

***Portland General Electric Company  
Request for Proposals for Power Supply Resources Final  
Report of the Independent Observer***

***September 6, 2004***

***Prepared by  
Merrimack Energy Group, Inc.***



**This report largely describes and evaluates Portland General Electric's Request for Proposals for Power Supply Resources (RFP) process through the selection of the short-list, and including the contract negotiation process. While the Contract Negotiation phase is ongoing and is not complete at this time, the Independent Evaluator believes that adequate information exists to complete the Final Report at this time without jeopardizing the remaining contract negotiations.**

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## **I. Introduction**

Portland General Electric Company (PGE) commissioned Merrimack Energy Group, Inc. (Merrimack Energy) to serve as Independent Third-Party Observer for its 2003 Request for Proposals for Power Supply Resources (RFP). While the Oregon Public Utility Commission's (OPUC) Order (Order 03-387) in UM 1080 concluded that PGE's Request for Proposals is in compliance with the competitive bidding guidelines established by Order N0. 91-1383, is consistent with its filed least cost plan, and can be expected to result in a fair and unbiased process, the order contained several conditions. One of these conditions, and the focus of this assessment, was that an Independent Observer would be retained to review the evaluation criteria and process. The requirement to retain an Independent Observer was motivated by PGE's self-build option, the Port Westward project. The role of the Independent Observer was defined in the Order and RFP to include the following:

- Evaluate the scoring criteria developed by PGE to confirm that they do not inappropriately bias the process in favor of an equity investment by PGE.
- Evaluate whether the scoring criteria have been applied in a fair and unbiased manner during the bid evaluation process.
- At the discretion of the Independent Observer, observe and review the process by which PGE evaluates and negotiates the short list proposals to confirm that the process was not inappropriately biased in favor of an equity investment by PGE.
- Submit a written report to the Commission, in light of the above, stating whether the process was fair and objective.

This report meets the requirements listed above and addresses the activities associated with the solicitation process from shortly after issuance of the RFP (at the time Merrimack Energy was retained) through the contract negotiations process. The primary emphasis of this assessment will be on the bid evaluation methods and procedures during each stage of the process including: (1) review of the bid evaluation criteria selected to ensure the criteria do not contain an undue bias in favor of equity ownership bids; (2) review of the analysis undertaken in the Pre-Qualification stage; (3) assessment of the non-price and price analysis to determine if the stated evaluation criteria were consistently and fairly applied; (4) assessment of the final selection process to ensure that the process did not produce biased and inconsistent results; and (5) assessment of the contract negotiation process.

To make such a determination, Merrimack Energy staff was actively involved in reviewing and independently validating the results of PGE's analysis through a number of meetings with PGE team members, hands-on bid review and discussions with PGE team members involved in the actual bid evaluation, participation in key meetings associated with policy decisions by PGE's Project Management Team, and through independent review and assessment of a large sample of bids. Merrimack Energy

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developed criteria on which to evaluate the performance of PGE's project team throughout the bid evaluation process. Merrimack Energy also challenged bid evaluations and raised issues during the course of the bid evaluation process, if warranted. Finally, Merrimack Energy's Project Manager observed several contract negotiation sessions with PGE staff and bidder representatives and maintained close contact with PGE management involved in contract negotiations throughout this process.

The consultants from Merrimack Energy have served in a similar role in participating in a number of electric utility competitive bidding and power procurement processes. Appendix A provides a listing and description of the competitive bidding assignments on which consultants from Merrimack Energy have provided services similar to the requirements of this assignment.

For purposes of undertaking this assessment of the competitive solicitation or RFP process (notably the bid evaluation and selection activities), the following issues will be addressed in this report:

1. Brief description of the contents of the RFP document, including the objectives of the RFP, requirements of the bidders, the proposed evaluation process, and the role of the self-build Port Westward option.
2. Discussion of the various steps or activities included in the bid evaluation process, including a summary of the objectives of the process, assessment of the evaluation criteria developed for the analysis, specifications required by regulatory policies, bid evaluation methodologies, and procedures defined by PGE to guide the bid evaluation process.
3. Detailed description of how the bid evaluation process and procedures and contract negotiations were carried out by PGE. Included in this assessment will be a description of the key tasks, pre-bid receipt activities undertaken by PGE to prepare for the receipt of bids, procedures relied upon by PGE to guide the bid evaluation process, issues raised during the evaluation process, the activities and procedures undertaken to complete the evaluation, and the procedures designed to guide contract negotiations.
4. An overall evaluation of the performance of PGE in completing the various stages of the evaluation process. In particular, this section of the report provides an evaluation of PGE's performance from the perspective of several criteria, including consistency, fairness, comprehensiveness, equity and bias. The performance of PGE will be evaluated relative to the consistency of the process in conjunction with the guidelines established and documented, and relative to industry standards.

In particular, the following questions are addressed in this report.

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- Did the evaluation criteria contain any undue biases toward power project ownership options or toward a specific project type?
- Were all bidders treated in a fair and equitable manner?
- Was the evaluation process thorough and comprehensive to ensure the best proposals were selected?
- Did the Company adhere to the provisions outlined in the RFP in terms of information requirements, selection process, evaluation process, evaluation methodologies, etc.?
- Did all bidders have access to the same information?
- Were all issues resolved in a fair and equitable manner and in a consistent fashion for all bidders?

This report is presented in seven Sections, including this Introduction. Section II provides a brief description of recent changes in the electric power industry that may influence the RFP structure and solicitation process. Section III provides a background assessment on the qualities of an effective competitive bidding process based on past and current industry standards. This section also identifies the bidding specifications identified in OPUC's Competitive Bidding Guidelines, and describes the criteria used by Merrimack Energy for evaluating the performance of PGE in adhering to the requirements of the RFP. Section IV summarizes the RFP document and the key provisions of the RFP as a basis for establishing the bidding requirements. Section V describes the procedures followed by Portland General Electric in implementing and managing the RFP process as well as any major issues that arose during the evaluation process. The approaches followed by Portland General with regard to the major issues are also presented. Section VI provides a critique of Portland General's performance during the evaluation process relative to the criteria established by Merrimack Energy for assessing the performance of Portland General. Section VII provides the conclusions of this assessment.

## **II. Recent Power Generation Industry Changes**

The electric power industry has been undergoing unprecedented changes over the past few years, which are having a profound influence on market structure, resource procurement requirements, access to capital markets and the overall health of the industry. In several areas of North America the traditional vertically integrated structure of the electric industry has been replaced with competitive wholesale market structures, retail access, and the exit of many traditional utilities from the generation market. Many utility companies have sold their generation assets and have relied upon the competitive market to procure power for their retail customers. From a resource procurement perspective, in many areas of North America, traditional long-term contracts for power with independent generators and other utilities have been replaced by shorter-term or spot commitments.

In other regions of North America, the traditional vertically integrated structure of the industry has been largely maintained and resource planning and procurement processes are being reassessed and revised.

The evolution of the development of merchant power plants (i.e. power generation projects developed without the backing of long-term contracts) and the expansion of power marketing has created a new competitive dynamic at the wholesale level. Without long-term contract support, project financing has been based largely on forecasts of market demand, power and gas prices (i.e. the stability of the spark-spread to ensure stable margins to support payment of debt and provide a reasonable return on equity), and the expectation that the high efficiency of these units (predominately gas-fired combined-cycle units) would lead to high dispatch levels and the ultimate retirement of less efficient units. While a number of merchant power plants have been constructed or are under development, many projects are now facing significant cost exposure and uncertain market opportunities as a result of recent economic and energy market trends.

At the regulatory level, the policy at the Federal Energy Regulatory Commission to encourage the development of Independent System Operators (ISO) throughout the country with the intent of providing broader access to the electric transmission system has a goal of fostering competitive wholesale markets. The objective was to further enhance competitive wholesale market competition.

A number of events have converged to derail the evolution of the competitive wholesale market as originally envisioned, and created market uncertainty in those regions and states that have restructured. The energy shortage encountered in California was the first indication of market inefficiencies. While concern was raised about market manipulation by independent power generators and marketers, a major problem was the lack of adequate available generation capacity to meet growing demand, and the lack of incentives necessary to encourage construction of new capacity.

Unlike in California, in other regional power markets, many new merchant power plants were being developed and financed to supply power into competitive wholesale markets.

Many large utility subsidiaries and other power generators were aggressively pursuing the development of these projects along with acquiring assets divested by local utilities with the objective of gaining increased market share and revenues in unregulated wholesale markets. Over the past few years the combination of the decline in the power marketing industry, over-supply of generating capacity in several markets, volatile (and divergent) natural gas and electricity prices, declining power price margins, and the slow pace of regulatory reform has raised doubts about whether merchant power plants can generate sufficient revenues to repay the banks which have financed the project. These events have created a financial crisis in the power generation business, culminating in a number of bankruptcies and a continued decline in credit rating and credit quality. Many large power generators have either been forced to abandon project development, turn plants over to banks, or consider moth-balling existing units.

The power industry was dealt a further blow as a result of the blackout in the Northeast during the summer of 2003, driven by inadequacies and constraints in the electric transmission network. Reliability issues have emerged in several regions not only due to transmission constraints but also to fuel supply and transportation risk as well. Many of the new merchant power projects did not contract for firm pipeline capacity, opting to purchase gas at market prices at liquid trading hubs instead, to minimize the fixed costs associated with long-term pipeline capacity commitments. The view of many was that electric and gas prices would move together, maintaining stable spark spreads, and generators would be able to secure pipeline capacity for all but a few days during the year. Contracting for firm transportation capacity for year round service to meet full requirements was generally deemed as an uncompetitive and economically risky strategy.

For power buyers, these trends mean that reliability of supply has become a very important concern. Utilities that are required to meet their retail supply obligations need to ensure that reliable supplies are available at reasonably stable prices to meet load, much like the traditional utility role. Due to the financial condition of many companies in the industry, the credit-worthiness of a counter-party supplier is an important factor. The debt ratings of many larger generators have declined and the ability and willingness of these companies to post the security or meet the credit assurances required of buyers is strained. Buyers are also resorting to a preference for longer-term contracts once again, particularly as gas prices and gas supplies come under pressure, and long-term gas supply reliability is questioned.

The state of the power industry, as noted above, will have a definite influence on the criteria and procedures followed by a power buyer in structuring its RFP. In our experience, the structure and requirements of competitive bidding processes have evolved over time with the changes in the market. For example, in the late 1980's and early 1990's, the initial RFPs for Power Supplies focused largely on the procurement of long-term contracts from Independent Power Producers and Cogenerators only, as a means of stimulating development of the independent power industry. Long-term contracts were the norm supported largely by unit contingent contracts. At this time, both federal and state regulators and policy-makers were focused on providing the necessary incentives to

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stimulate the development of a competitive wholesale market. Most of these projects were located and developed either in the host utility service area or in close proximity.

By the mid-1990's, the initial uncertainty associated with the move toward deregulation and load uncertainty led to changes in the solicitation process. Shorter-term contracts became more of the norm and resource procurement flexibility was a very important evaluation criteria. Utilities signed contracts for options on resources that provided the right but not the obligation to take the power at some specified future date. These contracts provided utilities the opportunity to delay making a firm decision to take the power until closer to the time it was required and also served to reduce the traditional long-term planning horizon in the utility industry. If load growth was lower than expected these options contracts could be allowed to expire without the utility incurring long-term financial obligations. With the uncertainty associated with potential load migration due to market restructuring and retail access, utilities desired to hedge their obligations by providing the opportunity to balance load obligations at a minimal cost.

Over the past few years, resource procurement processes are again focusing on longer-term commitments from reliable suppliers. In the current environment, "Credit is King" in both the power supply and gas supply markets. Buyers need to feel comfortable that any party with which they enter into a longer-term contract will be able to perform on their obligations and are strong enough financially to complete their commitments or pay the requisite penalties. In the current uncertain environment, utilities are also considering the development of their own power projects to ensure reliability of supply as opposed to contracting with a financially vulnerable generator who may decide it does not possess the capability or willingness to complete its development projects.

This is the current state of the market which is influencing the structure of this RFP and under which the criteria and procedures should be reviewed. At the same time, competitive bidding processes and methodologies have also changed. Several of the recent trends that have become industry standards for competitive bidding approaches and processes include:

- Integrated evaluation systems are the norm rather than simpler self-scoring or transparent processes. These methods allow the utility to more effectively optimize its resource plan by comparing the cost of a resource or portfolio of resources against other options based on total system cost analysis.
- As the independent power industry has matured, price related criteria have become the predominant selection criteria. Non-price criteria are used to ensure projects are viable and feasible. Many processes now attempt to make the non-price criteria as objective as possible, minimizing the amount of subjective judgment in the analysis.
- Utilities are generally seeking more flexibility in the power procurement process and in making resource commitments. This includes encouraging short and long-term resource options and a variety of project/contract types.

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- The Request for Proposals usually integrates the Request for Proposals document, with the electricity supply contract and the Response Package. This process serves to link the information required of bidders to the evaluation criteria and allows the bidder to reflect the buyer's preferred contract risk in its bid.
- Bidding processes are generally designed to encourage a broader range of projects, rather than limit resource options.
- The credit quality of the counterparty is one of the most important considerations in the evaluation and selection process. As a result, the level of security required is increasing and utilities are more restrictive with regard to security requirements.

### **III. Framework For Reviewing PGE's Performance in Implementing Its' Evaluation Process**

The purpose of this chapter is to establish the framework by which Merrimack Energy will review the performance of PGE in carrying out the solicitation process. The framework is discussed relative to three major considerations:

1. Consistency with regard to the overall characteristics/objectives of an effective bidding process.
2. Consistency with regard to regulatory guidelines.
3. The specific criteria associated with the actual implementation of the process from the perspective of fairness, equity, comprehensiveness, consistency and bias.

A brief overall description of each of these considerations is discussed in this section to establish the parameters under which PGE's performance will be defined and evaluated.

#### **A. Characteristics of an Effective Competitive Bidding Process**

Based on Merrimack Energy's experience with competitive bidding processes and observations regarding such processes, an effective solicitation process should be designed to achieve the following objectives:

- The solicitation process should be fair and equitable, comprehensive and unbiased to all bidders.
- The solicitation process should ensure that competitive benefits for utility customers result from the process.
- The solicitation process should be designed to encourage broad participation from potential bidders.
- The Request for Proposal documents (i.e. RFP document, Response Package, and Power Contracts) should describe the bidding guidelines, the bidding requirements to guide bidders in preparing and submitting their proposals, the bid evaluation and selection criteria, and the risk factors important to the utility issuing the RFP.
- The solicitation process should include thorough, consistent and accurate information on which to evaluate bids, a consistent and equitable evaluation process, documentation of decisions, and guidelines for undertaking the solicitation process.

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- The solicitation process should ensure that the power purchase agreements are designed to provide a reasonable balance between the objectives of the counter-parties, seeking to minimize risk to utility customers, and shareholders while ensuring that projects can be reasonably financed.
- The solicitation process should incorporate the unique aspects of the utility system and the preferences and requirements of the utility and its customers.

With regard to the first objective, there are several factors that should be incorporated into a solicitation process. First, the solicitation and evaluation process should not be biased toward any one type of project. In this regard, the evaluation criteria and selection process should ideally be project and technology neutral. Second, the solicitation process should not preclude or discourage bids from different size projects or for different terms. In this regard, for example, smaller and larger projects should be treated equitably. Third, all bidders should be treated the same in terms of access to information.

The second objective focuses on the competitive benefits resulting from the solicitation process. A well-designed solicitation process should provide competitive benefits for both utility customers and shareholders. The purpose of a competitive solicitation is to ensure that competition among suppliers is encouraged since competition should lead to lower costs to customers and provide for more options. However, to ensure that such benefits result, it is important that the RFP document and related contracts are closely integrated to effectively manage risk. Competitive procurement processes which encourage competitive prices but lead to substantial risk shifting to the utility and its customers are not effective in achieving the potential benefits of competition through competitive bidding. Also, a competitive solicitation process should be designed to ensure that all the major cost implications of a proposal are adequately accounted for in the evaluation. A thorough and detailed integrated system cost analysis is preferable to ensure competitive benefits are adequately accounted for in the evaluation process.

The third objective is that solicitation processes should be designed to encourage broad participation. To ensure that all resource options are effectively considered, there should be no unreasonable restrictions on either the size, type of project or bidder, or bid term. It is preferable that all types of projects and project structures have a fair opportunity to compete. This will ensure that all resource options are considered in the selection process, and a lowest cost resource plan can ultimately be developed. Several of the early resource solicitations issued by utilities based on various state utility commission rules limited bidder eligibility or limited bid term. Therefore, a lowest cost resource procurement process was not guaranteed, since not all possible options were allowed to compete.

The fourth objective addresses the information provided to the bidder. Adequate information provided to bidders regarding the preferences and objectives of the utility, a description of the bidding process, and the bid evaluation and selection criteria serves to

identify the important requirements of the utility and places bidders on an equivalent basis. This objective can be met through a well-designed RFP that provides details on the process and defines bidder requirements. It is not necessary for this solicitation process to be a transparent, self-scoring system to meet this objective. Solicitation processes which provide adequate information on the requirements of the purchasing utility, provide clear and concise information to bidders on the requirements for completing their proposal, and identify in sufficient detail the evaluation and selection criteria consistent with this overall objective.

The fifth objective focuses on the information required of the bidders. One of the important aspects of any solicitation process is the information required of bidders and the use of such information. In this regard, it is important that bids are evaluated based on a consistent and thorough set of information provided by all bidders. The RFP should require bidders to provide information consistent with the evaluation criteria to ensure that the important attributes of each proposal can be equitably and fairly evaluated. The solicitation and evaluation process should also ensure that the results of the evaluation process could be fully documented.

The sixth objective deals with contract risk. While the evaluation process is an important component of the solicitation for determining the best projects, the resulting contract dictates the performance of the project and the risks incurred by buyers and sellers. It is not in the best interests of the utility if the evaluation process selects a project but that project cannot secure financing because of the onerous terms of the contract. Contracts that could lead to significant risk to the utility and its customers are also not in the best interests of these parties and could lead to serious financial implications. As a result, it is important that the contract provides a proper balance of risks between buyer and seller, with each party incurring the risks that it is most capable of managing.

With regard to the seventh objective, each utility system is unique in terms of its existing resource mix, customer profile, transmission and locational issues, regulatory requirements and customer preferences. These unique aspects of the utility system must therefore be addressed in the design of the solicitation process. As a result, the evaluation criteria should reflect the factors of importance to the utility customers and shareholders. Reflecting specific customer preferences in the design of a solicitation process is an important aspect of an effective solicitation process. The end result is that no two competitive bidding processes can be expected to be the same.

## **B. Consistency with Regulatory Policy/Guidelines**

While Order No. 03-387 found that PGE's Request for Proposals is in compliance with the Competitive Bidding Guidelines in Oregon established by Order No. 91-1383, it is informative for purposes of evaluating the solicitation process to recap OPUC's Competitive Bidding Guidelines, since such guidelines still influence the implementation of a competitive bidding process. The policies included in the Competitive Bidding Guidelines are summarized below:

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- The Commission directs each electric utility to obtain at least a portion of its new power resources through the competitive bidding process.
- The utility will be responsible for issuing an RFP, evaluating the bids received, and selecting projects for implementation. The process, however, will be subject to established Commission guidelines.
- PURPA QF's, independent power producers, and other utilities are eligible to participate in a supply-side RFP. The Guidelines also stated that a utility or its affiliate may not participate in the utility's own solicitation
- The utilities will use a first-price sealed bid format in the bidding process. Post-bid negotiation on both price and non-price issues is permitted
- Bid evaluation should include both price and non-price factors (i.e. dispatchability, reliability, environmental impacts). The Guidelines contained the weighting system that would be used for the initial ranking of project proposals
  - Price factors should account for 50-70% of the weight
  - Non-price should account for 30-50%
  - Environmental should account for at least 10%
- A soliciting utility should indicate in its RFP what weight the utility will allocate for specific project and system operational criteria. Operational issues discussed in the RFP should include: dispatchability; reliability; fuel type and supply; interconnection and wheeling policy; environmental concerns; and other concerns the utility may identify as important to project and system operations.
- The Commission supported a flexible competitive bidding regime that could evolve over time.
- Competitive bidding is linked with the Least Cost Plan as a means to identify and acquire resources
- The utility's RFP should provide sufficient information regarding potential utility-developed resources, requirements of bid proposals, and the method of bid ranking and selection so that potential developers can make an informed decision on whether or not to participate.
- The RFP should clearly state the utility's policy regarding the project security requirements. In order to protect itself and ratepayers, the utility should require assurances that a proposed project has a reasonable probability of successful construction and operation.

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- A soliciting utility should clearly specify in its RFP the information it expects bid proposal sponsors to provide. This information should include such items as project description, siting, design and engineering, management expertise, financial, operational parameters, and government licensing requirements.
- Access to the transmission systems of intervening utilities is not automatic or assured. Reasonable costs of interconnection and wheeling should be the responsibility of the project developer. A soliciting utility's RFP should clearly define the utility's policy concerning transmission access and wheeling of power.
- The soliciting utility and each winning bidder have the option to negotiate the final contract price stream
- The adopted bid evaluation and selection guidelines should provide a means for the utility to select the project proposals that best satisfy the price and non-price criteria established in the utility's RFP. In the evaluation process, the soliciting utility will select a preliminary award group. The preliminary screening will produce a "short list" of projects from which the winning bids will be selected. The utility then will conduct negotiations with selected project sponsors to finalize energy contracts.

### **C. Criteria For Assessing PGE's Performance in Implementation of the Bid Evaluation and Selection Process**

To assess PGE's performance in implementing the evaluation and selection process associated with its RFP for power supplies, it is necessary to first identify and describe the criteria for undertaking this assessment. Merrimack Energy's objective in selecting and implementing these criteria is to develop a yardstick by which to measure how PGE fulfilled its role in the evaluation and selection process.

The criteria selected for use in the assessment include the following:

- Consistency
- Inherent Bias
- Fairness/Equity
- Comprehensiveness

These criteria are applied primarily to PGE's implementation of the evaluation and selection process as well as PGE's ability to adhere to the requirements outlined in the RFP document and described in the bidding procedures.

A more detailed description of the criteria and questions/issues which are addressed in the process are discussed below:

## **1. Consistency**

This criterion focuses on whether or not PGE followed the intent and procedures outlined in the key documents (i.e. RFP, evaluation procedures, etc.) in a consistent manner. Consistency applies to both price and non-price issues. The key questions associated with consistency include:

- Did the bid evaluation team maintain consistent scoring and evaluation among projects?
- Does the price evaluation system allow for consistent evaluation of bids of different sizes, in-service dates, and length of contract?
- Are bids with different characteristics treated the same?

## **2. Bias**

The issue of bias in the evaluation process reflects any inherent preference on the part of evaluators toward a specific project or type of technology, and any aspects of the evaluation process which may prejudice subjective evaluation (i.e. knowing the price score of bids before completing the non-price evaluation). The issue of bias is particularly important since PGE has proposed a utility ownership option, Port Westward.

Also important from the perspective of bias entering a subjective non-price evaluation are the steps or processes followed to eliminate potential bias. Attempting to create objective non-price criteria is one solution for minimizing potential bias. Merrimack Energy's assessment of potential bias in the evaluation and selection process will focus on the following issues:

- Was there evidence of any bias regarding the evaluation of the Port Westward project?
- Did the bid evaluation criteria and evaluation process contain any undue bias that may influence project selection results?
- Did any inherent bias exist toward any type of project in the evaluation process?
- Did the evaluation process itself address the potential for bias?
- What approaches were taken by PGE's Project Management Team to minimize bias (i.e. prevent the release of pricing analysis information/results to non-price team members; conduct detailed scrutiny/auditing of all project scoring

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categories; and ensure that points awarded by one evaluator do not unduly influence points awarded by another evaluator)

### **3. Fairness/Equity**

The issues of fairness and equity in project evaluation and selection addresses whether or not all projects are treated and evaluated the same and within the specified parameters outlined in the RFP. Issues associated with the fairness/equity criteria include:

- Was the process implemented to ensure that no bidder/project type had an inherent competitive advantage?
- Did the evaluation system serve to guarantee that all projects were fairly and equitably treated?
- Did all bidders have access to the same information?
- Did the price evaluation process ensure that all bids were treated fairly?

### **4. Comprehensiveness**

The last criterion, comprehensiveness, involves two factors. First, the RFP process must ensure that all relevant information was provided to perform a thorough evaluation. In that regard, it is important that the evaluation criteria and information requested are linked and that detailed information is provided. A second consideration is the level of documentation developed to support decisions. This criterion is important since the objective of bidders is to provide information that places the project in the best possible light. In many cases, there could be fatal flaws or serious project shortcomings that may never be determined unless a comprehensive evaluation occurs. The ability of the utility to undertake such an evaluation is necessary to ensure that viable projects are selected. Issues to be considered within this category include the following:

- Was the RFP clear and concise to ensure that the information required by PGE to conduct its evaluation was provided by project sponsors?
- What steps did PGE take, if any, to ensure that adequate information was provided?
- Did the evaluation system guarantee that the best projects were selected?
- Did the scoring system result in a thorough investigation of all projects by PGE's project team?

The evaluation of the performance of PGE's Project Team with regard to the criteria identified above is addressed in Section VI.

#### **IV. Description of PGE's RFP Process**

This section of the report provides an overall description of PGE's solicitation process, identifies the major components of the RFP, and describes the role of the self-build (Port Westward) option.

##### **A. Background to the RFP Process**

Portland General Electric issued its RFP for Power Supply Resources on June 18, 2003. Based on the conclusions reached in PGE's Integrated Resource Plan (August 2002) and an IRP Supplement (February 2003), the RFP indicated a need for up to 600 MW/h of energy power products beginning October 2006 and 400 MW of Capacity power products beginning December 2005. The RFP also identified a broad range of both acceptable capacity and energy products, which are listed below.

##### **Energy Products**

Baseload Tolling Service  
Firm Physical Energy Purchase  
Firm Financial Energy Purchase  
Firm Shaped Energy Purchase

##### **Capacity Products**

Peak Tolling  
Daily Physical Capacity  
Daily Financial Capacity  
Daily Exchange  
Short-Term Exchange  
Seasonal Exchange

PGE also indicated that bids for ownership positions in generating facilities, energy and capacity purchase agreements, and tolling arrangements would be eligible, and included a description of each of the options listed above in the RFP. Finally, PGE stated that the results of the RFP will be compared with the economics of developing a self-build one or two unit combined cycle facility at its Port Westward site. Responses were due on July 23, 2003. PGE stated a goal of identifying the short list by August 2003, and acknowledgment of its IRP and Action Plan from the OPUC by October 21, 2003.

Prior to issuing the RFP, PGE conducted several workshops for bidders and other interested parties and also posted draft copies of the RFP on its website. The information provided during the workshop included a description of the products requested, the bid evaluation criteria and selection process, and the schedule. Also, questions received from bidders and PGE's responses were posted on the Company's RFP website. PGE also sent email blasts to all registered bidders as needed to announce any updates to the web page.

PGE maintained broad eligibility standards in its' RFP. Eligible bidders included all potential suppliers of capacity and energy, including conventional fossil fuel options and renewable resources. Capacity, energy and ownership options could be provided from existing resources, expansion of existing facilities, or from new Greenfield options. The RFP also specified the minimum term and size of the bid for each product as well as the preferred contract size and term.

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To facilitate the different types of options allowable, the RFP contained term sheets for the four energy, six capacity, and Ownership options, as noted above. In addition, the RFP contained separate Power Purchase Agreements for Firm Physical Power, Physical Capacity, Capacity Exchange, Tolling Agreement, and Firm Financial Energy and Capacity Purchase. With regard to a tolling option, bidders could elect to have PGE provide fuel transportation or the bidder could elect to provide the transportation.

The RFP also indicated that bidders may submit bids that differ from the term sheets in the allocation of risks between the Bidder and PGE, provided the risks assigned to each party are clearly identified in the bid.

The RFP document contained directions to the bidders (including the proposed schedule), several Appendices including details on the information required from the bidders (i.e. Appendices Q and R, Required Bid Information), and several model Power Purchase and Sale Agreements. Thus, the bidder could reflect the required terms of PGE in its proposal. The information required of the bidders is linked to the evaluation criteria specified in the RFP document.

In addition, the Request for Proposal document describes the objectives of the RFP, issues of importance/preferences to PGE (i.e. preferred point of delivery for products is PGE's service territory), the guidelines for submitting proposals and other information for bidders, the bid evaluation process, and pre-qualification and evaluation criteria.

The RFP provided details regarding the pre-qualification requirements. These included minimum bid quantity, minimum bid term, credit and bidder qualifications, commercial in-service date, viability of technology, suitability of and control of site and fuel supply access.

The RFP also specified the weightings used for price factors (60%) and non-price factors (40%) and the specific criteria of importance in each category. PGE indicated in the RFP that bidders would be competing primarily on price and secondarily on non-price.

With regard to non-price factors, the weights and sub-categories for the five major categories (i.e. Credit Factors, Environmental Factors, Project Development, Project Characteristics, and Product Characteristics) were identified. While the categories generally remained the same, the weightings differed for capacity and energy products, as well as for renewable and thermal options.

For price factors, the RFP stated that prices submitted by the bidders would be subject to adjustment for costs and risks associated with delivering the product to PGE's service territory from other points of delivery and for ancillary services. The RFP clearly identified the point of delivery preferences for bidders' reference. The major non-price categories for energy products and capacity products, along with the weights for each of the major categories are provided below.

**Non-Price Energy Criteria**

|                         |     |
|-------------------------|-----|
| Credit Factors          | 10% |
| Environmental Factors   | 10% |
| Project Development     | 4%  |
| Product Characteristics | 9%  |
| Project Characteristics | 7%  |

**Non-Price Capacity Criteria**

|                         |     |
|-------------------------|-----|
| Credit Factors          | 10% |
| Environmental Factors   | 10% |
| Project Development     | 5%  |
| Product Characteristics | 9%  |
| Project Characteristics | 6%  |

The RFP also identified the sub-categories of importance under each general criteria listed above, but did not identify specific weights or provide details about each sub-criteria. For Credit Factors, the RFP identified the credit considerations that would be included in the evaluation. However, due to the proprietary nature of PGE’s credit evaluation methodology and process, the detailed methodology was not provided.

In general, the evaluation criteria categories and individual criteria are consistent with the majority of competitive bidding processes, which are focused on the following general criteria: (1) project development feasibility criteria to ensure the project can be built to meet the required in-service date; (2) operating characteristics such as operational flexibility, dispatch, etc., and (3) project viability associated with the integrity of the project once the contract begins. Similar to recent RFPs, PGE emphasizes the credit worthiness of the counter-party, as a major non-price evaluation criterion. Such a focus is typical of other recent competitive bidding processes, given the current financial state of the industry and the fragile financial health of many power generators. Finally, environmental factors play an important role in the non-price assessment, accounting for 10% of total points. An update to the damage factor approach described in the Competitive Bidding Guidelines was used in the evaluation process.

**B. Bid Evaluation Process**

This section of the report describes the bid evaluation process in more detail as described in the RFP and responses to questions about the RFP contained on the Company’s website. As noted in both the RFP document and the response to bidders questions, PGE will use a first-price, sealed-bid format. Under this format, Bidders may not update pricing during the scoring and evaluation period. However, bidders who are selected for the short-list will have the opportunity to refresh the price components of their bids during the post-bid negotiation process. PGE will use the first prices provided by Bidders in their Proposals to select a short list of candidates, and then negotiate price and non-price elements during post-bid negotiations.

In general, the bid evaluation process proposed by PGE and illustrated in Figure 2 in the RFP document includes the following stages: (1) Pre-qualification; (2) Price and non-price assessment; (3) Development of a short list (including portfolio assessment); and (4) Initiation of short list negotiations. This process is generally consistent with industry standards. The “closed” evaluation system (as opposed to a totally open, transparent

process), which provides substantial detail about the Company's preferred criteria and weights but does not provide full transparent details about the process, is consistent with industry practices. Such a system provides significant detail about the Company's preferences but allows the Company discretion to implement its methodology (within the ground rules and procedures established in the RFP and bidding rules) consistent with the Company's objectives and interests, including the development of a portfolio of resource options. This type of system is preferred by most utilities since this approach provides significant detail about the process, but does not allow for bidders to self-score or speculate about competitors' bids.

### **1. Pre-Qualification Stage**

As noted, the first step in the evaluation process is the Pre-qualification phase. Bidders have to meet the specified minimum requirements to be eligible for the evaluation phase of the process. The specified minimum requirements include:

#### **(a) Minimum bid quantity requirements**

25 MW/h for non-renewable energy and capacity products and 5 MW/h for renewable energy products;

#### **(b) Minimum bid term requirements**

5 years for energy resources and 2 years for capacity resources;

#### **(c) Commercial in-service date**

Projects being developed must have a reasonable in-service date of no later than January 1, 2008 for energy products and December 1, 2005 for capacity products.

#### **(d) Credit and Bidder Qualifications**

The bidder must demonstrate that it is creditworthy or would provide adequate security in a form and amount acceptable to PGE in order to obtain credit approval.

#### **(e) Technology**

Bidders shall use commercially available technology.

#### **(f) Suitability of Site**

The bidder must identify the project site location and provide satisfactory evidence that the site is not otherwise committed and is available for the full term of the proposed bid.

**(g) Fuel Supply Access**

The bidder must demonstrate physical and commercial access to fuel supplies and fuel transportation for the term of the contract proposed in its bid.

**2. Price and Non-Price Assessment**

The second phase of the evaluation and selection process is the price and non-price stage. Bids that pass the pre-qualification evaluation are eligible for this phase of the evaluation. As noted, the RFP document identifies the important non-price criteria by major category as well as the evaluation criteria within each major category. The major non-price categories listed include (1) Credit factors; (2) Environmental factors; (3) Project Development factors; (4) Product Characteristics and (5) Project Characteristics.

While the specific weights were only provided for the major categories, the listing of the sub-criteria in each category and the discussion within each category in the body of the RFP illustrate the factors of importance to PGE. For example, the RFP document describes the importance of Point-of-Delivery (POD) as an important price and non-price factor and the RFP describes how such a factor will be considered and evaluated, as well as discussing PGE's long-term transmission rights. On the non-price side, the RFP identifies the preferred points-of-delivery by level of importance and also indicates that the costs associated with delivering power from a proposed point-of-delivery to PGE's service area will be included in the assessment.

On the price side, PGE indicates that the prices proposed by the bidder will be adjusted to account for important price factors to ensure all bids are evaluated on a comparable basis. In addition to the prices bid in the proposal, the following factors are taken into consideration in the price evaluation process:

- Additional costs and risks associated with delivering product to PGE's service territory from PODs other than PGE's service territory. Bidders are required to identify the POD for any bid, and will be responsible for all transmission arrangements and costs to the specified POD. These costs include those of any required interconnection and transmission service.
- Ancillary services, if not included in product pricing
- Cost of fixing fuel prices
- Variability of output by time-of-day or season
- Quality and firmness of energy and capacity
- Any other factors necessary to ensure bids are evaluated on a comparable basis

PGE also indicated it may require performance assurance in support of the Bidder's obligations. PGE retains the right to adjust the bid price to include the cost of performance assurance if the bidder does not provide an adequate amount.

For renewable bids, PGE will coordinate the selection process for renewables with The Energy Trust of Oregon (ETO) and base final selection on the net price of renewable bids after accounting for any subsidies.

### **3. Development of Short List**

Based on the combined results from the price and non-price assessment of the best bids, PGE will develop an initial short-list of bids for comparison with the Port Westward option. Short-listed bidders will have the opportunity to refresh their price bids. The bids selected for the short list, along with Port Westward, will be further evaluated through a portfolio evaluation process.

### **4. Post-Bid Negotiations**

In this phase of the evaluation process, PGE intends to initiate negotiations with a short list of bidders whose proposals rank highest in the evaluation process, offer value to PGE's portfolio, offers value to customers, and have a reasonable likelihood of being executed. PGE intends to negotiate price and non-price elements during the post-bid negotiations. A number of factors are likely to be considered in the post-bid process to ensure an appropriate fit with the energy and capacity portfolio. These include concentrations of risk and contract terms, firmness of delivery, fuel risk exposure and leverage effects.

### **C. The Role of the Self-Bid Port Westward Option**

As previously noted, PGE indicated that the results of the RFP would be compared against the economics of building a one or two-unit combined-cycle plant at the Port Westward site. PGE indicated it would score the cost estimates for the Port Westward option using the RFP scoring methodology and compare the results to the short-listed candidates from the RFP. PGE agreed to provide OPUC staff with the cost estimates for the one and two-unit options for Port Westward, before other bids were due. PGE also agreed to provide information on Port Westward consistent with the information required of other bids in the RFP (i.e. Appendix R – Required Bid Information).

In the RFP document, PGE provided details about the Port Westward project including the type of equipment, size options for the one and two unit configurations, estimated heat rates, overnight capital costs, pipeline interconnection and transmission location.

PGE indicated in the RFP that it will have the opportunity to refresh cost information for the Port Westward options during the period when short-listed third parties are allowed to refresh their bids. Project information values may change as plant configuration is

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finalized. PGE will score the most recent cost estimates for Port Westward upon selection of the short-list and share the results with OPUC staff. The Independent Observer will be required to confirm that Port Westward options have been scored using the same criteria used for RFP bids and that the scoring criteria have been applied consistently between Port Westward and comparable RFP bids.

## **V. PGE's Implementation of the Competitive Bidding Process**

This section of the report describes the implementation of the solicitation process from shortly before receipt of bids through the negotiation process. This timeframe coincides with Merrimack Energy's involvement in the process as Independent Observer, and covers the time period from early July, 2003 through the completion of the report.

### **A. Role of Merrimack Energy and Access to Information**

Before describing the activities undertaken by PGE in implementing the solicitation process, it is important to identify Merrimack Energy's involvement in the process and the activities undertaken by Merrimack Energy as Independent Observer. Consultants from Merrimack Energy were on-site a significant portion of the time during the initial price and non-price stages of the process. Consultants from Merrimack Energy regularly participated in project team meetings, weekly status meetings, and also conducted a number of individual meetings with project team members regarding the non-price and price evaluation activities. Merrimack Energy's Project Manager also attended several contract negotiation sessions with bidders during this stage of the solicitation process.

The major activities performed by Merrimack Energy during the solicitation process include the following:

- Reviewed and commented on the evaluation criteria and evaluation process
- Reviewed and commented on the pre-qualification criteria and evaluation
- Conducted a thorough review of a large sample of bids (approximately 50%) from a non-price factor perspective (including Port Westward) and participated in the evaluation of bids in conjunction with the PGE Evaluation Team
- Reviewed the price evaluation of all bids and requested summary information about analysis inputs and resulting output from PGE team members responsible for the price evaluation
- Reviewed and commented on all quantitative tools used in the evaluation
- Participated in a number of team meetings on technical and policy issues (including weekly team meetings) and provided comments based on our experiences with other competitive bidding processes
- Observed negotiation sessions with several bidders and communicated regularly with PGE staff involved in the contract negotiation process throughout the process.

In addition, PGE provided Merrimack Energy consultants with access to their internal RFP shared drive, which included RFP files associated with the bid evaluation process.

This included the documentation for the scoring of each bid from a price and non-price perspective, the back-up modeling analysis, supporting documentation, schedules for contract negotiations, and other documentation associated with the various stages of the bid evaluation and selection process. This allowed Merrimack Energy to continually monitor the evaluation process, whether on-site or at Merrimack Energy's offices. In addition, Merrimack Energy's project team was provided a workstation on-site during the evaluation process, and access to all files associated with the project.

Throughout the process, Consultants from Merrimack Energy provided questions and suggestions to project team members and PGE project management. PGE was very cooperative in responding to these requests and at no time did we feel that requested information was not being shared or that our questions or opinions were not well received or accepted.

In the role of Independent Observer, Merrimack Energy reviewed the evaluation criteria developed by PGE, read a large sample of the bids received, reviewed the evaluation of those bids by PGE project team members, reviewed the modeling results and participated in key policy meetings and bid evaluation sessions. Merrimack Energy's focus was on ensuring the evaluation process produced fair and consistent results with no undue biases that could influence bid selection. Merrimack Energy also requested information from PGE project team members, provided comments/suggestions as required, and challenged results if necessary to ensure the evaluation process produced fair and consistent results.

## **B. Bid Evaluation Methodology**

The bid evaluation methodology and models used by PGE are generally consistent with the bid evaluation methodologies used by many large utilities, as will be discussed in this section of the report. Similar to PGE's approach, most competitive bidding processes generally include a multi-stage evaluation process which includes pre-qualification or threshold requirements, price and non-price analysis, detailed evaluation and portfolio assessment, and contract negotiations.

In the design of a competitive bidding process, utilities have to decide initially on the role between pre-qualification/threshold criteria and non-price assessment. Utilities usually balance pre-qualification and threshold criteria to ensure bidders conform to a number of minimum requirements. Some utilities will include fairly stringent threshold criteria but then place less emphasis on non-price criteria. Price then becomes the key factor in selecting proposals. In other cases, utilities will utilize less stringent threshold criteria but include more detailed non-price criteria. The combination of lenient thresholds and more stringent non-monetary criteria then serve as the basis for ensuring that viable bids are selected.

PGE has selected a process that combines pre-qualification, non-price and price criteria into a multi-stage process designed to ensure that viable bids are included in the final selection process. PGE's pre-qualification criteria are not stringent but are designed to ensure that bidders can meet the in-service date requirements of PGE. Such an approach

should encourage a larger number of bids, including bids from less mature projects, since the pre-qualification criteria required by PGE are not onerous.

With regard to the role of price and non-price criteria, it has become common in the electric power industry that the price of power is ultimately the primary criteria for selecting the preferred projects or portfolio of projects. In fact, utilities have not only attempted to quantify as many factors as possible (including non-price) but have focused more on developing portfolios of resources designed to achieve the lowest total system cost. While some of the early competitive bidding processes selected the preferred projects based on total price and non-price scores, with each having an equal weight, it is now common to use such a process only to select a short list, with price the ultimate selection criteria. This is the basic approach used by PGE in this solicitation process.

The pricing methodologies used by utilities have also changed over time. Initially, utilities published their avoided costs and compared proposals against avoided costs. Busbar cost analysis has also been used to evaluate bids of similar type and characteristics as a price-screening tool. While this type of analysis is applicable for screening or comparing proposals with similar characteristics, the results of the analysis can be biased if the characteristics of bids differ significantly.

A form of a screening analysis that is applicable for evaluating similar proposals but with different terms and contract start dates is real levelized cost analysis. Such a methodology can be easily applied using spreadsheets and is very applicable for comparing proposals individually against one another in a price screen assessment.

While real levelized cost analysis is valuable for screening purposes, it is limited for more detailed system cost analysis. As a result, utilities generally use multiple methodologies and models in undertaking the pricing analysis in a competitive bidding process. In many cases, the modeling approaches used to develop the utility's integrated resource plan are also applied in the competitive bidding process to ensure consistency in the evaluation and resource selection process.

PGE has applied several different methodologies for undertaking the analysis of bids. For the initial price/non-price analysis, PGE has used a spreadsheet model that encompasses several modules (i.e. Inputs and Assumptions, Fixed Cost Shaping, Depreciation, Revenue Requirements calculation, Cost Details for each bid, Dispatch, Energy Output, and Daily Price Profile) to allow for assessment of ownership options and forward contracts. The pricing analysis is based on comparing the real levelized cost of each bid to one another and allocating price points based on a pre-established formula. This methodology combines the details of traditional utility revenue requirements analysis with plant dispatch parameters and detailed financial assessment to allow for a consistent assessment of each bid. In this analysis, PGE includes the real levelized cost of each bid based on the bid price formula submitted and also includes a gas volatility adder, ancillary service costs (i.e. reserves), Transmission costs and losses, a price adjustment to account for transmission constraints to normalize proposals back to the PGE system, and any applicable taxes. PGE evaluated each proposal over a 30-year time horizon,

consistent with the life of project ownership options. For bids less than 30 years, PGE added in or back-filled the remaining years with its forecast of market prices.

For the portfolio analysis, PGE has used two different models to provide a perspective on the value of the portfolios. The first model is the Transition Cost Model (TCM), which has been used by PGE in developing its Integrated Resource Plan. The TCM model is a financial model that simulates PGE's portfolio of resources and the dispatch of those resources to meet retail load requirements. The model balances energy and capacity over the long-term (until 2022). The model estimates the annual ongoing value of PGE's resources (plants and long-term contracts), and calculates the expected cost of serving customers on a Net Present Value of Revenue Requirements basis. The model uses a monthly dispatch logic, which differs from the daily dispatch logic (with peak and off-peak differentiation) used in the financial model noted above. The model computes the annual average energy and capacity requirements of PGE's cost-of-service customers and fills the resource gap (if it exists) with a range of candidate resource plans, notably those resources selected through this RFP process. Any shortage or surplus of energy is balanced using spot prices. In the RFP process, the top scoring bids are combined in different portfolios to fill the estimated resource target.

The model has a number of strengths and several weaknesses. First, the same assumptions are used for all models used in the evaluation process, ensuring consistency of bid evaluation. Second, the model is consistent with the IRP filing, allowing for consistent results in developing the original target resource plan. Third, the model possesses the flexibility to allow for sensitivity analysis of a number of variables. The model is being enhanced to allow for stochastic analysis of key inputs such as fuel price forecasts, which should allow for a more robust assessment. Fourth, the model integrates the cost of different portfolios with rate impacts to allow for a detailed system assessment of the impacts of each portfolio chosen.

The shortcomings of the model include the fact that the model is not an optimization model. The model doesn't select the portfolio that results in lowest system cost but instead relies on the analyst developing and analyzing a number of portfolios to determine the best portfolio. Also, the dispatch detail in the model is based on monthly dispatch levels, not hourly or daily dispatch. As a result, PGE has chosen to use several different models with different strengths to assess the preferred options.

The second portfolio model is an optimization model developed by PGE's Power Operations analysts, which is based on traditional Markowitz modern portfolio theory. The model considers only incremental resources and incorporates both price and non-price factors. The optimization selects the optimal portfolio of proposals from those on the short list that fit a set of constraints (e.g. minimum and maximum MW amounts) at the lowest price, lowest volatility, and highest combination of non-price attributes that fills the pool of energy and capacity needs. Thus, the volatility of the portfolio is valued and the trade-off between expected cost, potential cost variation (volatility) and an index of the remaining non-price factors represents an important output of this model.

PGE uses both of the models described above for making resource selection decisions.

### **C. Implementation of the Solicitation Process**

This section of the report will describe the activities/actions undertaken by PGE to complete the bid evaluation process. In addition, this section will address the key procedures and policies followed by PGE Project Management in carrying out the solicitation process. The discussion provided below will follow the evaluation process outlined regarding the key stages of the evaluation process from pre-receipt of bid activities to contract negotiations.

#### **1. Pre-Receipt Activities**

As noted above, Merrimack Energy was retained in early July, 2003 to serve as Independent Observer, prior to receipt of the bids. Merrimack initially met with the PGE project management and project team on July 9-11, 2003 to kick-off the assignment. The purposes of the initial meetings included the following:

- Review the status of the solicitation process to date
- Discuss the evaluation criteria and scoring system for both price and non-price categories
- Review the proposed evaluation and selection process
- Discuss the threshold criteria
- Discuss the role of the Port Westward project and the process for evaluating the project
- Observe the internal workshops run by members of the Project Team Management to train members of the project team in the evaluation of bids and use of the evaluation criteria

PGE had taken several important steps to prepare for the receipt of bids on July 23, 2003 and the subsequent evaluation of the bids, including the following:

- Developed RFP Scoring Procedures, which described PGE's internal process for receiving, scoring, and evaluating bids received through the Request for Proposals for energy and capacity products. The document describes the bid evaluation process, evaluation and scoring procedures, schedule, scoring factors, and identified the bid evaluation team. Merrimack Energy views this document as being a very important document to define the process clearly and is consistent with the Procedures Manuals used by other utilities in undertaking competitive bidding processes.

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- Importantly, PGE had developed detailed bid evaluation Scorecards for capacity and energy bids to guide the evaluators in evaluating bids. The detailed evaluation Scorecards included the scoring system for each criterion, methodologies for distribution of points, and the basis for allocating points within each category for non-price and price points.
- PGE developed an algorithm for allocating price points (600 points maximum) based on a pre-established range of expected costs for the bids. PGE was responsive to a slight change in the methodology suggested by Merrimack Energy and included a condition in its methodology to revise the pre-established scale if any bids were outside the range. Since determining a reasonable methodology for converting prices to points (for comparison with non-price scores) is a challenge for any competitive bidding process, PGE's adjustment to revise the methodology if bids are outside the range is a positive step for eliminating or minimizing bias.
- PGE Project Team Management conducted three training sessions for members of the project evaluation team. PGE Project Team Management also conducted an initial workshop with project team members to describe the evaluation and scoring system, the goals of the process to ensure that the scoring of the bids was consistent, the pre-qualifications process, and the procedures for posting sample bid scorecards and documenting results.
- Computerized all forms and Scorecards for purposes of electronically documenting the evaluation of all bids.
- PGE Project Team Management also created two sample bids as test bids based on the information required in Appendix R of the RFP and used those bids as a means of testing the evaluation criteria and evaluation system. In other RFPs, Merrimack has found such a process to be extremely valuable in identifying any inconsistencies within the scoring system and evaluation criteria prior to receipt of bids.
- Based on the results of the test bid process, review of the evaluation criteria, comments from Merrimack Energy and comments from members of the project team, several changes were made to the evaluation criteria.
- Established the Bid Evaluation Team and defined the responsibilities of the team members. Team members were classified into four functions: Technical, Contractual, Credit, and Process. The Bid Evaluation Team members were organized from the following areas within the Company: Credit, Legal, Resource Strategy, Environment, Financial Analysis, Power Operations, PSES, Transmission and Rates.
- Established the procedures for receiving and organizing bids when received.

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- Established the weighting of individual criteria and the associated scoring based on a Delphi-type approach with input from a number of individuals. Thus, the weights for the individual criteria were not randomly determined. The process for selecting the evaluation criteria, developing the scoring system and allocating points was iterative in nature and took nearly one month to complete.
- PGE established a process for cross-checking and auditing results from the evaluation to ensure that errors could be identified and addressed. This included at least two members of the project team scoring the sections of the bids they were responsible for. PGE project management also instituted an audit function to check the scores and evaluation process after the scoring was initially completed. Both non-price and price analysis would be subject to the same auditing process.
- The Company completed the information requirements for the Port Westward project consistent with Appendix R of the RFP and submitted it to the Commission prior to receipt of other bids, as proposed.

The training process and development of the procedures and evaluation and selection process undertaken by PGE prior to bid receipt was a very important step for ensuring the bidding process was conducted fairly and bids were consistently evaluated. Merrimack Energy views the procedures undertaken prior to bid receipt as being extremely valuable and necessary for ensuring the evaluation process proceeds smoothly and consistently.

As listed in OPUC's Order, the primary role of Merrimack Energy as Independent Observer at this stage of the process was to review the evaluation criteria to ensure the criteria does not bias the evaluation toward Company ownership options. In undertaking this assessment, Merrimack Energy reviewed and assessed the evaluation criteria from two perspectives:

- 1) Compare the criteria utilized by PGE relative to traditional industry standards
- 2) Evaluate the weights attributed to each criteria to ensure that the scoring process is not unduly biased toward a Company Ownership option

Merrimack Energy compared these criteria with the criteria contained in a number of other RFP processes. The major criteria of Project Development, Product Characteristics, Project Characteristics, and Environmental Factors are consistent with other RFPs. Credit factors have been included in other RFPs but the level of importance and the methodology for awarding points is more significant and more detailed in this RFP (although many recent RFPs, including the Hydro-Quebec Call for Tenders, included a focus on credit factors as well). Merrimack Energy does not view the focus on Credit to bias the results in any way since we fully expect that other current and future RFPs will place similar emphasis on credit. As noted, in today's energy market environment, "Credit is King" and should therefore be afforded a high value in the evaluation process.

With regard to the scoring process and weights, in our view there are insignificant biases related to Company equity ownership options. One criterion that is more stringent than typical industry standards and could be deemed to provide a slight bias in favor of an equity ownership is O&M Reliability Characteristics. In our view, this criterion awards points to categories only a utility project is likely to meet. However, we believe that there may only be a 9 to 12 point bias in the scoring (out of a total of 400 non-price points).

This potential bias is offset by several other categories that penalize bids with the characteristics of Company ownership. For example, with regard to contract term PGE prefers bids with terms of 10-20 years as opposed to a 30-year ownership commitment. The difference between the two is equivalent to 4 points. Also, PGE states a preference for smaller projects as opposed to larger commitments. The difference here could be as much as 12 points. Another criteria that penalizes ownership options is the method for compensation for failure of a bid to meet the guaranteed availability factor. Bidders who offered full compensation for replacement power received 20 points, while ownership options received no points. Finally, system sales are preferred relative to unit contracts as a component of the Resource Base Diversity criterion. The differential could be as much as 5 points. Another potential bias, but one typical of most bidding processes, is a preference for projects located in the utility's own service area. Thus, in total, it is our view that any inherent bias is minimal and would likely be negative with regard to a Company ownership or equity option.

Merrimack Energy also reviewed the Pre-Qualification or Threshold Criteria utilized by PGE (see page 18 of this report). In our view, these criteria can be considered lenient pre-qualification threshold criteria, characteristic of criteria in a market with mature projects and proposals. Such criteria should not present undue or costly hurdles to compete and instead should serve to encourage more bids.

In our view, PGE completed a number of very important steps prior to receipt of the bids designed to ensure that the evaluation process would be completed in a thorough and equitable manner. Bid evaluators were well prepared prior to receipt of bids and the evaluation criteria were known and tested. As noted, in our view, the bid evaluation criteria did not contain undue biases supporting company ownership in projects and actually the criteria may have even been slightly biased against such an option.

## **2. Receipt of Bids**

All bids were due on July 23, 2003. All bids were date stamped upon arrival. The level of response to the RFP was significant, with over 100 proposals submitted from approximately 43 bidders. Total capacity bid exceeded 14,000 MW, including multiple bids from the same projects.

Bids were initially classified into three categories: (1) Capacity products; (2) Energy products, and (3) Ownership options. PGE received a total of 13 Capacity bids, 66 Energy bids (including 27 tolling options), and 26 Ownership bids. These bids

represented a variety of technologies and fuel types, including conventional gas-fired combined cycle projects, wind, biomass, geothermal projects, coal options, system sales, and others. While natural gas-fired projects dominated with over 50% of the total proposals submitted, a number of renewable bids were also submitted, including 27 wind bids, five biomass, and four geothermal bids. In addition, the bids included energy tolling options (primarily gas) and forward contracts.

PGE organized the bids and developed a database to list and classify the bids. During the bid review and evaluation process, a few bids classified in one category were reclassified into another category (e.g. from capacity to energy or vice versa) upon more detailed review. PGE maintained the database or list of bids by reference number (i.e. E-001 to represent the first energy bid). The list also included the name of the bidder, product, type of fuel, bid amount in Megawatts and point of delivery. This document served as the reference guide throughout the process and as the means for classifying bids.

In our view, the response to the RFP was extraordinary and exceeded responses to recent RFPs. The significant response by a diverse range of bidders and project types illustrates a view that bidders felt the process was fair and reasonable and they would have an adequate opportunity to compete. It is also likely that bidders were familiar with the RFP through the workshops and previous draft versions, which allowed them to complete their proposals on time even though the response time from issuance of the RFP was relatively short.

All bids were kept in a secure office in a section of the Company's building, which was not occupied and kept locked when not in use. Proposal Evaluation Team Members who wanted to review and evaluate the bids had to do so in the office in which the bids were stored or sign out the bids for review at their own work-station.

### **3. Pre-Qualification Stage**

After the bids were classified and organized, bids were then evaluated with regard to their consistency to the pre-qualification criteria. A Consultant from Merrimack Energy was present during this stage of the evaluation and reviewed the results of PGE's evaluation. PGE initially rejected two capacity bids, seven energy bids and six ownership bids. Reasons for bid rejection included failure of the bidder to state it could meet the required in-service date clearly required in the RFP, failure to provide reasonable information in Appendix R to even allow for a cursory evaluation, and lack of an identified site or demonstration of control over a site. In many cases, bids were rejected for multiple reasons. Several bidders actually included a commercial operation date beyond the required commercial operation date specified in the Pre-Qualification criteria.

Merrimack Energy reviewed PGE's evaluation and also reviewed the bids relative to the established criteria and agreed with PGE's assessment in all cases but one. PGE and Merrimack Energy then discussed the basis for disqualification for one bid and PGE decided to retain the bid in question.

The evaluation process followed by PGE in this stage (and in other stages of the evaluation) included at least two members of the project team with responsibility for evaluating each bid. This ensured redundancy in the evaluation process and served as a “check and balance” to ensure all bids were fairly and consistently evaluated. Members of the Proposal Evaluation Team presented the results to Senior Project Management, who made the final determination regarding the status of each bid.

#### **4. Non-Price Assessment**

The next step in the process was the assessment of bids relative to the non-price criteria. As noted, PGE maintained its objective of ensuring redundancy in bid evaluation by requiring multiple reviewers for each bid. However, the credit evaluation and environmental evaluation were initially undertaken on a separate track from the other three non-price categories, with staff members from the Credit and Environmental areas within PGE responsible for conducting the evaluation.

To undertake the non-price assessment, PGE prepared detailed scoring forms which included the range of points awarded for each non-price category, a further description of how such points would be allocated within the category, a weighting system for awarding points, and a description of the basis for awarding the points to the particular project. Each project eligible for this stage of the evaluation was designated a project scorecard for purposes of completing and documenting the scores for each non-price category.

PGE developed separate evaluation criteria for Energy and Capacity bids and also included separate criteria for different types of technologies/projects. For example, the fuel supply/energy criterion was technology specific. In other words, the criterion was designed to recognize the unique characteristics of a wind project relative to a gas-fired combined cycle. This approach led to a consistent evaluation among projects of the same type and technology and did not bias one type of project over another based on force-fitting the individual project to general criteria. Also, Ownership options were largely evaluated using the Energy evaluation criteria.

It is also noteworthy that PGE revised the criteria slightly during the initial stages of the bid evaluation process. These revisions included clarifications to the characteristics of the criteria, further explanation of the information the criterion was designed to capture, and a more detailed description of the process for awarding points. After the revisions were completed, PGE did reevaluate bids previously completed to ensure they were consistently evaluated. In Merrimack Energy’s view, these adjustments proved to be warranted and served to ensure evaluators consistently applied the criteria to the evaluation of each bid.

Merrimack Energy’s role as Independent Observer required an evaluation of whether the scoring criteria were applied in a fair and unbiased manner during the bid evaluation process. To undertake this assessment, Merrimack Energy read the appropriate sections of the bids and reviewed the evaluation of the bids conducted by PGE relative to the criteria established by PGE. Due to the large number of bids, Merrimack Energy agreed

to conduct this analysis based on a sample of bids. The solution agreed upon for sample selection was that Merrimack Energy would evaluate at least 50% of the bids and also review and evaluate in more detail the top three or four bids in each category. Rather than separate the bids into the three categories chosen by PGE (i.e. Energy, Capacity, Ownership), Merrimack Energy separated the bids into five categories (Capacity, Conventional Energy, Renewable Energy, Conventional Ownership, and Renewable Ownership). This approach was designed to conform to the skill sets on Merrimack Energy's project team in which one consultant was responsible for all renewable bids while others focused on the remaining categories.

To complement its Project Evaluation Team, PGE retained consultants experienced in renewable resource assessments to ensure that the level of output proposed for the renewable options conformed to the availability of the energy supply. PGE retained consultants to analyze the wind, biomass, and geothermal bids individually. These consultants assisted in providing input into the bid evaluation process and ensured that these bids were evaluated in a comprehensive manner.

In addition, PGE conducted an internal audit of the scoring of each bid to ensure all bids were fairly evaluated and the final results were consistent. Based on this process, every point was thoroughly scrutinized.

During this phase of the evaluation, Merrimack Energy's consultants met with PGE Project Team members to discuss the evaluations of each bid, and resolve any issues where Merrimack Energy's and PGE's scoring and evaluations differed. In cases where PGE conducted more detailed quantitative assessments (i.e. calculation of liquidated damage exposure), PGE provided backup analysis to support the scoring, when requested by Merrimack Energy. In this stage of the evaluation, Merrimack Energy viewed its role as "challenging the results of the analysis". The meetings to discuss the evaluation and the backup support to justify scoring involved a thorough review and assessment of each bid. Based on this review and assessment, the results of the final non-price evaluation were confirmed.

At the end of the non-price process, the results of PGE's and Merrimack Energy's evaluations were generally in agreement. The ranking of bids evaluated by PGE and Merrimack Energy, therefore, illustrated a consistency in the evaluation process. The result was that the non-price rankings compiled by PGE and Merrimack Energy were similar, with the top five bids virtually the same. Interestingly, the largest differences in scores were generally for those bids with the lowest non-price scores.

Merrimack Energy also conducted an independent and thorough evaluation of the Port Westward project utilizing the evaluation criteria established. The results of Merrimack Energy's assessment were then compared to PGE's internal evaluation. Merrimack Energy actually scored the Port Westward project slightly higher than PGE on a non-price basis, but the scores were very similar.

## **5. Price Assessment**

The price evaluation was originally expected to begin shortly after initiation of the non-price evaluation. However, the pricing analysis proved to be more time consuming and complex than originally expected. It has been Merrimack Energy's experience that the price analysis generally takes more time and effort than expected due to the differences in the proposed pricing mechanisms bid, incomplete data, and follow-up requirements with bidders to ensure the analyst is properly interpreting the pricing formula. In the final analysis, it is important to ensure that all bids are evaluated using consistent information. Based on the information provided by bidders, it was necessary for PGE to seek clarification of the pricing formulas for a number of bidders.

In designing the RFP, PGE elected to use a more flexible pricing structure that provided bidders with the opportunity to be creative in their bids. While a less structured process generally encourages more bids and more creative options, as noted, such a process can be time consuming to ensure all proposals are fairly evaluated on the same basis. PGE did submit follow-up questions to a number of bidders seeking to clarify their bids or soliciting additional information about the content of and the intent of their bid.

For conducting the pricing analysis, PGE used two modeling approaches, one for the capacity bids and a different approach for the energy and ownership bids. The model used for the energy and ownership options was largely based on a utility revenue requirements analysis, with separate modules to address daily dispatch, financial and economic assumptions, depreciation considerations, etc. All bids were evaluated separately during this stage of the evaluation. To ensure consistency, PGE evaluated all bids over a 30-year timeframe consistent with the life of the ownership options and developed a real levelized cost for each of the bids for comparative purposes. Real levelized cost analysis (i.e. the initial cost which when escalated by inflation generates the same net present value as the bids projected cost stream) is commonly used for screening bids. While PGE ultimately generates a real levelized cost for comparison purposes, the model used to evaluate the bids includes substantial detail regarding estimated dispatch, financial considerations, fuel cost projections, and transmission costs.

Merrimack Energy reviewed the model during this stage of the evaluation and discussed the operations of the model with PGE analysts on several occasions both before the analysis was undertaken and during the bid evaluation process.

As noted, the price analysis reflected a number of different price components, including the proposed capacity price, O&M costs, fuel costs, transmission costs, gas transportation costs, ancillary services (reserves), gas volatility adjustment, and transmission congestion impacts. The analysis generated a real levelized cost for each project. This cost was then inputted into the pricing algorithm mentioned previously to generate a price score. The algorithm was originally based on a pre-established price range where a bid with a real levelized cost of \$30 would get the maximum 600 points and a bid with a real levelized cost of \$65 would receive 0 points. Based on discussions between PGE and Merrimack

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Energy, conditions were added into the establishment of the algorithm to reflect a different outcome if costs were higher or lower than the range estimated above.

For capacity bids, PGE used its Spread Option Model to assess the option value of the capacity bids, consistent with option pricing theory. This is reasonable since capacity products are generally considered options on energy to meet peak requirements.

During the price evaluation process several issues had to be addressed which proved to be time consuming and required additional analysis. These include:

- 1) Development of the gas price forecast for purposes of assessing gas-fired project bids and tolling arrangements.
- 2) A determination of the electric transmission costs for each project to ensure all costs associated with delivering the power to PGE's service area are accounted for. This was necessary to place all projects on an equal footing and ensure all costs are included in distinguishing bids.
- 3) A calculation of the gas transportation costs associated with each gas-fired generation project.
- 4) Estimation of a gas price uncertainty adjustment to account for the volatility risk associated with gas relative to the relatively fixed cost stream associated with projects such as renewable resources.
- 5) Integration with the Energy Trust of Oregon (ETO) regarding Renewable options subject to ETO funding

Each of these issues and the process for resolving each is described below.

### ***Gas Price Forecast***

The gas price forecast is an important component of any power market analysis given the large number of gas projects proposed and the fact that gas-fired generation is the marginal source of generation in a number of regions. In addition, the fundamental forecasts of traditional forecasting groups have come under scrutiny due to the belief by proponents of renewable resources and some policy makers that these forecasts tend to understate gas prices and therefore are biased in supporting gas-fired projects. Since renewable resources are typically sold under fixed-price contracts, these proponents contend that renewable resources provide real economic benefits when compared against projects relying on volatile natural gas prices. To place resources on an equal footing, they contend that utilities should compare the cost of a fixed-price renewable resource to the hedged cost of natural gas-fired generation, rather than using just a fundamental forecast.

It is argued that due to the volatility in the gas market, actual long-term forward natural gas prices better reflect market volatility. While the volatility of gas prices can be managed through hedging instruments, the cost of using such instruments needs to be accounted for in the price forecast. Forward gas prices generally build in the cost of managing such risk into their bids, while fundamental forecasts may not. Thus, reliance on fundamental forecasts may understate the real cost of gas. Unfortunately, securing long-term market quotes can be a challenge in today's gas market due to the decrease in the number of marketers active in the market and the lack of long-term contracts. While broker quotes can be used, they are generally short-term in nature and do not reflect long-term market perceptions.

There are several options for developing a long-term gas price forecast for liquid points at which gas can be sourced, including actual quotes, combination of the NYMEX strip (with basis) and fundamental forecasts, or use of an average of several fundamental forecasts. PGE used a composite approach comprised of a forecast of gas prices based on actual bids received from gas suppliers combined with a fundamental market price forecast prepared by the Northwest Power & Conservation Council (NWPPCC), for years after which reliable market quotes were no longer available. The forecast of gas prices for the first six years of the forecast term (2004 to 2009) was based on the average of actual bids received from a reasonable sample size of bidders. As noted in its response to questions from bidders, PGE indicated it intended to issue a Request for Information for long-term gas contracts from gas suppliers as input into the scoring of bids. PGE issued an RFP for long-term gas supplies to 40 potential bidders to coincide with the RFP for power supplies and received eight proposals for gas supply for physical and financial products for up to a 10-year term. PGE reflected the pricing of such bids in the development of the forward price for natural gas. The NWPPCC forecast was spliced in beginning in 2010 and continued through the remaining term of the analysis.

One issue with the methodology is that the market information illustrates a projection of gas prices that are higher than the fundamental forecast. Thus, when the fundamental forecast is used beginning in 2010, gas prices decline from the previous year. However, Merrimack Energy believes this approach is preferable to the use of a fundamental forecast throughout the forecast period, since the actual view of the market contained in the bids is a better representation of the market in the near term. Furthermore, the decline in price beginning in 2010 can be justified by the expected increase in gas supply during this timeframe from the development of McKenzie Delta and possibly Alaskan gas, which are expected to penetrate the market. As discussed below, PGE includes an adder to the fundamental forecast beginning in 2010 to reflect gas price uncertainty. Finally, if the trend in gas prices from the RFP responses is compared with the fundamental forecast, the two forecasts converge within 4 to 5 years.

In conclusion, we feel this approach is reasonable and does not bias the analysis in favor of gas-fired generation projects. The reliance on bid data reflects the risk expected by gas suppliers, which is embedded in their price proposal. The use of the fundamental analysis with an adder reflects the value of uncertainty in the market and the cost to hedge such uncertainty.

*Electric Transmission Costs*

The most complex aspect of the evaluation process involved the determination of the appropriate transmission costs associated with each project. This problem was exacerbated by the accuracy of bidders' responses regarding access to transmission capacity and an identification of who would bear such costs. As a result, PGE undertook a very detailed assessment of the transmission options for each project and developed estimated transmission costs associated with each project. This effort involved several weeks of detailed research and a number of meetings among members of the project team to develop a set of assumptions that could be utilized for modeling purposes.

In the RFP, PGE indicated that Point-of-Delivery (POD) was both a price and non-price factor. PGE indicated that the cost associated with delivering power from the proposed POD to PGE's service territory would be included in the price analysis. To equitably compare bids, PGE had to account for the cost of delivering power to PGE from proposed delivery points outside the service territory.

PGE's primary objective was to capture the cost of buying transmission service, including ancillary services, from the transmission suppliers between the POD and PGE's system, and to recognize congestion across pathways where there is little transmission capacity. For every bid offering delivery to locations other than PGE's service territory, PGE identified the transmission systems in the path between the POD and the service territory and noted the published transmission rates from the transmission owner's OASIS. All components of the rates were accounted for, including a loss factor, scheduling charge, and reactive charges. The cost of reserves was based on BPA's rate as a proxy.

Many bids also required transmission across cutplanes with known constraints. Some bidders have existing firm service across those pathways and can guarantee delivery, while others were in varying stages of the process for securing such service, from talking to transmission owners, submitting a request to get into the queue, relying on PGE to provide service or identifying options for transmission expansion that included a number of uncertainties regarding the likelihood such expansions would occur. PGE recognized that pricing of congestion would be complex.

PGE's methodology recognized that no congestion management costs would occur for bids that deliver energy and capacity directly to PGE's service territory or to a POD where PGE can obtain long-term firm transmission from the POD to its service territory. There is a congestion management cost for bids that deliver energy and capacity products to PODs where PGE cannot obtain long-term firm transmission service to its service territory.

PGE assumed that when no firm contract was in place, service would be firm for only part of the year, and that the existing constraint would lead to curtailments or unavailability of service during times of high usage. To guarantee delivery to PGE's

service territory during those times, PGE assumed a supplier or PGE could sell the contracted power from a winning bidder to buyers on the upstream side of the constraint, and buy a substitute supply from the downstream side of the constraint. The transaction would increase the costs because the constraint would result in the market for power to be less valuable on one side, and more valuable on the other side of the constraint. The cost of transmission service for the transaction would also be included.

According to a response to a question from Peter West of ETO about congestion management, PGE indicated it uses the following approach to quantify the cost to “firm-up” non-firm transmission. “First, PGE estimates the number of hours it will be unable to purchase firm transmission from BPA between the bidders POD and PGE’s service territory. PGE will liquidate all the energy and capacity products delivered during these hours at Mid-C, and repurchase an equivalent amount of energy and capacity products at COB. PGE then uses the AC Intertie to deliver the products purchased at COB to John Day for redelivery to Portland. During the hours when PGE can purchase firm transmission from BPA between the bidders POD and PGE’s service territory, PGE assumes the bidders energy and capacity products can be moved from the POD to PGE’s service territory at BPA tariff rates. The congestion management fee is therefore the sum of the product of liquidation/re-supply costs and losses on the AC Intertie during the hours when firm transmission is not available (spread over all hours of the year), and the demand charges for securing firm south to north transportation on the AC Intertie. Service from John Day is included in the annual fixed fee of buying transmission from Mid-C, and is not an incremental charge.

In Merrimack Energy’s view, the level of research and analysis involved and the scrutiny afforded this information by Project Management at PGE resulted in a comprehensive and fair methodology for assessing transmission costs and congestion associated with each project. In completing this assessment, PGE identified the Point-of-Delivery for each project, and calculated the existing transmission costs (i.e. demand charges, losses, and reserve charges) for the firm transmission rates for each path to deliver the power to PGE. PGE also calculated the congestion costs associated with each project, if applicable. PGE did not attempt to estimate the cost of constructing new transmission facilities to deliver the power in case of constraints. In our view, based on involvement in a number of meetings to discuss the approach for determining the transmission costs for this stage of the evaluation process, the Company’s approach was fair and equitable and should not bias projects that have to secure incremental transmission capacity.

As a result, the transmission assessment resulted in detailed transmission cost estimates for each project, which is accounted for in the quantitative analysis of each bid.

### ***Gas Transportation Costs***

Another major cost item that Merrimack Energy was initially concerned about to ensure a consistent and equitable evaluation was the gas transportation component of the bids. In a number of proposals, bidders didn’t clearly specify the gas transportation path to their proposed facility, the status of their transportation arrangements or the costs of the

transportation options to access gas supply. This was particularly the case where the bidder proposed a tolling option, and assumed PGE would provide the service.

To address this issue, PGE developed a survey form and sent the survey to all bidders of gas-fired projects to solicit information necessary to ensure a common basis of information regarding the gas transportation costs of each bid. This included confirmation of all transportation related costs, including pipeline charges, any additional laterals costs, and local distribution company (LDC) charges, if applicable. The survey also requested information on delivery and receipt points, quantities of gas required, transportation contract terms, and any applicable taxes.

One of the issues associated with gas transportation costs and pipeline capacity availability is the consistency in the evaluation process between the gas procurement strategy for Port Westward and other projects, notably the proposals with tolling arrangements using the same or similar pipeline transportation options as Port Westward. For the Port Westward option, PGE has developed its gas transportation strategy including a reallocation of some of the capacity used by the Beaver plant to minimize the cost of gas transportation. While other projects with specific gas transportation options may have already secured gas transportation agreements, tolling options are at the discretion of PGE. In these cases, PGE assumed the same strategy proposed for Port Westward in the cost of the tolling options that would be supplied through the Williams Pipeline. Based on our assessment, it appears that PGE has treated all applicable tolling options with access to the same pipeline capacity the same as Port Westward, thus eliminating any biases or inconsistencies in the process. Our review of the pricing analysis for each of the bids shows no inherently lower gas transportation costs for Port Westward relative to other projects.

### ***Gas Price Uncertainty Adjustment***

Another adjustment included in the analysis was a determination of a gas price uncertainty adjustment or adder. In the RFP, PGE indicated that prices submitted by bidders would be subject to an adjustment to account for the cost of fixing fuel prices. One issue of concern is the difference between the market or forward price of gas and the fundamental gas forecast. As noted in the discussion of the development of the gas price forecast above, PGE used the market price forecast for the first six years of the analysis period and then the fundamental forecast beginning in 2010.

PGE considered a number of ways to analyze the value of the gas price uncertainty adjustment. Pertinent to this assessment is whether the adder chosen should totally eliminate price volatility or hedge a portion of volatility risk. Totally eliminating price volatility is costly and is probably not reflective of reasonable market results. PGE chose an approach designed to eliminate some of the volatility, with the value of the adder based on an “at the money” call option valuation. PGE utilized actual market quotes based on its involvement in the market to determine this value and applied the value in the price analysis of the bids received.

***Integration with the Energy Trust of Oregon***

ETO is providing \$6 to \$9 million in funding to support renewable projects for this RFP. The timing and level of integration between PGE and ETO is important for selecting the final portfolio of projects. PGE and ETO agreed to collaborate in selecting renewable energy projects. PGE provided the renewable energy bids selected for the short-list to ETO for review and evaluation. While Merrimack Energy was not involved in this process, it is our understanding that ETO and PGE agreed on the ranking of the bids selected for funding purposes.

**6. Combination of Price and Non-Price Scores**

The next step in the process is the combination of price and non-price scores for each of the eligible proposals. Prior to completing the scoring, the PGE Project Team audited the scoring for each of the proposals from a price and non-price perspective to ensure all bids were consistently evaluated. In completing the scoring of the bids, PGE contested the scores of all proposals to the degree that all points awarded were reviewed in detail.

Once the scores were finalized, PGE's Project Management compiled the scores of all the eligible bids. For the energy and ownership bids, the scores were ranked by range (i.e. 600 to 650 points, 550 to 600 points, etc) and by bid type. The following categories were included in the analysis:

- Biomass
- Energy Purchases/Baseload Tolling/Contracts of greater than 10 years
- Energy Purchases/Baseload Tolling/Contracts of 5 to 10 years
- Ownership/Gas-fired generation
- Exchanges
- Coal/Contracts of 5 to 10 year
- System Sale
- Geothermal
- Wind

Merrimack Energy reviewed all price and non-price scores (in conjunction with our own analysis) to determine the reasonableness of the scores and determine whether any potential biases existed. There were several observations resulting from this analysis.

1. There does not appear to be a bias between energy bids and ownership options. Several proposals contained bids for both ownership options and forward contracts. Therefore, these projects offered an example of whether inherent biases existed in support of either ownership options or contracts. The results of our analysis did not illustrate the presence of any undue bias. Of the five projects with ownership and contract options, contracts scored higher in three cases, one was virtually

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identical, and the ownership option was higher in one case. In four of five cases, the contract option scored higher from a pricing perspective than the ownership option. Thus, there did not appear to be a bias toward ownership options.

2. Another issue was whether or not the original allocation of points was maintained in the final evaluation. Merrimack Energy was concerned about this issue because in another RFP process in which we served as Independent Evaluator where the utility established a price range to allocate points, the result was that with the exception of only a handful of projects, non-price points ended up being more dominant than price points in the ranking process. This violated the original intention of the scoring process to weight price more highly than non-price. This result was contrary to the original point allocation and would have potentially violated the objective of the scoring system. In PGE's case, the original price to non-price ratio appeared to apply in the final evaluation. Thus, the final allocation and distribution of points, based on the original allocation and final assessment, was not an issue in this RFP.
3. Merrimack Energy undertook a detailed review of several proposals that were located in the same general area as Port Westward to determine if there were any undue biases favoring Port Westward in the process. After review of the pricing of each of the proposals, we could not find any evaluation biases or errors in the process, which favored Port Westward relative to other proposals.
4. The Port Westward project was one the highest ranked projects from both a price and non-price perspective. As part of its due diligence analysis, Merrimack Energy undertook an evaluation of the reasons for project scoring, particularly related to price. Based on our review and assessment, the primary reasons for the favorable pricing for Port Westward are attributed to the transmission cost advantage enjoyed by the project and others either in PGE's service area or easily accessible and the implications of the Washington State fuel tax, which negatively affected projects located in Washington State.

In conclusion, the price and non-price scoring undertaken by PGE was thorough and comprehensive and illustrated a wide variation of scores with no inherent biases toward any one type of project, technology or contract option.

### **7. Selection of a Short List**

Based on the combined price and non-price scores, PGE identified a short-list for energy and capacity bids consisting of 12 energy bids and 5 capacity bids, with 11 distinct counterparties. The bids selected represent twice the target level of generation capacity

required. The expanded short-list consists of a variety of proposals including short-term purchases, several renewable energy projects, system sales, financial and physical tolling arrangements, and an ownership option. Many of the short-listed bids are in the 50 to 150 MW range. Also, these short-list candidates offer a diversity of term durations with some bids in the 5 to 10 year range and a few bids in the 10 to 20 year plus range. These projects will be evaluated along with the Port Westward options.

PGE decided to develop a short-list pool for energy that is roughly double the stated need. PGE's objective in selecting such a robust short-list is to maintain the competitive nature of the RFP throughout short-list negotiations and to ensure that the short-list selections are robust enough to absorb potential bid fall-out and provide adequate diversity for portfolio evaluation.

The significant diversity of options that were selected for the short-list based on their ranking using price and non-price scoring criteria illustrates that the process was fair and equitable and should not have been unduly biased toward or against any one type of project or technology, contract term, or contract structure. Furthermore, as previously noted, there does not appear to be any bias favoring ownership options.

PGE conducted portfolio analysis based on the short-listed bidders to assess the cost, volatility, and other factors associated with the portfolios of resource options. As noted, PGE intended to utilize two quantitative models and a non-quantitative assessment of the potential portfolio of bids. The primary analysis was undertaken using the Transition Cost model. PGE tested 23 portfolios using various combinations of bids. The results illustrated that the portfolios with two units of Port Westward outperformed other portfolios on an expected cost basis, with the same or less volatility than other portfolios.

## **8. Contract Negotiations**

The contract negotiation phase commenced after determination of the short list. The activities associated with contract negotiations and proposal revisions allowed in the RFP are addressed in this section of the report. This includes an assessment of the contract negotiation process through the issuance of this report. At the time of submission of this report, three contracts have been finalized, totaling 150 MW.

Order No. 03-387 required that an Independent Observer be retained to review the evaluation and selection process. The Order provided the Independent Observer with the discretion to observe and review the process by which PGE evaluates and negotiates the short-list proposals to confirm that the process was not inappropriately biased in favor of an equity investment by PGE. Merrimack Energy believed it was appropriate as the Independent Observer to continue that role through the negotiation process. The basis for this decision was that it is possible in the negotiation process for the terms of the deal to change, with the potential of shifting undue risk to the utility's customers if the utility negotiators are not focused on maintaining a balance of such risk. Furthermore, it was our

view that the presence of the Independent Observer would ensure that the bidders and the utility negotiated in good faith since the Independent Observer could raise issues about the negotiation process.

Since there were a large number of bidders on the short-list and it was not feasible to attend or participate in every negotiation session, Merrimack Energy took a more cursory approach toward monitoring the negotiation process. This included attending several of the early negotiating sessions where the commercial terms and contract issues were initially raised, frequent discussions with PGE staff regarding the status of the process, and requests for review of final drafts of contracts.

At the time of submission of this final report, final contracts have not been completed. Since contract discussions are on-going, an assessment of the contract negotiation process must ensure that competitive intelligence is not divulged which could negatively affect the negotiation process. Thus, the assessment may be general in several areas to avoid affecting the negotiation process.

During the early part of the negotiations phase of the process two issues emerged with regard to the Port Westward project. First, PGE proposed an alternative configuration for the Port Westward project. PGE's original project was based on F-class generation technology. During the bid refreshment process, PGE also proposed a 400 MW option using the latest combined-cycle technology based on G-class technology. On December 19, 2003, PGE sent a letter to short-listed bidders indicating its intention to consider this proposed option and the reasons for the update. PGE noted in the letter that short-listed bidders may refresh their bids, including the prospective technology, during the negotiation process.

In Merrimack Energy's view, this option is consistent with the provisions of the RFP. PGE notified all short-listed bidders of its decision to allow bidders to reflect this option in its pricing or technology selection. Merrimack Energy encouraged PGE to prepare an Appendix R for the G-class option and provide this document to the OPUC, consistent with the requirement outlined in the RFP, which required PGE to provide information in the same format as that required for the RFP bids.

Second, during the initial due diligence evaluation of ownership options, PGE's project team included members of the Power Supply and Engineering Services (PSES) group to conduct engineering due diligence. However, PSES was also responsible for preparing the information for the Port Westward project. In addition, the members of PSES who conducted due diligence also had access to the RFP project files, which could be deemed to contain a potential bias or unfairly advantage the Company's project in the evaluation process.

Merrimack Energy inquired about the role of the staff who conducted due diligence and provided suggestions regarding access to future information. PGE RFP Project Team Management indicated that the PSES staff involved in due diligence were not part of group management but were staff level analysts. Furthermore, these analysts did not have

any role or input into the price or non-price evaluation of any bid and therefore were not in a position to influence the scoring of any project. To avoid any possibility of bias or unfairness, Merrimack Energy recommended that members of PSES involved in the Port Westward project be disallowed access to the RFP shared drive before the negotiation process commenced and refreshed bids were provided. PGE notified Merrimack Energy that access to the shared drive had been terminated for PSES staff. Thus, it is our view that as a result of the actions taken by PGE, the potential for bias has been minimized.

PGE's negotiation process can best be classified as a competitive negotiation process. As stated in the RFP, PGE indicated an intent to initiate negotiations with a short list of bidders whose proposals rank highest in the evaluation process and whose proposed transaction offers value to PGE's energy and capacity portfolio for customers, and have a reasonable likelihood of being executed. PGE indicated it intends to negotiate price and non-price elements during the post-bid negotiations.

PGE indicated in the RFP and associated model contracts that it was seeking firm power with liquidated damages provisions that allowed PGE to be made whole economically should the bidder fail to deliver the power contracted. PGE restated this objective to bidders at the beginning of the negotiation discussions.

Since the list of bidders with whom negotiations would occur can exceed the energy and capacity required, PGE stated in the RFP that selection of the short-list and initiation of negotiations should not constitute a winning bid. Thus, PGE reserved the right to negotiate with several bidders and to structure a contract that provides the best value within its overall portfolio. PGE stated that a number of factors would be considered to ensure an appropriate fit with the overall energy and capacity portfolio. These included concentrations of risk and contract terms, firmness of delivery, fuel risk exposure, and leverage effects.

The formal negotiation process began in early November, 2003, shortly after compilation of the short-list. Since PGE provided bidders with model power purchase contracts and required bidders to include any proposed revisions to the contract as part of their response package to this RFP, review of the proposed changes to the contracts served as a first step in the contract negotiations process.

PGE compiled a detailed list of key contract provisions and identified the Company's preferred position on such provisions as Liquidated Damages, Force Majeure, Cross Default Provisions, Security, Guaranteed Availability, Scheduling, etc. The PGE negotiations team then summarized the positions of the short-listed bidders with regard to each provision as a basis of identifying similarities and differences. While PGE indicated it intended to evaluate the proposed revisions, the RFP stated that the Company was under no obligation to accept any revisions or adopt any changes. Changes proposed by bidders, however, served as the basis for initial negotiations.

Prior to initiating negotiations, PGE developed a detailed staffing and implementation plan to guide the negotiation process. The overriding goal of the negotiation process was

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to increase value and reduce costs for customers and shareholders through negotiations. The staffing and implementation plan proposed a team approach that included key staffing and leadership responsibilities from both Power Supply – Operations (Trading Floor) and Customer Resource Planning and Development, as well as critical support roles for other groups from across the Company as required. The duties of Power Operations and Customer Resource Strategy and Development, as responsible entities, were bifurcated during the negotiation process. Negotiations for wholesale power supply contracts will be led by the Power Operations commercial staff, while negotiations for ownership bids as well as process and project management functions and certain due diligence activities will be led by the Customer Resource Planning and Development team.

During the negotiation process, bidders were requested on three occasions to refresh their bids. The first occurred shortly after selection of the short-list, consistent with the intent of the RFP. PGE also allowed bidders the opportunity to refresh their bids after PGE informed bidders of its intention to consider a G-class technology option during the bid refreshment stage. Finally, PGE submitted a request to bidders on March 22, 2004 asking for refreshed pricing from all short-list bidders based on their current short-list product offering and structure as defined by recent negotiations. These final prices would then be used to make decisions with regard to the bids that PGE intended to pursue toward contract execution. During the lengthy negotiation process power prices varied, necessitating the requirement to solicit revisions to contract pricing.

The negotiation process was initiated at a time when a number of outside factors were influencing the process. Unfortunately, these factors served to delay resolution of key provisions and led to a protracted negotiation process. These included the Enron bankruptcy and pending sale of PGE, the volatility in power and gas prices, and the uncertainty over continuation of the production tax credit for wind projects.

The negotiation process consisted of exchange of contracts and related documents, telephone conversations, and face-to-face meetings. PGE's process involved negotiations of the commercial terms of the deal first, followed by negotiations regarding credit issues, and finally negotiations of the legal terms. Merrimack Energy believes this is a sound approach since resolution of commercial and credit provisions should be the most important provisions to resolve, with the legal terms predicated on agreement by the counter-parties on the commercial and credit provisions.

As noted, Merrimack Energy's Project Manager attended several contract negotiation sessions and communicated regularly with PGE management to obtain updates of the contract negotiation process. While we were not involved in all negotiation sessions, our observations based on the sessions attended, frequent discussions with PGE negotiation team management, and review of documents on the shared drive are presented below. A more detailed description of the negotiation process for specific categories of bids will follow.

*Summary of Key Observations*

- Counter-credit and security issues proved to be the primary stumbling blocks for the delay in the negotiation process. Credit assurances and security requested by both the buyer and seller proved to be of major importance in several contract negotiation processes.
- PGE followed its strategy of attempting to improve contract value through creative initiatives and approaches in several contracts, particularly the short-term arrangements. The competitive negotiation process allowed PGE the opportunity to analyze a number of product options and risk sharing opportunities and incorporate such value into the contracts.
- The competitive negotiations process proved to be a time consuming process, exceeding PGE's original schedule. The combination of the large number of bids, many different product options, and the limited resources available to undertake the assessment led to a longer time schedule than envisioned. In our view, even without uncertainty over PGE ownership status and financial position, the contract negotiation process would have taken a considerable amount of time.
- Merrimack Energy found a few sellers to be concerned about PGE's credit quality as a buyer due to the uncertainties associated with PGE's current ownership status. Issues such as the proposed acquisition of PGE, possible municipalization, and Enron bankruptcy led sellers to "proceed with caution" and seek financial protection should PGE default on its obligations to acquire power under the contract. It appeared that the ownership uncertainty and the possible outcome of such a process was more of a stumbling block to negotiations rather than any unreasonable disagreements between the parties.
- Several bidders attempted to "recind" their original acceptance of credit terms required in the RFP and in the power agreements included therein once accepted for the short-list, even though the bidder agreed to such provisions by submitting a proposal. This served to draw out and complicate the process since PGE did initiate discussions and initial negotiations with these bidders.
- PGE has actively pursued contract negotiations with several bidders of renewable resources. Due to the overall competitiveness of the proposals (based on the price and non-price analysis undertaken) and based on the level of interest and effort expended by PGE project management in the negotiation process with renewable project bidders, it is obvious to Merrimack Energy that PGE is committed to contracting for power from renewable projects, particularly wind.
- The renewables bids were challenged by the uncertainty over the extension of the Production Tax Credit for wind at the Federal level and the amount of ETO funds required and available.

- Shorter-term contracts were much easier to negotiate since these contracts were largely based on the EEI Master Agreement. In addition, bidders of shorter-term arrangements proved to be more flexible in offering value in their agreements. On the other hand, bidders of longer term arrangements or projects that required funds for development and construction have been more difficult to negotiate due to the capital commitments required by the bidder and the uncertainty associated with PGE ownership. Some bidders appeared concerned that the contract could possibly be rejected by new ownership after agreement or recinded under certain ownership changes and structures.

As noted above negotiations with bidders of renewable resources have proven to be time consuming and challenging due to several factors. First, the uncertainty over the status of continuation of the federal Production Tax Credit for wind has added a layer of uncertainty since the pricing of such bids assumes expected continuation of the Production Tax Credit. The success of these projects is contingent upon extension of the Production Tax Credit by Congress. A second factor affecting the negotiations of wind bids is the availability and cost of integration service. This service serves to level out the delivery of wind energy by integrating the output of intermittent wind generation with a hydro system to allow for firm deliveries. For example, PGE has had several discussions with Bonneville Power Authority (BPA) whereby would accept deliveries of generation from the wind facility into its system as delivered and return a fixed stream of energy in the future based on the actual level of generation. BPA or other utilities that can offer such services would charge a rate for such service that would be incorporated into the economics of the project. Negotiations over the provisions and price of this service have also delayed the final negotiations for the wind projects. Other issues such as ETO funding, transmission access, and the large capital requirements associated with these projects are all having an impact on the pace and direction of negotiations. However, as noted above, we would expect that PGE would eventually reach contract agreement with a wind project given its commitment to include such a resource in its overall portfolio, provided the above issues can be resolved.

Several of the capacity bids remain outstanding, as well. These deals have evolved as market price has changed. Currently, such prices are consistent with the pricing in the original bids submitted in 2003. The major issues in contract negotiations have included credit terms, margining, bankruptcy/trigger events, and default conditions and remedies.

In conclusion, while the final contracts for the short-list proposals have not been completed, the negotiation process has generally followed the process and procedures outlined in the RFP. For the most part, PGE and the bidders have cooperated effectively to reach agreement on contract pricing and important commercial provisions. However, credit provisions and PGE ownership issues have delayed final negotiations. The length of the process and coordination with the Action Plan has created uncertainty with regard to market opportunities and pricing. While the decision to provide contracts and term-sheets in the RFP is an excellent approach since it allows the bidders the opportunity to reflect the buyers proposed terms in its bid, the large number of bids on the short list, the

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variety of options, and the current uncertainty associated with PGE's ownership status has created significant delay in the completion of the negotiation process. In our view, this process needs to be streamlined for any future competitive bidding processes, in any case even if PGE ownership and other outside issues are resolved.

## **VI. Evaluation of the Solicitation Process**

This section of the report provides an overall assessment of PGE's solicitation process with respect to (1) the consistency of the process to the overall objectives for an effective competitive bidding process; (2) consistency with regulatory policy; and (3) the performance of PGE in carrying out the bid evaluation and selection process. The parameters for this evaluation are presented in Section III of this report.

### **A. Consistency of the Process With Regard to an Effective Competitive Bidding Process**

The objectives of an effective competitive bidding process were described in Section III. The approach undertaken by PGE is analyzed here relative to the key objectives.

#### ***1. The solicitation process should be fair, equitable, comprehensive and unbiased***

The review of PGE's solicitation process undertaken by Merrimack Energy concluded that the evaluation criteria were generally unbiased. Furthermore, it appears based on the type, technology, and size of the bids received and the resulting short-list that the solicitation process encouraged participation from a variety of options and the evaluation process was not unduly biased toward any one type of technology, size or project type. The results illustrate that the process was neutral with regard to technology, size etc. In fact, the evaluation criteria utilized by PGE was clearly designed to address the unique aspects of different technologies by adjusting the criteria to reflect the unique nature of these technologies, such as wind and other renewable resources. It is also clear that all bidders had access to the same level of information through the RFP documents, questions and responses posted on the website, workshops held by PGE, follow-up questions to bidders and follow-up requests for information from bidders. PGE established a point of contact with the bidders, designed to ensure that consistent information was provided.

#### ***2. The solicitation process should ensure that competitive benefits result from the process***

The substantial response to the RFP clearly demonstrates that competitive benefits are likely to result since the process is a truly competitive process. The fairness of the bid documents and processes, as viewed by the bidders, is reflected in the significant response. As noted, over 100 proposals were received from approximately 43 bidders, who provided a range of technologies and products. In fact, we have been involved in only one other RFP process that has generated as many bids. In our view, the close integration between the RFP document, Power Purchase Agreements for individual products, and the Required Bid Information ensured that bidders could reflect market risks in their proposals.

***3. The solicitation process should be designed to encourage broad participation***

Again, the response to the RFP demonstrates the level of interest in the process. The fact that a variety of resources and technology types, different products and contract terms bid is clearly an indication that the process encouraged broad participation and provided no unreasonable restrictions regarding size, type of bidder or project, or contract term. In addition, the lenient threshold or pre-qualification criteria should encourage a number of bids since projects do not necessarily have to be very mature to compete. Also, PGE project management was actively involved in contacting potential bidders, and actively marketed the solicitation process. These efforts were valuable in generating such broad participation and response.

***4. The bidding documents should describe the process and provide adequate information on the bid evaluation and selection process***

This objective deals with the quality of the documents contained in the RFP package (i.e. RFP, power purchase agreement, and Bid Form) and the integration among the documents. PGE's RFP provided considerable details regarding the information required of bidders (Appendix R), the basis for evaluation and selection, and the criteria of importance. The solicitation process clearly provided a direct link between the RFP document, bid package (Appendix R), and the power purchase agreements. PGE's inclusion of different power purchase agreements for different types of products as well as the term sheets for these same products is unique for the industry. In addition, the workshops conducted prior to issuance of the RFP provided valuable information to bidders about the process and the key criteria. The only issue which Merrimack Energy feels could be improved is a more coherent description of the evaluation process, notably the timing for rebidding and the time in the process during which the portfolio assessment will occur. However, we do not feel this impacts the bidding decision or quality of the bid in any way but merely clarifies the stages of the process.

***5. Information required of bidders***

The Required Bid Information form (Appendix R) requires a significant amount of information from the bidders to be included in their proposal. Under PGE's evaluation process, the vast majority of this information is used in the analysis and is consistent with the evaluation criteria developed. The level of information provided ensured that PGE could undertake a consistent and comprehensive analysis of each proposal, and reflect the individual attributes of each proposal in the evaluation. The requirement that bidders complete the Term Sheets for the projects they are proposing also was important to the evaluation process. Generally, the bids submitted easily conformed to the individual term sheets included in the RFP.

***6. Contract risk***

The inclusion of several different types of power contracts based on the types of projects requested aids the bidder in reflecting contract risk in their proposals. Of concern,

however, is whether the final contract provides a balance between the requirements of customers and shareholders after contract negotiations. Merrimack Energy reviewed the terms and provisions of the three contracts signed by PGE and had follow-up questions for PGE on the provisions for one bid in the review of the final contract draft. The power from this project would be provided from an existing facility. Since none of these contracts require financing for project construction, the risks are associated with operations and pricing. Merrimack Energy believes these contracts provide a reasonable balance of risk for the customers and the bidder.

***7. Consistency of the RFP with the unique aspects of PGE's system***

One of the important objectives of any competitive bidding process is that the criteria, products requested, flexibility required, evaluation process, etc. must conform to the unique aspects of the utility's system. As a result, no two processes are ever the same but instead reflect unique system requirements. In PGE's case, the solicitation process is linked to the Integrated Resource Plan, which establishes a benchmark for evaluation. Also, the importance of such issues as transmission access, consideration of project ownership versus energy purchases, the interest in renewable resources as a component of the portfolio, and the other types of products of interest etc. are clearly highlighted in the RFP and the evaluation criteria. PGE's process clearly identified the importance of such issues as project location, term preference, etc. in the criteria included in the RFP documents. In our view, these factors were clearly identified to bidders and the subsequent evaluation process effectively accounted for these factors.

**B. Consistency of the Process With Regard to Regulatory Policy**

The Competitive Bidding Guidelines established in Oregon provide detailed policy guidelines for the development and implementation of a competitive bidding process for investor-owned utilities in Oregon, including identification of the appropriate evaluation criteria. As previously noted, Order No. 03-387 found that PGE's Request for Proposals is in compliance with the Competitive Bidding Guidelines in Oregon established by Order No. 91-1383. In addition to requiring PGE to retain an Independent Observer and initiate other changes in the RFP process, the Order also required PGE to do the following:

1. Submit cost estimates for its Port Westward self-build option before the bids are due.
2. If changes to cost assumptions regarding to Port Westward are made, PGE will submit a "refreshed" estimate when short-listed bidders are allowed to do the same.

Merrimack Energy has reviewed the Commission's guidelines and Orders relative to the approach, procedures, criteria and methodology undertaken by PGE and concurs that the process has been undertaken consistent with Oregon regulatory policy for competitive bidding. In particular, the evaluation criteria are largely consistent with the criteria

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outlined in the guidelines and procedures, as is the methodology for evaluating and selecting resources. Below is a brief summary of the aspects of the RFP that are consistent with Oregon's Competitive Bidding Guidelines:

- PGE utilized a first-price sealed bid format in the bidding process.
- The evaluation criteria, weights, and guidelines generally conformed to the requirements outlined in the Competitive Bidding Guidelines. Any changes reflect recent industry conditions.
- Post bid negotiations would address both price and non-price issues.
- Competitive bidding is linked to the Least Cost Plan.
- The RFP provided sufficient information so that bidders can make an informed decision on whether or not to participate.
- The RFP and contracts identified PGE's policy regarding project security and financial assurance requirements.
- The RFP defined PGE's policy concerning transmission access and wheeling of power.
- PGE and each winning bidder have the option to negotiate the final contract price stream.
- The preliminary screening produced a short-list of projects from which the winning bids will be selected. The utility will then conduct negotiations with selected bidders to finalize energy contracts.

### **C. Performance of PGE in Implementing the Competitive Bidding Process**

As discussed beginning on page 12 of this report, Merrimack Energy is evaluating the performance of PGE relative to the four criteria of consistency, bias, fairness/equity, and comprehensiveness.

#### **1. Consistency**

With regard to consistency, it is our view that the evaluation team maintained consistent scoring and evaluation no matter the type of project or technology. Merrimack Energy was particularly cognizant of the consistency in the awarding of points by PGE team members and closely scrutinized the approaches taken. As noted, the non-price evaluation criteria contained several criteria pertinent to a specific technology and the evaluation process reflected the unique aspects of different technologies. This ensured consistent treatment of different technologies.

All bids were thoroughly scrutinized and all points contested before a final non-price score for each proposal was completed. As a result, in our view the evaluation criteria were consistently applied and the results reflected such a consistent process.

PGE applied its pre-qualification criteria consistently in its decisions to reject several proposals. PGE undertook a detailed assessment of all proposals relative to the pre-qualification requirements and documented results. As noted, several of the proposals rejected were done so based on failure to meet more than one criterion.

Also, the price evaluation methodology allowed for a consistent evaluation by comparing all proposals over a 30-year time horizon and including all costs attributed to each project. In particular, bids were treated the same no matter the bid characteristics, term, or contract type. For shorter-term bids, PGE filled in the remaining term with its projection of the market price of power. This allowed short-term options to be compared against long-term contracts and ownership options. In addition, the same set of assumptions was used for the evaluation of all bids, ensuring consistency of results. PGE included all the cost factors identified in the RFP document in its price evaluation.

From a contract negotiations perspective, all short-listed bidders were afforded the same opportunity to refresh their bids and the bidders were treated the same in proceeding through the process.

## **2. Bias**

As noted, one of the primary requirements of the Independent Observer was to assess whether any undue bias was present in the evaluation criteria. As we described in this report, in our view any inherent bias is minimal and actually favors non-ownership options.

There did not appear to be any inherent bias in the bid evaluation process. As an Independent Observer, Merrimack Energy was obviously concerned whether there were any inherent biases associated with the evaluation of the Port Westward project. We undertook a thorough assessment of the evaluation of Port Westward and concluded there was not a bias in the evaluation process toward Port Westward. The project was scored as any other project using the same evaluation criteria in the price and non-price stage of the process. In fact, our own assessment of Port Westward yielded a similar score to PGE and was completed separately from PGE's own evaluation team. Also, PGE submitted cost estimates for the Port Westward option as well as the same information required of bidders in Appendix R to the OPUC prior to the submission of other proposals.

In addition, we did not feel there was any undue bias associated with the use of the Company's market price forecast for years beyond the contract term to place all bids on the same time horizon. This issue has been a typical issue in other RFP processes. PGE used a combined cycle proxy with a reduction in heat rate over time to account for expected improvements in technology as the basis for its long-term power price forecast. PGE assumes that no additional transmission costs (i.e. cutplane costs) are associated

with this proxy. Since this would result in a conservative market price forecast, there may be a slight bias favoring shorter-term proposals. However, there is no such bias favoring ownership options.

In addition, to assess whether any bias existed favoring long-term options, Merrimack Energy undertook an analysis of the real levelized cost of several proposals using a consistent base of information. Merrimack Energy calculated the real levelized cost of the project's price stream over the 30 year time horizon used in the analysis and over the actual term of the proposed contract. The real levelized costs for these two streams were similar, with no indication of any bias toward short or long-term resources.

The potential for undue bias is generally a concern with regard to complicated price evaluation processes. Concern over potential bias regarding different project sizes, terms, and type of technologies is generally an issue. However, we do not believe that undue bias exists in this process. The results of the short-list illustrate that a number of different types of projects scored well, with no inherent consistent pattern by technology type, size or term.

PGE also took several steps in the evaluation process to minimize or eliminate any bias in the evaluation. First, the project team members responsible for the non-price analysis and the pricing analysis were different individuals. Second, PGE conducted a separate audit function for the results of the price and non-price evaluation to ensure the evaluation was consistent and unbiased. Third, the members of the evaluation team (price and non-price) did not contain any individuals responsible for the development of the Port Westward project proposal.

Potential for bias in the negotiation process providing a possible competitive advantage in the revised pricing phase was minimized by PGE through the elimination of access to the shared drive for PSES staff and the notice to bidders about the G-class technology option. PGE provided bidders the opportunity to refresh their price as a result of the decision to propose a G-class technology option.

### **3. Fairness/Equity**

PGE undertook a process designed to ensure that all bidders had access to the same information for purposes of completing their proposal and that all bidders provided the same information on which they were evaluated. Merrimack Energy undertook a review and assessment of the pre-qualification stage and non-price analysis and obtained a ranking of bids similar to PGE, particularly for the highest scoring projects. In our view, all bids were treated fairly in all stages of the process.

As noted, PGE completed a detailed assessment of the transmission and gas transportation costs for all bids to ensure all projects were equitably treated. In the case of gas transportation, bidders of gas projects were required to complete the same survey to ensure a consistent base of information for evaluation purposes. Furthermore, tolling

options with access to similar transportation options as PGE were evaluated using the same portfolio of transportation options.

In the RFP, all bidders were provided with information on the cost of the Port Westward option as well as the technology. This information provides bidders the opportunity to conduct their own cost assessment of the project as a basis for developing their own bid. All bidders had access to this information.

Members of the Port Westward project team were also prohibited from access the internal RFP shared drive upon selection of the short list, ensuring that no bidder or the Port Westward project team would be able to unfairly gain a competitive advantage for re-pricing purposes.

The resulting short-list provides evidence that bids were fairly and equitably treated given the diversity of project options on the short-list.

With regard to contract negotiations, we saw no signs that any bidder was not treated fairly in the process. PGE conducted negotiations with all bidders on the short-list. In essence, bidders that did not proceed in the negotiation process generally did so based on their own decision.

#### **4. Comprehensiveness**

PGE's evaluation process was a very comprehensive process based on redundant bid evaluation by more than one member of the project team, review and scrutiny of all points awarded, and auditing of the price and non-price evaluation. The RFP document, Power Contracts and Required Bid Information were closely linked. PGE included multiple contracts and Term Sheets in the RFP document, which allowed bidders the opportunity to accurately reflect the contract risk in its proposal.

The comprehensiveness of the process is evidenced by the fact that the evaluation team scrutinized every point and even conducted a final audit of all results.

With regard to the self-build option, it is our view that PGE provided adequate information from which bidders could construct an independent cost analysis in combination with other information about PGE included in the public domain.

The documentation prepared by PGE during each stage of the process to support the decisions and recommendations was very detailed and comprehensive and was readily accessible by Merrimack Energy. This allowed us to monitor the process and review the basis for decisions throughout the process.

While the information requested of bidders was very detailed, all the information requested of the bidder was used in the bid evaluation process. This ensured that a comprehensive assessment of each proposal could be undertaken.

## **VII. Conclusions**

There are a number of conclusions that can be gleaned from the solicitation process. While many are included in the body of this report, the following list summarizes several of the key conclusions:

1. The evaluation process was a very fair and comprehensive process. In our view, the level of effort and diligence exhibited by members of the evaluation team was extraordinary.
2. The response to the RFP was extraordinary and was marked by a wide range of project types, fuel types, different technologies, and contract terms. The short-list selection process also resulted in a range of project types and contract terms.
3. All bids were afforded the same level of scrutiny. All bids were scored thoroughly and with the same level of detail no matter the quality of the bid.
4. All points were contested and verified by both PGE and Merrimack Energy.
5. Minimum biases were present in the evaluation criteria. In our view no undue bias was detected.
6. Merrimack Energy was given access to all RFP files during the solicitation process. This was particularly useful during the price and non-price assessment where access to voluminous information was necessary in a timely manner
7. The level of documentation supporting the evaluation and selection process is significant and is well organized. The basis for scoring and ranking of bids is explained in detail.
8. The results of Merrimack Energy and PGE's evaluation of bids were close particularly with regard to the highest scoring projects. The rankings of bids from the evaluation were very similar.
9. There did not appear to be any inherent biases between ownership and contract options. In fact, for those bids that included both a contract and ownership option for the same project, for most cases the ownership bid scored less than the contract option.
10. The best proposals from a price perspective were also generally the best bids from a non-price perspective as well.
11. Credit and security issues proved to be the most contentious issues during the negotiation process with bidders raising concerns over the uncertainty of PGE's ownership status in requesting symmetrical credit assurance provisions.

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12. The original schedule for completion of the evaluation process proved to be optimistic.
13. The free form price schedules required significant follow-up information requirements of bidders. This served to delay the process. However, rather than conduct the evaluation using available information, PGE decided to collect the necessary information to ensure a consistent and fair evaluation by placing all bids on an equal footing from an information perspective.
14. The large number of bids in the negotiation process has led to a delay in completing the process. Furthermore, the protracted negotiation process created the potential for exposure to uncertain market conditions, affecting both the buyer and seller.

## **Appendix A**

### **Credentials of Merrimack Energy Group, Inc.**

#### **Competitive Bidding Experience**

The Consultants at Merrimack Energy Group, Inc (Merrimack Energy) have extensive experience in assisting utilities with the design of competitive bidding programs, in evaluating the proposals submitted by bidders, and in other related activities. Our experience in this capacity includes:

- Design of traditional supply-side, options, renewable resources, and demand-side programs for both long-term and short-term resources. Our work has included design of the RFP and response package, the evaluation system, and assist with the business and legal aspects of the power contracts.
- Project management on behalf of electric utilities for the review and evaluation of proposals. In this role we have developed evaluation procedures and processes to ensure consistent and effective bid evaluation.
- Independent third-party evaluator overseeing the project evaluation and selection process undertaken by the utility. In this role, we have independently evaluated proposals from a price and non-price perspective and have overseen the selection process in response to regulatory requirements and/or in cases in which the utility or its affiliates was also a bidder.
- Preparation of an independent report or analysis of the solicitation and evaluation process for submission to the state/provincial regulatory commission to ensure a fair and equitable process and to avoid undue litigation regarding the evaluation and selection process.

#### **Type of Services Provided to Utilities Associated With Competitive Bidding**

The Consultants at Merrimack Energy have provided a range of services to electric utilities in the competitive bidding process.

- Supply and Renewable RFP design
- Supply and Renewable bid evaluation
- Options RFP design and bid evaluation
- Demand-Side Management/Interruptible Resources RFP design and evaluation
- Management/organization of the bid evaluation process
- Independent Third-Party to oversee the project evaluation process from both a price and non-price perspective
- Technical support in specific areas

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- Independent modeling of bids received
- Development/use of options pricing models
- Contract terms/design/contract negotiation
- Fuel supply evaluation
- Financial modeling/bid evaluation
- Regulatory assistance associated with a proposal by a utility to construct its own unit
- Integration of the competitive bidding process and the Integrated Resource Plan
- Development of Competitive Bidding Rules/Procedures for State bidding programs
- Development of database applications and evaluation forms to track utility bid evaluation decisions throughout the evaluation process
- Development of a Procedures Manual for defining the solicitation process and the role of company personnel within the process.

### **Clients Consultants at Merrimack Have Assisted in RFP Design and Bid Evaluation**

A sample of the utilities we have assisted in competitive bidding processes is provided below. For several of these, we have been involved in multiple RFP processes.

- Hydro-Quebec Distribution (Conventional Supply, Biomass, and Wind RFPs)
- Portland General Electric Company (Energy and Capacity bids from supply-side and renewable resources; Project acquisition and ownership options)
- Massachusetts Technology Collaborative (Renewable Resources RFP/Price Evaluation)
- BC Hydro (Supply-side resources)
- Central & Southwest Services (All-Source, Wind-only RFPs)
  - Central Power & Light
  - West Texas Utilities
  - Public Service Company of Oklahoma
  - Southwestern Electric Power Company
- Wisconsin Power & Light (Long-term power and tolling agreements)
- Houston Light & Power (Summer season products)
- Carolina Power & Light Company (1996 and 1997 RFPs)
- Duke Power (Long-term and Short-term RFPs)
- Boston Edison Company (RFP #3)
- Hawaiian Electric Company
- Lower Colorado River Authority (Turnkey Contract for Project development at Company site)
- Baltimore Gas and Electric Company
- Commonwealth Edison Company
- Delmarva Power and Light (Long-term and Short-term RFPs)
- General Public Utilities (Options RFP)
- New England Power Company

- Ohio Edison Company
- Korean Electric Power Company

A more detailed description of the types of services provided in each of these RFPs is provided below. In addition to the above competitive bidding assignments, we have worked with a number of gas utilities, electric utilities and power generators on RFPs for gas supply and transportation services, with industrial and commercial customers for retail gas and electric supplies, with Public Utility Commissions and utilities in securing Standard Offer service, and with power marketers in securing power supplies.

### **Role of Independent Evaluator**

We have served as Independent Evaluator or provided an oversight function working with several utilities to ensure the solicitation and evaluation process was undertaken in an equitable, unbiased, and thorough manner, particularly in cases where the utility or an affiliate is allowed to submit a proposal. For several of these processes, we developed the evaluation criteria by which the utility undertaking the call for tenders would be evaluated and submitted a report to the appropriate regulatory commission upon completion of the process. A list of the utility RFPs in which we served the function of Independent Evaluator or provided an oversight function include the following:

- Hydro-Quebec Distribution
- Portland General Electric Company
- BC Hydro
- Central and Southwest Services
- Delmarva Power and Light
- Baltimore Gas and Electric
- Duke Power
- Houston Light & Power
- Commonwealth Edison
- Carolina Power & Light

A description of a representative sample of projects that Mr. Oliver has managed in the competitive bidding arena is provided below.

### **Competitive Bidding Project Experience**

**Hydro-Quebec Distribution:** Merrimack Energy was retained by Hydro-Quebec Distribution to serve as an External Consultant to monitor and participate in the evaluation of bids received in response to a Call for Tenders for 1,200 MW of power. In that role we were responsible for technical assistance and evaluation associated with the price and non-price evaluation of bids. In particular, this assignment involved analyzing the price evaluation models and methodologies and independently verifying the results. Merrimack was also retained to provide assistance in the development of the Call for

Tenders process. Responded to specific questions about the experiences of other utilities in developing an RFP process and conducted supporting research on several key issues.

**Portland General Electric:** Merrimack Energy was retained by Portland General Electric to serve as Independent Observer for its July 2003 Request for Proposals for 600 MW of Energy and 400 MW of Capacity. Responsible for reviewing and evaluating the bid evaluation criteria to ensure no inherent bias existed to favor project ownership relative to power purchases. Reviewed the evaluation and selection process applied by PGE in selecting the preferred projects. Assignment requires that a report be filed with the Oregon Public Utilities Commission at the end of the project.

**Massachusetts Technology Collaborative:** Assisted MTC (Administrator of the Renewable Energy Trust in Massachusetts) in the design and development of an RFP for the purchase of Renewable Energy Certificates (RECs). Also, retained by MTC to conduct the pricing analysis for all the bids received.

**BC Hydro:** Retained by the Independent Reviewer of the 2003 BC Hydro Call for Tenders for power supplies on Vancouver Island to assist in the review and evaluation of the bidding process. Responsible for the technical aspects of the bidding process and evaluation of bids.

**Hawaiian Electric Company:** Conducted a two-day seminar for Hawaiian Electric on the design and development of a solicitation process for wholesale power resources. Completed a detailed report on the applications of competitive bidding for wholesale power supplies in support of the Company's position during the Competition Docket in Hawaii. Report submitted to the Commission as part of the Company filing in the Competition Docket. Retained by Hawaiian Electric to develop the regulatory process and procedures for implementing a competitive solicitation program. Drafted a procedures manual as part of the assignment. Also, retained by Hawaiian Electric to develop a renewable resources RFP for Hawaii.

**Duke Power Company:** Conducted a two-day seminar on the issues and considerations associated with the use of a competitive bidding system for resource acquisition. Assisted in the design and development of both the long-term supply side RFP and the short-term options RFP. Oversaw the evaluation process for both the long-term and options RFPs from issuance of the RFPs to receipt of bids and through to contract negotiations. Evaluated the fuel supply and transportation segments of the proposals submitted in response to the RFPs. Prepared a report on the RFP process for submission to the state regulatory Commission in North Carolina.

**Central and South West Services, Inc (CSW):** Provided input and guidance on the important strategic issues that a utility should address in the formulation of a competitive procurement process. Assisted in the consideration of the components and procedures associated with the development and implementation of the competitive bidding process. Drafted several RFPs for CSW, including a supply-side RFP for new greenfield resources, options RFP for short-term resources, a renewables RFP, DSM RFP, and a

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RFP for Distributed Resources. Worked with CSW staff to develop a flexible resource procurement process based on the use of option pricing theory and flexible contract provisions to minimize market risk for the purchasing utility. Provided testimony to the Texas Public Utilities Commission on the appropriate design and development of competitive bidding processes as part of CSW's resource plan filing.

Also, served as Independent Evaluator (Public Service Company of Oklahoma) or Overseer for the four RFPs issued by CSW's operating companies. In this role, Wayne Oliver served as a resource for questions regarding Company decisions about the implementation of the evaluation and selection process, attended all meetings of the selection team and provided input into the consistency of the evaluation process, served as an arbiter in deciding if a bidder should be included in the next step in the process, attended the bidders conference, prepared questions and attended all meetings with bidders, and participated in contract negotiations. As Independent Evaluator for the Public Service Company of Oklahoma RFP, prepared a report on the evaluation and selection process.

**Delmarva Power and Light Company (now Connectiv):** Served as Independent Third-Party Evaluator for the power supply bids submitted in response to the utility's RFP for power supplies. Delmarva's use of a third-party evaluator was motivated by its proposal to construct a proxy unit if the plant represented the preferred option. Responsibilities included: (1) provided an oversight function for the RFP evaluation and selection process, including the price and non-price aspects of the assessment, (2) reviewed and commented on the quantitative models and model results associated with the price evaluation, (3) participated in all meetings of the project team and conducted independent non-price evaluation of each bid, (4) participated in meetings with bidders and in contract negotiation sessions, (5) reviewed and independently evaluated non-price scores for each project, including 26 project proposals consisting of a number of fuel types, technologies, and sizes.

As Independent Evaluator, developed and submitted a report to the Maryland and Delaware Public Service Commissions evaluating Delmarva's performance in developing and implementing the evaluation, selection and contract negotiations process. The Report was cited by the Maryland Commission as a primary reason for approval of the power contract within six weeks of submission.

Also, assisted Delmarva with the design and development of an RFP for "call" options on resources and other short-term alternatives.

**Baltimore Gas and Electric Company:** Served as an Independent Third-Party Evaluator for Baltimore Gas and Electric's power supply project evaluation process. Prepared a report on the quality, objectivity and fairness of the evaluation process and submitted the report to the Maryland Public Service Commission. Involvement in the RFP process began shortly before release of the RFP and continued through power contract negotiations. Responsibilities included: (1) conducted a thorough review of the RFP documents including threshold criteria, project submission requirements, price evaluation

mechanism (production cost analysis), non-price criteria and evaluation system, evaluation criteria and selection process, and contract negotiation process, (2) developed and submitted several test bids prior to receipt of the actual bids to test the evaluation process, (3) assisted in the development of the evaluation criteria and scoring system and provided input into the development of a database to organize information and to document the evaluation process, (4) conducted an independent evaluation and scoring of all projects and independently verified the pricing analysis of all projects including a review of computer model runs, (5) participated in meetings with short listed bidders and (6) reviewed the contract negotiation documentation with selected bidders.

**Wisconsin Power & Light:** Retained to assist Wisconsin Power & Light with the development of an RFP for power supplies. Also, assisted in the evaluation of the bids received on an as required basis. Bids received included proposals for tolling agreements.

**Commonwealth Edison Company:** Served as project manager for the evaluation of supply-side and demand-side resource bids submitted in response to Commonwealth Edison's RFP for power supplies. Commonwealth Edison was seeking up to 2,400 MW of capacity between 1996-2000. Services provided included: (1) evaluated both the price screening methodology proposed by the Company, (2) developed the evaluation system for purposes of evaluating all projects submitted, (3) reviewed and evaluated all projects bid along with the project evaluation team of the Company, (4) oversaw the process of integrating different types of resources in the development of a least cost integrated resource plan, (5) recommended projects to be included in the final award group, and (6) developed a report describing the evaluation process.

**New England Power Company:** Completed a major study on the development of a project viability methodology for assessing non-utility generation projects. The study resulted in the development of a detailed critical path methodology that identified over 50 elements associated with the development of a power project and the sequencing and timing of the various activities. Completed detailed critical path schedules for five technologies. Also, outlined threshold criteria, potential fatal flaws and non-price criteria for New England Power to include in its RFP for power supplies. The study served as input into the development of New England Power's project evaluation system and was filed with the Massachusetts Department of Public Utilities.

**General Public Utilities:** Critiqued General Public Utilities (GPU) RFP for "call" options on resources, assisted in the development of an option pricing methodology for evaluating call option proposals and other resources, and assisted in the evaluation of the bids received. Developed binomial model to estimate the value of the options proposed and participated as part of the project team in all aspects of bid evaluation and selection decisions.

**Boston Edison Company Integrated Resource Management Process:** Worked with Boston Edison (BECO) to develop supply-side and demand-side RFPs for selection of resources. For both RFPs, developed the evaluation criteria, threshold requirements, response package and the evaluation system to evaluate each project and to develop an

optimal resource plan. Also, developed a process for integrating supply and demand-side resources. Other issues that were introduced in the development of the RFP included buyout and delay provisions for BECO to exercise if the resource need changes in the future, market out provisions to ensure the resulting contract remains competitive, and financial debt rating impact considerations to ensure the resulting contracts did not adversely affect Beco's financial stability.

**Hydro-Quebec:** Conducted a full-day seminar on the evolution of competitive bidding in the United States and the experiences and lessons learned from competitive bidding solicitations. Seminar focused on trends in solicitation design, the evaluation process and structure, the trade-offs between price and non-price criteria, and integrated system versus busbar cost analysis. Also, conducted a detailed evaluation of the RFPs conducted in New York relative to the proposed Hydro-Quebec contract for New York utilities. Provided strategic advice on the structure of project buy-out provisions in the power supply contract. Researched the appropriate value for the buyout price cap.

**Carolina Power and Light Company:** Advised Carolina Power and Light Company with the design and development of two power supply RFPs, which also included call options. Also, assisted in the evaluation of proposals received, including review and evaluation of the fuel supply components of each proposal. Served in an oversight role throughout the RFP process. Finally, we provided input into the contract negotiations process.

**Lower Colorado River Authority:** Reviewed and critiqued Lower Colorado River Authority's (LCRA) draft RFP for peaking and other resource requirements. Advised LCRA on the design of a competitive bidding process for a turnkey option which the Company was interested in developing in conjunction with an independent power project developer.

**Korean Electric Power Company:** Conducted a full day seminar on the design and implementation of a competitive bidding process for power supplies as well as the lessons learned via the implementation of such processes in the US.

### **Other Competitive Bidding Experiences**

**Energy East:** Merrimack Energy was retained by Energy East to serve as overseer for a competitive solicitation process for its gas operations, whereby Energy East sought potential partners for outsourcing of its gas supply procurement and risk management functions.

**Northeast Gas Markets:** Merrimack Energy has been retained by Northeast Gas Markets to conduct a competitive bidding process for securing gas supplies for several gas utilities in the Northeast US.

**Other Related Experiences:** Conducted due diligence assessments and studies for banks and financial institutions considering investment in merchant power projects. Also,

assisted several independent power producers with the submission of proposals into RFPs for power supplies in the late 1980's and early 1990's timeframe. Also, assisted power generation companies with the divestiture of generation assets.

### **Overall Experience of Merrimack Energy**

Merrimack Energy provides energy project origination, project development, consulting services, and related marketing and analytical support to all segments of the domestic and international energy industries. Merrimack Energy has identified energy project opportunities for clients or third-parties at the forefront of market trends and has played an active role in the successful development of these projects. The four Principals of Merrimack Energy have over 75 years of combined experience in the energy industry and have been involved in electric generation, gas storage, electric transmission, gas pipeline projects, LNG and other energy ventures.

Although energy project origination and development has been a main focus of the Company's activities, Merrimack Energy also provides its diverse client base with consulting services in the following areas:

Fuel supply strategy development

Power procurement and contracting

Development and evaluation of competitive bidding processes for power and gas supplies

Asset sales and acquisitions/valuation analysis

- Project feasibility analysis
- Asset optimization strategy development
- Gas and electric contract negotiations
- Outsourcing initiatives
- Energy market analysis
- Strategy development and support
- Economic modeling and forecasting
- Project concept design and implementation
- Project planning and management

