PacifiCorp's 2020 All-Source RFP Bid Evaluation, Bid Selection Models and Assumptions

Filed in Conjunction with Oregon IE RFP

Workshop
March 18, 2020





PACIFICORP
POWERING YOUR GREATNESS

Logistics

SKYPE MEETING and Call-in

Join Skype Meeting
https://meet.pacificorp.com/bruce.griswold/Y3GWQCH7

(503) 813-6614 (US)	English (United States)
(503) 813-5252 [Portland, OR] (US)	English (United States)
(855) 499-5252 [Toll-Free] (US)	English (United States)

Workshop Purpose: Review PacifiCorp's scoring and modeling process demonstrating it is consistent with PacifiCorp's 2019 IRP modeling to assist Public Utility Commission of Oregon in its approval of the RFP scoring and modeling process per OAR 860-089-0250 (2)(a).

PacifiCorp will not be taking questions on the details of the 2020 all-source RFP in this workshop. Stakeholders will have multiple opportunities to ask questions and comment after the actual RFP is filed, through workshops and submitted questions to PacifiCorp and its independent evaluators.

Agenda

Purpose and Scope of PacifiCorp's 2020 All-Source RFP (2020AS RFP)

Evaluation and Selection

- Phase I: Initial shortlist selection and ranking
- Phase II: Interconnection cluster study and contract development
- Phase III: Final shortlist selection

Next Steps

Questions and Comments

Purpose and Scope of 2020AS RFP

- Action item out of PacifiCorp's 2019 Integrated Resource Plan (IRP) established an all-source RFP in 2020 (2020AS RFP), targeting up to 2,380 megawatts (MW) of new solar resources collocated with 595 MW of new battery energy storage system (BESS) capacity and 1,989 MW of new wind resources by the end of 2023.

- Commercial operation for bids moved to December 31, 2024 as a result of the federal production tax credit (PTC) extended to year-end 2024.

- Bids requiring longer lead time to develop and construct, placing completion beyond the December 31, 2024 deadline will be accepted but only pumped storage hydro and nuclear resources.

- Bids must be capable of interconnecting with or delivering to PacifiCorp's transmission system in its east or west balancing authority areas (PACE and PACW, respectively), targeting the specific topology and resource mix identified in the 2019 IRP topology.

- No self-build ownership or PacifiCorp affiliate proposals (benchmark resources).

- An independent evaluator (IE) will be retained by PacifiCorp on behalf of Public Utility Commission of Oregon. An IE will also be retained by Utah Public Service Commission.

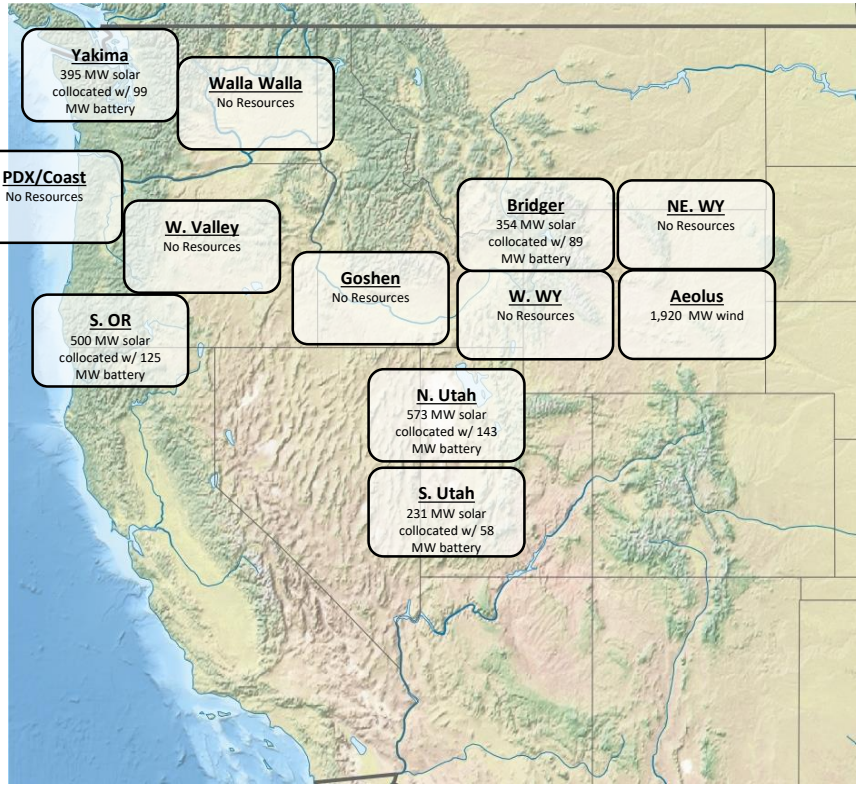
Resource Types

Resource Type	Bid Structure Accepted		
	PPA	BTA	BSA
Renewable	X	X	
Renewable plus battery storage	X	X	X
Non-renewable	X	X	
Standalone battery storage	X	X	X
Pumped hydro storage / nuclear	X	X	

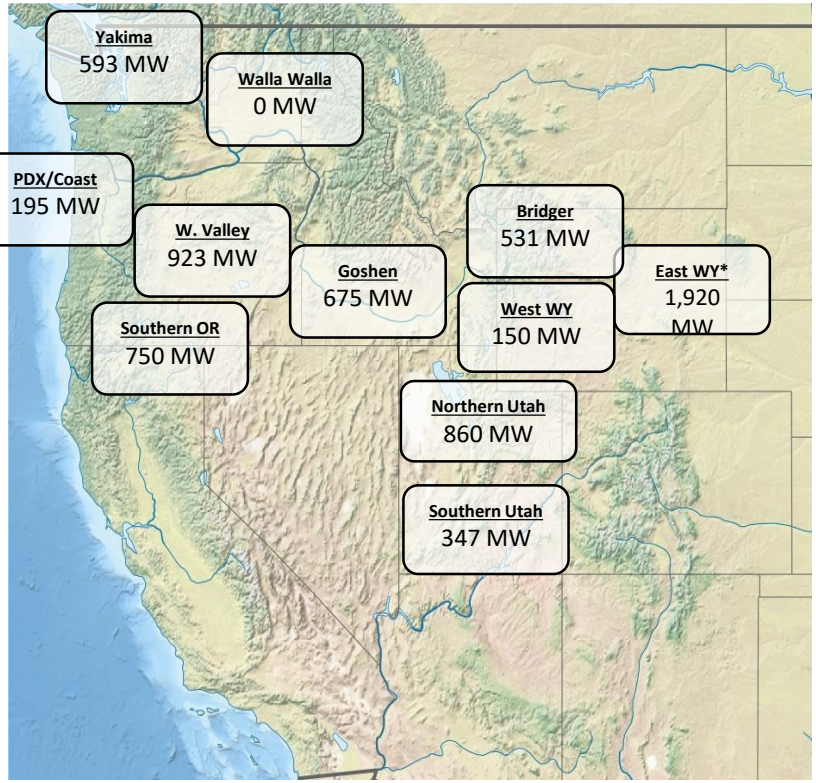
- PPA = Power Purchase Agreement
- BTA = Build-Transfer Agreement
- BSA = Battery Storage Agreement
- Bids NOT accepted for existing operating facilities.
- All renewable capacity, energy, and associated environmental attributes go to PacifiCorp.
- BTA bids MUST directly interconnect to PacifiCorp's system.
- BTA projects must be constructed to PacifiCorp specifications.

Locational Capacity Limits

2019 IRP Preferred Portfolio Resources
Online by Year-End 2023
(Excludes Customer Preference Resources)



Locational Initial Shortlist Capacity Limits
(1.5x Pref. Port. or 1.5x Assumed Interconnection Limit)



*Note, eastern Wyoming includes Aeolus and NE Wyoming, which combined, will be limited to 1,920 MW.

Interconnection Queue Reform Impact on RFP

- PacifiCorp Transmission filed an application with the Federal Energy Regulatory Commission (FERC), proposing to reform its interconnection study process set forth in its Open Access Transmission Tariff (OATT).
  - Filing proposes to replace the existing "serial queue" interconnection study process with a "first-ready, first-served, cluster" interconnection study approach.
  - Filed on January 31, 2020 and pending with FERC.
- PacifiCorp's RFP process for bid evaluation, scoring, modeling, and selection reflects PacifiCorp Transmission's proposed queue reform process as described in its application at FERC.
  - RFP eligibility requirements or evaluation criteria will be revised as necessary to align with the final version of interconnection queue reform as approved by FERC before the RFP is issued to the market.
  - If not approved by the time the RFP is approved for issuance, the RFP will be revised to be consistent with the current interconnection queue process as described in PacifiCorp Transmission's OATT.
- Costs for any direct assigned and transmission network upgrades associated with the interconnection of a proposed project to PacifiCorp's transmission system will not be a bid requirement or included in the initial shortlist price evaluation.
- PacifiCorp will review the bidder's interconnection documentation to confirm it aligns with the bid submittal.

RFP Schedule

- Excludes regulatory process for RFP approval or final shortlist approval / acknowledgment
- Subject to change

Phase	Milestone	Date
Issuance	RFP Issued to market	07/06/2020
	Notice of Intent to Bid due	07/20/2020
	Last day for RFP questions to IEs for Q&A	08/04/2020
	RFP bids due	08/10/2020
Phase I	Bid eligibility screening against minimum requirements completed	08/17/2020
	Initial Shortlist (ISL) scoring/ranking completed using screening model	09/04/2020
	IRP modeling generates ISL	10/05/2020
	IEs' review of ISL completed	10/09/2020
	PacifiCorp notifies bidders selected to ISL	10/14/2020
Phase II	ISL bidders notify PacifiCorp Transmission to enter transition cluster study	10/15/2020
	ISL capacity factor and BESS evaluation by third-party consultant started	10/19/2020
	Contract review and negotiations with ISL (subject to OAR waiver) started	10/19/2020
	ISL capacity factor and BESS evaluation completed	12/15/2020
	Contract negotiations on near-final draft with bidders completed	03/31/2021
	Cluster study results posted to OASIS / bidders notified by PacifiCorp Transmission	04/15/2021
	ISL bidders provide price update to PacifiCorp including Interconnection costs	04/22/2021
Phase III	Submit updated bids to IRP modeling	04/27/2021
	IRP modeling generates Final Shortlist (FSL)	05/20/2021
	Final Shortlist (FSL) selected	05/25/2021
	IEs' review of FSL completed	06/01/2021
	Complete negotiation of T&Cs for resource agreements	10/15/2021
Execution	Execute Agreements	11/08/2021

RFP EVALUATION AND SELECTION PROCESS

Evaluation and Selection

PacifiCorp will evaluate proposals based on the following:

- Customer cost
- Deliverability of the proposal, including site control, development maturity and status, developer's experience, and demonstration that the project's commercial operation date will be achieved by December 31, 2024
- Interconnection request aligned with bid and meets RFP requirements
- Compliance with and verification of major equipment availability defined in the RFP specifications
- Ability to provide acceptable credit security as determined by bidder's credit information
- Conformance with the terms and conditions in the pro forma contracts including the power purchase agreement, build-transfer agreement and battery storage agreement, as applicable to the individual bid

Introduction to Evaluation Models

Screening Model:

- Used to assess price score as part of the initial shortlist selection process; spreadsheet based
- Calculates delivered revenue requirement cost
- Costs netted against customer benefits (*i.e.*, energy, operating reserves, terminal value)
- Location-specific energy and operating reserve benefits calculated within the PaR model
- For proposals with storage, energy and operating reserve value is evaluated by applying StorageVET and PaR model inputs
    - StorageVET, an open-source Python-based storage value estimation tool developed by the Electric Power Research Institute that implements dispatch optimization with sensitivity analysis to assist in planning and evaluating energy projects
- Price score ranking is based on a proposal's net cost per kW of system capacity contribution, calculated by dividing a proposal's levelized net cost by its estimated contribution to system capacity

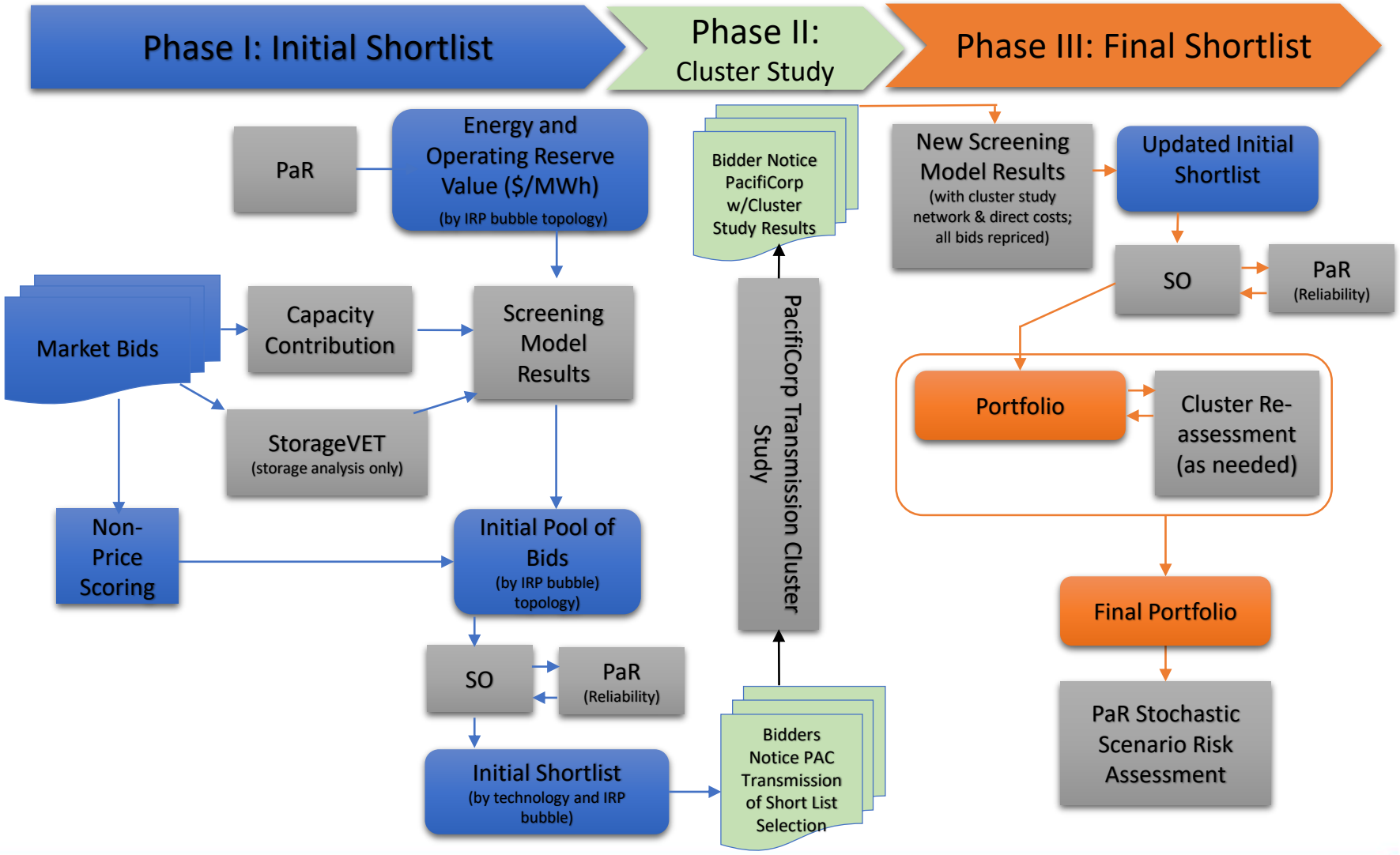
System Optimizer (SO model):

- Used to establish the final shortlist
- Dynamically develops resource portfolios, less granularity on system operations (*i.e.*, operating reserves, unit commitment) in both initial and final short list processes

Planning and Risk (PaR):

- Used to develop energy and operating reserve benefits for the initial shortlist
- Run deterministic reliability assessments to inform additional bid resources in SO necessary to achieve reliability. (in both the initial and final short list run)

2020 AS RFP Bid Evaluation & Selection

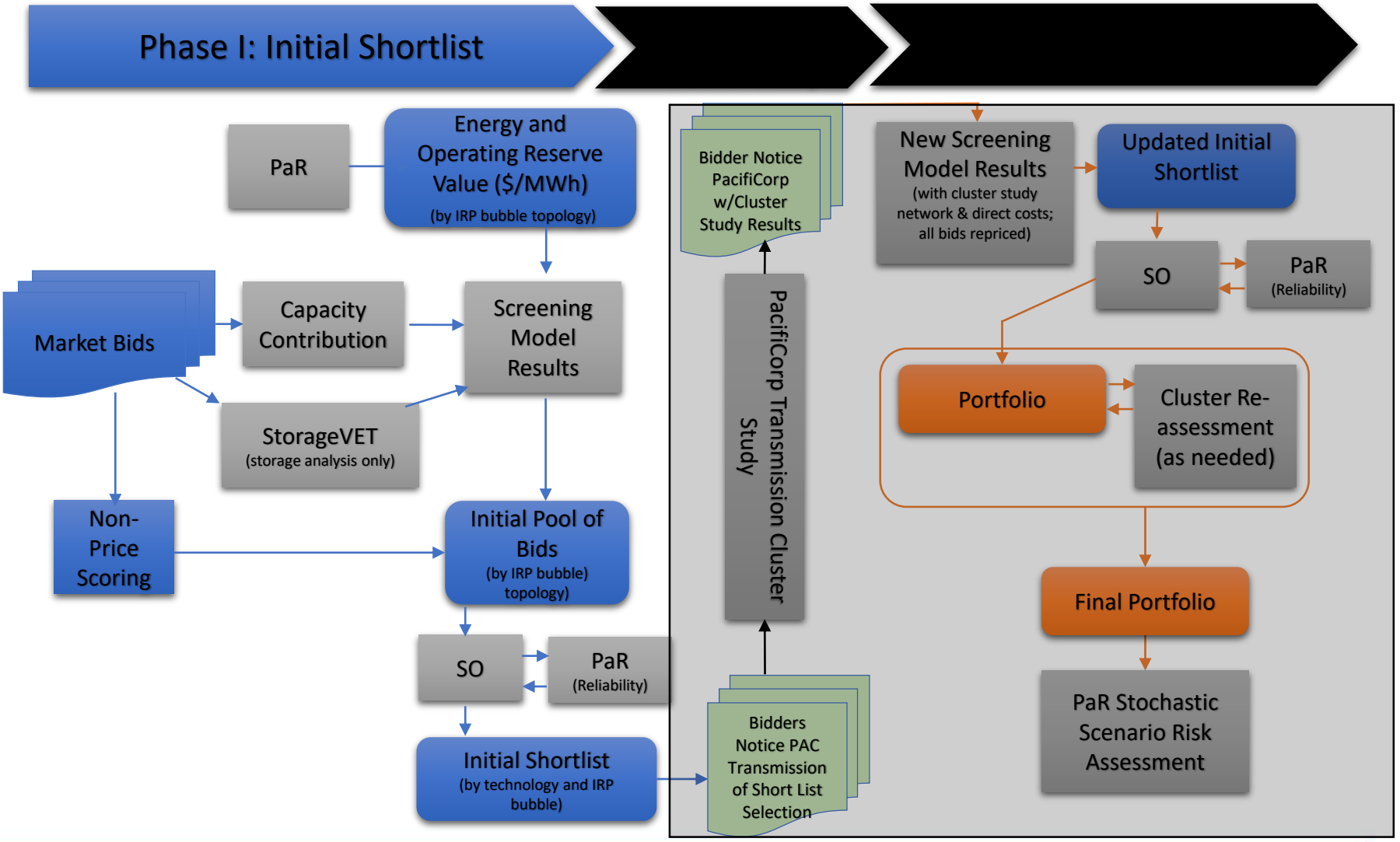


Phase I : Initial Shortlist

STEPS

1. Conformance to minimum requirements in RFP
2. Price and non-price scoring and ranking
   - Price score (75%) / non-price score (25%)
   - Conforming bids will be evaluated and ranked with PacifiCorp's proprietary screening models by resource type within each IRP topology location. PacifiCorp will limit the capacity in a given location and by resource type to 150% of the capacity included in the company's 2019 IRP preferred portfolio (Slide 5) with the exception of eastern Wyoming which will be 100%.
3. IRP modeling and selection of the initial shortlist
4. Initial shortlist notification by PacifiCorp
5. Bidder notification to PacifiCorp Transmission of selection to initial shortlist meeting PacifiCorp Transmission's "commercial readiness" criteria
   - Bidders selected to the initial shortlist who are rejected by PacifiCorp Transmission for not meeting all of PacifiCorp Transmission's non-commercial readiness criteria necessary to be included in the transition cluster study will be removed by PacifiCorp from the initial shortlist and deemed a non-conforming bid.

2020 AS RFP Bid Evaluation & Selection



Screening Model

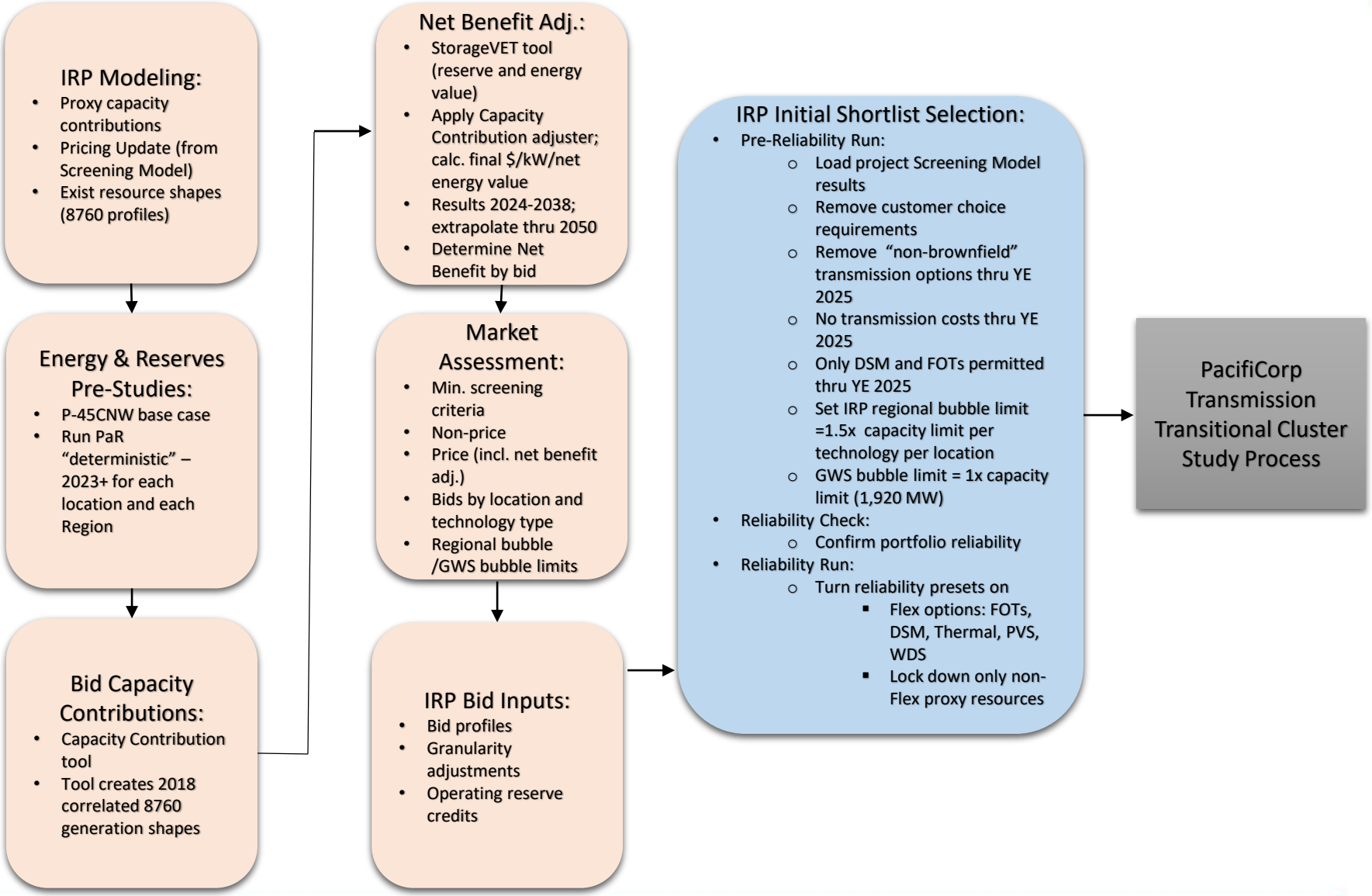
The model accepts data inputs (e.g. capital & O&M costs, value of energy, etc.), includes all financial assumption from PacifiCorp and bidder, and reports financial results both monthly and annually.

- Inputs:
  - RFP Appendix C-2 spreadsheet tabs
  - PacifiCorp's standard corporate financial assumptions, such as tax rates, inflation, capital structure, weighted average cost of capital, etc.
  - Project costs specific to BTA's only, such as capital, on-going capital, fixed and variable O&M, insurance, state, land lease/royalty costs, etc.
  - Project-specific locational energy and operating reserve benefits based on PaR
  - Phase III final shortlist only: Direct assigned and network upgrade costs (results of PacifiCorp Transmission group's interconnection cluster study) from bidders (Phase III final shortlist only)
  - Other inputs, such as integration operating reserve requirements, etc.
- Outputs:
  - Project PVRR and nominal levelized results
  - Project cash flow and rate of return results
  - Project inputs for SO IRP modeling
  - Project locational energy and operating reserve benefits
  - Project capacity contribution

Non-Price Scoring

Non-Price Factor	Max Score	Bid Score
1. Conformity to RFP Requirements	**5%**	
Bids provided all required RFP information pursuant to RFP instructions for PPA and BTA, including accuracy of such information including the specific Appendices listed below;	Multiple documents missing = 1% Some documents are incomplete = 2% All documents complete = 3%	
• Appendix B-2 Information required in Proposal		
• Appendix C-2 Bid Summary and Pricing Input Sheet		
• Appendix C-3 3rd Party Performance Report including site data		
• Appendix D Bidder's Credit Information		
Bid in compliance with technical or operating specifications as outlined in **Appendix A** as applicable to resource type and bid structure	Major components out of compliance = 0% Some major components in compliance = 1% All major components in compliance = 2%	
2. Contract Conformance	**10%**	
Bidder provided Appendix E-2 PPA document redline and comments Bidder provided Appendix E-3 Battery Storage document redline and comments Bidder provided Appendix F-2 BTA termsheet redline and comments	Bid states that redline and comments will be provided upon selection = 0% Comments provided / No redline = 5% Comments and redline provided = 10%	
2. Project Readiness and Deliverability	**10%**	
Bidder's development and construction experience related to large energy and/or storage projects including O&M plan and financing plan.	No operating projects = 0% < 300 MW operating projects = 1% >300 MW operating projects = 2%	
Bids demonstrated site control consistent with PacifiCorp Transmission's Site Control definition.	< 50% under lease or purchase option = 0% Lease option on full site = 1% Lease or purchase for full site = 2%	
Bid provided sufficient detail, including schedule(s) and documentation, to demonstrate the ability of meeting all of the project's environmental compliance, studies, permits, and equipment procurement needs such that the December 31, 2024 COD is met (except for pump storage hydro and nuclear resources)	Major studies & permits not started = 0% 50% of major studies & permits complete = 2% 100% of major studies & permits complete = 4%	
Bid included documentation that projects qualify for and would receive the full or partial value of the federal tax credit as interpreted by applicable guidelines and rules of the Internal Revenue Service at commercial operation.	No documentation = 0% Qualification through construction = 1% Documentation of safe harbor equipment = 2%	
TOTAL	**25%**	

Initial Shortlist Selection: SO and PaR (reliability) Modeling

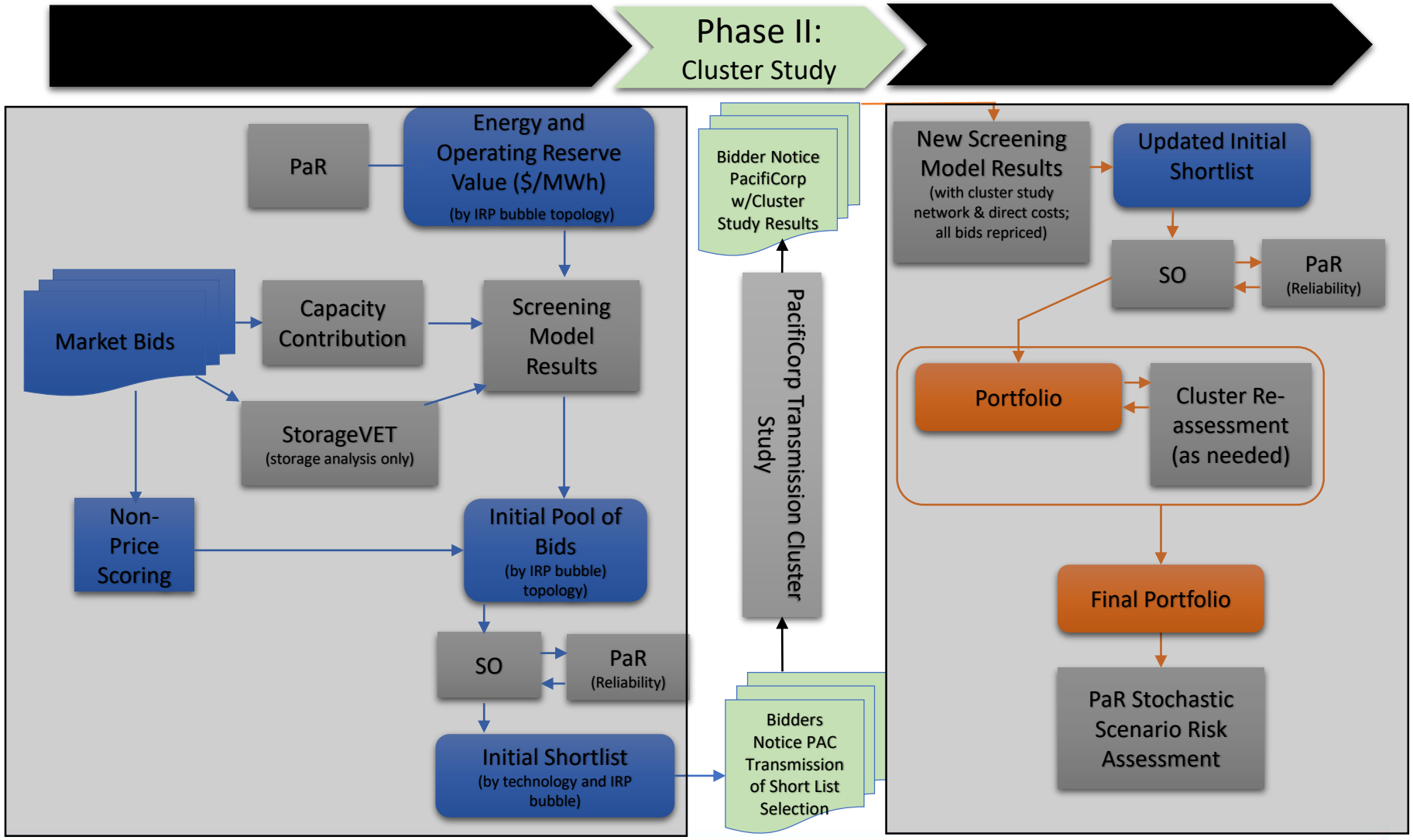


Questions on Phase I Initial Shortlist Selection

Phase II: Interconnection Cluster Study / Contract Development

1. Interconnection transition cluster study report
   - Expected to take approximately six (6) months
2. Resource capacity factor verification and storage performance
   - Done in parallel with interconnection transition cluster study
     - Third-party expert verification of capacity factor for variable resources (i.e., wind and solar)
     - Third-party expert assistance in evaluation of battery storage performance
3. Contract development
   - PacifiCorp proposes to work through terms and conditions of applicable contracts with initial shortlist in parallel with the interconnection transition cluster study.
     - Reach near final version of contract
     - Provides final shortlist developers with additional time to reach critical commercial operation prior to sunset of federal tax credits
     - Requires waiver from Public Utility Commission of Oregon
4. Bid update
   - Initial shortlist updates bid pricing and provides direct interconnection costs and network upgrade costs associated with the interconnection.

2020 AS RFP Bid Evaluation & Selection

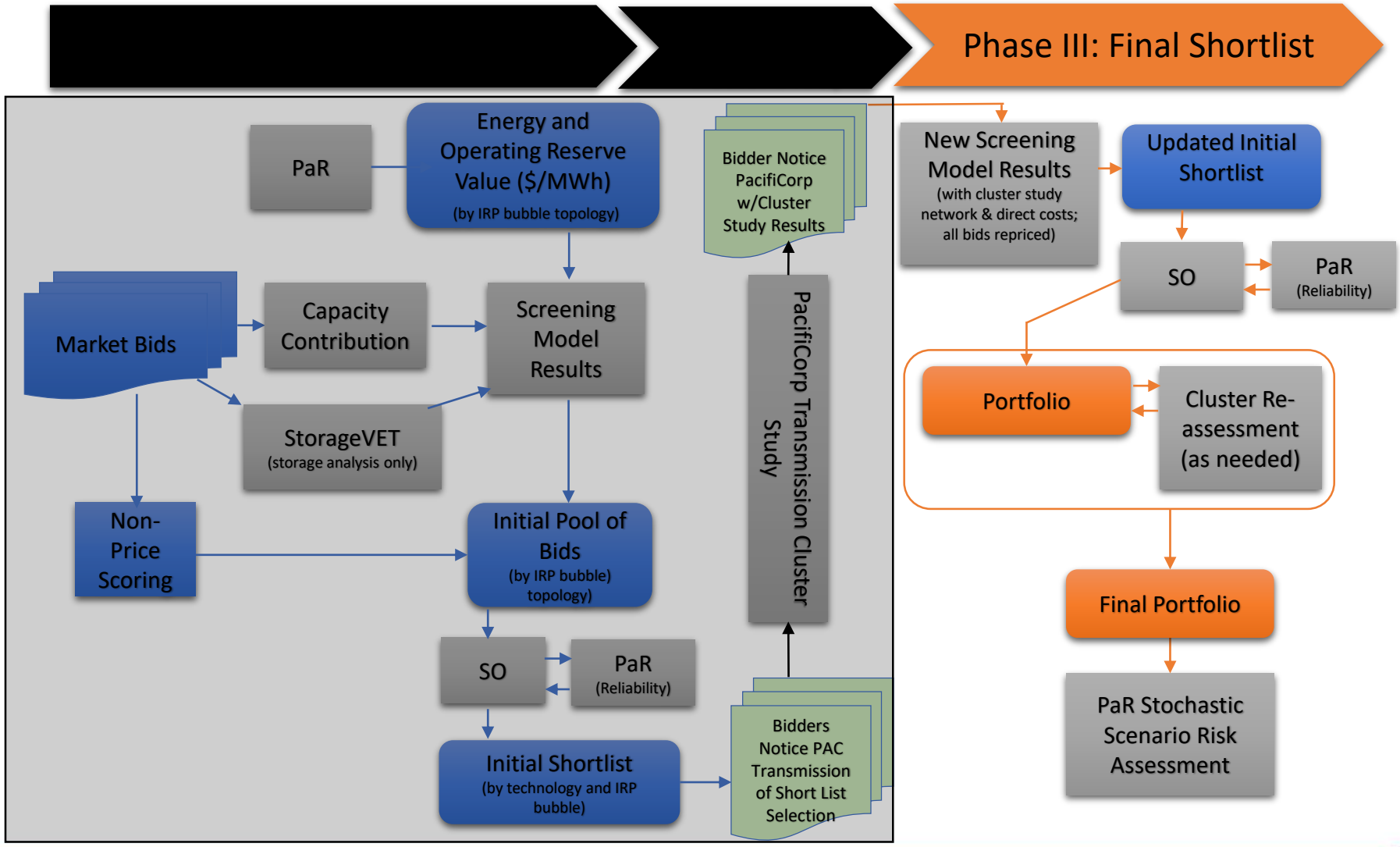


Questions on Phase II Interconnection Cluster Study Contract Development

Phase III: Final Shortlist Selection

1. Processing of best and final bids
   - Updating of screening model to prepare inputs for IRP modeling
2. Bid Resource Portfolio Development
   - Portfolio selection targets set at 2019 IRP Preferred Portfolio levels shown in Slide 5
3. Stochastic scenario risk analysis
4. Other factors: Applicable law and statutory requirements
5. Restudy of interconnection cluster if needed
6. Final 2020AS RFP shortlist selection

2020 AS RFP Bid Evaluation & Selection



Bid Resource Portfolio Development

- SO model (Resource Portfolios)
  - SO Pre-reliability bid selection
  - PaR Reliability analysis
  - SO Reliability bid selection

- Key Input assumptions
  - Bid cost and performance (based on the screening model)
  - Proxy resource cost and performance (based on 2019 IRP)
  - System load (based on 2019 IRP)
  - Existing transmission system topology (based on 2019 IRP)
  - General financial inputs (*i.e.*, inflation, discount rate, etc. based on 2019 IRP)
  - Market prices (to be updated prior to receipt of bids)
  - Environmental policy (to be updated prior to receipt of bids)

Stochastic Risk Analysis

- PaR (Stochastic Risk)
  - Stochastic-risk PaR Modeling
    - 50 Monte Carlo iterations of stochastic variables (*i.e.*, load, hydro, market, and thermal outages)
  - The risk-adjusted PVRR (stochastic mean plus 5% of the 95th percentile forecast of system costs) will also be calculated
  - In coordination with the IE, PacifiCorp may also perform additional sensitivities not expressly or adequately factored into the evaluation process to this point
- Key Input assumptions
  - Bid cost and performance (common with the SO model, which is based on the screening model)
  - Proxy resource cost and performance (based on specific resource selections from the SO model)
  - System load (common with the SO model, which is based on 2019 IRP)
  - Existing transmission system topology (common with the SO model, which is based on 2019 IRP)
  - General financial inputs (common with the SO model, which is based on 2019 IRP)
  - Stochastic parameters (based on the 2019 IRP)
  - Market prices (common with the SO model, to be updated prior to receipt of bids)

Questions on Phase III Final Shortlist Selection

Next Steps

- Questions or comments regarding this 2020AS RFP scoring and modeling workshop should be sent to the following mailbox, even if an answer was provided verbally in today's meeting, to ensure all stakeholders receive responses:

  RFPAllsource@pacificorp.com

- Responses will be posted on PacifiCorp's 2020AS RFP website by March 19, 2020.
- Upon selection and approval of the IE and the scoring methodology by the Public Utility Commission of Oregon, PacifiCorp will file its draft 2020AS RFP.
- 2020AS RFP information and documents will be provided at **www.pacificorp.com**, as information is developed. From PacifiCorp's website main page, go to Suppliers, then RFPs, then 2020AS RFP.

  www.pacificorp.com/sup/rfps.html

Question & Comments