

# **PUBLIC SERVICE COMPANY OF COLORADO**

## **2017 All-Source Solicitation**

### **Semi-Dispatchable Renewable Capacity Resources Request for Proposals**



30 August, 2017

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## Notice of Disclaimer

The information contained in this Request for Proposals ("RFP") for energy and capacity resources has been prepared solely to assist bidders in deciding whether or not to submit a proposal. Public Service Company of Colorado ("Public Service" or "Company") does not represent this information to be comprehensive or to contain all of the information that a respondent may need to consider in order to submit a proposal. None of the Company, its affiliates, or their respective employees, directors, officers, customers, agents and consultants makes, or will be deemed to have made, any current or future representation, promise or warranty, express or implied, as to the accuracy, reliability or completeness of the information contained herein, or in any document or information made available to a respondent, whether or not the aforementioned parties knew or should have known of any errors or omissions, or were responsible for their inclusion in, or omission from, this RFP.

The Company reserves the right to modify, supplement or withdraw this RFP at any time, whether due to changes in law or otherwise, and including by issuing one or more addenda to this RFP during this solicitation, which addenda shall become a part of this RFP. No part of this RFP and no part of any subsequent correspondence by the Company, its affiliates, or their respective employees, directors, officers, customers, agents or consultants shall be taken as providing legal, financial or other advice or as establishing a contract or contractual obligation. Contractual obligations on the part of the Company will arise only if and when definitive agreements have been approved and executed by the appropriate parties having the authority to approve and enter into such agreements. The Company reserves the right to request from a respondent (a.k.a., bidder) information that is not explicitly detailed in this document, obtain clarification from bidders concerning proposals, conduct contract development discussions with selected respondents, conduct discussions with members of the evaluation team and other support resources as described in this RFP and in compliance with all FERC Code of Conduct rules and provide data to and conduct discussions with the Independent Evaluator ("IE") as necessary for the IE to satisfy the IE's role as defined by the Colorado Public Utilities Commission ("CPUC" or "Commission") under rules 3612 and 3613 and Decision No. C17-0316.

The Company will, in its sole discretion and without limitation, evaluate proposals and proceed in the manner the Company deems appropriate, which may include deviation from the Company's expected evaluation process, the waiver of any requirements and the request for additional information. The Company reserves the right to reject any, all or portions of any proposal received for failure to meet any criteria set forth in this RFP or otherwise and to accept proposals other than the lowest cost proposal. The Company also may decline to enter into any agreement with any bidder, terminate negotiations with any bidder or abandon the RFP process in its entirety at any time, for any reason and without notice thereof. Respondents that submit proposals agree to do so without legal recourse against the Company, its affiliates, or their respective employees, directors, officers, customers, agents or consultants for rejection of their proposals or for failure to execute an agreement for any reason. The Company and its affiliates shall not be liable to any respondent or other party in law or equity for any reason whatsoever for any acts or omissions arising out of or in connection with this RFP. Except as otherwise provided in the rules and orders of the Public Utilities Commission of the state of Colorado, by submitting its proposal, each respondent waives any right to challenge any valuation by the Company of its proposal. By submitting its proposal, each respondent waives any right to challenge any determination of the Company to select or reject its proposal. Each respondent, in submitting its proposal, irrevocably agrees and acknowledges that it is making its proposal subject to and in agreement with the terms of this RFP.

Each respondent shall be liable for all of its costs incurred to prepare, submit, respond or negotiate its proposal and any resulting agreement and for any other activity related thereto, and the Company shall not be responsible for any of the respondent's costs.

# **Public Service Company of Colorado 2017 Semi-Dispatchable Renewable Capacity Resources RFP**

## **Section 1. Introduction**

Public Service Company of Colorado ("Public Service" or the "Company"), an operating company subsidiary of Xcel Energy Inc., is issuing this Request for Proposals ("RFP") as a component of Public Service's 2016 Electric Resource Plan. This RFP is one of four RFPs to be issued. These four requests for proposals are:

- 2017 Company Ownership RFP
- 2017 Dispatchable Resources RFP
- 2017 Renewable Resources RFP
- 2017 Semi-Dispatchable Renewable Capacity Resources RFP (this RFP)

Segmenting the Solicitation into these categories is driven by the differing proposal development and contracting requirements for different generation technologies and by the different ownership models. As a result, each RFP contains a model contract(s) or term sheet(s) that has/have been tailored to address certain issues associated with each technology or ownership structure.

Examples of the types of projects which would be applicable to each RFP are shown in Table 1 below. This non-comprehensive list is intended to provide guidance as respondents develop their proposals<sup>1</sup>; more detailed information may be found in the specific RFP documents. Respondents who are uncertain as to which RFP would apply to their project should contact the RFP Project Manager (Section 1.4) for clarification.

**Table 1. Example Resource Types for the Various RFPs**

<b>RFP Document</b>	<b>Resource Types</b>	<b>Commercial Structure</b>
2017 Company Ownership RFP	<ul style="list-style-type: none"> <li>• New or existing simple cycle gas turbines</li> <li>• New or existing wind or solar</li> </ul>	<ul style="list-style-type: none"> <li>• Build-Own Transfer (BOT)</li> <li>• Existing Resource Sale</li> <li>• Company Self-Build</li> </ul>
2017 Dispatchable Resources RFP	<ul style="list-style-type: none"> <li>• Simple cycle gas turbines</li> <li>• Combined cycle gas turbines</li> <li>• Stand-alone storage projects</li> </ul>	<ul style="list-style-type: none"> <li>• PPA</li> </ul>
2017 Semi-Dispatchable Renewable Capacity Resources RFP	<ul style="list-style-type: none"> <li>• Solar thermal with thermal storage or fuel back-up</li> <li>• Any other intermittent resource with storage or fuel backup</li> </ul>	<ul style="list-style-type: none"> <li>• PPA</li> </ul>
2017 Renewable Resources RFP	<ul style="list-style-type: none"> <li>• Wind</li> <li>• Solar without storage or fuel backup</li> <li>• Hydroelectric</li> <li>• Geothermal</li> <li>• Biomass</li> <li>• Recycled Energy</li> </ul>	<ul style="list-style-type: none"> <li>• PPA</li> </ul>

<sup>1</sup> The terms "proposal" and "bid" are used interchangeably in this RFP document.

## **1.1 Regulatory Context**

The CPUC's Resource Planning Rules ("RP Rules") establish a process that jurisdictional electric utilities must follow to determine the need for additional electric resources and to procure needed resources. Public Service filed its 2016 Electric Resource Plan ("ERP") on May 27, 2016 in accordance with the RP Rules ("Phase I"). In its 2016 ERP, Public Service identified a need for future generation resources and presented the Commission with multiple portfolios of generic resources that could be used to meet that need. As part of its 2016 ERP, the Company proposed to solicit proposals through a competitive solicitation ("Phase II"). The CPUC heard arguments by multiple parties concerning Public Service's resource need and acquisition plans. The CPUC approved the issuance of this Solicitation as part of Public Service's 2016 ERP in Decision No. C17-0316.

The RP Rules 3612 and 3613 require that an Independent Evaluator ("IE") conduct a review of Public Service's evaluation of proposals received in response to the Solicitation. The Company will work cooperatively with the IE and shall provide the IE immediate and continuing access to all documents and data reviewed, used, or produced by the utility in this Solicitation and evaluation.

Additionally, the RP Rules require that Public Service: 1) make a communication to bidders concerning bid disclosure and bid model representation dispute resolution; 2) provide the Commission's order or orders specifying the form of nondisclosure agreement; and 3) require of bidders that they provide bidder contact and employment metric information.

### **Commission Required Communications**

#### *Bid Information Disclosure*

Public Service notifies bidders that, upon completion of the competitive acquisition process begun with this RFP,<sup>2</sup> Public Service will post on its website the following information from all bids and utility proposals: bidder name; bid price and utility cost; generation technology type; size of project; contract duration or expected useful life of facility for utility proposals; and whether the proposed purchased power agreement includes an option for the utility to purchase the bid facility during or at the end of the contract term.

In addition Public Service notifies bidders that, pursuant to RP Rule 3614(b), a reasonable number of attorneys and a reasonable number of subject matter experts representing a party to the Company's 2016 ERP docket can, upon the execution of the appropriate non-disclosure agreement, request access to all Phase II information regarded by the Company as highly-confidential. The Company has claimed that bid information of any sort should be treated as highly-confidential, thus any bid information provided to the Company is subject to release to such individuals regardless of a bidder's claim of confidentiality.

#### *Model Representation and Dispute Resolution*

Public Service will, within 45 days of bid receipt, provide notice in writing by electronic mail to the bidder whether its bid is advanced to computer-based modeling to evaluate the cost or the ranking of the bid resource, and, if not advanced, the reasons why Public Service will not further

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<sup>2</sup> Completion of the resource acquisition process is defined as the execution of all PPAs and/or completion of asset purchase negotiations and certificate of public convenience and necessity approvals, if any, for the solicited resources.

evaluate the bid using computer-based modeling<sup>3</sup>. With its notice Public Service will also provide bidders the modeling inputs and assumptions that reasonably relate to their bid resource or to the transmission of electricity from their proposed facility to Public Service; these inputs and assumptions may include, among other things, costs related to transmission interconnection, gas supply, and resource integration. Public Service will request that the bidder execute a highly confidential nondisclosure agreement prior to receiving the information. The form of the agreement is included as Appendix F.

For those bids advanced to computer-based modeling, within seven calendar days after receiving the modeling inputs and assumptions the bidder will notify Public Service in writing by electronic mail the specific details of any potential dispute regarding its bid's modeling inputs and assumptions. The bidder must attempt to resolve any dispute with Public Service. If the bidder and Public Service cannot resolve the dispute within three calendar days, Public Service will immediately notify the Commission with a filing in the 2016 ERP docket. If the bidder is not already a party to the 2016 ERP, the bidder will file a notice of intervention as of right pursuant to paragraph 1401(b) of the Commission's Rules of Practice and Procedure, within one business day of Public Service filing the notice of dispute to the Commission, for the limited purpose of resolving the disputed modeling inputs and assumptions.

An Administrative Law Judge ("ALJ") will expeditiously schedule a technical conference at which Public Service and the bidder shall present their dispute for resolution. The ALJ will enter an interim order determining whether corrections to the bid's modeling inputs and assumptions are necessary. If the ALJ determines that corrections to the bid's modeling inputs and assumptions are necessary, Public Service will, within three business days of the issuance of the ALJ's interim decision, provide the corrected information to both the bidder and the Independent Evaluator. In its 120-Day Bid Evaluation Report, Public Service will confirm, by performing additional modeling as necessary, that the bid resource is fairly and accurately represented.

#### Required Bidder Information

Public Service requires that each bidder in its Form C provide the contact name of the owner or developer designated to receive notice of whether the bid is advanced to computer-based modeling.

Public Service requires that bidders provide employment metric information for the bid to be eligible for this RFP. See the requirements for the Employment Metrics Narrative Topic.

## **1.2 Resource Needs Assessment**

This RFP is part of a Solicitation process whose purpose is to acquire sufficient resources to meet the Company's forecasted electric demand (plus reserves) over the resource acquisition period ("RAP") of 2016-2023. Through this Solicitation, the Company seeks power supply bids that could be utilized to fill a range of resource capacity needs from a low of zero MW per Commission Decision C17-0316 section 45, up to over 1,100 MW which could result from

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<sup>3</sup> See exceptions discussed in Section 5.1, Step 4.



Commission approval of the Colorado Energy Plan Portfolio<sup>4</sup>. Table 2 illustrates the general range and timing of resource need by scenario<sup>5</sup>.

**Table 2. Range of Potential Resource Capacity Need by Year**

Scenario	2017	2018	2019	2020	2021	2022	2023
Zero-Need	0	0	0	0	0	0	0
Updated Demand Forecast (unadjusted)	0	0	0	0	0	0	454
Colorado Energy Plan	0	0	0	0	0	0	779-1,114

The Company may seek to replace some, none, or all of Comanche 2 capacity (e.g., up to 1,114 MW inclusive of the Comanche 2 capacity) through this RFP. It is the Company's expectation that any portion of Comanche 2 capacity not filled in this RFP will be addressed in the 2019 ERP process.

The Company intends to present in the 120-Day report portfolios that meet the range of resource needs identified in Table 2. Ultimately, portfolios presented, the bids selected and the resource need that is filled through this RFP are dependent on the decisions of the CPUC with regard to the Company's 120-day report.

### **1.3 Resources Sought through this RFP**

Through this Semi-Dispatchable Renewable Capacity Resources RFP, the Company seeks proposals from facilities that utilize intermittent eligible energy resources and employ an integral, supplemental technology that serves to lessen the intermittency effects of the energy source. The supplemental technology may allow energy production to be shifted to hours of greater value to the Company and/or may provide generation capacity to the system during peak load periods at a level significantly closer to the nameplate rating of the facility. Examples of eligible technologies include solar with storage or solar thermal with fuel backup/hybridization.

The amount of generation that the Company may acquire from this RFP depends, among other things, on the quality of bids received in response to the Solicitation, on economic comparison to other RFP responses and Company Ownership proposals, on updates to the Company's forecasts, on regional transmission availability, and on changes to regulatory or legal requirements.

<sup>4</sup> The Colorado Energy Plan Portfolio includes the Updated Demand Forecasted need of 454 MW in 2023, as well as addresses the potential for voluntary early retirement of Comanche units 1 and 2, totaling an additional 660 MW.

<sup>5</sup> The Company will review bids for resources that propose to be operational before the Company shows a capacity need in Table 2.

#### **1.4 RFP Project Manager and RFP Website**

The primary point of contact for all communications between the Company and potential bidders is the RFP Project Manager. This individual may be contacted at

**PSCo2017AllSource@xcelenergy.com.**

All communications between potential bidders and the Company must be conducted through this email account. See Section 4.7 for more information.

The Public Service 2017 Solicitation website can be found at

**<http://www.xcelenergy.com/psco2017allsource>**

#### **1.5 Section 123 Resources**

Colorado Revised Statutes (“C.R.S.”) 40-2-123(1)(a) states as follows:

“The commission shall give the fullest possible consideration to the cost-effective implementation of new clean energy and energy-efficient technologies in its consideration of generation acquisitions for electric utilities, bearing in mind the beneficial contributions such technologies make to Colorado’s energy security, economic prosperity, insulation from fuel price increases, and environmental protection . . . .”

These “new clean energy and energy-efficient technologies” are referred to as “Section 123 resources.”

The Commission clarified in Decision No. C13-0094 (“Decision”) that a Section 123 resource must be both *new* and *clean* pursuant to the statute. In its Decision the Commission further defined the terms “new” and “clean”:

A new project shall either: (1) incorporate one or more technologies, representing a substantial portion of its overall installed cost, that have not been regularly commercially demonstrated,<sup>6</sup> up to the point in time that the resource is formally bid, or if not bid, acquired; or (2) be a project used to demonstrate the feasibility of a technology not before implemented in its proposed configuration.

A clean project must demonstrate that it would likely cause a decrease in greenhouse gas emissions (e.g., carbon dioxide) or significantly reduce other pollutants. A clean project may also result in reduced water usage.

Respondents to this RFP who believe their proposal meets the definition of a Section 123 resource should indicate in the Beneficial Contributions/Section 123 Resources Bid Narrative Topic why the respondent believes the resource qualifies as a Section 123 resource. Public Service will identify in its 30-Day Report to the Commission a listing of all bids that claim Section 123 status along with its opposition to any claimed Section 123 status and provide the Commission, under seal, a copy of the disputed bids. The Commission will determine whether the disputed bids qualify for further evaluation as a Section 123 resource.

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<sup>6</sup> The Commission’s Decision indicated its review of a Section 123 resource would consider the commercial demonstration both within the State of Colorado and elsewhere.

## **Section 2. Eligible Project Information**

### **2.1 Eligible Project Structures**

Semi-Dispatchable RFP proposals will be for purchase of capacity and energy by the Company under a power purchase agreement (“PPA”) which is subject to the accounting considerations and the index pricing considerations discussed in later sections of this RFP. A Model PPA<sup>7</sup> is provided in Appendix D.

Respondents interested in selling an existing asset or developing proposals that involve Company ownership of new generating facilities (referred to as Build-Own-Transfers or BOTs) are directed to the 2017 Company Ownership RFP for relevant information regarding opportunities to bid the Company asset purchases as part of the 2017 All-Source Solicitation.

### **2.2 Eligible Generation Resources**

For a project to be eligible under this RFP, it must 1) have a nameplate electric rating greater than 100 kW, 2) utilize an intermittent energy resource and employ an integral, supplemental technology that serves to lessen the intermittency effects of the energy resource and 3) meet all or a portion of the Company's resource needs during the RAP. The Company will not accept bids from coal-fired generation.

A PPA proposal may be for a new, yet to-be-built resource, or an existing resource.

Although projects do not need to meet the Commission rule definition of an Eligible Energy Resource (as that term is defined in rule 3652) in order to meet this RFP's eligible generation resource requirement, bidders are advised of the restrictions on the size of certain generation resources in the Commission's Renewable Energy Standard rules. Specifically, in order to be an Eligible Energy Resource: 1) hydro resources in existence on January 1, 2005 must have a nameplate rating of 30 MW or less and hydro resources not in existence on January 1, 2005 must have a nameplate rating of 10 MW or less, and 2) recycled energy resources must be 15 MW or less. The Company reserves the right to weigh the potential benefits of acquiring Renewable Energy Credits (“RECs”) and generation from a project deemed to be an Eligible Energy Resource in its Non-Price Factor Analysis; see Section 5.1.

### **2.3 Pricing**

Form D1 provides the pricing template for PPA proposals. All pricing must be in terms of current year dollars, also referred to as escalated or nominal dollars. For example, a \$50 per megawatt-hour (“MWh”) energy price proposal for 2018 means that in 2018 energy from the facility will be purchased at a rate of \$50/MWh.

Form D1 requests pricing with assumptions that: 1) the project will qualify for federal tax incentives applicable to the proposed technology and to the proposed in-service date and, 2)

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<sup>7</sup> The Model PPA is a sample agreement containing terms and conditions acceptable to the Company. The Company understands that respondents may desire to modify and supplement the Model PPA when submitting their proposals, and anticipates negotiating with selected respondents in an effort to develop documents acceptable to both parties.

that existing federal tax incentives will be applicable to the project even if those incentives are due to expire or decline by the time of the proposed in-service date. Respondents should describe the federal tax incentive assumptions made in their Energy Payment Rates in the Project Description Narrative Topic and in the Notes section on Form D1.

Under the terms of any transaction (including any PPA), all power, RECs, and environmental benefits generated from a proposed project will be conveyed to the Company.

Table 3 provides an indication of when the Company most values generation during the months of June through August. The Model PPA does not contemplate a higher price for generation delivered during the higher valued hours; however, respondents are encouraged to design their facilities so as to provide a reliable source of generation during the peak hours indicated in Table 3 and to avoid generation during the lowest valued hours.

Projects that propose integrated fuel backup/hybridization may elect to recover the incremental capital costs of the hybridization equipment through either the Form D1 base energy payment rates or, alternatively, through a monthly demand payment rate that should be provided on Form D3. In addition, any variable O&M and/or start charges that will be charged to the Company for dispatch of the fuel hybridization component should also be shown on Form D3.

Proposal pricing must include initial cost estimates for any new or upgraded interconnection facilities required for the electrical interconnection of the proposed project to the Public Service transmission system, and must include the cost of any dedicated radial transmission line(s) from the generation facility to the proposed point of interconnection. See Form D2.

The Company will pay any costs required to upgrade or reinforce the Public Service electric transmission system beyond the Point of Delivery, as a consequence of adding a respondent's project to the Public Service system. Respondents, however, will be responsible for procuring transmission service and any associated third-party transmission costs needed to deliver power from the project to the Point of Delivery on the Public Service transmission system. All pricing in respondents' proposals should reflect those costs (to the extent applicable) at the time of submittal.

**Table 3. Summer Time of Day Value Factors**

	Summer
Hour Ending, Mountain Prevailing Time	June, July, August
1	0.50
2	0.50
3	0.50
4	0.50
5	0.50
6	0.50
7	0.50
8	1.00
9	1.00
10	1.00
11	1.00
12	1.25
13	1.25
14	1.25
15	1.75
16	1.75
17	1.75
18	1.75
19	1.25
20	1.25
21	1.25
22	1.00
23	1.00
24	0.75

The Company's preference is for fixed price proposals. However, respondents may take an appropriate exception on the applicable Form(s) and provide a second, alternative pricing schedule using a fixed price for the first contract year ("Base Year") that would be adjusted after the Base Year according to one or more known, published and widely recognized indices that are closely related to costs of operation in the proposed technology's industry. A respondent that wishes to propose such alternate pricing must submit one pricing form in nominal dollars for the entire term of the PPA and another pricing form tied to one or more designated indices meeting the requirements of the preceding sentence. The Company retains the right to select either of the respondent's pricing schemes. Respondents may not submit proposals with variable Base Year pricing.

**2.4 Regulatory Approvals**

Pursuant to RP Rule 3613(a), the Company will file a report with the Commission at the completion of the evaluation process that describes the cost-effective resource plan portfolios that conform to the Commission's Phase I decision and other Commission decisions that impact the 2016 Phase II process. Upon Commission approval of Phase II of the Company's 2016

ERP, Company actions consistent with that approval are presumed prudent under RP Rule 3617(d). However, the Company reserves the right to: 1) inform the Commission that the Company could not reach agreement with the proponent of a selected resource; 2) request Commission approval of any agreements it enters into with successful respondents that vary in any material respect from the Model PPA; and 3) to terminate any agreement if the Company fails to receive Commission approval of submitted agreements.

## **2.5 Contract Lengths**

Contract term lengths may be between one (1) and twenty-five (25) years. The Company's objectives with respect to term lengths are to avoid the concurrent expiration of multiple contracts, and to avoid or minimize the adverse financial impact of imputed debt, capital or finance lease, and variable interest entity-related obligations. See Section 2.7 for further information regarding such obligations.

## **2.6 RoFO / Purchase Option**

The Model PPA includes a Right of First Offer ("ROFO") that, subject to specific conditions, may be exercised by the Company. In addition, while not required under the Model PPA, respondents, at their option, may offer the Company an end-of-term or other purchase option that specifies that the Company can purchase the facility (or the stock of the facility owner) for its appraised fair market value at a specified time or times during, or at the end of, the PPA term.

## **2.7 Contract Accounting**

All contracts proposed to be entered into as a result of this RFP will be assessed by the Company for appropriate accounting and/or tax treatment. Respondents shall be required to supply promptly to the Company any and all information that the Company requires in order to make such assessments.

The Company has specific concerns regarding proposals received in response to this RFP that could result in either (i) a contract that must be accounted for by the Company as a capital lease or an operating lease pursuant to Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 840 or as a finance lease or an operating lease under FASB ASC 842, or (ii) consolidation of the seller or assets owned by the seller onto the Company's balance sheet pursuant to the variable interest entity requirements of FASB ASC 810. The following shall therefore apply to any proposal submitted pursuant to this RFP:

- The Company is unwilling to be subject to any accounting or tax treatment that results from a PPA's capital lease, finance lease or consolidated variable interest entity classification. As a result, respondents shall state in their proposal(s) (i) that the respondent has considered applicable accounting standards in regard to capital leases, finance leases and variable interest entities, (ii) summarize any changes that the respondent proposes to the Model PPA in order to attempt to address these issues, and (iii) to the respondent's knowledge and belief, the respondent's proposal should not result in such treatment as of the date of the proposal.

- As applicable, the Company will not execute a PPA without confirmation from the Company's external auditors that the PPA will not be classified as a capital lease, finance lease or a consolidated variable interest entity.

By submitting a proposal, each respondent agrees to make available to the Company at any point in the bid evaluation process any financial data associated with the respondent and its proposed project so the Company may independently verify the respondent's information in the above matters. Financial data may include, but shall not be limited to, data supporting the economic life (both initial and remaining) of the facility, the fair market value of the facility, the means by which the respondent intends to meet the security and performance requirements<sup>8</sup> of the model PPA, and any and all other costs (including debt specific to the asset being proposed) associated with the respondent's proposal. The Company may also use financial data contained in the respondent's financial statements (e.g. income statements, balance sheets, etc.) as may be necessary.

### **Section 3. Delivery and Interconnection Information**

#### **3.1 General information**

Bids that propose to interconnect to the Company's transmission system and that do not have an existing Large Generator Interconnection Agreement ("LGIA"), Small Generator Interconnection Agreement ("SGIA"), or an existing interconnection queue position will be studied by Public Service to estimate electric interconnection and delivery requirements and costs. These procedures, and associated respondent responsibilities, are detailed in Appendix C.<sup>9</sup>

Bids that propose to interconnect to the Company's distribution system will be studied pursuant to CPUC rules 3667 or 3900 depending upon facility size.<sup>10</sup>

If the Company has received a certificate of public convenience and necessity ("CPCN") to construct a transmission upgrade the cost of the upgrade will not be included in the evaluation of proposals that use those upgrades; provided, however, that sufficient transmission transfer capability exists on the transmission project specified in the CPCN after accounting for other generation projects.<sup>11</sup>

Existing generation resources from which the Company currently purchases capacity and energy will not be burdened with any incremental electrical transmission interconnection or network delivery costs provided that the Company currently has sufficient transmission capacity to deliver the entire generation to its load. For existing generation resources with inadequate transmission service, a projection of the purchase of sufficient transmission rights will be added to the bid for evaluation purposes.

<sup>8</sup> See Article 11 of the PSCo Model Semi-Dispatchable PPA 2017 document

<sup>9</sup> Note that the Company will apply the appropriate study procedure (i.e. LGIP or SGIP) during any formal interconnection study process.

<sup>10</sup> The Company's "Safety, Interference and Interconnection Guidelines for Cogenerators, Small Power Producers and Customer-Owned Generation" is available at:  
<http://www.xcelenergy.com/staticfiles/xcel/Regulatory/Transmission/CO-DG-Tech-Manual.pdf>

<sup>11</sup> As the Company is no longer pursuing the SLV-Walsenburg-Comanche transmission project, the Company will not entertain bids that require the construction of that transmission facility.

### **3.2 Electric Transmission Injection Capability**

Public Service performs transmission studies for Large Generator Interconnect Agreement ("LGIA") requests. The LGIA requests are made to determine the feasibility, cost, time to construct, and injection capability for the transmission system interconnection of an electric generating resource. The Company posts the results of these studies on its OASIS website.<sup>12</sup> The Company performs other transmission studies for purposes of transmission planning that determine like information.

The transmission system is interrelated and generation injection at one point on the system likely changes the injection capability at other points; e.g., incremental generation injections at Pawnee would decrease the generation injection capability at Missile Site and vice versa. The generation injection capability values provided below in Table 4 are approximations based on the stand-alone transmission studies performed for specific MW levels identified in LGIA requests. The generation injection capability values can change when Public Service performs additional specific resource and resource portfolio transmission studies whether for resource evaluation or an LGIA request.

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<sup>12</sup> Information regarding posted studies may be found on a public site:  
[http://www.rmao.com/wtpp/psco\\_studies.html](http://www.rmao.com/wtpp/psco_studies.html).



**Table 4. Transmission System Injection Capabilities**

Location	LGIP Study	Injection Capability w/o Network Delivery Upgrades (MW)	Injection Capability w/ Network Delivery Upgrades (MW)	Estimated Time to Construct	Estimated Network Delivery Upgrade Cost (Millions)
Fort Saint Vrain 230 kV	GI-2008-29	0	256	18 Months	0.6
Ault 230 kV	GI-2008-30	0	200	60 Months	65.3
Eldorado 115 kV	GI-2012-2	0	50	30 Months	3.7 <sup>13</sup>
Lamar 230 kV	GI-2012-4	0	200	7-10 Years	214
San Luis Valley 115 kV	GI-2014-14	31	50	60 Months	246.2 <sup>14</sup>
Hartsel 230 kV	NQ-2014-1	50	50	NA	NA
Cameo 230 kV	NQ-2014-1	50	50	NA	NA
Rifle 230 kV	NQ-2014-1	50	50	NA	NA
Uintah 230 kV	NQ-2014-1	50	50	NA	NA
Collbran 138 kV	NQ-2014-1	50	50	NA	NA
Comanche-Daniels Park 345 kV	GI-2015-1	0	250	36 Months	0.3
San Luis Valley 230 kV	GI-2016-9	30	480	60 Months	246.2 <sup>15</sup>
Boone 230 kV	GI-2016-11	100	100	18 Months	0
Boone 115 kV	GI-2016-12	80	80	18 Months	0
Boone-Comanche 230 kV	GI-2016-16	0	100	18 Months	0.2
Midway 115 kV	GI-2016-22	100	100	18 Months	0
Green Valley 230 kV	GI-2016-23	150	150	18 Months	0
Rush Creek II 345 kV	GI-2016-25	0	500	36 Months	0.1
Sargent-Poncha 115 kV	GI-2016-26	0	50	60 Months	246.2
Rush Creek I 345 kV	GI-2016-27	0	640	18 Months	17
Vasquez 115 kV	GI-2016-30	30	30	18 Months	0
Pawnee 230 kV	GI-2016-31	52	52	18 Months	0
Midway-Comanche 230 kV	GI-2017-1	50	50	18 Months	0
Missile Site 230 kV	GI-2017-2	150	150	18 Months	0
Comanche 230 kV	GI-2017-3	0	100	18 Months	0.1

Per the Rush Creek Settlement Agreement (16A-0117E), the Rush Creek Gen Tie (Table 4, GI-2016-25 and GI-2016-27) is available for interconnection despite the fact it is not a network

<sup>13</sup> Includes rebuild of Eldorado substation

<sup>14</sup> Assumes GI-2016-26 estimate (no estimate in GI-2014-14)

<sup>15</sup> Assumes GI-2016-26 estimate (GI-2016-9 study estimated \$225M)

resource. During the Rush Creek proceedings, the Company proposed to charge a pro rata share of the Gen-Tie costs to other parties connecting to it, but agreed that that bidders in the All-Source proposing generating projects that utilize the Gen-Tie should not be disadvantaged by being charged for using the Gen-Tie. In order to facilitate this, the Company will allow such bidders to be reimbursed through their PPAs or through a separate agreement, dollar for dollar, for any charges to use the Gen-Tie. Both the charge and the reimbursement would terminate at the earlier of 1) the end of the PPA or 2) the Gen-Tie being designated as a network transmission system. Bidders proposing to use the Gen-Tie should still include in their bid pricing all transmission related costs necessary to deliver the full output of their generating facility to the point of interconnection with the Gen-Tie, and also be required to include any costs specific to the facilities that are needed to physically connect their project to the Gen-Tie.

Furthermore, contingent upon approval of the Colorado Energy Plan Portfolio, the Company plans to propose construction of a new switching station on the Company's owned 230/345 kV transmission system approximately 10 miles east of the Comanche power plant in the North Half (N½) of the Northeast Quarter (NE¼) of Section 36, Township 21 South, Range 63 West, in Pueblo County, Colorado. This proposed switching station is intended to facilitate interconnection of new beneficial generation resources located in the vicinity that are provided in response to this RFP. The Company plans on proposing additional information regarding the location and configuration of this new switching station in a separate application with the CPUC.

#### **Section 4. Proposal Content Requirements and Submission Procedure**

##### **4.1 Schedule Estimate**

An indicative schedule for this RFP process is provided below.<sup>16</sup> A graphical timeline is provided in Appendix E.

**Table 5. Solicitation Schedule**

<b>Activity</b>	<b>Date</b>
RFP Issued	30 August, 2017
Pre-Bid Conference	28 September, 2017
Notice of Intent to Respond Due	29 September, 2017
Proposals Due	28 November, 2017
120-Day Report to Commission	28 March, 2018
Commission Phase II Decision	26 June, 2018

<sup>16</sup> The Company reserves the right to adjust this schedule appropriately, including (but not limited to) for changes to the regulatory calendar.

## **4.2 Minimum Requirements for Proposals**

This section describes the minimum requirements that all proposals must satisfy to be eligible for consideration in this Solicitation. Unless the Company in its sole discretion elects otherwise, proposals that do not comply with these requirements will be deemed ineligible and will not be considered further. The Company reserves the right to reject any bid and all bids.

- Proposals must include all applicable content requirements described in Section 4.3, including clear and complete written descriptions of all information requested, and completed forms.
- Proposals must clearly specify all pricing terms in accordance with Section 2.3.
- Proposals must clearly demonstrate compliance with all power delivery requirements listed in Appendix C, CPUC 3667, or CPUC 3900 as applicable.
- Proposals must demonstrate an acceptable level of development and technology risk, as determined by the Company's evaluation team.
- For non-Section 123 proposals, the respondent's project development team must demonstrate that it has successfully completed the development, construction and commissioning of at least one utility-scale and utility-grade project with technology similar to the proposed project.
- For new-build Section 123 proposals, the respondent's project development team must demonstrate that it has successfully completed the development, construction and commissioning of at least one utility-scale and utility-grade project.
- Respondents must demonstrate to the satisfaction of the Company that they can meet the security requirements contained in the Model PPA.
- Proposals must clearly demonstrate any financing requirements and an indicative financing structure (construction and permanent) for any proposed resources that will be delivered under the proposals. Respondents should include a description of how current financial markets are likely to impact the respondent's ability to access the debt and tax equity markets.
- Each respondent must present clear and sufficient proof that it has or can secure an adequate and confirmed supply of generation equipment sufficient (at a minimum) to meet the required proposal.
- Respondents must provide the required bid fee (described in Section 4.8 below) for each proposal submitted.

### **4.3 Proposal Content Requirements**

This section outlines the content and format requirements for all proposals submitted in response to this RFP. Unless the Company in its sole discretion elects otherwise, proposals that do not include the information requested in this section will be ineligible for further evaluation, unless the information requested is not applicable or relevant to a given proposal. The Company reserves the right to conduct any further due diligence it considers necessary to fully understand and evaluate proposals.

#### **Proposal Format**

The first section of each proposal must contain an Executive Summary that provides an overview of the proposed generating resource characteristics, including any unique aspects or benefits. The second section of the proposal must include a completed set of applicable forms included in Appendix A. These forms will contain essential information about each proposal. A separate set of forms and related information must be submitted with each proposal. The third section of the proposal must include additional information presented in narrative form under specific topic headings.

A complete proposal will include the following components:

1. Executive Summary
2. Complete set of applicable forms
3. Form attachments (as necessary to elaborate on form information)
4. Narrative Topics Discussion
5. Requested maps and electronic data
6. Land rights contracts and all supporting documentation, i.e. ALTA survey, title commitments, etc.

The proposal forms and topic headings are listed below.

#### **Proposal Forms**

Form A	Notice of Intent to Respond
Form B	Bid Certification Form
Form C	Bid Cover Sheet
Form D1	Pricing
Form D2	Electrical Interconnection Cost Estimates
Form D3	Fuel Tolling
Form E	Construction Milestones
Form F1	Technical Description - PV
Form F2	Technical Description - Solar Thermal
Form F3	Technical Description - Wind
Form F4	Technical Description - Other
Form F5	Production Profile
Form F6	Facility Performance
Form F7	Heat Rates
Form F8	Section 123 Qualifications
Form G	Natural Gas and Backup Fuel Supply
Form H	Emission Rates

The individual forms in Appendix A include additional instructions for completion.

### **Narrative Topics**

In addition to completed forms, each proposal must also include a thorough written discussion of each of the following topics. Narrative topics should be organized under the following headings:

- Development Experience
- Financial Information
- Project Description and Development Schedule
- Equipment Description
- Energy Production Profile
- Real Property Acquisition Description and Plan
- Permitting Plan
- Transmission Plan
- Community/State Reaction Assessment
- Operations and Maintenance Plan
- Exceptions to Model PPA
- Beneficial Contributions/Section 123 Resources
- Employment Metrics

***Development Experience.*** All proposals must describe the respondent's qualifications and experience in developing, constructing, commissioning and operating generation facilities similar to the proposed facility, including the experience, qualifications and safety record of key personnel who will manage development and an overview of utility scale and utility grade projects the respondent has developed during the last 5 years. If an EPC team is in place, the proposal should identify the members of the team; if such a group is not in place, the proposal must set forth the respondent's plan for assembling such team (including process and timing).

***Financial Information.*** All proposals must provide detailed financial information about the proposed project. This information shall include two years of audited financial statements or the equivalent for respondents and other responsible parties (including any entities that would provide parent guaranties of the respondents' obligations), whether the project will be financed as a recourse or non-recourse project, the percentages of debt and equity financing, and the expected cost of debt. In addition, respondents shall provide a detailed plan for financing the proposed project during construction and operation including the financing commitments that the respondent has obtained. Proposals shall also explain in detail the plan for meeting the security requirements outlined in the Model PPA and must set forth the credit rating (if any) of any entities that would provide parent guaranties of the respondents' obligations. Proposals must include an organization chart showing the entities that own the respondent's organization and a description of the respondents' organization structure (including primary and secondary businesses). Financial information may be provided primarily in electronic format so long as at least one (1) hard copy of the financial information is provided with each proposal.

**Project Description and Development Schedule.** All proposals for the construction of new generation facilities must set out a description of the proposed project, including a description and plans for the proposed site and rights of way, utilities services, equipment configuration, transmission and interconnection construction and procurement, supply of spare parts, opportunities for future expansion of the project, required permits, the nameplate capacity of the resource in MW, the respondent's key consultants (if known) for meteorological studies and permitting studies, and the respondent's construction contractors and prime subcontractors (if known). Such proposals must provide a detailed Gantt chart of project development activities developed using Microsoft Project or similar software (note that .pdf file-type is preferred for submittal) that includes (at a minimum) entering major equipment and construction subcontracts, target completion dates for financing, engineering, permitting, equipment procurement, construction, startup and commissioning, and guaranteed dates for substantial completion. Proposals must describe the overall development strategy that will ensure that the project can be developed in time to meet the proposed commercial operation date. Respondents proposing Section 123 resource generation projects should describe the risks associated with deploying such new technology specifically as those risks impact the proposed commercial operation date and the first years of operation.

It is the Company's expectation that it will have first rights to all proposed projects submitted into the RFP for the period during the proposal review and approval process. Respondents must also provide any and all information which would restrict the respondent from providing the Company with exclusive rights to negotiate a PPA for the proposed project. Such restrictions could include, but are not limited to, prior active submission or participation in other RFPs, exclusivity rights granted to other parties, rights of first offer or refusal, purchase options, and active auctions for the project as applicable.

For biomass-fueled projects, bidders should provide as much detail as possible regarding the target fuel source including details on any potential contracts that fix fuel volume, quality, and/or pricing over the term of the proposed PPA on a delivered and/or non-delivered basis.

**Equipment Description.** At a minimum, proposals should indicate for all major equipment 1) the name of the manufacturer and other vendors, 2) models, 3) key metrics and characteristics of the equipment, 4) performance history of the equipment, 5) contracting status, and 6) planned delivery dates.

**Energy Production Profile.** Proposals must include a description of any on-site meteorological data gathered by, or in the possession of, the respondent and the periods over which those data were collected (start and end dates and data collection frequency). However, Respondents should not provide on-site meteorological data in their initial bid submissions. Upon request, respondents must be prepared to provide the Company with the underlying meteorological data with the understanding that the Company may engage an external consultant for an independent verification and evaluation of the generation resource. The data provided must be sufficient for these purposes.

To the extent a proposal includes an energy storage technology respondents should describe, in detail, the storage dispatch logic inherent in the hourly results provided. As the Company proposes a tolling structure for those projects that propose fuel backup/hybridization, respondents should not include any fossil fuel generation estimates on Form F5.

**Real Property Acquisition Description and Plan.** Proposals must provide a description of the status of real property acquisition and land use permitting for the project that is sufficient for the Company to assess the completeness and sufficiency of the respondent's real property rights, including but not limited to:

- Copies of all of the land right contracts secured to date,
- The status of current site control necessary to build, operate, and maintain any radial transmission line dedicated principally to the project, and the form(s) of land right contract being utilized to secure the right-of-way, if applicable,
- The plan for acquiring any and all currently uncontrolled necessary real property rights for the project,
- Copy of title commitment(s) and ALTA Survey(s), if available,
- The plan for undertaking any necessary title curative work,
- Acreage of real property required for the project and a schedule for the completion of the real property acquisition process,
- A description of any subdivision or zoning modifications and all city, county, or state land use permits that will be required, such as conditional use, special use or other similar permits and approvals, which will be required for any phase of development, construction, or operations of the project, and
- A description of existing and planned land use in all directions surrounding the proposed site.

Proposals must include a USGS-based map showing the location of the proposed site, and ESRI ArcGIS shapefiles or other industry standard format depicting the Project boundary and any radial transmission line necessary to interconnect the project. Shapefiles must be provided in Colorado NAD 83 State Plan coordinate system.

For bidder's providing copies of land rights contracts, please see specific submission instruction in section 4.6.

**Permitting Plan.** Proposals should include a complete list of permits required and secured for the project. If permits have not yet been secured, a schedule for submitting and obtaining the required permits must be provided.

Proposals must describe all air quality permits that will be required for the project. State whether any air permits have been secured, and if not, whether applications have been filed. Report on the status of any pending applications and any feedback from permitting agencies. Describe the expected time frame to obtain the necessary air permits after application submittal to the State.

Describe all other federal, state and local permits and approvals that will be required for the project, including but not limited to:

- Federal environmental assessments under the National Environmental Policy Act ("EA/EIS"),
- Water supply,
- Wastewater discharge permits,
- Hazardous waste permits, and
- No-hazard permits/determinations from the Federal Aviation Administration.

Describe the current status of obtaining these permits and any feedback from permitting agencies.

Describe the water supply strategy for the project, including a description of water requirements, water supply source(s), discharge plans, new water pipeline requirements, and any work completed to date on the water supply plan.

Explain any expected restrictions/limitations on operations due to air and/or water permits.

If the proposed site does not currently have the appropriate zoning designation, provide any rezoning requirements, plans to obtain the rezoning, and any known issues as to rezoning.

For projects proposing to utilize an eligible energy resource<sup>17</sup>, proposals must also provide written documentation evidencing that consultation has occurred with appropriate governmental agencies (for example, the Colorado Division of Wildlife or the U.S. Fish and Wildlife Service) responsible for reviewing potential project development impacts to state and federally listed wildlife species, as well as species and habitats of concern.

**Transmission Plan.** Provide a detailed description of the Point of Delivery to the Public Service electric system, including the location and voltage level of such point. All proposals should include a description of the respondent's plan to transmit power from the Project to the proposed Point of Delivery on the Public Service transmission system as described in Appendix C. The information should include a description and expected route of any radial transmission line dedicated principally to the Project if known, including a summary of the status of obtaining requisite easements and alternatives.

If any new FERC-regulated transmission or any upgrades to non-Public Service transmission will be required to deliver power from the Project to the proposed point of delivery ("New Transmission"), the proposal also should include a complete description of the required New Transmission including:

- The owner and developer of the New Transmission,
- The complete expected route for the New Transmission,
- The voltage and capacity of the New Transmission,
- The status of planning, permitting, financing and construction of the New Transmission, to the extent known to the respondent,
- The location of the interconnection of the Project into the New Transmission, and
- Whether the respondent's Project, if successful, would be sufficient for the New Transmission to be built without the participation of other power projects, and if not, what other projects would need to be built and in what time frame to allow the New Transmission to be built in time for the respondent to meet its scheduled in-service date.

For proposals that will require third-party transmission service(s) to deliver, on a firm transmission service basis, the capacity and energy to the Point of Delivery specified above, provide a detailed description of the interconnection, electric losses, transmission and ancillary service arrangements, by provider, that will be required, including:

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<sup>17</sup> Eligible energy resources are defined in the Commission's rules, section 3652, "Definitions".



- the identity of all third party providers,
- the location and voltage level of the interconnection point to the interconnection service provider's facilities,
- any interconnection facilities that bidder owns or intends to construct and own,
- the specific services provided by each provider, and
- the line losses, point(s) of receipt and point(s) of delivery associated with each third party transmission service.

Provide documentation that the third party services discussed in the paragraph above will be available to bidder during the proposed contract term. This should include:

- any associated transmission studies that directly examined delivery of the proposed energy to the point of delivery,
- detailed information on any and all new transmission facilities and/or upgrades to existing facilities that will be required to deliver the proposed energy to the point of delivery, and
- a detailed discussion of the schedule for siting, permitting, and construction of such new facilities and/or upgrades.

Attach a USGS-based map that shows the location of the interconnection point with the third-party and the generation facility.

***Community/State Reaction Assessment.*** Each respondent must present a current assessment of, and a plan for continuing to monitor, local community and state reaction to the project, and a plan to work with the local community on project issues. Such plan might include the following elements:

- A list of the references used to assess the community reaction, and the methodology used to draw conclusions,
- A list of key local contacts interviewed and their opinions,
- An assessment of the local community reaction at the time of the proposal,
- An action plan for working with the local community/state to successfully complete the project and
- A description of the respondent's proposed conflict resolution methodology.

***Operations and Maintenance Plan.*** Respondents shall summarize their operations and maintenance plans and labor arrangements for the generation facilities associated with their proposals.

***Exceptions to Model PPA.*** In support of the Company's efforts to complete project evaluation, and contract negotiations in a timely manner, respondents shall review and provide exceptions and/or comments to the Model PPA. To the extent that the validity of a respondent's proposal and/or the respondent's ability to execute a PPA is contingent upon material changes to the language in the Model PPA, respondents should specifically identify the terms in the Model PPA they propose to change and should summarize their proposed changes to such terms. To the extent that a respondent wishes to propose changes to the Model PPA that, if accepted by the Company, would reduce the respondent's proposed pricing the proposal should specifically identify such changes and the associated price reduction. To the extent practicable,

respondents should develop exhibits, schedules, attachments and other supplemental documents required by the Model PPA.

Exceptions taken to model PPA terms must be clearly expressed such that the Company can reasonably understand the bidder's concerns. Statements containing language such as "To be discussed" do not provide the Company sufficient information to understand the bidder's concerns. Bidder's providing such comments will be required to more fully explain their concerns so that the Company can adequately conduct its due diligence activities.

**Beneficial Contributions/Section 123 Resources.** Respondents should indicate whether or not they believe their project meets the requirements of a Section 123 resource. Bidders claiming Section 123 status must complete Form F8. Regardless of claimed Section 123 status, **all bidders must provide information concerning the beneficial contributions of their proposed technology** including benefits associated with Colorado's 1) energy security, 2) economic prosperity, 3) environmental protection, and 4) insulation from fuel price increases.

This information is needed from **all bidders** in order to allow the Commission to consider whether certain benefits are common across proposals and whether certain benefits tie specifically to the implementation of a particular new and clean energy technology.

**Employment Metrics.** Respondents shall include descriptions of each best value employment metric described below as it relates to the bid project.

- The availability of training programs, including training through apprenticeship programs registered with the United States Department of Labor, Office of Apprenticeship and Training,
- The employment of Colorado workers as compared to importation of out-of-state workers,
- Long-term career opportunities, and
- Industry-standard wages, health care, and pension benefits.

#### **4.4 Pre-Bid Conference**

Time: 9:30 AM – 11:30 AM MDT  
Date: 28 September, 2017  
Location: 1800 Larimer St. Floor 2  
Denver, Colorado 80202

Public Service will webcast the meeting and will provide means for remote, electronic participation by potential RFP respondents. Public Service will post information concerning webcast access and remote participation on the RFP website once confirmed. Interested parties are encouraged to provide written questions to the Company's RFP Project Manager by email prior to the pre-bid meeting. A summary of the bid conference proceedings, including submitted questions and answers, and answers to any question remaining unanswered at the end of the meeting will be prepared by the Company and posted on the RFP website.

#### **4.5 Notice of Intent to Respond (NOIR)**

Respondents who intend to submit a proposal into the 2017 All-Source solicitation are strongly

encouraged to also submit a non-binding Notice of Intent to Respond (NOIR), Form A in Appendix A. The Company requests that completed NOIR forms be emailed to the RFP Project Manager at the earliest date possible but no later than 4:00 P.M. Mountain Time on Friday September 29, 2017. There is no fee required to submit an NOIR.

#### **4.6 Proposal Submission Deadline**

All proposals, including Company self-build proposals will be accepted until 4:00 P.M. Mountain Time on 28 November, 2017. All proposals must be transmitted by express, certified or registered mail, or hand delivered to the following address:

PSCo 2017 All-Source Solicitation  
Attn: RFP Project Manager  
Xcel Energy Services Inc.  
1800 Larimer St  
Denver, Colorado 80202

Proposals received later than the submission deadline will be rejected and returned unopened, unless the Company determines, at its sole discretion, to consider such proposals. With the exception of the financial information (of which only one (1) hard copy is required), two (2) bound hard copies of the proposal must be included in the submittal. In addition, respondents must submit two (2) electronic copies (CD, DVD, or flash drives) with completed forms in a Microsoft Office format.

Proposals must be submitted in a sealed package with the following information shown on the package:

**Response to PSCo 2017 Semi-Dispatchable Resources RFP  
Confidential Sealed Bid Proposal**

The respondent's company name and address must be clearly indicated on the package containing the proposal.

#### **4.7 Information Policy**

To obtain additional information about this RFP, potential respondents as well as all other parties may submit inquiries only to the RFP Project Manager via email at PSCo2017AllSource@xcelenergy.com. Potential respondents as well as all other parties should not attempt to acquire information through any other means including telephone calls to the Company. The Company will maintain a log of all email inquiries and coordinate the preparation of written responses. Once a response is prepared, the Company will forward the response to the inquiring. Questions and responses, when germane, will be periodically posted to the RFP Web Site in a FAQ. The Company has established this information policy to ensure that all respondents have the same timely access and knowledge about the bidding and evaluation process.

All bidders as well as all parties in the resource plan proceeding other than the utility are restricted from initiating contact with the IE pursuant to Commission rule.

#### **4.8 Bid Evaluation Fees**

All respondents are required to pay to the Company a bid evaluation fee with each proposal submitted; bid fees are determined by the nameplate capacity of the bid according to Table 6 below. Public Service may deem proposals that do not satisfy the requirements for a single proposal as multiple proposals, each of which would require a separate bid evaluation fee. For example, a proposal that triggers electric interconnection studies for multiple points or levels of interconnection would be deemed separate proposals for each such point or level. In addition, proposals offering multiple commercial operation dates for the same project or facility will be viewed as multiple proposals. If the Company deems a respondent's proposal to be multiple proposals, the Company will notify the respondent and allow it to elect to pay the incremental bid fee or to revise its proposal to comply with the Company's requirements for a single proposal.

Notwithstanding the above, respondents who submit proposals in this 2017 Semi-Dispatchable Renewable Capacity Resources RFP for projects greater than 2 MW may also submit a proposal for the same generation project/facility in the 2017 Company Ownership RFP with no incremental bid fees.

Furthermore, respondents who submit proposals for projects that interconnect to the proposed switching station discussed in Section 3.2 may propose an alternative interconnection location in the event the CEP is not approved, with no incremental bid fees.

Checks should be made out to "Public Service Company of Colorado" and must be included with the proposal. Bid evaluation fees are non-refundable.

**Table 6. Bid Fees**

<b>MW &gt;</b>	<b>MW &lt;=</b>	<b>Bid Fee</b>
0.1	1	\$375
1	2	\$750
2	5	\$1,500
5	10	\$3,000
10		\$10,000

#### **4.9 Clarification of Proposals**

While evaluating proposals, the Company may request clarification or additional information about any item in the proposal. Such requests will be sent via email to respondents identified on Form C by the RFP Project Manager, typically, and respondents are required to provide a written or electronic response back to the RFP Project Manager within five (5) business days, or the Company may deem the respondent to be non-responsive and either suspend or terminate evaluation of the proposal. Respondents are encouraged to provide an alternate point of contact to ensure a timely response to clarification questions.

#### **4.10 Confidentiality**

Respondents are allowed to identify any information in their proposals that respondents claim should be considered to be confidential or proprietary. Nonetheless, the Company reserves the

right to release all proposals to its affiliates and to its and such affiliates' agents, advisors, consultants, and the IE for purposes of proposal evaluation. The Company will, to the extent required by law, advise each agent, advisor or consultant that receives such claimed confidential information of its obligations to protect such information. In addition, all information, regardless of its confidential or proprietary nature, will be subject to review by the Commission and other governmental authorities and courts with jurisdiction, and may be subject to legal discovery. It is not the Company's intent to enter into any separate confidentiality, non-disclosure, or similar agreements as a condition to receiving a respondent's proposal.

Notwithstanding the above paragraph and as indicated in Section 1.1, a reasonable number of attorneys and a reasonable number of subject matter experts representing a party to the Company's 2016 ERP docket can, upon the execution of the appropriate non-disclosure agreement, request and receive access to all bid information provided to the Company in response to this RFP regardless of a bidder's claim of confidentiality or propriety. In addition, upon completion of the competitive acquisition process Public Service will post on its website and thereby make publically available the following information from all bids and utility proposals: bidder name; bid price and utility cost; generation technology type; size of facility; contract duration or expected useful life of facility for utility proposals; and whether the proposed purchased power agreement includes an option for the utility to purchase the bid facility during or at the end of the contract term.

#### **4.11 Addenda to RFP**

Any additional responses required from respondents as a result of an Addendum to this RFP shall become part of each proposal. Respondents must list all submitted Addenda at the bottom of the Bid Certification Form (Form B).

### **Section 5. Evaluation and Criteria**

The objective of the Company's Solicitation evaluation is to identify portfolios of proposals that meet the resource needs identified in the solicitation in a reliable and cost-effective manner, while achieving the resource goals of the Commission-approved ERP.

As described below, the evaluation process will include an assessment of both economic and non-economic criteria.

#### **5.1 Evaluation Process**

An evaluation team, made up of various groups within Xcel Energy Services and the Company will evaluate proposals; however, the Company reserves the right to retain the services of outside experts to assist in the evaluation of proposals. The RFP Project Manager may contact respondents directly at any point during the evaluation process for the purposes of clarifying proposals. The Company will also cooperate with, and provide access to, information provided by respondents to, the Independent Evaluator as required by RP Rule 3612. All bidders as well as all parties in the resource plan proceeding other than the utility are restricted from initiating contact with the IE.

Proposals will be evaluated using a multi-step process as follows:

## **Step 1 – Bid Eligibility Screening**

Each proposal will be reviewed to ensure it meets the minimum requirements outlined in Section 4.2. The Company will notify each proposal respondent within 15 days of bid receipt as to the Company's bid eligibility evaluation.

## **Step 2 – Interconnection Assessment and Initial Economic Evaluation**

While not entirely concurrent, the activities described in Steps 2.A., 2.B. and 2.C. below will overlap to some extent.

### **A. Electric Interconnection Cost Estimates**

The Company will determine or verify electric interconnection cost estimates provided by bidders. If substantial differences occur, the Company will provide its cost estimates to the applicable bidders so that they can update their bid pricing, as they deem appropriate. Such bidders must submit final bid pricing back to the Company within 5 calendar days of the date the interconnection cost estimates are provided.

### **B. Transmission and Distribution Upgrade Schedule Assessment**

Some or all of the proposals will also be evaluated to assess the general siting, permitting, and construction time requirements associated with Public Service transmission and/or distribution network upgrades, including network upgrades for interconnection, that may be needed for each proposal to:

- Interconnect the proposed generation with the Public Service transmission or distribution system,
- Deliver the entire proposed capacity and energy to the Company's customers, and/or,
- Deliver the entire proposed capacity and energy from a third party transmission system to the Public Service electric system.

The impact of these analyses on a respondent's proposed schedule will be a factor in the evaluation of its proposal.

### **C. Initial Economic Screening**

The primary purpose of the initial economic screening is to rank each bid by technology so that the most promising bids can be forwarded to the subject matter experts for their review as quickly as possible and to identify those bids likely to be moved forward for computer modeling of bid portfolios. The initial economic screening consists of calculating an "all-in" levelized cost of energy ("LEC"). Calculations are shown on the "LEC" tab of the bid forms (Appendix A).

In addition to the costs provided in the bid, the Company will estimate incremental costs or benefits, as necessary, such as:

- Electrical interconnection costs and network upgrades not included in Form D1 pricing. These incremental capital costs are converted to a variable rate by assuming a levelized fixed charge rate of 0.12 and an annual capacity factor based on the type of generator proposed.

- Projects that propose to interconnect to the Public Service distribution system will be credited with an avoided line loss assumption in their LEC calculations.
- For bids proposing wind generation, the Company will estimate resource integration costs as determined in the Company's most recent wind integration cost study.
- For bids proposing solar generation (PV or solar thermal), the Company will estimate resource integration costs as determined in the Company's most recent solar integration cost study.
- For bids proposing non-dispatchable renewable generation or recycled energy generation resources that exhibit high levels of off-peak generation (e.g., geothermal, hydro, non-dispatchable biomass, etc.), the Company will estimate resource integration costs as determined by the Company's most recent coal cycling study.
- No renewable energy credit ("REC") value benefits will be credited to the LEC calculations for any renewable generation projects.

Where practicable, the Company will adjust its calculations of integration and curtailment costs to include the potential beneficial impacts of any integral, supplemental technology included in the project that might tend to reduce these costs.

Regardless of their LEC calculations all eligible bids from existing generators, all Company self-build projects, and any bid claiming Section 123 status that is unopposed by the Company or, if opposed by the Company but later qualified as Section 123 by the Commission, will be advanced to computer modeling of bid portfolios.

### **Step 3 – Non-Price Factor Analysis**

The Company will assess the non-price characteristics of the proposals. Non-price factors that will be assessed include, as applicable and without limitation, the following:

- Financial strength of the respondent
- Financing plan, including ability to utilize tax advantages
- Development, construction and operation experience
- Generator technology, availability, and warranties
- Environmental permitting and compliance
- Land use permitting and zoning
- Other permitting
- Real property acquisition/site control progress and plan
- Project operational characteristics
- Scale of the project and whether or not it meets the Commission definition of an Eligible Energy Resource
- Community support for the project
- Transmission access plan feasibility and arrangements
- Transmission upgrade schedule assessment
- Construction and equipment supply plans and arrangements
- Project execution planning
- Accredibility of capacity to meet reliability needs

- Accounting assessment

#### **Step 4 – Bidder Notification**

Contingent upon the existence of sufficient bids passing through bid eligibility and due diligence screening, the Company shall pass forward to the computer modeling of bid portfolios a sufficient quantity of bids across the various resource types such that resource plans can be created that conform to the Commission’s Phase I decision.

Pursuant to rule 3613(a), within 45 days after bids are received the Company will email each bidder and indicate whether its bid has or has not been advanced to computer-based modeling of bid portfolios and provide each bidder the modeling inputs and assumptions that reasonably relate to that potential resource or to the transmission of electricity from that facility to the Company.<sup>18</sup> For those bids not advanced to computer modeling, the Company will provide the reason(s) why the project will not be evaluated further.

#### **Step 5 – Computer-Based Modeling of Bid Portfolios**

The costs and operational characteristics of any Company self-build proposal and each remaining bid equal to or greater than 10 MW will be input into the Company’s Strategist™ planning model.<sup>19</sup> The Strategist™ model will be used to construct portfolios of bids that meet the capacity and energy projections of the Public Service system, as well as the various objectives of the resource plan and Commission decisions. The Strategist™ model simulates operation of proposals together with the Company’s existing resources (and to an extent, the regional power market), while keeping track of all associated fixed and variable costs of the Company’s entire system.

Strategist™ will be utilized to develop portfolios that minimize the net present value of revenue requirements through 2054. The model will also be used to develop alternative resource portfolios that represent the costs and benefits from increasing amounts of renewable technologies and/or Section 123 resources. Portfolios will be developed in accordance with the scenario analysis directives of the Commission.

To the extent initial results indicate that all bids of a specific generation resource type (e.g., all wind bids) passed to computer modeling appear in the least-cost portfolio(s), additional bids utilizing that generation resource type will be included in subsequent model runs. This iterative process will be followed until no incremental bids employing that generation resource type are selected in the least-cost portfolio. Bidders whose projects are passed forward to computer modeling of bid portfolios after the 45 day report will be notified of their project’s advancement pursuant to rule 3613(a).

The general planning assumptions that will be used in the development of resource portfolios are included in Appendix B to this RFP. Planning assumptions specific to certain renewable resource types follow.

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<sup>18</sup> See Section 5.1 Step 5 for an exception to the notification policy for bids that are included in modeling after 45 days of bid receipt. See Section 5.1 Step 6 for an exception to the notification policy for bids smaller than 10 MW.

<sup>19</sup> Depending upon the pool of proposed projects received, the Company may adjust the specific MW cutoff for various technologies instead of the 10 MW indicated here. Such an adjustment would be done in consultation with the Independent Evaluator.



Wind generation – A wind generation bid will be assigned an hourly generation shape of the typical week for each month based on the proposed site's Wind Zone. Each wind bid in each Wind Zone will be assigned the same typical week shape; however, the typical week shape for each bid will be modified by the bidder-specified monthly peak and total generation to arrive at the bidder's estimated annual capacity factor.

The Company will assign bids to a specific Wind Zone based on the following information:<sup>20</sup>

- Wind Zone 1
  - All of Larimer, Weld, Morgan, Logan, Sedgwick, and Phillips counties,
  - Portions of Washington and Yuma counties north of 40.0° latitude; except projects in GDA #4,<sup>21</sup>
  - In Wyoming, all of Platte, Goshen, and Laramie counties and southern and eastern portions of Albany County.
- Wind Zone 2
  - All of Adams, Arapahoe, Elbert, Lincoln, Kit Carson, and Cheyenne counties,
  - Portions of Washington and Yuma counties south of 40.0° latitude, including projects in GDA #4,
  - Portions of Kiowa county north of 38.5° latitude,
  - Portions of El Paso county east of -104.8° longitude.
- Wind Zone 3
  - All of Bent, Prowers, and Baca counties,
  - Portions of Kiowa county south of 38.5° latitude,
  - Portions of Crowley, Otero, and Las Animas counties east of -103.6° longitude.
- Wind Zone 5
  - All of Pueblo county,
  - Portions of Crowley, Otero, and Las Animas counties west of -103.6° longitude,
  - Portions of Custer and Huerfano counties on the eastern side of the Sangre De Cristo mountains.

The Company will employ the best meteorological data available to develop typical week wind shapes for projects that propose a site that does not match any of the Wind Zones listed above.

Solar generation – A solar generation bid (without storage) will be assigned an hourly generation shape of the typical week for each month based on the proposed site's Solar Zone and its ability to track. Each fixed system and each tracking system solar bid in each Solar Zone will be assigned the same typical week shape; however, the typical week shape for each bid will be modified by the bidder-specified monthly peak and total generation to arrive at the bidder's estimated annual capacity factor.

The Company will assign bids to a specific Solar Zone based on the following information:<sup>22</sup>

- Northern Front Range

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<sup>20</sup> These geographic definitions of Wind Zones are for the sole purpose of assigning proposed wind sites to a proxy wind generation shape to facilitate their evaluation as part of this RFP.

<sup>21</sup> As defined by the SB07-91 Task Force on Renewable Resource Generation Development Areas.

<sup>22</sup> These geographic definitions of Solar Zones are roughly based on the original TMY2 sites in the National Solar Radiation Database of Alamosa, Boulder, Grand Junction, and Pueblo.

- Defined as the geographic area north of the southern Denver metro area (e.g., Denver, Boulder, and Greeley).
- Southern Front Range
  - Defined as a broad geographic area around Pueblo.
- Western Slope
  - Defined as a broad geographic area around Grand Junction.
- San Luis Valley

### **Step 6 – Evaluation of Bids Between 100 kW and 10 MW**

As indicated in Step 5, bids must have nameplate capacity ratings equal to 10 MW or greater to be included in the computer-based portfolio modeling step. In general, bids between 100 kW and 10 MW (“Small Bids”) will be evaluated after the computer-based portfolio modeling step.

At the conclusion of Step 5, the Company will review the least-cost portfolio from the base case run (that is, not from a sensitivity case) and determine each generation type selected in the portfolio. For each generation type selected, the Company will determine the all-in levelized energy cost of the most expensive bid. These all-in levelized energy costs will set the price against which Small Bids with similar generation technologies will be compared. The Company will include in all portfolios presented to the Commission each Small Bid with an all-in levelized energy cost less than the most expensive bid with similar technology selected in the least-cost portfolio.

A final check will be made to ensure that the inclusion of all cost-effective Small Bids does not provide excess capacity credit to the least-cost portfolio through the RAP to such an extent that it could replace another source(s) of capacity selected through the Strategist modeling. If it does, two additional sets of ad hoc Strategist runs will be conducted to determine which is most cost-effective: 1) include all cost-effective Small Bids in the final portfolio, or 2) include all cost-effective Small Bids and exclude the other generator(s) that could potentially be displaced. The final portfolio would be the least-cost of these two runs assuming that both runs meet all reliability metrics.

To the extent the least-cost portfolio does not include a certain generation type (e.g. solar) but bids for that generation type were passed through to computer-based modeling and lower priced Small Bids exist, an ad hoc Strategist run including these Small Bids would be conducted to see if the revenue requirements of the least-cost portfolio increases or decreases. If the revenue requirements decrease with the addition of the Small Bids, they would be included in the final portfolios.

For certain generation types (e.g. hydro or gas-fired micro-turbines), the Company would not typically expect to receive bids in excess of 10 MW. For such situations, the lowest all-in LEC proposals (up to a maximum of three per technology) would be advanced to computer modeling and portfolio development along with those bids  $\geq$  10 MW in Step 5 above. To the extent the Strategist model selected all three of the lowest all-in LEC proposals and other proposals for the same technology were also received, then ad hoc Strategist runs would be conducted to determine the cost-effectiveness of these other proposals.

Bidders whose Small Bid projects are passed forward to computer modeling of bid portfolios after the 45 day report will be notified of their project’s advancement pursuant to rule 3613(a).

## **Step 7 – Phase II Report to Commission**

Pursuant to rule 3613(d), the Company will file a 120-day report to the Commission describing the cost-effective resource plans that conform to the Commission's Phase I decision and other Commission decisions that impact the 2016 Phase II process.

### **5.2 Independent Evaluator Report**

Within thirty (30) days following the Company's 120-day report filing the IE will report to the Commission its analysis of whether the Company conducted a fair bid solicitation and bid evaluation process, with any deficiencies specifically reported.

### **5.3 Phase II Commission Evaluation**

Within 90 days of the Company's filing of its 120-day report, the Commission will issue a written decision approving, conditioning, modifying, or rejecting the Company's preferred cost-effective plan. The Company is required to complete this RFP process within 18 months after the receipt of bids unless the Company can show good cause for a requested deadline extension.

# Appendix A

## *Proposal Forms and Instructions*

As discussed in Section 4, the completed forms, attachments and narrative topic discussions, will comprise a complete proposal, except that Form I need not be completed by a bidder who has already entered into a formal interconnection process for their project.. The contents of each form and any special instructions for completing the forms are described below. These forms can be downloaded from the RFP web site in a format appropriate for respondent input.

If additional space is needed to elaborate on information requested on any form, please attach additional sheets with the heading "Form [ ] – Additional Information."

If certain information is requested that does not apply to the proposal, the respondent must indicate that the information is not applicable. If appropriate, the respondent should explain why the information is not applicable.

In addition to submitting two (2)<sup>23</sup> hard copies of the proposal, respondents must also include two (2) electronic copies (CD, DVD or flash drives) with all completed Forms in executable format, i.e. not PDF. The Company will provide the IE with one electronic copy of the proposal and, at their request, one hard copy.

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<sup>23</sup> Respondents are required to submit only one (1) hard copy of their financial data with each proposal.

# Appendix B

## *General Planning Assumptions*

The following planning assumptions will underlie the evaluation of proposals received in response to the Company's Solicitation. Note that the following is not a complete listing of all assumptions that will be applied in the evaluation process. Further note that the assumptions noted below represent "base case" assumptions. Sensitivity analyses will be performed in which certain of these assumptions are altered in accordance with Commission directives. To the extent any of these general planning assumptions are updated after release of this 2017 RFP, the updated values will be provided to the Commission and made available to all potential respondents and parties.

### **Utility Discount Rate and Cost of Capital**

The Company will use its after-tax, weighted average cost of capital of 6.78% as the discount rate. In addition, per Commission Decision C17-0316, the Company will also present NPV sensitivity values in its 120-day report using 3% and 0% discount rates.

### **General Inflation**

This assumption will apply to certain existing Company resource costs and future generic resource costs used in the evaluation, e.g. Variable Operations and Maintenance and Fixed Operations and Maintenance. The Company uses 2.0% as a General Inflation rate.

### **Transmission Costs**

The Company will allocate or assign transmission delivery costs on a pro-rata share of transmission upgrades needed for each individual resource. The Company will not assign transmission delivery costs to projects that will utilize existing transmission capacity or that will utilize transmission projects for which the Company has been granted a Certificate of Convenience and Necessity at the time of the bid evaluation and for which it is likely that the transmission project will be completed during the RAP.

Public Service will treat the Rush Creek Gen-Tie ("Gen-Tie") (Table 4, GI-2016-25 and GI-2016-27) as a transmission project for which the Company has been granted a CPCN for purposes of evaluating bids offered to the Company in response to the 2017 All-Source RFP. Pursuant to the Settlement Agreement approved by the Colorado Public Utilities Commission,<sup>24</sup> the Company will make the Rush Creek Gen-Tie available for other entities to interconnect to the Company's transmission system at the Missile Site substation once the Gen-Tie reaches commercial operation (expected August 31, 2018). Parties submitting proposals into the 2017 All-Source RFP that utilize the Rush Creek Gen-Tie will not be allocated any costs detailed in section 9.9.2 of the Large Generator Interconnection Agreement ("LGIA") for usage of the Gen-Tie in the evaluation of their proposal, so long as they sell the entire output of the connected generator to Public Service. In the event that such a proposal is selected and the party awarded a Power Purchase Agreement ("PPA") enters into a LGIA interconnecting its project to the Gen-Tie, an agreement will be structured to offset the payment that the party delivering energy to Public Service must make for use of Gen-Tie pursuant to the Company's Open Access Transmission Tariff ("OATT") with reciprocal payments made coincident between Public Service and the contracting IPP. This agreement will be separate from the PPA for any capacity and

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<sup>24</sup> Colorado Public Utilities Commission Decision No. C16-0958E, Proceeding No. 16A-0117E.

energy from the resource and shall remain in effect as long as and to the extent that (1) the party is selling the entire output of the project to Public Service; and (2) to the extent that the Gen-Tie is not interconnected as a network resource. This agreement would terminate at the same time as the OATT payment for use of the transmission line also terminates. To the degree that a bid requires the Company to complete transmission upgrades in order to deliver the output from the proposed facility to customer load (e.g., from Missile Site substation to customer load), such delivery related costs will be assigned on a pro-rata share. The Company will estimate and assign company owned, company funded interconnection costs for upgrades needed for the resource.

### **Capacity Credit for Intermittent Resources**

Existing wind facilities will be given a capacity credit in the evaluation process equal to 16% of their nameplate rating. New wind facilities will be given a capacity credit depending on their size and location, according to the results of "An Effective Load Carrying Capability Study of Existing and Incremental Wind Generation Resources on the Public Service Company of Colorado system" (May 2016). Capacity credit for intermittent solar resources will be assigned based on the project's location, whether or not the bid proposes tracking technology, and the results of "An Effective Load Carrying Capability Study of Existing and Incremental Solar Generation Resources on the Public Service Company of Colorado System" (May 2016). Capacity credit for other intermittent resources will be determined on a case-by-case basis and will largely depend upon the ability of the generator to provide energy during the Company's summer peak load hours.

### **Integration Cost for Intermittent Resources**

Integration costs for wind resources and for other non-dispatchable resources likely to exhibit high levels of generation during periods of low system load (e.g., geothermal, hydro, or biomass) will be based on the results of "Public Service Company of Colorado 2 GW and 3 GW Wind Integration Cost Study" (Aug 2011), "4 GW Wind Integration Cost Study on the Public Service Company of Colorado System" (Sep 2016), and the incremental cycling cost component results from "Wind and Solar-Induced Coal Plant Cycling and Curtailment Costs on the Public Service Company of Colorado System" (May 2016). Integration costs for solar resources will be based on the results of "An Integration Cost Study for Solar Generation Resources on the Public Service Company of Colorado System" (May 2016).

### **Gas Price Forecast**

The Company will use the natural gas price forecast methodology approved by the Commission in its Phase I Decision. The natural gas price forecast, consists of a combination of long-term gas price forecasts from Cambridge Energy Research Associates ("CERA"), PIRA Energy Group ("PIRA"), Wood Mackenzie, and the current forward price as represented by the New York Mercantile Exchange ("NYMEX") Gas Futures Contract to develop a long-term gas price forecast for Henry Hub, Louisiana (the location applicable to the NYMEX contract).

The Company will adjust the long-term Henry Hub forecast by applying a forecast of the basis differential, to obtain a long-term commodity forecast for the Colorado Interstate Gas ("CIG") Rocky Mountain index, the index for the area where the Company purchases most of its gas supplies. To this commodity forecast, the Company will add the cost of local transportation and fuel to provide a delivered-to-plant forecast.

### **Gas Price Volatility Mitigation Adder**

Per Commission order C17-0316 the Company will not be evaluating portfolios based on the GPVM. The Company will however show the effects of the GPVM as a sensitivity in the 120-day

report. The value of the GPVM is derived from the cost of an "at-the-money" call option to the commodity price forecast.

### **Planning Period**

The planning period will be 39 years, beginning in 2016 ending in 2054.

### **CO<sub>2</sub> Cost Adder**

In its economic screening and baseline computer modeling, the Company will assume no CO<sub>2</sub> costs. Public Service will perform two portfolio sensitivities using a CO<sub>2</sub> cost assumptions, a "High Case" and a "Low Case" (see "2016 Electric Resource Plan Phase II Modeling Assumptions Update"). CO<sub>2</sub> cost adders will be applied to all existing and proposed fossil fuel generation facilities and proposed renewable energy generation facilities with gas hybridization, as applicable.

In addition to the CO<sub>2</sub>, cost adder, the Company was ordered to run sensitivity analyses using the Social Cost of Carbon, starting at \$43/ton in 2022 and increasing to \$69/ton in 2050.

**For further details, please see "2016 Electric Resource Plan Phase II Modeling Assumptions Update" filed in docket 16A-0396E**

# Appendix C

## *Transmission Costs*

### 1. **Power Delivery Requirements**

Proposals must specify delivery of capacity and energy to the Public Service system at a point of delivery within or at the boundary of the Public Service Control Area and at a Public Service-owned transmission facility.

### 2. **Proposals Requiring Third-Party Transmission Service**

For proposals that will require third-party transmission service(s) for the delivery of capacity and energy to the bid-specified point of delivery on the Public Service system, respondents are responsible for any interconnection, electric losses, transmission and ancillary service arrangements required to deliver the proposed capacity and energy to the bid-specified point of delivery on a firm basis. Such proposals must identify all third-party interconnections, electric losses, transmission and ancillary service providers, components and costs, provide a complete description of those service arrangements and provide documentation that such service(s) will be available to a RFP respondent or the Company during the full term of service proposed. The cost of all such third party services, for which a RFP respondent intends to seek compensation from the Company, must be included in the bid prices provided on the applicable forms. Respondents should recognize that wheeling and other costs associated with such services may adversely affect the cost-effectiveness of their proposals.

### 3. **Interconnection Costs**

Proposals that will require a new or upgraded electrical interconnection to the Public Service transmission system should include in their proposal pricing any costs for the generator interconnection facilities. To clarify, these are the facilities between the generation project and the point of interconnection to the Public Service transmission system (these types of facilities are commonly referred to as “Generator Interconnection Facilities” and “PSCo-Owned, Customer Funded Interconnection Facilities” in the LGIP and SGIP). Because these facilities are not considered a part of the transmission system, they are part of the cost of the generation project and must therefore be incorporated in the proposal pricing. The following table includes an estimated cost at each voltage level that should be considered if the PSCo (or other Transmission Provider)-Owned, Customer-Funded interconnection cost has not been otherwise estimated for the project, e.g., in an interconnection study report from the Transmission Provider.

Voltage	PSCo-Owned, Customer-Funded Interconnection Facilities Estimated Cost
69 kV	\$720,000
115 kV	\$850,000
230 kV	\$1,400,000
345 kV	\$2,400,000



If the bidder has an active LGIP or SGIP request, the bidder should provide the LGIP or SGIP identifier(s) associated with its project in its proposal. Bidders are urged not to submit a generation interconnection request or transmission service request pursuant to the Xcel Energy Open Access Transmission Tariff ("OATT") to receive interconnection or transmission service cost estimates for purposes of responding to this RFP.

As discussed in Section 5.1 of this RFP, proposal-specific cost estimates of Generator Interconnection Facilities provided by bidders in Form D2 will be reviewed or determined by the Company and, if required, Company estimates will be provided back to bidders so that they can update their bid pricing as needed. Such bidders must submit final bid pricing back to the Company within 5 calendar days of the date the interconnection cost estimates are provided. These estimates and other transmission and interconnection-related information will be posted, as required, on the Company's OASIS<sup>25</sup> in a manner that preserves individual bidder confidentiality. Information posted on the Company's OASIS will not identify bidder Company name but rather will identify location of proposed interconnection, generation capacity and type proposed, and a summary of the study results.

#### **4. Application of the Xcel Energy OATT**

The Company anticipates that all transmission usage rights associated with bids selected through this RFP will be "network" use rights held by the Company. Under FERC Order No. 888<sup>26</sup> where the Company will hold the transmission service rights, the Company must provide non-discriminatory access to its transmission system, and must designate network resources in the same manner as a similarly situated OATT customer. In addition, under FERC Order No. 2003 (August 2003), Order No. 2003-A (March 2004), Order No. 2003-B (January 2005),<sup>27</sup> all new requests for interconnection of a large generator (larger than 20 MW) to the Public Service transmission system, including interconnection requests associated with this RFP, must be administered in a non-discriminatory manner in compliance with the LGIP contained in the Xcel Energy OATT. Likewise, under FERC Order No. 2006 (May 2005), Order No. 2006-A (November 2005), and Order No. 2006-B (July 2006),<sup>28</sup> all new requests for interconnection of a small generator (less than 20 MW) to the Public Service

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<sup>25</sup> Information regarding posted studies may be found on the public site [http://www.rmao.com/wtpp/psco\\_studies.html](http://www.rmao.com/wtpp/psco_studies.html). This website does not require registration to view, while the Company's OASIS site located at <http://www.westtrans.net> does require registration.

<sup>26</sup> Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities and Transmitting Utilities, Order No. 888, F.E.R.C. Stats. & Regs. 31,036, (1996) ("Order No. 888"), order on reh'g, Order No. 888-A, F.E.R.C. Stats. & Regs. 31,048 (1997), order on reh'g, Order No. 888-B, 81 F.E.R.C. ¶ 61,248 (1997) ("Order No. 888-B"), order on reh'g, Order No. 888-C, 82 F.E.R.C. ¶61,046 (1998), *aff'd New York, et al. v. FERC*, 122 S.Ct. 1012 (2002).

<sup>27</sup> *Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, 68 Fed. Reg. 49,845 (Aug. 19, 2003); FERC Stats. & Regs. ¶ 31,146 (2003); *reh'g granted*, Order No. 2003-A, 106 FERC ¶ 61,220 (March 5, 2004), 69 Fed. Reg. 15932 (March 26, 2004); Order No. 2003-B, 109 FERC ¶ 61,287, 70 Fed. Reg. 264 (January 4, 2005).

<sup>28</sup> *Standardization of Small Generator Interconnection Agreements and Procedures*, Order No. 2006, 70 FR 34100 (Jun. 13, 2005), FERC Stats. & Regs. ¶ 31,180 (2005), (Order No. 2006), order on reh'g, Order No. 2006-A, 70 FR 71760 (Nov. 30, 2005), FERC Stats. & Regs. ¶ 31,196 (2005).

transmission system, including interconnection requests associated with this RFP, must be administered in a non-discriminatory manner in compliance with the SGIP contained in the Xcel Energy OATT.

## 5. **LGIP and SGIP Interconnection Studies**

Given the short period of time available to evaluate bids, the Company's evaluation team and the Company's Transmission Access group and Transmission Function will employ an abbreviated process for estimating the transmission Network Upgrades, associated costs and construction timeframes necessary to deliver power from proposed facilities to customer loads. In general, this abbreviated process will consist of four stages:

*Stage 1* – The Transmission Access group will rely on existing LGIP or SGIP studies posted on the Public Service OASIS to determine/verify bid-specific interconnection and delivery facilities and costs.

*Stage 2* – The evaluation team will develop a number of portfolios of bids that will meet the Company's needs and the various Commission directives. The Transmission Access group will provide estimates of the network facilities and upgrades required for each portfolio and provide that information to the Transmission Function.

*Stage 3* – The Transmission Function will review the Transmission Access group's estimates of network facilities and upgrades and modify as deemed appropriate. The resulting cost information will be used to determine the bid's levelized energy cost in initial economic screening and will be included in the computer-based modeling in the event the bid is advanced to computer-based modeling.

*Stage 4* – Depending on the number of bids received and their location, the Company may decide to also utilize the "Resource Solicitation Cluster" provisions contained in the Xcel Energy OATT for providing more refined estimates of network facilities and upgrades necessary to deliver power from portfolios of bids to customer loads. If this process is utilized, the Transmission Access Group will submit portfolios into the LGIP or SGIP for consideration. A given portfolio submitted into the LGIP or SGIP will occupy a single queue position (based on the date of the portfolio Interconnection Request) for the required Interconnection studies. This Stage will likely not be completed prior to the end of the 120 day evaluation period.

Each bid passed to the Transmission Function for study in the Resource Solicitation Cluster that requires a new or expanded transmission interconnection must provide an Interconnection Request deposit of \$50,000 (or such other amount as is required under the LGIP or SGIP provisions of the Xcel Energy OATT)<sup>29</sup> which will be forwarded to the Transmission Function to pay the cost of Feasibility and/or System Impact studies that will be performed for each portfolio.

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29 The bidder must demonstrate "site control," which the OATT defines as "documentation reasonably demonstrating: (1) ownership of, a leasehold interest in, or a right to develop a site for the purpose of constructing the Generating Facility; (2) an option to purchase or acquire a leasehold site for such purpose; or (3) an exclusivity or other business relationship between Interconnection Customer and the entity having the right to sell, lease or grant Interconnection Customer the right to possess or occupy a site for such purpose."

Once the Transmission Function has completed the Feasibility and/or System Impact studies, the study results will be posted on the Company's OASIS in a manner that preserves individual bidder confidentiality. Respondents ultimately selected through this process must work directly with the Transmission Function from this point to complete the LGIP or SGIP process and execute an LGIA or SGIA.

Respondents that fail to provide the required LGIP study deposits at any time will be removed from the interconnection queue and will be removed from further consideration in the evaluation process. As required by the OATT, the Transmission Function will refund to bidders all LGIP and SGIP study fees not expended or will bill bidders for any study costs exceeding the deposited amount. The Transmission Access group will act as each bidder's Authorized Representative only through the System Impact Study phase.

**6. Network Designation and Funding of Transmission System Upgrades For Interconnection**

- Network Resource Designation:

As indicated above, the Company anticipates that it will declare each proposal selected through this RFP as a Network Resource of the Company, and that the Company will bear the cost of any network transmission service on the Public Service system (whether or not procured under the OATT) for a proposal that is selected and achieves commercial operation. Each selected proposal not requiring a new transmission interconnection (e.g., either a generator already connected to the Public Service transmission system or each off-system generator not connected to the Public Service transmission system) and each portfolio of bids requiring new or expanded generation interconnections will be evaluated as proposed designated Network Resources pursuant to Article III of the OATT.

- Funding of Network Upgrades for Interconnection:

For purposes of achieving an interconnection, the Company's LGIP provides for the option of funding the network upgrades or requiring the interconnection customer (i.e., the respondent) to fund such upgrades and receive revenue credits based on future transmission services used by the interconnection customer or through some other refunding mechanism.

The Company will make a determination about which, if any, interconnection costs are to be financed by respondents after it completes the LGIP studies that are conducted in connection with this RFP. If the Company determines that certain infrastructure costs are to be funded by respondents, any financing arrangements will be negotiated as part of the LGIA or SGIA.

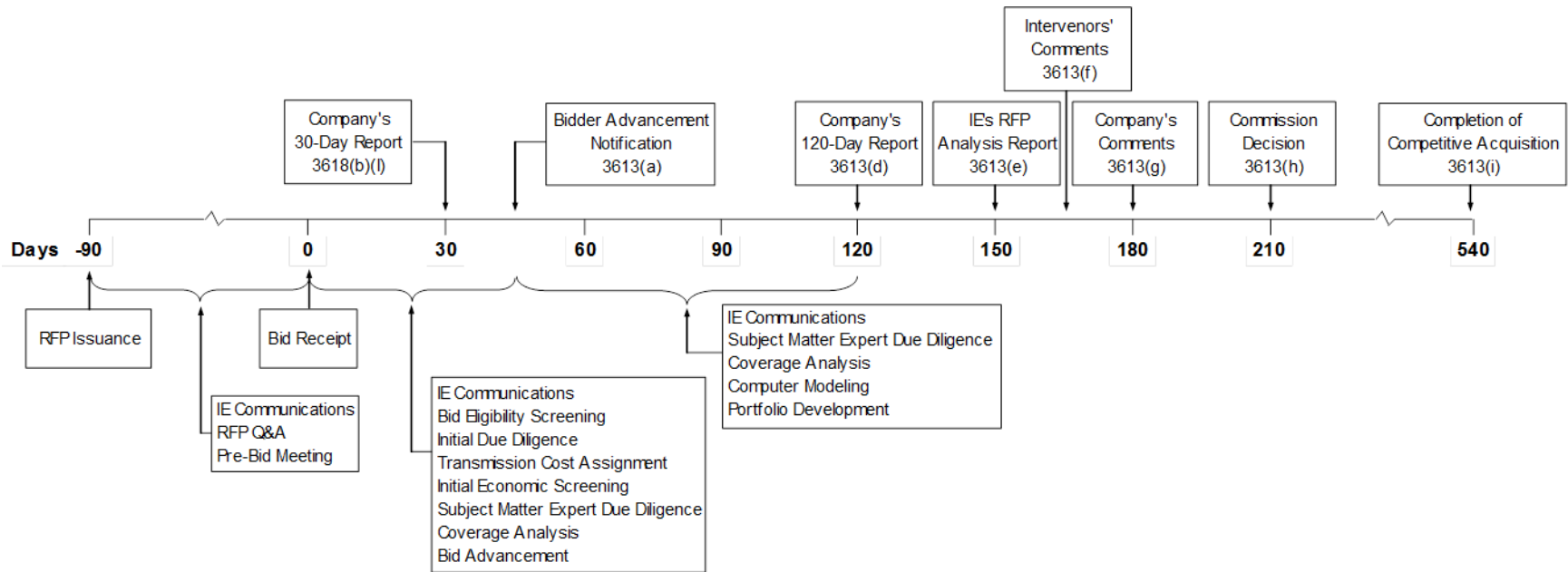
## **Appendix D**

*Model Semi-Dispatchable Renewable  
Power Purchase Agreement*

**See link “Model Semi-Dispatchable PPA”**

# Appendix E

## All-Source Solicitation Timeline



# Appendix F

## *Commission Confidentiality Order*

### **BIDDER HIGHLY CONFIDENTIAL NONDISCLOSURE AGREEMENT**

I, \_\_\_\_\_, state that I am employed by a bidder in Public Service Company of Colorado's 2017 All-Source Solicitation.

For purposes of this highly confidential nondisclosure agreement "Potential Resource" means the new or existing resource of the bidder by which I am employed.

For purposes of this highly confidential nondisclosure agreement "Highly Confidential Information" means highly confidential modeling inputs and assumptions that reasonably relate to the Potential Resource or to the transmission of electricity from that Potential Resource to Public Service.

I understand that I may obtain Highly Confidential Information for the sole purpose of assisting the bidder to identify modeling errors or omissions concerning its Potential Resource so that the modeling errors or omissions may be corrected before the competitive acquisition process is completed.

I hereby state that I have read the protective provisions relating to confidential information contained in 4 Code of Colorado Regulations 723-1-1100 through 1104. With respect to all Highly Confidential Information that may be provided to me, I agree to be bound by the terms of the protective provisions contained in 4 Code of Colorado Regulations 723-1-1100.

I hereby state that I will properly implement and maintain extraordinary confidentiality provisions for the Highly Confidential Information I receive.

I hereby state that the Highly Confidential Information I receive shall not be used or disclosed for any purpose other than assisting the bidder to identify modeling errors or omissions concerning its Potential Resource so that the modeling errors or omissions may be corrected before the 2017 All-Source Solicitation competitive acquisition process is completed.

I hereby state that I will not disclose or disseminate any Highly Confidential Information I receive to any third party other than to those who are specifically authorized to review such Highly Confidential Information and who have signed a highly confidential nondisclosure agreement. At the conclusion of the 2017 All-Source Solicitation competitive acquisition process, I agree to return all Highly Confidential Information to Public Service Company of Colorado.

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Name

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Title

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Employer or Firm

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Business Address

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Bidder Represented

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Date

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Signature