplate capacity and net capacity (in MW), new and clean, at ISO conditions. If the project can be expanded, describe the potential scope and conditions.
- If applicable, provide the net capability rating and net heat rates at full load, 90%, 80%, 75%, 50% and minimum sustainable load. If possible, attach a curve. If output will vary with ambient temperature, respondent shall specify the net capacities and net heat rates at average annual site conditions and 95°F, 80°F, 40°F, and 20°F. Include any "must run" information as appropriate.
- Include the estimated annual unit availability and any guaranteed minimum annual availability and level of production. Specify planned outage duration.
- In an Excel spreadsheet and graph, show the distribution of the expected annual and monthly output of the project (MWh) including heavy load hour and light load hour production.
- As applicable, provide typical hourly energy production from the project for a oneyear period in electronic format. This will be used to evaluate the hourly variability of the resource.

#### For proposals that use Solar Energy:

- Provide the location of all solar data collection sites and the locations of all solar arrays on a site topographic map.
- Provide a description of proposed civil improvements and installation methods.
- Provide data on site wind speed, including maximum and planned design wind speed.
- Provide a table illustrating the irradiation measurements at each on-site location or location used for estimating project energy output. Include a description of the measurement technique and the technology used for the measurement.
- Describe the method used to estimate the long-term energy resource characteristics of the site. If an off-site, long-term record or other technique, such as a long-term numerical modeling study, is used for the adjustment, provide details of the correlation or other study method and indicate the amount that such method raised or lowered an energy estimate based on on-site data alone.
- Provide a summary report of the energy estimate for the site generated either by an independent meteorological consultant or using in-house analysis. If in-house

resources are used, provide a summary of the organization's qualifications and the résumé(s) of the analyst(s) performing the work.

- List the commissioning date and manufacturer's rated "expected life" of all equipment, including pumps, generators, switching mechanisms, etc.
- Provide details on degradation curves of performance. List all major maintenance milestones to be performed for optimal operation.
- Provide a table that quantifies the adjustment factors used to adjust a gross energy estimate to a net energy estimate. Include estimates for the following:
  - o adjustment of on-site data to reflect a projected long-term resource
  - topographic adjustments
  - o array losses
  - o availability/maintenance outages
- Solar generation equipment supply
  - o Identify the preferred vendor or vendors.
  - State whether equipment meets the made in Washington requirements for solar projects sited in Washington state.
  - Indicate the status of negotiations with the equipment vendor(s), including the date of the most recent pricing proposal and the date through which the vendor's proposal remains valid.
  - Describe the operations, maintenance, and warranty plans and schedules, and the estimated costs.
- Installation, operations and maintenance
  - Identify the preferred vendor or vendors, and the costs for initial equipment installation.
  - $\circ$   $\;$  Identify the preferred vendor or vendors for system commissioning.
  - Identify the preferred vendor or vendors, schedules and costs for operations and maintenance.
- Provide the projected average net output in MWh in an Excel 12x24 matrix (Exhibit D); that is, for each hour of each month, indicate the number of MWh expected to be generated in a typical hour.

• Provide a description of the method used to collect solar energy and the technologies used to convert it to electricity.

For concentrating solar power (CSP) provide:

- o concentrating solar technology proposed (trough, dish/engine, power tower)
- o concentration ratio, including supporting calculations
- o a description of the power conversion unit
- tracking system description
- o thermal storage technology, if appropriate, including size and medium
- o backup energy source, in the case of a hybrid system
- o array monitoring system
- o type and characteristics of heat transfer fluid

For photovoltaic systems (PV) provide:

- $\circ$   $\;$  specification sheets for panels, mounting structures and inverter devices
- a quantification of string output, number of panels, panel efficiency, panel mounting structures, etc.
- $\circ$  a description of the array monitoring system
- a description of electrical losses between the solar panels and the point of project revenue metering, as well as a clearly specified point of metering (e.g., on the low side of the project transformer, or the point of interconnection with the transmission provider)
- a quantification of losses due to panel efficiency loss over the expected panel life

#### For proposals that use Solid Fuel:

- Provide a system description and drawings of the energy conversion process from solid fuel to electricity. Include all electrical components, including converters, inverters, transformers, etc.
- Provide data or efficiency calculations on conversion of fuel to electricity.
- Provide the following fuel specifications: fuel type, heat content, moisture content, sulfur content, ash content, ash fusion temperature and a description of any pre-use processing or conditioning required to make the fuel usable.

- Describe the type(s) and source(s) of the fuel. Is fuel source dependent on other contracts or purchasers?
- Describe the fuel procurement plan in terms of the percentage of total fuel that will be procured from the spot market versus total fuel that will be procured under a contract term of 5 or more years.
- Describe the fuel transportation/supply plan, including all railroad(s), truck routes, quantities and frequencies. Explain any highway or rail improvements that may be necessary to accommodate proposed transportation plan, such as paving, bridges, new rail spurs, etc., as well as plans for accomplishing such improvements.
- Identify all rail carriers and describe the status of any transport negotiations or agreements, including any known or anticipated freight rates.
- Describe any governmental approvals or permits required to complete fuel supply and transportation.
- List date or expected date of commissioning equipment and manufacturer's rated "expected life" for all equipment, including turbines, pumps, generators, switching mechanisms, etc.

#### For proposals that use Tidal Energy:

- Identify and provide the source of the tidal tables used as the basis for estimating the energy production at a given tidal energy location.
- Provide a general description of the project and the project area. Include environmental factors such as the known or expected presence of protected, endangered or economically important fish and wildlife. This should also include an evaluation of the bathymetry at the site.
- Include a statement as to the availability of a license from the Federal Energy Regulatory Commission (FERC) for this specific tidal energy location. Detail any license application steps that have been completed toward either a preliminary permit and/or a formal license application.
- Provide details on degradation curves of performance.
- List all major maintenance milestones to be performed for optimal operation.
- Include the number, type and characteristics of the proposed tidal energy turbines including their efficiency curves; the minimum, most efficient and maximum generation outputs; and the corresponding tidal velocities required to operate the tidal turbine in each of these modes.

- Provide an estimate of the average generation expected to be produced for at least a thirty- to fifty-year period. This must include a spreadsheet showing the total expected generation by month for each year of the time period.
- Include the tidal record, observed or synthesized, showing the total daily average tidal flows each day for the period of record cited above, and including flow duration curves for daily tidal flows by month for the period of the record.
- Describe any known or likely flow constraints (such as minimum tidal flows for fish, wildlife, aesthetics, environmental or other purposes) that would affect overall water availability or constrain facility operations.
- For projects where a synthesized tidal flow record has been used, please provide a description of the methodology used to create and calibrate the record. For projects where observed tidal flow records are used, please provide the source of the information and a brief description of how the record was collected.
- Identify the local electric service provider and the location of the interconnection to the existing utility grid. Describe the equipment required for interconnection and the steps by which an interconnection agreement shall be achieved.
- Describe required equipment monitoring and maintenance, including methods, schedules, costs and preferred vendors.
- Describe any environmental monitoring programs required by the license or to be proposed as part of the licensing process, including methods, schedules, costs and preferred vendors.
- Describe proposed installation technique(s) for equipment placement, including anchoring systems and designs.
- Identify the project permitting pathway, requirements, agencies and schedule.
- Indicate the preferred vendors for engineering, installation, and equipment maintenance.
- Provide the projected average net output in MWh an Excel 12x24 matrix (Exhibit D); that is, for each hour of each month, state the number of MWh expected to be generated in a typical hour.
- List the commissioning date or proposed commissioning date and manufacturer's rated "expected life" of all equipment, including turbines, pumps, generators, switching mechanisms, etc.

#### For proposals that use Wave Energy:

- Identify and provide the source of the information used to characterize the wave energy resource as the basis for estimating energy production at a given wave energy location.
- Include a statement as to the availability of a license from the Federal Energy Regulatory Commission (FERC) and/or the Materials Management Service (MMS) at this specific wave energy location. Detail any license application steps that have been completed toward either a preliminary permit and/or a formal license application.
- Include the number, type and characteristics of the proposed wave energy devices, including their efficiency curves; the minimum, most efficient and maximum generation outputs; and the corresponding wave spectrum required to operate the device in each of these modes.
- Provide details on degradation curves of performance.
- List all major maintenance milestones to be performed for optimal operation.
- Describe how the wave energy device operates to convert wave energy to electrical energy, the characteristic resonant frequency of the device to maximize energy conversion from the wave energy resource, and if the device can change this resonant frequency to match the naturally occurring changes in the wave energy spectrum.
- Provide an estimate of the average generation expected to be produced for at least a thirty- to fifty-year period. This must include a spreadsheet showing the total expected generation by month for each year of the time period.
- Include a record of wave data, observed or synthesized, showing the wave height and period measurements, the resulting "representative" wave (based upon this data), and the calculated wave spectrum for the given location.
- Describe any known or likely conditions that could impact the successful deployment of a commercial scale wave energy plant at this location. This may include competing uses of the location, such as shipping lanes, submarine cables and pipelines, ocean disposal sites, military exclusion areas, commercial and sport fishing grounds, environmentally sensitive areas and existing national parks or marine sanctuaries.
- For projects where synthesized wave records have been used, provide a description of the methodology used to create and calibrate the record. For

projects where observed wave records are used, provide the source of the information and a brief description of how the record was collected.

- Identify the local electric service provider and the location of interconnection to the existing utility grid. Describe the equipment required for interconnection and the steps by which an interconnection agreement shall be achieved.
- Describe required equipment monitoring and maintenance, including methods, schedules, costs and preferred vendors.
- Describe any environmental monitoring programs required by the license or to be proposed as part of the licensing process, including methods, schedules, costs and preferred vendors.
- Describe the proposed installation technique(s) for equipment placement, including anchoring systems and designs.
- Describe how system design and installation ensures survival of equipment in severe storm conditions.
- Identify the project permitting pathway, requirements, agencies, and schedule.
- Indicate the preferred vendors for engineering, installation, and equipment maintenance.
- Provide the projected average net output in MWh in an Excel 12x24 matrix (Exhibit D); that is, for each hour of each month, state the number of MWh expected to be generated in a typical hour.
- List commissioning date or an expected commissioning date and manufacturer's rated "expected life" of all equipment, including turbines, pumps, generators, switching mechanisms, etc.

#### For Proposals that use Geothermal Energy:

- Provide geothermal source description (natural steam, steam from water injection, etc.).
- Include steam flow measurements or calculations, including supporting documentation and/or software.
- Describe the project area, including any nearby areas potentially impacted (national parks or monuments).
- Provide a well development plan, including any access issues to the well sites.
- Provide a re-injection well plan, if appropriate.
- Describe the energy conversion technology, number and type of units, and specifications.

- Describe water and/or subsurface rights to resource.
- Geothermal generation equipment supply
  - Indicate the preferred vendor or vendors.
  - Indicate the status of negotiations with the equipment vendor(s), including the date of the most recent pricing proposal and the date through which the vendor's proposal remains valid.
  - Describe the operations, maintenance, and warranty plans, and the estimated costs.
- Provide the projected average net output in MWh in an Excel 12x24 matrix (Exhibit D); that is, for each hour of each month, state the number of MWh expected to be generated in a typical hour.
- Describe the method of estimating the long-term energy resource characteristics
  of the site. If an off-site, long-term record or other technique is used for the
  adjustment, such as a long-term numerical modeling study, provide details of the
  correlation or other study method and indicate the amount that such method
  raised or lowered an energy estimate based on on-site data alone.
- Provide a summary report of the energy estimate for the site generated either by an independent geotechnical consultant or in-house analysis. If in-house resources are used, provide a summary of the organization's qualifications and the résumé(s) of the analyst(s) performing the work.
- Provide the location of all geothermal data collection sites and the locations of all wells and generating equipment on a site topographic map.
- List commissioning date or expected commissioning date and manufacturer's rated "expected life" of all equipment, including turbines, pumps, generators, switching mechanisms, etc.
- Provide details on degradation curves of performance, both for the geothermal resource and mechanical systems.
- List all major maintenance milestones to be performed for optimal operation.

## For a REC-only product:

Any proposal for a REC-only product should provide the following information:

• Product must meet the requirements of RCW 19.285 (the Energy Independence Act), which include but are not limited to the following:

- RECs must be sourced from a facility that meets the definition of an "eligible renewable resource" and that comes from a "renewable resource" as defined in RCW 19.285.
- The facility must commence operation after March 31, 1999. Alternatively, for incremental generation produced from hydroelectric projects as a result of efficiency improvements to units owned by a qualifying utility and located in the Pacific Northwest or to hydroelectric generation in irrigation pipes and canals located in the Pacific Northwest (where the additional generation in either case does not result in new water diversions or impoundments), such improvements must be completed after March 31, 1999.
- The facility must be located in the Pacific Northwest.
- REC-only product must comply with the definition of "renewable energy credit" in RCW 19.285.
- State whether the volume of RECs will be a fixed quantity or tied to the actual output of the facility. The minimum quantity that will be considered is 25,000 RECs per year.
- State the term for REC purchases offered in the proposal. PSE is interested in RECs produced from year 2011 and later.
- All RECs must be fully transferable to PSE, free from any rights of others.
- The provider will be responsible for covering all expenses associated with registering the eligible renewable resource with the Western Renewable Energy Generation Information System (WREGIS), or its successor, and in addition, the WREGIS certificate creation and transfer fees.
- Describe the source of the RECs, whether from market purchases and contracts or from owned or shared generation resources.
- Identify the facility(ies) from which the RECs will be sourced, including renewable resource type, commercial operation date, and facility location. Briefly describe the facility(ies), including how it meets the requirements of RCW 19.285.
- PSE is receptive to offers containing varying term lengths, quantities, and pricing options.

## For a transmission-only product:

Any proposal for a firm point-to-point transmission-only product should provide the following information:

- transmission provider
- term of the transmission assignment
- point of delivery (POD) and point of receipt (POR)
- quantity
- term of the transmission assignment including start and stop dates
- price
- any ancillary service provisions

Additional requirements for all proposals with a transmission component are included in Section 3, Interconnection and Transmission.

# 3. Interconnection and Transmission

## **Planned Interconnection**

Proposals should include a clear statement of the proposed interconnection point (IP), the name of the transmission provider, whether or not the proposal contemplates delivery to PSE, the proposed entity to manage control area responsibilities, and any agreements to self-supply some or all of the ancillary services. For the purposes of this RFP, the term "interconnection point" shall refer to the point at which the project is connected to the high voltage transmission system.

Proposals should also include all details of planned electrical interconnections including, but not limited to, the following information:

- interconnection requests along with submittal date and/or queue number
- feasibility studies
- system impact studies
- facility studies
- required upgrades
- interconnection and related agreement(s)
- list of affected systems
- potential alternatives to interconnection arrangements, if any
- information to identify persons at the interconnecting utility who may be contacted by the review team
- one-line diagram of the interconnection
- any ancillary service arrangements with an entity other than the transmission provider

Based on the identified interconnection point to the transmission system, discuss all related construction plans, status and schedule for any required interconnection facilities, network upgrades, affected system upgrades and distribution upgrades including:

- new lines and facilities
- line and facilities upgrades
- switchyards and substation work required to complete the interconnection
- metering and communications, both by the developer and the interconnecting utility

• easements, rights of way, or property controlled for any new transmission facility, etc., to interconnect the project

Include the status of control over required rights-of-way for any new interconnection facility/ transmission upgrade required. Include information about ownership and maintenance responsibility, and the availability of long-lead electrical equipment, such as transformers, that will be required to support the project. Metering information should include a detailed description of how the metering of actual project output shall be determined and how the metering configuration was included in the determination of project output.

## Planned Transmission Services

Please provide the status of transmission service and ancillary services secured and/or requested by respondent including, but not limited to:

- transmission service requests and queue numbers
- any ancillary service arrangements with an entity other than transmission provider
- system impact studies
- facility studies
- expected availability of the transmission
- · detailed cost estimates of transmission services with supporting detail
- loss factor from each transmission provider
- availability of credits against transmission costs from the transmission provider for the capital costs of upgrades
- information to identify representatives of the transmission provider who may be contacted by the review team concerning transmission arrangements

Also, include copies of any completed studies performed by and agreements signed with applicable transmission providers. Provide all other information/correspondence obtained from those transmission providers as a result of interconnection and transmission requests and discussions that have been held to date. In the absence of formal studies, any information available concerning transmission/interconnection availability, costs and reliability should be provided with as much supporting documentation as possible. All available information should be provided regarding whether and to what extent firm

transmission will be available, whether and to what extent the necessary transmission is subject to constraint, and the projected cost to relieve any transmission constraints.

For remote and long lead-time resources, which may require a long-term transmission solution, creative options may be proposed and will be considered. The developer may provide its own capital and transmission solution, or may work with PSE to determine how best to develop the needed transmission. Options could include participant funding to build transmission or the issuance of a separate RFP for transmission.

#### **Delivery Points**

PSE's acceptance of project energy and capacity delivery at the respondent-proposed interconnection point will depend, in part, on the project meeting all of the required interconnection standards. PSE prefers delivery to its system. Bonneville transmission requests that do not include delivery to PSE's system should ask for point of delivery (POD) on the BPA network.

In evaluating proposals that exclude delivery to PSE's system, PSE will assess the likelihood of acquiring adequate transmission rights and a quantification of the costs to deliver project output to its system.

## 4. Price

## Generally

- Price proposals must specify by month fixed and variable payments, escalation rates to be applied, if any, and all other pricing information necessary for PSE to fully evaluate the proposal.
- PSE's current allowed regulatory return is 8.25%. Proposals will be evaluated based on the most current weighted average cost of capital at the time the evaluation phase begins.
- Respondents should be aware that the prototype ownership agreement term sheet for purchase of an interest in a project, the prototype gas tolling agreement term sheet and the prototype wind power purchase agreement term sheet (Exhibits H, I and J, respectively), as applicable, will be the basis for any potential Definitive Agreement with PSE.
- As an option, respondents are requested to provide a proposal that requires the
  respondent to fully assume the present and future costs of environmental
  mitigation required under existing or future local, state, or federal law. If
  provided, such proposal should specify the environmental risks that the
  respondent is assuming and the cost for assuming each one. Failure to provide
  such an alternative will not disqualify the respondent; however, if the respondent
  elects not to provide a proposal for assuming such risks, PSE requests that an
  explanation as to the reason be provided. Also, any such environmental risk
  provisions should be optional, to be included at PSE's election.

## Power Purchase Agreements

For power purchase agreements (PPAs), respondents should provide the following information by month, at a minimum, as applicable.

- Provide a flat or escalating price per MWh for energy and environmental attributes produced.
- Include a fixed or escalating demand price in \$/kW month, start charges in \$/start, and contract heat rate, if applicable.
- State whether the price offer includes environmental attributes, operating reserves, and whether respondent assumes all environmental risk. If available as separate options, specify the price of each option.

- Include respondent's fixed annual or monthly payments associated with operation, maintenance and ownership costs.
- For project PPAs, state respondent's underlying fixed and variable cost of production.
- Propose a combination of the above or other suitable alternatives, as applicable.
- All other things being equal, PSE prefers a pricing structure that closely mirrors the actual cost structure of the project. In this way, the developer's and PSE's interests with respect to scheduling and dispatch would be aligned.
- In addition to project pricing, please provide a schedule of termination amounts, based on the year in which termination occurs for each contract year of the PPA based on the assumption that upon a notice of termination provided by PSE and PSE's exercise of such election, seller shall immediately transfer to PSE (i) all of seller's rights, title and interests in and to the project (including all project equipment), the permits, all rights of seller to real property included in or benefiting the site and (ii) all of seller's rights, title and interests in, to and under any agreements related to the project to which seller is a party.
- PPA price offers must be provided in an electronic Excel spreadsheet with formulas intact. Respondents must provide a separate Excel spreadsheet for each offer, if multiple offers are proposed.

Respondents should be aware that the quantitative cost screening of proposals received in response to the RFP will include costs associated with delivering the energy to PSE's system as well as the costs associated with financial and accounting regulations. An imputed debt component will be calculated for all PPAs pursuant to the methodology of Standard and Poor's rating agency, as described below:

#### **Calculating Imputed Debt for PPAs**

The debt rating agencies consider long-term take-or-pay and take-and-pay contracts debt-like in nature and have historically capitalized these obligations on a sliding scale known as a risk spectrum. Hence there is a cost associated with issuing equity to rebalance the Company's debt/equity ratio in response to imputed debt, if PSE is to maintain a current credit rating. Imputed debt in the Integrated Resource Plan and in the evaluation of responses to the RFP is calculated using a similar methodology to that applied by the Standard and Poor's ("S&P") rating agency. The calculation begins with the determination of the fixed obligations that are equal to the actual demand payments, if so defined

in the contract, or 50% of the expected total contract payments. This yearly fixed obligation is then multiplied by a risk factor. PSE's current contracts have a factor of 30% along the S&P risk spectrum. Imputed debt is the sum of the present value (using a 6.7% discount rate and a mid-year cash flow convention) of this risk-adjusted fixed obligation. The cost of imputed debt is the equity return on the amount of equity that would be required to offset the level of imputed debt to maintain the Company's capital and interest coverage ratios.

#### Sensitivity of Imputed Debt Cost

The cost impact of imputed debt on PPAs varies with the term of the contract, the proportion of the PPA associated with demand payment, and with the escalation of the PPA rate or demand payments. Assuming a flat, un-escalated PPA rate and PSE's allowed cost of capital, the imputed debt cost will increase the levelized cost of the PPA by approximately 1.4% on a 3-year PPA, 2.0% on a 5-year PPA, 3.5% on a 10-year PPA and 6.0% on a 20-year PPA.

#### PSE Ownership

For PSE ownership arrangements, respondents should address the following, as applicable:

- PSE purchases the development rights at completion of the development stage.
   Design, procurement and construction are the responsibility of PSE, with the possibility of a limited continuing role for the respondent.
- PSE purchases and operates the project outright at the date of commercial operation (respondent to provide training to PSE operating personnel).
- PSE and the respondent jointly develop and own the project.
- PSE purchases the project. Respondent retains principle responsibility for continued development and operation.
- PSE purchases the project at commercial operation. Respondent operates the project for a specified time period while providing training to PSE operating personnel.
- Propose a combination of the above or other alternatives, as applicable.
- As an option, respondents are requested to provide a proposal which requires respondent to fully assume the present and future costs of environmental mitigation required under existing or future local, state, or federal law. If provided, such proposal should specify the environmental risks that the respondent is

assuming and the cost for assuming each one. Failure to provide such an alternative will not disqualify the respondent; however, if the respondent elects not to provide a proposal for assuming such risks, PSE requests that an explanation as to the reason be provided. Also, any such environmental risk provisions should be optional, to be included at PSE's election.

## **REC-only Product**

REC-only product proposals should address the following, as applicable:

- State the price per REC (1 REC is equivalent to 1 MWh of generation from an eligible renewable resource).
- PSE is receptive to offers containing varying term lengths, quantities, and pricing options.

## 5. Legal and Financial

At a minimum, the proposal should contain the following information:

- Describe the structure and status of project financing, the significant conditions on which the financing depends and the milestones that must be achieved to secure both construction and term financing (as required) to support the project schedule.
- Provide identification and contact information for all legal advisors, financial advisors and capital providers (debt and equity) for the project to the extent now known or anticipated.
- Describe the project structure and capitalization during development, construction and commercial operation phases. Describe all anticipated credit support arrangements and appropriate parental, subsidiary and venture relationships pertinent to the proposal.
- Describe any dependence on another entity (e.g., a fuel supplier or a steam host).
- Provide a deal diagram that shows all contractual parties, listed by their legal names, and their relationship with the project.
- Include commitment letters or letters of undertaking from corporations, investment bankers and/or commercial bankers indicating that the project has or is able to obtain the construction and permanent financing it will require. Describe any caveats and conditions to financing commitments that such parties may require.
- Describe the qualifications of such parties to provide, arrange or assist in obtaining necessary financing and credit support arrangements.
- Provide audited financial statements, if available, or if unavailable, provide unaudited financial statements for the most recent 12-month period for all entities, including affiliates involved in the proposed transaction and all entities that may provide credit support, credit enhancement, guarantees, or other security. This information is intended to provide an indication of the ability and willingness of the respondent to negotiate in good faith (and to cause its lenders and equity partners to do the same). The types of financial and control requirements PSE may require are listed in the Evaluation Criteria (Exhibit A).
- Clearly identify the respondent's investment advisor. Use of the term "financial advisor" or "investment advisor" in this RFP refers to third-party advisors, such as

investment bankers or others assisting the project developer in the placement of debt and/or equity financing. If a proposal is selected by PSE for further discussion and possible negotiation towards a Letter of Intent and potentially a Definitive Agreement, PSE will require that the investment advisor be available to meet and discuss with PSE all aspects of project financing.

- Include major project capital and operating expenses, and documentation to support the reasonableness of the projections discussed below. This should include an itemized budget with a breakdown of projected capital costs, operating and maintenance costs, all costs associated with site acquisition and improvement, permitting, project construction, testing and commissioning, compliance with environmental and other applicable regulations (federal, state and local), and security. Project costs must be provided in an electronic Excel spreadsheet with formulas intact (with detail generally in the form set forth in Exhibit E).
- Provide pro forma financial projections for both PSE ownership offers and PPAs showing the project cash flow, income statement, balance sheet, sources and uses of funds, construction draw schedule, and including all financing assumptions. PSE prefers a pricing structure that closely mirrors the actual cost structure of the project. In this way, the developer's and PSE's interests with respect to scheduling and dispatch would be aligned. At a minimum, the pro forma should include the following:
  - o annual energy production and assumed revenue
  - annual operating expenses including turbine and balance-of-plant operations and maintenance costs, general and administrative (G&A) expenses, asset management fees, land leases, property taxes, insurance and other expenses
  - o transmission and ancillary services costs, if any
  - o debt service requirements
  - o debt coverage ratios (highest year, lowest year, average)
  - depreciation (tax and book)
  - income taxes and tax credits
  - o other taxes
  - o working capital requirements
  - o net income
  - book rate of return to average equity

- after tax unlevered internal rate of return to capital
- after tax levered internal rate of return to capital

The pro forma must be provided in an electronic Excel spreadsheet with formulas intact.

• Describe any pertinent legal issues, such as suits, disputes, administrative investigations or permitting issues.

# 6. Accounting Regulations

To evaluate the various accounting effects of a proposed power purchase agreement (PPA), PSE may require additional information from the respondent. A description of each of the accounting regulations and the required information is provided below.

#### Accounting for Variable Interest Entities

The FASB Accounting Standards Codification (the Codification) provides guidance on the identification of, and consolidated financial reporting for, variable interest entities. Entities proposing PPAs or power bridging agreements (PBAs) may be variable interest entities. Tolling arrangements may also fall under the consolidation requirements of the Codification, depending upon the power purchase term and the organizational structure of the responding entity. Pursuant to requirements regarding such consolidated financial reporting, respondents must provide their detailed financial information for determination of applicability. PSE will make a preliminary assessment as to whether or not the respondent's entity must be consolidated and the impact of consolidation on PSE's financial statements using the required information listed below.

#### Required Information to be Submitted with Offer

- Provide current ownership structure (by respondent entity along with respondent's ultimate parent).
- List all generation resources owned by respondent entity. Include location and ownership structure of each generation resource.
- State megawatt capacity of each generation resource owned by respondent entity and proportion of ownership.
- State megawatt capacity of the generation resources that would be sold to PSE.
- State remaining design life of generation resource proposed to PSE.
- Include information about all ownership and capitalization changes from respondent entity from inception to date.
- If respondent entity is a Partnership, LLP or LLC, provide information regarding activities of the respondent entity that resulted in any of the following from inception to date:
  - changes in entity's governing documents or contractual arrangement which result in change in partner investment at risk

- return of equity investment or some part thereof to the equity investors, and other interests becoming exposed to expected loss of the respondent entity
- respondent entity undertaking additional business activities or acquiring additional assets
- Include 2008 annual and quarterly financial statements and notes of respondent entity.
- Include 2009 quarterly financial statements and notes of respondent entity.
- Provide a list of derivatives instruments and treatment on the current financial statements and a description of any intended derivative instruments as a result of the RFP by respondent entity.

# Additional Compliance Information Required at Time of Contractual Agreement and Quarterly Thereafter until Termination:

- Describe the following obligations for the latest quarter:
  - on-balance-sheet obligations
  - o gas purchase obligations
  - lease obligations and commitments
  - o off-balance-sheet commitments
  - contingent obligations
- Provide all material contracts (or summaries, if the original contracts are not immediately available) in place since inception including side agreements, if any, but not limited to:
  - o equity-related agreements
  - o debt and other borrowing documents
  - material asset or stock acquisitions or dispositions
- Provide documents under which guarantees or indemnities have been provided, such as:
  - material supplier and customer contracts
  - o related party contracts
  - o documents related to material hedging activities

- o contingent obligations and financial commitments
- o leasing arrangements and off-balance sheet obligations
- o management and outsourcing contracts

#### Accounting for Leases

The Codification found that arrangements or contracts that traditionally have not been viewed as leases may contain features that would require them to be accounted for as leases. Power supply agreements in which PSE has the right to control the use of the underlying property, plant or equipment may be considered to constitute a lease for accounting purposes and will require lease accounting. Such right to control is to be assessed with respect to, among other things, the amount of power PSE may purchase from the generating facility; PSE's right to operate or direct the operation of the underlying property, plant or equipment; PSE's right to control access to the underlying property, plant or equipment; and the relevant contract pricing structure. Each PPA and PBA offered in response to the RFP will be evaluated to determine the impact on reporting. A list of the information required from each respondent for the purpose of such evaluation is contained below.

#### Required Information to be Submitted with Offer

- Does PSE have the right to operate the underlying property, plant and equipment (PP&E) or direct others to operate the PP&E while obtaining or controlling more than a minor amount of the output or other utility of the PP&E?
- Does PSE have the right to control physical access to the PP&E while obtaining or controlling more than a minor amount of the output or other utility of the PP&E?
- State proportion of generation output to PSE and proportion to others during the term of the arrangement.
- Clarify offer terms to specify whether the price paid by PSE for the output is fixed or equal to current market price per unit of output at the time of delivery.

#### Accounting for Derivative Instruments and Hedging Activities

Established accounting and reporting standards for derivative contracts and hedging activities, defines derivative financial instruments very broadly and requires all derivative instruments not exempted from the statement to be recorded at "fair value" as either assets or liabilities in the company's financial statements.

The Codification additionally requires an energy marketing company to have the capacity to back a forward sales contract for normal purchase normal sale (NPNS) treatment, and evidence must be obtained which demonstrates that the seller has the available capacity either through direct ownership of a generating plant or by contract. For example, if the seller is a power broker which does not have access to a pool, the buyer would have to obtain evidence supporting a conclusion that the seller has access to capacity at or near the delivery point (e.g., a long-term power purchase contract or tolling agreement) to back the contract. Similarly, such evidence would have to be obtained if the seller or a sister company is a known owner of generation but the delivery point in the contract is a location that cannot be served by their owned capacity. Each PPA offered in response to the RFP will be evaluated to determine if there are any derivative/hedging impacts on reporting.

PSE recommends that respondents consult with their accounting professionals with respect to the above accounting guidelines.<sup>2</sup>

<sup>2</sup> FASB Pre-Codification Standards:

http://www.fasb.org/jsp/FASB/Page/SectionPage&cid=1218220137031,

FASB Accounting Standards Codification: http://asc.fasb.org/home

## 7. Environmental

#### Inspections, Orders and Suits

- Provide copies of any state/federal environmental inspection reports or audits from the last three (3) years.
- Provide a list of all notices of violations, non-compliance violations, environmental fines or penalties paid by the company during the last three (3) years.
- Provide a summary of any active enforcement orders, audits, notices of violations, consent decrees or other enforcement actions relating to environmental regulations, site cleanup or liability.

#### Air

- Provide copies of active air permits or permit applications (Title V, Acid Rain, etc.), and any corresponding statement of basis and/or technical support documents.
- Provide any annual emissions inventories, annual compliance certifications, semi-annual monitoring reports, etc. required under the Title V Air Operating Permit Program, as well as associated air permit reporting required by local or state agencies.
- Provide emissions data for the last three (3) years. Include emission rates under different fuels and different run rates and/or electrical generation loads, as appropriate.
- Indicate consent decrees, orders and/or agreements that are still in effect.
   Provide copies of these orders and related correspondence, including applications and design documents.
- List any reportable and non-reportable air incidents that have occurred in the last two (2) years, including correspondence describing the incident(s) and resolution(s).
- Has the facility been audited for compliance with new source review (NSR) and/or prevention of significant deterioration (PSD) compliance? If so, provide a copy of any relevant written audit results, or electronic or written correspondence between the facility and the auditing agency.

- Does the facility meet required operation and maintenance requirements for installed continuous emission monitoring system (CEMS), and is it following a compliance assurance monitoring plan? Provide associated documentation, including monitoring plans, quality assurance manuals, data acquisition and handling system (DAHS) Specification Manual, certification testing results and correspondence, etc.
- Has the facility undertaken an analysis of the impact of the Clean Air Mercury Rule (CAMR) on its operations? If so, provide a copy of this analysis.
- What are the facility's plans for implementation or adherence to the regional haze rule?
- What kind of operational changes are planned or contemplated at the facility that may increase production or emissions?
- Is the facility subject to the United States Environmental Protection Agency (USEPA) Acid Rain Program? Explain why or why not. If so, provide documentation of the history of SO<sub>2</sub> allowances held under this program.
- Is the facility subject to limits on greenhouse gas emissions or other greenhouse gas performance standards? If so, describe.

#### Solid Waste

 Provide a description of the solid wastes produced by the project and the disposal plan for these wastes. Include a copy of the permits for solid waste disposal. The plan should include estimated costs of the disposal, including transportation and tipping fees.

#### Wastewater and Stormwater

- Indicate the type of wastewater treatment system used by the facility.
- Provide a description of the wastewater disposal plan and include a copy of the permits for wastewater disposal, including any applicable Clean Water Act permits (NPDES or POTW) and/or underground injection permits, publicly owned treatment works (POTW) permits or authorizations, discharge to groundwater permits, underground injection permits or land application authorization. The plan should include the estimated costs of the wastewater disposal. Also include any discharge monitoring reports (DMRs) or violations of the permits.
- Provide a copy of the facility drainage routes for stormwater and wastewater.

- Provide a copy of any stormwater permits, associated fact sheets, applications, and discharge monitoring reports, along with the plans and manuals required by the permit(s) (solid waste disposal plan, stormwater pollution prevention plan (SWPPP), O&M manual, etc.).
- Provide a copy of any water rights.

## Emergency Planning (CERCLA<sup>3</sup>/EPCRA<sup>4</sup>)

- Provide the most recent Form R report (TRI report).
- Provide a copy of the most recent Tier I/II hazardous chemical inventory.
- Provide a copy of the facility's risk management plan (RMP) and indicate any changes to facility processes or operations that have changed conditions described in the RMP.

#### Spills and Spill Prevention Control and Countermeasures

- Provide a copy of the facility's spill prevention control and countermeasures (SPCC) plan and any other oil spill plans (including facility response plans) required under state or federal regulations.
- Provide a list of reportable spills at the facility or associated facilities during the past five (5) years. Indicate the status of any cleanup actions associated with those spills.
- Indicate the types of dikes and dike liners used for tank farm secondary containment areas.
- Provide copies of any drainage systems.

<sup>&</sup>lt;sup>3</sup> CERCLA is an acronym for the Comprehensive Environmental Response, Compensation and Liability Act.

<sup>&</sup>lt;sup>4</sup> EPCRA is an acronym for the Emergency Planning and Community Right to Know Act.

#### Environmental Siting, Land-Use and Construction

- Provide a copy of any final or draft environmental impact study (DEIS), environmental assessment or environmental checklist related to the project.
- Provide a copy of any local (county or city) land-use permit (such as a conditional use permit or development agreement) and application.
- Provide a copy of any energy facility site evaluation council (EFSEC) site certification and application.
- Provide a copy of any federal permit and application related to project siting or construction (such as a special use permit or a Clean Water Act permit) and application.
- Provide copies of all wildlife and other environmental studies, assessments or reports related to the site or project.
- Provide copies of any other permits or other governmental approvals and applications or requests related to project siting or construction.
- Provide copies of any wetland delineations or biological assessments performed at the site.

# 8. Experience and Qualifications of the Project Team

The proposal should contain the following minimum information indicating the qualifications of the proposed project team to implement and execute a proposal in response to this RFP.

- Identify the organizations (including organization charts) and key personnel responsible for implementing the project. Include the project manager, his/her tenure and scope of responsibility.
- Provide a legal entity organization chart.
- Identify all existing projects owned, developed and/or operated by the respondent.
- Identify the personnel or organizations responsible for the following activities:
  - energy resource assessment and projections
  - o project financing
  - o design, engineering, procurement and construction specifications
  - o interconnection and substation design
  - environmental assessments
  - environmental management, including a management organizational chart for the facility's environmental functions and the name of the environmental manager for the facility (If project uses consultants to supplement environmental staffing, specify their responsibilities.)
  - land use and zoning approval
  - o permits and related approvals
  - regulatory compliance
  - o construction and commissioning
  - risk management and insurance
  - o asset management and operations
  - o maintenance
- Provide a brief description of the relevant experience of key personnel and organizations for their responsibility area listed above.
- Include contacts and references (name, title, address, telephone, e-mail and fax numbers), who are knowledgeable about the previous project experience of the key project participants.

## 9. Development Status and Schedule

The proposal should provide the following information concerning the status of project development activity.

#### Schedule

Provide, in a format such as a Gantt chart, the most accurate schedule estimates available on the various project activities covering the period from the initiation of development activities through the project's proposed commercial operation date. Include a schedule item for each significant activity including:

- project development
- permitting
- interconnection
- engineering
- construction
- startup
- testing
- commissioning

Include any additional timelines applicable to the project that will demonstrate its status and plans.

Indicate all actions taken to ensure the schedule is met (such as placing orders for equipment with long lead times) and potential opportunities to improve the schedule.

#### Site Control

Provide documentation demonstrating all necessary site control needed to construct, interconnect and operate the facility. Examples of required documentation include copies of deeds, leases, easements, options, water rights or other such documents, as applicable, that evidence ownership and control of the existing or proposed project site. Include any easements necessary to transmit generated power to the point of interconnection. Provide a copy of a current title report as well as scaleable maps of the project site and any easement corridor(s).

#### Environmental Siting (for projects under development)

Discuss known environmental issues relative to the development and operation of the project, including impacts to air, water, flora and fauna, energy and natural resources, environmental health, shoreline use, housing, aesthetics, recreation, historic and cultural preservation, transportation, public service and utilities. Describe measures that will be taken to mitigate all impacts of the project.

Provide copies of all wildlife or other environmental studies and assessments that have been performed related to the site and the project (including, but not limited to, wildlife monitoring reports, biological assessments, environmental assessments, environmental impact statements, environmental media sampling reports (air, soil or groundwater)). Describe methodologies for such studies and identify the person(s) or firm(s) who conducted and completed the work. If such studies are planned or in progress, describe the scope and schedule for completion, identify the person(s) or firm(s) performing the studies, and identify the methodologies to be employed. Describe measures that have or will be taken to mitigate all impacts of the project.

Discuss plans to engage community and environmental stakeholders to support the proposed project or existing projects. Discuss ongoing community relations and environmental stakeholder relations.

Identify and provide copies of all project permits and any other government approvals or authorizations required to build and operate the project, as well as all permit or other government approval applications and requests. Discuss the current status of applications and proceedings, the schedule and the approach to be used to obtain necessary permits and approvals. For existing projects, also discuss any permits that will be up for renewal in the next five (5) years. Outline the process planned to involve local residents and other affected parties in the planning and/or permitting process or the permit renewal process.

#### Permits

Identify and provide copies of all project permits and applications with special emphasis on the key discretionary permits (such as a conditional use permit, site certificate and major air, wastewater and/or waste permits) required to build and operate the project. Discuss the current status of applications and proceedings, the schedule for obtaining or renewing key permits and approvals, and the approach to be used.

Outline the process planned to involve local residents and other affected parties in the planning and/or permitting process.

If the project is located in an area that is ceded land, may have been historically used by a Native American tribe, or if the project may impact tribal interests, describe any contacts that have been made with the tribe (include names and phone numbers) or plans to consult the tribe regarding the project.

#### Construction

Describe arrangements and commitments (contracts, letters of intent, memoranda of understanding) that have been made, if any, for the construction of the project.

Describe the contractual structure (including any existing agreements or forms of agreement) proposed for project design, procurement, and construction (e.g., turnkey; engineering, procurement and construction (EPC); multiple lump-sum purchase, etc.). For any approach other than turnkey, provide information on the organization and individual responsible for project management during this phase. If construction is completed, identify all open warranty issues.

## Testing

Summarize the testing to be conducted prior to acceptance of equipment from the manufacturer and completion of the project, and the testing to be conducted prior to commercial operation of the project. Possible tests should include, without limitation, power performance, SCADA<sup>5</sup> acceptance, distribution system acceptance, emission and others that demonstrate performance of the project and associated facilities in accordance with applicable laws, regulations, permits and any applicable power purchase agreements.

<sup>&</sup>lt;sup>5</sup> SCADA is an acronym for supervisory control and data acquisition, referring to the electronic system that collects, manages and controls data at the facility.

### **Operation and Maintenance**

The proposal should clearly describe the operations and maintenance plan for the project including the identity of the entities or persons responsible for key activities; a list of initial spares and their value; procedures to assure the availability of spares and other operations; maintenance and logistics issues, including whether a long-term service agreement is contemplated and, if so, the principal commercial terms associated with such an agreement.