

APPENDIX O

PacifiCorp’s Company Alternative (Benchmark Resources)

Proposed 2022AS RFP Company Benchmark Resources

- PacifiCorp intends to submit up to thirty-seven (307) individual Benchmark Resources. Benchmark Resources will be comprised of Market Options and Owned Options. For each of the Market Options, PacifiCorp will have a purchase option to purchase the entire project outright. Market Option resources will not be eligible to be bid into the RFP separately as either PPA or BTA bids.
- These will be new greenfield resources that will be constructed across PacifiCorp’s transmission system.
- To be built on property either currently owned or leased by PacifiCorp, or on property that PacifiCorp will acquire rights to develop.
- Prospective Benchmark Resource sizes and tie-in locations as shown below:

Size (MW)	Technology	Benchmark Option Type	Location (POI)	Interconnection Status	Expected Life	Expected Efficiency	State
80	Wind	Market	BPA: Schultz Switchyard	N/A	30	TBD	WA
100	Solar	Market	Grandview 115kV Substation	N/A	25	TBD	WA
120	Wind	Market	Whitney 138kV Tap	LGIA Signed	30	32-36%	WY
150	Wind	Market	Colstrip Substation	LGIA Signed	30	33-37%	MT
150	Storage	Market	Troutdale Substation	N/A	20	TBD	OR
199	Solar	Market	Diamond Hill Substation	Studied in 2021 Interconnection Cluster	25	27-31%	OR
199	Solar	Market	Fry Substation	Studied in 2021 Interconnection Cluster	25	27-31%	OR
199	Solar	Market	Black Rock Substation	Studied in 2021 Interconnection Cluster	25	28-32%	UT
200	Solar	Market	Yamsay – Klamath 230kV Tap	N/A	25	TBD	OR
199.9	Storage	Market Owned	Clover Substation	Under study in PacifiCorp’s 2022 Interconnection Cluster Submitted on 4/1/22	20	89-92%	UT
200	Storage	Market	Mercer Substation	Under study in PacifiCorp’s 2022 Interconnection Cluster To be studied in 2022 Interconnection Cluster	20	TBD 85-90%	UT
200	Solar	Market	Mercer Substation	Under study in PacifiCorp’s 2021 Interconnection	25	28-32% 27-31%	UT

				<u>Cluster Studied in 2021 Interconnection Cluster</u>			
302	Solar	Market	Clover 345kV Substation	N/A	25	TBD	UT
330	Wind	Market	IPC- Boise Bench-Midpoint #2-230kV	N/A	30	TBD	ID
400	Solar	Market	Summer Lake-Burns 500kV Tap	N/A	25	TBD	OR
600	Wind	Market	Midpoint Substation	N/A	30	TBD	ID
600	Solar	Market	Borah Substation	N/A	25	TBD	ID
800	Wind	Market	Rogerson Substation	N/A	30	TBD	ID
30	Solar	Owned	Gunnison-Sigurd #1 Tap	LGIA Signed	25	27-31%	UT
35	Solar	Owned	Ponderosa Substation	LGIA Signed	25	28-32%	OR
5099	Solar	Owned	Horseshoe - Jensen 138kV Tap	<u>To be studied in 2022 Interconnection Under study in PacifiCorp's 2022 Interconnection Cluster</u>	25	<u>28-32% 27-31%</u>	UT
80	Solar	Owned	Bar Nunn Substation	<u>Submitted LGIA Signed</u>	25	26-30%	WY
100	Wind	<u>Owned Market</u>	Evanston-Anschutz Tap	LGIA Signed	30	31-34%	UT
<u>119101.2</u>	Solar	Owned	Windstar Substation	<u>Under study in PacifiCorp's 2022 Interconnection Cluster Submitted on 3/4/2022</u>	25	19-23%	WY
160	Solar	Owned	Casper Substation	LGIA Signed; <u>Submitted</u>	25	26-29%	WY
178	Solar	Owned	Emery Substation	LGIA Signed	25	27-31%	UT
199.9	Storage	Owned	Aeolus Substation	<u>Under study in PacifiCorp's 2022 Interconnection Cluster Submitted on 4/1/22</u>	20	88-92%	WY
199.9	Storage	Owned	Anticline Substation	<u>Under study in PacifiCorp's 2022 Interconnection Cluster Submitted on 4/1/22</u>	20	88-92%	WY
199.9	Storage	Owned	Mona Substation	<u>Under study in PacifiCorp's 2022 Interconnection Cluster Submitted on 4/1/22</u>	20	88-92%	UT
199.9	Storage	Owned	Snow Goose Substation	<u>Under study in PacifiCorp's 2022 Interconnection Cluster Submitted on 4/1/22</u>	20	88-92%	OR
<u>26648.4</u>	Solar	Owned	Shirley Basin Substation	<u>Under study in PacifiCorp's 2022</u>	25	20-24%	WY

				<u>Interconnection Cluster Submitted on 3/4/2022</u>			
<u>450</u>	<u>Wind</u>	<u>Owned</u>	<u>Goshen-Jefferson Tap</u> <u>Goshen-Antelope Tap</u>	<u>To be studied in 2022 Interconnection Cluster</u>	<u>30</u>	<u>33-36%</u>	<u>N/A</u>
<u>4648.4</u>	<u>Solar</u>	<u>Owned</u>	<u>Dunlap Substation</u>	<u>Under study in PacifiCorp's 2022 Interconnection Cluster Submitted on 3/4/2022</u>	<u>25</u>	<u>17-21%</u>	<u>N/A</u>
<u>393</u>	<u>Pumped Storage</u>	<u>Market</u>	<u>Malin Substation</u>	<u>LGIA Signed</u>	<u>50</u>	<u>79-8370-80%</u>	<u>OR</u>
<u>400</u>	<u>Pumped Storage</u>	<u>Market</u>	<u>New Loco Mountain Substation</u>	<u>LGIA anticipated to be executed in April 2022 Signed</u>	<u>50</u>	<u>70-8079-83%</u>	<u>NMT</u>
<u>500</u>	<u>Pumped Storage</u>	<u>Market</u>	<u>Rocky Reach-Columbia line (BPA or PSE)</u>	<u>BPA Interconnection Study in process</u>	<u>50</u>	<u>70-8079-83%</u>	<u>WA</u>
<u>500</u>	<u>Pumped Storage</u>	<u>Market</u>	<u>Oquirrh Substation</u>	<u>Under study in PacifiCorp's 2022 Interconnection Cluster To be studied in 2022 Interconnection Cluster</u>	<u>50</u>	<u>70-8079-83%</u>	<u>UT</u>
<u>199</u>	<u>Wind</u>	<u>Market</u>	<u>Union Gap – Midway 230kV tap</u>	<u>Under study in PacifiCorp's 2022 Interconnection Cluster</u>	<u>30</u>	<u>28-33%</u>	<u>WA</u>
<u>150-300</u>	<u>Wind</u>	<u>Market</u>	<u>New Loco Mountain Substation</u>	<u>Interconnection request currently being studied</u>	<u>30</u>	<u>33-38%</u>	<u>MT</u>
<u>87</u>	<u>Solar</u>	<u>Market</u>	<u>Mathington Substation</u>	<u>LGIA Signed</u>	<u>25</u>	<u>27-31%</u>	<u>UT</u>
<u>456</u>	<u>Wind</u>	<u>Market</u>	<u>Red Butte – Sigurd #2 345kV tap</u>	<u>Under study in PacifiCorp's 2022 Interconnection Cluster</u>	<u>30</u>	<u>27-32%</u>	<u>UT</u>
<u>153</u>	<u>Wind</u>	<u>Market</u>	<u>Bonneville-Goshen 161kV</u>	<u>Under study in PacifiCorp's 2022 Interconnection Cluster</u>	<u>30</u>	<u>31-36%</u>	<u>ID</u>
<u>206</u>	<u>Wind</u>	<u>Market</u>	<u>Goshen-Antelope 161kV</u>	<u>Under study in PacifiCorp's 2022 Interconnection Cluster</u>	<u>30</u>	<u>31-36%</u>	<u>ID</u>
<u>194</u>	<u>Solar</u>	<u>Owned</u>	<u>Dunlap Substation</u>	<u>Under study in PacifiCorp's 2022 Interconnection Cluster</u>	<u>25</u>	<u>15-19%</u>	<u>WY</u>
<u>96.8</u>	<u>Solar</u>	<u>Owned</u>	<u>Bowler Flats Substation</u>	<u>Under study in PacifiCorp's 2022 Interconnection Cluster</u>	<u>25</u>	<u>22-26%</u>	<u>MT</u>
<u>70</u>	<u>Solar</u>	<u>Owned</u>	<u>Emery-Clawson 138kV</u>	<u>Under study in PacifiCorp's 2022 Interconnection Cluster</u>	<u>25</u>	<u>29-33%</u>	<u>UT</u>
<u>125</u>	<u>Solar</u>	<u>Owned</u>	<u>Huntington – Pinto 345kV</u>	<u>Under study in PacifiCorp's 2022 Interconnection Cluster</u>	<u>25</u>	<u>29-33%</u>	<u>UT</u>
<u>199.9</u>	<u>Storage</u>	<u>Owned</u>	<u>Emery Substation</u>	<u>Under study in PacifiCorp's 2022 Interconnection Cluster</u>	<u>20</u>	<u>88-92%</u>	<u>UT</u>
<u>199.9</u>	<u>Storage</u>	<u>Owned</u>	<u>Emery Substation</u>	<u>Under study in PacifiCorp's 2022 Interconnection Cluster</u>	<u>20</u>	<u>88-92%</u>	<u>UT</u>

<u>199.9</u>	<u>Storage</u>	<u>Owned</u>	<u>Huntington Substation</u>	<u>Under study in PacifiCorp's 2022 Interconnection Cluster</u>	<u>20</u>	<u>88-92%</u>	<u>UT</u>
<u>199.9</u>	<u>Storage</u>	<u>Owned</u>	<u>Huntington Substation</u>	<u>Under study in PacifiCorp's 2022 Interconnection Cluster</u>	<u>20</u>	<u>88-92%</u>	<u>UT</u>

- Benchmark Resource bids will include costs assumptions consistent with the main RFP document Section 6.C, and specifically Table 4, where the Company lists the characteristics which will be used to determine the Net Cost of benchmark bids. These inputs will be provided to the IEs for review and comment.
- PacifiCorp will administer a competitive supply solicitation(s), on a case-by-case basis, for the wind turbines, solar panels, and battery systems required for all Owned Benchmark Resources. Procurement of equipment for Market Benchmark Resources will be conducted by third-party developers in coordination with PacifiCorp.
- PacifiCorp will administer a separate competitive solicitation(s) to secure firm fixed pricing to engineer-procure-construct and commission the balance of plant for Owned Benchmark Resources. Agreements with contractors for engineering, procurement, construction, and commissioning for Market Benchmark Resources will be conducted by third-party developers in coordination with PacifiCorp.
- All projects are expected to be able to be placed in service no later than December 31, 2027 with the exception of long-lead time resources which will be bid with commercial operations dates no later than December 31, 2028.
- All solar generating resources noted above may be bid as collocated battery storage component up to 100% of the nameplate capacity of the solar project and a four (4) hour duration and may be bid separately as standalone solar subject to applicable bid fee requirements.
- Project efficiencies will be evaluated in coordination with experienced third-party engineers for Owned Benchmark Resources, and by third-party developers for Market Benchmark Resources in coordination with PacifiCorp.
- Transmission requirements, operating requirements, and dispatch requirements for Benchmark Resources will be evaluated pursuant to applicable Large Generator Interconnection Agreements and necessary Transmission Service Agreements for each resource.
- The Benchmark Resources will be constructed in compliance with PacifiCorp's specifications and technical standards.
- The Benchmark Resources will also include an operations and maintenance (O&M) building at each site or an addition to an existing PacifiCorp O&M facility.

- Benchmark Resources will include the following pro forma estimates for operations, maintenance and on-going capital expenditures:
 - Wind: 30 years
 - Solar & Solar plus Battery: 25 years
 - Battery: 20 years
 - Pumped Hydro Storage: 40-50 years (or federal license term)
- The Benchmark Resources costs will include allocated development costs, fees, permitting, project management and equipment costs.