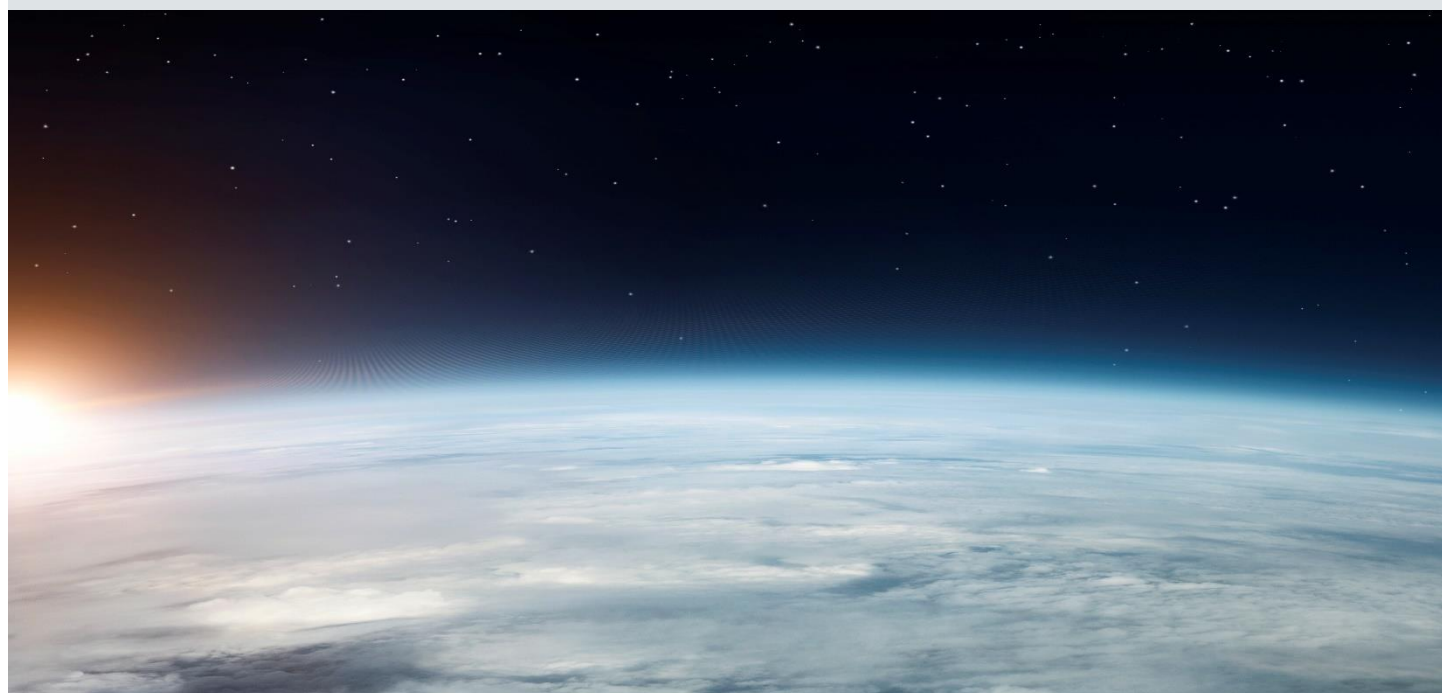




OREGON PUBLIC UTILITIES COMMISSION

Independent Evaluator's Status Update of
PacifiCorp's 2020AS RFP

September 10, 2020



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EXECUTIVE SUMMARY

The purpose of this report is to provide an update on the progress of PacifiCorp's (PAC) 2020 All Source RFP (RFP or the Solicitation).

PAC is currently conducting the RFP under the oversight of two Independent Evaluators (IE), one for each of the Oregon and Utah regulators. PA Consulting (PA) has been retained by PAC as the IE for this Solicitation on behalf of the Public Utility Commission of Oregon (OPUC or the Commission). PA has been involved in the development of the RFP and provision of oversight to ensure the RFP process is conducted in a fair and reasonable manner and meets the Commission's requirements. PA has also been participating in discussions between PAC and bidders throughout the RFP process.

Independent Evaluator activities to date

On April 7, 2020, OPUC approved Staff's recommendation of PA as the IE for this RFP process, and PA and PacifiCorp executed a contract for the work on April 24, 2020. The following provides a summary of PA's IE activities during the Solicitation to date:

- Collaborated with OPUC Staff, PAC, and stakeholders to develop and refine the RFP documents;
- Monitored and evaluated communications between parties to ensure equal treatment of bidders; reconciled communication with the bid compliance evaluation process;
- Reviewed and provided input to OPUC staff on PAC's screening and evaluation criteria, ranking factors, and evaluation methodology
- Reviewed and critiqued both the models PacifiCorp designed for the bid evaluation and the StorageVet interface;
- Assessed bidder compliance with RFP requirements and reconciled bid eligibility with PAC; and
- Established processes to review and assess the ranking and scoring methodology leading to the development of the Initial Shortlist (ISL) of bids.

Primary observations

The breadth of this RFP process has resulted in an intake, review, and evaluation process characterized by a critical need for organization and data management. PA has observed consistent communication and review between PAC and bidders in the process to date. In its role as IE, PA has been included by PAC on calls, email communications, and party to PAC's decision-making process to date. The majority of bids conformed to the minimum eligibility criteria, and progression through key milestones identified in the RFP has remained generally on schedule.

With regard to the bids deemed by PAC to be non-compliant prior to development of the Initial Short List (ISL), PA analysed each such bid to confirm PAC's determination of noncompliance, assess the accuracy of the determination, and ensure that no bids were inaccurately excluded from the remainder of the process. PA concurs with PAC's identification of non-compliant bids.

Finally, through observation of the RFP issuance, pre-bid communications, bid receipt management, and bid clarification process conducted by PAC, PA has not identified instances in which bias, preference, or unequal treatment of bidders has taken place.

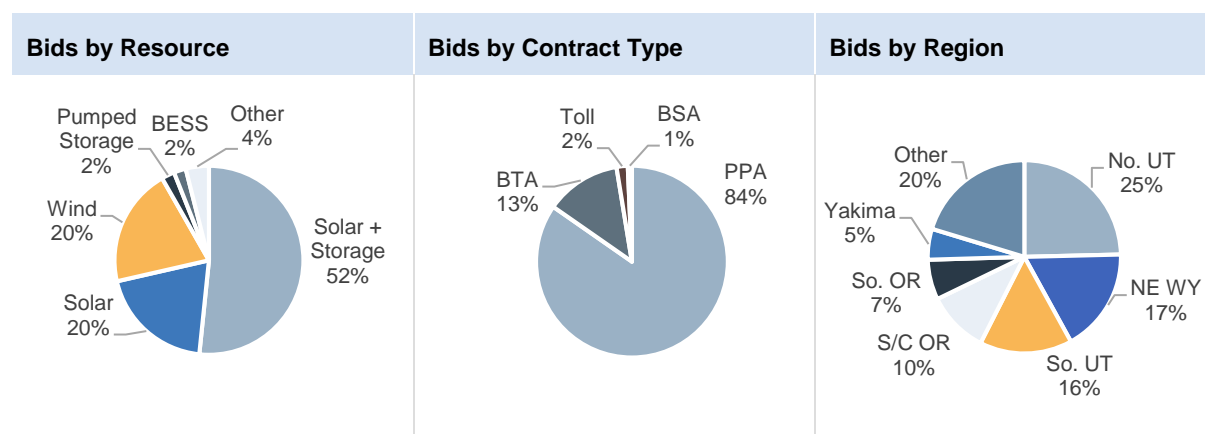
Specific findings are noted below:

- Out of 574 bids received, the majority (~66%) met the 31 minimum eligibility criteria
 - One bidder accounted for 74 (~38%) of all non-compliant bids
- Causes of noncompliance were predominantly related to a bid's position within PacifiCorp Transmission's¹ interconnection study queue or lack of binding site control for the project's development
 - Prior to the RFP being issued, PAC received approval from the Federal Energy Regulatory Commission (FERC) to reform its interconnection study process. In doing so, PAC scheduled a transitional cluster study with a request cut-off date of January 31, 2020. PAC agreed that unless FERC a ruling prior to the RFP submission deadline of August 10, 2020 changed the cut-off date for the transitional cluster study request, a bid would only be compliant if it had an executed Large Generator Interconnection Agreement (LGIA) or had requested a study queue position prior to January 31, 2020. Ultimately, FERC did not rule to revise the study request date, and so the January 31 date remained the cut-off date.
- A subset of bids were submitted and later revised due to errors in the bidder's compliance with the RFP's requirement that bidders provide two separate pricing scenarios for projects which include battery storage (either standalone or collocated). In accordance with guidance from PAC, such proposals must provide pricing both with and without battery augmentation.
 - Augmentation refers to a strategy of maintaining a constant resource capacity over the life of a naturally degrading battery. Augmentation may take various forms, but generally is reflective of oversizing the battery capacity in comparison to the contracted output or adding incremental capacity throughout the lifecycle to maintain constant output.

Figure ES-1 below provides a summary of the composition of the total bids received and of the bids included in the initial shortlist.

¹ Note: PacifiCorp Transmission is a separate business unit within PacifiCorp. This business unit is required to maintain independence from the business activities of PacifiCorp's merchant operations and is not involved in administration of the RFP process.

Figure ES 1: Composition of the bid pool



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1 INTRODUCTION

The purpose of this status update is to provide a summary of PA's Independent Evaluator's activities to date related to PacifiCorp's 2020 All Source RFP, including bid scoring, observations of process mechanics, future milestones, and open items. The RFP was issued resulting from PAC's 2019 Integrated Resource Plan (IRP) goal of sourcing 1,823MW of new solar, 595MW of new battery storage, and 1,920MW of new wind resources to come online by the end of 2023. The RFP was designed with performance constraints, evaluation criteria, and timelines to result in the least cost, lowest risk portfolio of new generation assets possible. PA was engaged by PAC to serve as the IE on the behalf of the OPUC for the duration of the Solicitation process.

1.1 Scope of work

PA's scope of work and level of interaction between the stakeholders will evolve over time, however the primary responsibility of ensuring equitable treatment of all bidders will remain constant. After the ISL is determined by PAC, PA's work is anticipated to entail more regular communication with PAC related to both the modelling of individual projects as well as the assessment of the optimal portfolio of resources to procure, culminating with the selection and approval of the Final Shortlist (FSL).

1.2 Process overview and related deliverables

In addition to the three phases of the bid evaluation process, PA began reviewing, advising, and reporting on the development of the Solicitation beginning in May 2020. The RFP process itself has been structured into three primary phases of work beginning from the point that bids were due to PAC on August 10, 2020 and concluding with PAC's submittal of the FSL for approval by the Oregon and Utah Commissions in September 2021. These three phases entail the following primary workstreams:

- Phase I: eligibility screening and initial short list determination
- Phase II: transmission cluster study and contract negotiation with initial short list bids
- Phase III: updated IRP modelling of short list bids to develop and approve an FSL

This Status Report is PA's first report to the Commission relative to the bid evaluation process.

Additional milestones and deliverables for which PA is responsible will expand upon it. They include:

- Participation in a special public meeting which will take place on September 22, 2020 to solicit input and discussion amongst stakeholders, PAC, and the OPUC;
- Ongoing review of and coordination with the OPUC on the development of sensitivity analysis to be conducted by PAC as part of the assessment of the ISL and FSL;
- Reporting on PA's review of PAC's bid models and subsequent bid scoring and ranking in mid-October; and
- Review and reporting on the FSL by June 2021.

2 RFP ISSUANCE AND BID INTAKE

In reporting on the processing and issuing of the RFP and receiving bids, PA's role as IE has been to facilitate and monitor communications between bidders and PAC to ensure that all bids are treated in a fair and non-discriminatory manner. PA has also participated in numerous discussions with PAC and the OPUC and Staff related to the RFP.

2.1 RFP Issuance

The RFP solicited proposals from a diverse pool of developers, owners, and investors to ensure both a variety of resource types and geographies, as well as a breadth of development expertise. In this vein, the Solicitation did not restrict the pool of potential bidders based upon project development expertise or asset management track record.

In tandem with issuing the RFP, PAC also required that all bidders deliver a collection of foundational documents by July 20, 2020 as part of the bidder's Notice of Intent (NOI) to bid in order to streamline PAC's credit review, organization, and management of the eventual bids. These requirements included:

1. Signed NOI providing basic information regarding the types and quantity of bids, commercial operation date, capacity size, location, interconnection queue number, and bidder contact information;
2. Mutual confidentiality agreement;
3. Bidder organizational chart;
4. Bidder historical financial statements; and
5. Statements of credit support from primary project vendors or partners.

These pre-bid deliverables and PAC's adaptations related to COVID constraints (namely the virtual July 9, 2020 RFP Bidders Workshop and the elimination of the typical requirement that bidders send hard copies of the bids to PAC's offices) served well to eliminate potential chokepoints in the RFP process and to pre-emptively clarify matters to all bidders related to the RFP as issued.

Overall, PA's assessment of the RFP issuance process is that it appropriately corresponded with the action item in PAC's 2019 IRP and that it was designed for the purpose of delivering the lowest cost, least risk portfolio for stakeholders. Further, PA believes that PAC took the appropriate steps to clarify and structure the non-price related scoring mechanism, which is critical. Unstructured qualitative assessments introduce a risk of subjectivity and the potential for biased outcomes during an RFP process.

2.2 Bid intake process

The bid submittal process experienced by bidders was typical compared to other RFP processes which PA has observed or participated in. These processes were characterized by organization and timeliness of communication. Bidders were afforded a well-defined RFP, clear instruction, and a responsive RFP evaluation team.

With regard to categorization of bids, the RFP required that bids be segmented by the type of proposed contractual arrangement: Power Purchase Agreement (PPA), Build Transfer Agreement (BTA), Battery Storage Agreement (BSA), or a combined PPA+BSA. Separately, the RFP required

that bids including battery storage must provide for otherwise identical augmented and non-augmented pricing alternatives based on expected battery storage degradation over time².

A clear requirement of the RFP was that due to the substantial differences in risk profile and diligence requirements a single project being proposed under both a PPA and a BTA structure, bidders proposing both PPA and BTA alternatives needed to deliver to PAC two discrete bids for the alternatives. PA observed that all bidders complied with the requirement. While this increased the number of bid submittals, it improved the ability of PAC to separately assess the unique characteristics (in particular, the non-price related factors) of both proposed contracting structures.

As it relates to the augmentation considerations, the RFP required that proposals including battery storage must deliver a base bid that includes battery augmentation and non-augmentation. This requirement of these two pricing proposals did not constitute an alternative bid (see Section 2.3 for explanation of base and alternative bids). While this requirement did not directly lead to bids being deemed non-compliant against the minimum eligibility criteria, some duplicative submissions were received.

PA will be making recommendations to PAC and the OPUC in a subsequent report. Amongst others, PA's observations include:

1. Challenges in managing the high volume and large file sizes of the bid packages;
2. A disaggregated approach to tracking and managing files and clarifications related to those files;
3. Delays in delivery and receipt of bid packages due to IT security constraints; and
4. Potential ambiguity around the level of necessary documentation sought from bidders in order to achieve certain minimum eligibility criteria.

2.3 Bid Intake

PAC received proposals from 43 bidders covering 275 base bids and 574 total bids (defined as base bids plus alternates).³

Upon receipt of bids, PAC confirmed receipt to the bidder, identified any missing documentation, determined whether the missing documentation was intentional (e.g. if there was a change in bid plan from the bidders stated NOI versus the bid received), and promptly ensured that all other pre-evaluation administrative steps were undertaken. These steps typically included provision of PAC's wiring information, receipt of the bid fees from each bidder, receipt of any necessary waiver from PacifiCorp Transmission, and the mutual confidentiality agreement (to the extent not delivered as part of the proposal itself).

PA organized proposals by bidder, tracked and organized all communications, and confirmed supplemental documentation related to the bid addressed outstanding deficiencies as identified by PAC. The purpose of this organization effort was to facilitate an efficient bid evaluation process and ensure equal treatment across the bidder population.

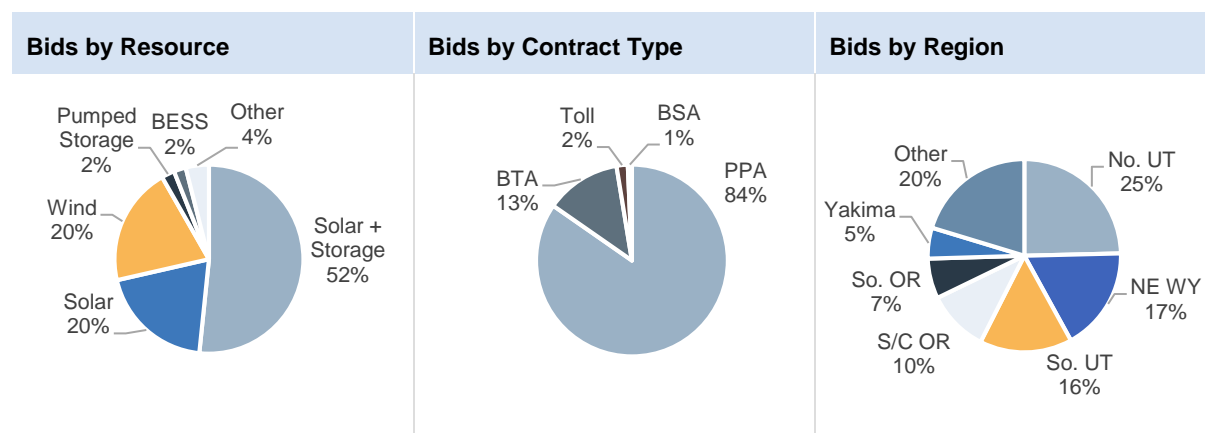
As shown in Figure 1 below, the majority of bids included solar (either standalone or collocated with storage) and made use of a PPA offtake structure, representing 72% and 84% of total bids respectively while PAC's eastern transmission regions across Utah and Wyoming accounted for over half of the proposed resource capacity.⁴

² Augmentation refers to a strategy of maintaining a constant resource capacity over the life of a naturally degrading battery, typically through either operational controls or incremental capacity additions over time.

³ A "Base" bid represents the delivery of a comprehensive bid package as required by the RFP and must only reflect one form of contract structure. "Alternate" bids are defined as the base bid with variation only in terms of contract term (duration), in-service date, and pricing. Each bidder is allowed to submit one base bid and two alternate bids for the \$10,000 bid fee with an option to submit a further three alternate bids for a fee of \$3,000 per additional alternate.

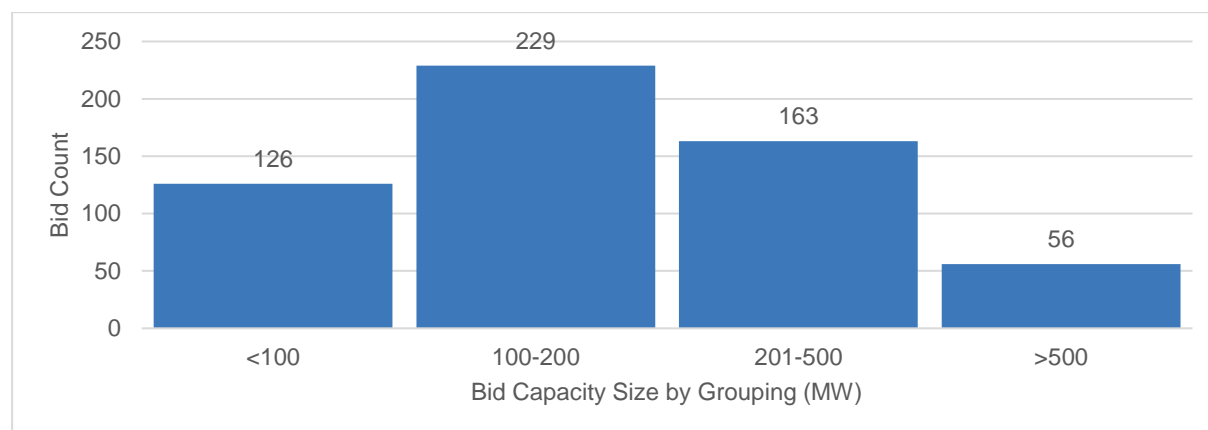
⁴ Figures reflect base and alternate bids.

Figure 1: Composition of the bid pool



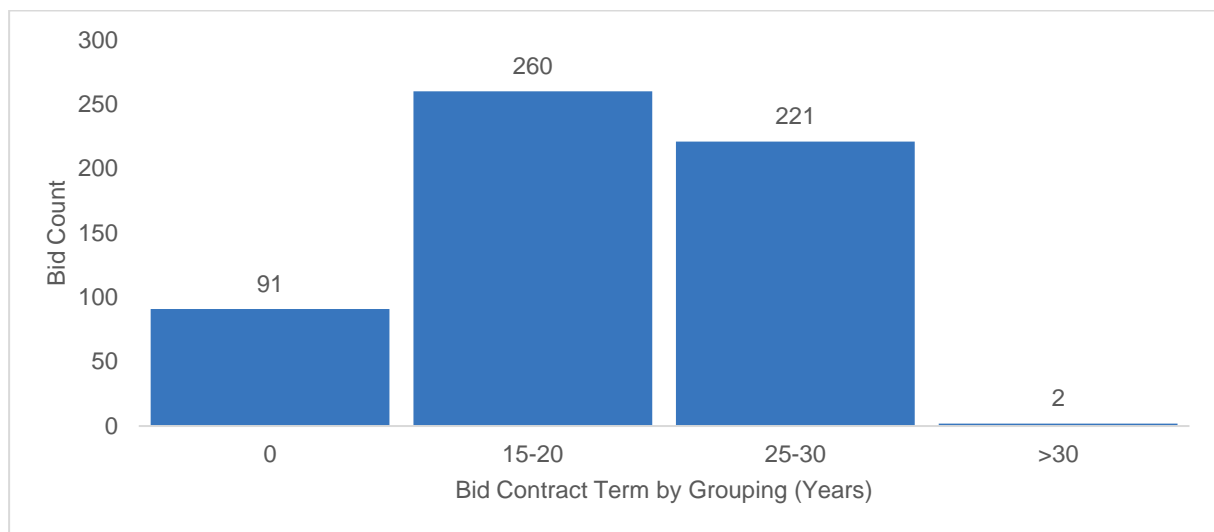
In terms of the size and duration of the proposed bids as shown on the following Figures 2 and 3, bids averaged ~250MW of capacity with a wide distribution from 20MW to 1,900MW and averaged a term of 20 years around a narrow range. Roughly 15% of bids received proposed BTA structures which, by their nature, did not entail an offtake duration.

Figure 2: Distribution of Bids by Capacity⁵ (MW)



⁵ Nameplate capacity, as indicated by bidder.

Figure 3: Distribution of Bids by Contract Term⁶ (Years)



⁶ Years from the commercial operation date.

3 COMMUNICATION MANAGEMENT

One of the IE's ongoing responsibilities in this process is to monitor and review communications between PAC and bidders and participate in discussions with OPUC and PAC on various matters related to the RFP process. Ensuring clear and consistent communications is critical to achieving an equitable process and reporting on management of those communications and identifying any potential issues will support that goal.

3.1 Bid receipt communication

PA observed that PAC's bid receipt communication plan generally supported a smooth process of receiving, tracking, and confirming hundreds of electronic copies of bid packages. Challenges were encountered with file sizes, the use of file sharing systems, and mailbox capacity limits. In PA's view, none of these challenges threatened the stability and equality of the process as all issues were identified and rectified even if doing so caused receipt of certain files to be received after the deadline.

- PAC conducted communications through an RFP Team email. Upon PAC receiving a bid, an email was sent to the bidder confirming that their bid(s) had been received and were being reviewed. All emails were sent within 1-2 business days of receiving the bids, as the volume of bids received at or near the deadline did not allow for immediate communication.
- Also, upon receiving a bid package, PAC either confirmed receipt of all materials or provided a list of missing materials or questions regarding any variation against the bidder's NOI to bid documentation
- Due to the volume of bids, PAC divided the bids among the RFP Team by bidder. This ensured that each team member could track the documents for their specific bids. If a bid was non-compliant or missing items, that person, via the RFP email, handled the communications with the bidders.
- On the days preceding and just following the bid deadline, the PAC RFP team consistently provide a receipt confirmation and a summary index of the bids received within a 2-6 hour window.
- Upon sending an email to confirm PAC had received the bid, PAC directed bidders to wire their commensurate bid fees reflecting the RFP instructions: \$10,000 to cover the base bid plus two alternatives and incremental fees of \$3,000 for each alternate up to a maximum of five total alternatives. Additionally, if bidders had missing materials, such as signed intent to bid form, proof of wiring, or signed site control, or if an email did not come through, PAC promptly reached out to the bidder via email to request they provide the forms within 2 business days of the request (a requirement dictated within the RFP and reinforced during the all-bidder RFP workshops).

3.2 Bid information clarification communication

Throughout the period from bid receipt through identification of the list of non-compliant bids on August 31, 2020, PAC maintained timely and consistent communication with all bidders. Throughout this initial stage of bid review and clarification, PAC's communication largely fell into three separate categories:

- Providing any blanket clarifications from PAC to bidders (e.g. the clarification that certain bid model template inputs required additional explanation beyond what had been included in the template to bidders);

- Reconciling documentation required to accompany all bids as outlined in the RFP and as expected to be received from each bidder's NOI; and
- Seeking clarification of assumptions, expectations, or other considerations that PAC required to better evaluate the nuances of each individual bid and bidder.

While seeking and reviewing clarification from bidders through the evaluation phase, PAC was consistent in allowing two business days for responses prior to a deficiency being deemed uncured. Simultaneously, in instances where bidders were able to provide partial answers within two business days, but required additional time to address complex questions, that PAC would allow for incremental time within reason and upon seeing evidence from the bidder of intention to cure the deficiency. This avoided potentially punitive constraints on bidders that were asked complicated clarification questions and who responded in good faith and in a timely manner to resolve deficiencies and answer questions even if doing so required more than two business for PAC to be satisfied.

In addition to the regular email correspondence with bidders, the IE participated on a call between PAC and an individual bidder. As of the date of this report, PA is aware of only one call having taken place between PAC and a single bidder; both IE's were part of this discussion. Aside from this one exception, PAC did not communicate one-on-one with bidders telephonically. Similar to PAC's management of electronic communication, during this call PAC maintained adherence to the criteria of the RFP in their line of questioning, were proactive about detailing questions in advance, and sought further clarifications afterward. Overall, PA's observation of PAC's communication has shown the PAC RFP team to be structured, organized, and objective in their questioning and diligence process.

3.3 Non-compliant bid communication

As of the date of this report, the communication to bidders regarding non-compliance has begun, but not concluded. PA has observed that communication of non-compliance to bidders has included the clear identification of the project in reference, the reason(s) for non-compliance, and a request to provide instructions to PAC in order to refund bid fees.

3.4 IE communications with PacifiCorp RFP team

Since being engaged by PacifiCorp and OPUC as IE, PA has been in steady communication with their respective teams. Email communications include verifying bids, discussions around bid eligibility, verifying non-compliant bids, and discussing the total bid numbers. PA has also engaged in several meetings with OPUC to provide incremental updates, discuss progress, and to evaluate how to develop the sensitivity analysis to assess the ISL and FSL bids.

4 INITIAL BID REVIEW AND CONFORMANCE CHECK

Holding with the designed three phase approach beginning with receipt of bids and ending with Oregon and Utah commission approval, the current phase is focused on screening each bid against the minimum eligibility criteria as dictated in the RFP, assigning price and non-price scores to each bid, and constructing the Initial Short List of bids. This section addresses the initial bid review and conformance check, prior to shortlisting bidders, and PA's observation of the process.

4.1 Bids received

As shown in the table below, 574 total bids were received from 43 different bidders. Bidders were allowed to submit two alternative bids for each base bid for no additional fee and up to a maximum of five alternatives with additional permutations of alternate bids reflective of variations on pricing, contract terms, and in-service dates.

The majority of bids received complied with the 31 minimum eligibility criteria as defined in the RFP. Following the initial review prior to development of the ISL, 92 base bids from 20 bidders were identified as being non-compliant. As was anticipated, several bidders had submitted proposals which, due to their position in PacifiCorp Transmission's interconnection study queue, were not in compliance with the requirement of the RFP. The requirement that a bid queue position reflect an application to the interconnection study prior to January 31, 2020 had been consistently communicated by PAC to all bidders.

Had FERC issued an order in Docket ER20-924-000 before August 10, 2020 that changed the transition interconnection cluster study cut-off date of January 31, 2020, PAC would have modified the eligibility cut-off date in the RFP to align with the new study cut-off date. FERC did not issue such an order changing the cut-off date and as a result, some bids were non-compliant for falling outside of the cut-off.

The table below provides a summary of the bids received and the bids determined to be non-compliant from the compliance review process:

Table 1: Bid compliance review

Summary of Bids		Count
Bidders		43
Bids Received		
Base		275
Alternates		299
Total Bids		574
Less: Bids Deemed Ineligible		
Base	(92)	33%
Alternates	(104)	35%
Total Ineligible Bids	(196)	34%
Bids Remaining (as of 9/10/2020)		
Base	183	67%
Alternates	195	65%
Total Bids Remaining	378	66%

The level of compliance and general quality of bids received indicated a positive reflection of the RFP requirements and the linkage to PAC's 2019 IRP.

4.2 IE's review of PacifiCorp's compliance checks

During the first phase of the RFP, PA reviewed and confirmed all bids deemed non-compliant by PAC as well as sampled and tested for ineligibility from the population of bids PAC determined to be eligible. On the former task, PA conducted a thorough review of the deemed non-compliant bids against the minimum criteria and against the rationale provided by PAC for non-compliance. The purpose of this process was to provide a safeguard against false positives that would then be inaccurately excluded from the remainder of the RFP process as well as to ensure that the eligibility criteria were being applied with the same standard to all bidders.

Regarding the latter effort, PA tested a sample of the bids PAC identified as meeting the minimum criteria and therefore being eligible for the ISL. Out of the remaining 196 base bids, PA tested a sample of 63 bids. This effort was designed to again ensure equal treatment across all categories of bidders as well as test for false negatives.

4.2.1 Summary of the compliance check

PAC's identification of the non-conforming bids, including both base and alternates, eliminated approximately 34% of the total bids. This reduced bid numbers to 183 base and 378 total bids. To further review PAC's process, PA undertook a multi-step approach to determine based on a sample from the total bid population. The sampling entailed:

- a. Defining the population according to the following criteria:
 - i. Eligible for the shortlist following a review of the non-compliant bids identified by PAC following the 8/31/2020 non-compliance discussion amongst the IE's and PAC
 - ii. Restrict to base bids⁷

⁷ A subset of alternate bids were evaluated, however the primary purpose of the sampling exercise was to test for false negatives following PAC's process and compliance is best tested by increasing bidder diversity than by intra-bidder bid quantity.

- b. Ensuring appropriate representation within the sample across all primary bid attributes including contract type, resource type, and transmission bubble
- c. Ensuring that at least one bid from each bidder was sampled
- d. Determining which bids satisfied the population samples and randomizing which were chosen for a conformance check, as to ensure there were no bias for or against certain bids

PA tested the sample against the following eligibility requirements:

- Unambiguous evidence of required site control (e.g. bid must have an unrestricted option or an executed lease for the project site)
- Compliance with the January 31, 2020 interconnection study deadline
- Bid structure (e.g. separate base bids for BTA and PPA proposals for the same project)

PA will continue to conduct these tests for non-compliance throughout the remainder of the evaluation stages. As of the time of this report, PA has not identified clearly non-compliant bids which were not previously identified by PAC.

4.2.2 Site control non-compliance

Given the breadth of the solicitation process for resources that are currently in various stages of development, clear evidence of site control is foundational to PAC's ability to appropriately construct a least cost, lowest risk portfolio of resources.

As stated in the RFP the minimum eligibility criteria for site control was defined as: Provision of documentation of site control for the project including the facility but excluding right-of-way or easements for interconnection or transmission, roads, or access to the site.

The majority of bids deemed non-compliant against PAC's site control requirements provided either non-binding documentation of site control (such as an indication of interest to lease) or only a qualitative description of the state of site control development. PAC's requirement that site control be documented with legally enforceable leases or options to lease was an appropriate step that conformed with both the intent of the RFP as well as the letter of eligibility criteria.

4.2.3 Interconnection queue non-compliance

A bid's position within PacifiCorp Transmission's interconnection cluster study queue was a leading determinant of eligibility. Consistent with PacifiCorp Transmission's interconnection queue reform transition process, all bids needed to provide evidence of an interconnection request dated no later than January 31, 2020. While this eligibility requirement did trigger non-compliance for a number of otherwise viable projects, PAC had explained the basis for this criteria during the RFP workshops and made clear to bidders that the cut-off date would be adjusted in accordance with FERC if FERC chose to do so.

A subset of interconnection related non-compliant bids were projects that had timely joined the queue but subsequently added battery storage to the project and did not provide evidence from PacifiCorp Transmission that the addition of storage is not a material modification of the interconnection application. Some bidders did receive timely responses from PacifiCorp Transmission on such matters and those bids were deemed compliant.

4.2.4 Other non-compliance issues

Among the remaining reasons for non-compliance, bids that included assumed contingencies represented the next most populated category; however, the nature of the contingency varied from instance to instance. By way of example, bids failing to comply on this basis entailed making use of transmission capacity assuming existing generation assets go off-line in the future, bidders assuming that jointly owned transmission assets would be managed solely by PacifiCorp Transmission with preference over the joint owner, and that a PPA would be signed by a customer for the project offtake

at some future date. These examples and others all rely on action being taken by third parties out of the control or influence of the bidder and therefore represented potential binary risk leaving PAC with limited capability to mitigate such risk.

5 INITIAL EVALUATION AND SHORTLIST DETERMINATION

Part of PA's responsibility as IE will be to sample, review, and test the process and the results of PAC's ISL ranking and scoring. By sample testing PAC's modelling, PA will work to ensure that not only is the ranking accurate, but also that the variables used as determinants of the ranking are appropriate. In order to do so, PA will continue working with PAC and with the OPUC to ensure that the future state scenarios used to determine a value scoring output and optimize the bid ranking are reflective of realistic market scenarios.

5.1 PacifiCorp's populated models

PAC will share their internal valuation models with the IEs. These models will be provided to the IEs via a secure FTP platform.

5.2 Ranking of bids

The ranking of bids will be determined by PAC based on price (equivalent to 75% of the total score) and non-price factors (equivalent to 25% of the total score). Non-price factors will include considerations of bid completeness, contracting progression, and project readiness. These non-price factors are intended to reflect both the strength and the risk profile of the bid. The bids for each technology to be considered for the ISL will be limited in any given IRP topology location to the top-ranked 150% of the capacity chosen by PAC's 2019 IRP preferred portfolio. This will be expanded further by selecting on a resource basis, a pool of up to the 150% capacity level for each IRP topology location.

PAC has informed the IEs that a substantial portion of transmission capacity within each transmission bubble has been committed to bids with signed LIGAs. Bids with committed capacity may constrain the number and selection of bids associated with each transmission region. The process to determine the effect and how it will impact the ranking process and sensitivity analysis has not yet been determined and required further analysis and discussion amongst PAC and the state commissions.

5.3 Initial shortlist evaluation

Similar to PA's sampling and assessment of PAC's compliance determinations, PA intends to independently score a sample of the eligible bids for scoring and ranking within the ISL, for comparison with PAC's scoring and ranking. This process will involve leveraging PAC's bid models as provided to the IE, confirming the input reconciled to the data provided by the bidder, testing the valuation assumptions, and scoring each bid according to the 75% / 25% price and non-price components respectively.

6 SENSITIVITY MODELLING OF FUTURE RESOURCES

Modelling the future state of the PAC system will be critical to the process of ranking and selecting the final short list of resources. This modelling effort is expected to entail running certain single or multi-variable sensitivities through PAC's IRP models to assess whether the selection of bids would be materially different under different scenarios. At the time of this report, a key consideration is combination of a high renewable resource roll-out with a low power and natural gas pricing environment. This process is expected to take place after the ISL is determined, but before the FSL is finalized.

6.1 Purpose and goals

As of the date of this report, the OPUC has outlined a set of sensitivity scenarios against which to evaluate RFP bids, sought input from PAC as well as stakeholders, and subsequently discussed the approach and considerations with PA. There are three potential uses of the sensitivity analysis:

1. To better understand and anticipate the reaction of the selected project portfolio to various risks, and to form a judgement of its strength;
2. To determine how the selected portfolio differs from a portfolio that might have been tailored to particular risks or a different view of the world; and
3. To adjust or replace the selected project portfolio to obtain a portfolio that may be somewhat more costly in the "base case" scenario but is much more resistant to poor performance in adverse cases.

The goal of this effort is to achieve a sufficient level of confidence that the bids selected for the FSL and ultimately chosen by PAC to develop represent a robustly optimal portfolio of resources across a variety of future scenarios. In order to achieve this goal, as discussed with the OPUC Staff and Commissioners, it is critical that not only the scenarios be defined by their individual variables, but also that each variable is viewed in light of all other variables.

6.2 Proposal summary

As proposed by OPUC staff to PAC, the sensitivity analysis would be composed of two components:

1. An analysis that assesses the value of the ISL and the FSL in low market price scenarios; and
2. A capacity expansion study to assess which RFP bids would be selected as part of an optimized portfolio in the same low market price scenarios.

PAC would leverage its Planning and Risk model to conduct the first task and its System Optimizer model in the second task. The output of these separate analysis will be used to ensure that the bids selected between the ISL and FSL stages and prior to final selection have been stress tested against adverse scenarios on both an economic and system operation basis.

Underlying this approach are expectations that such analyses will not interrupt the concurrent timelines of the interconnection cluster study or the RFP process and that all bids selected to the ISL are commercially viable and therefore conducive to such modelling exercise. Additionally, this analysis will reflect the nuances of the energy markets into which PAC's resources would be selling, namely the lack of a regional ISO and the effect on liquidity that absence entails.

6.3 Scenario variables

A variety of variables to define the future scenarios have been discussed between the OPUC staff, PAC, PA, and stakeholders, and will be defined in more detail prior to the ISL being finalized. The general collection of variables expected to be used to simulate a low market price environment is anticipated to include:

- The rapid build-out of sizable new renewable resources across the Western U.S.;
- Low and persistent natural gas prices;
- Low and persistent power prices;
- Zero carbon tax; and
- Low to moderate loads and distributed / customer owned generation.

Based upon guidance from the OPUC staff, input from stakeholders, and progression of bids through the RFP evaluation process, these variables may change. At this point in the process, PA anticipates PAC will continue to be constructive in such efforts and supportive of achieving the goal of an optimized portfolio.