

Mason PUD 3 Resource Plan 2020

The Resource Plan has been updated in accordance with the Washington State Utility Resource Plans law, 19.280 RCW. The attached spreadsheet shows how Mason PUD 3 plans to match its resources to forecasted load requirements. It was presented at a public hearing and approved by the Commission on September 8, 2020.

Loads:

Mason 3 is a Bonneville Power Administration (BPA) load following / full requirements customer. The estimated load is:

- 2023: 82.44 aMW
- 2028: 99.25 aMW

Conservation/Efficiency:

In compliance with the Washington State Energy Independence Act (I-937), Mason 3 uses the Benefit-Cost Ratio Approach (WAC 194-37-070 (5)) in determining the economic and achievable conservation potential that pass a total resource cost test. The Conservation Potential Assessment Report was developed in partnership with EES Consulting.

BPA's Tier 1 and Tier 2 Power:

The amount of Tier 1 available to Mason 3 is determined by BPA's Rate Period High Water Mark (RHWM) process performed in its two-year rate cases. The Packwood project is a legacy resource, so its output is considered Tier 1. If the resource amounts are not sufficient to meet load, then a Tier 2 product is necessary.

The RHWM amount for Base Year 2018 was 78.646 aMW; this allocation of BPA's Tier 1 along with Mason 3's current non-federal resources were adequate to meet load requirements. It is estimated that will be the same case in 2023 with a Tier 2 purchase being necessary to balance loads in 2028. At this time, we are planning to purchase it using BPA's Short-Term product for 2028. Pricing for this product is based on market and taking it from BPA poses a lot less risk and less staffing cost. Mason 3's current RHWM of 79.505 aMW was assumed for all estimated years.

Hydro:

Beginning October 1, 2011, Mason 3 began taking its long-standing share of the Packwood Hydroelectric project to load. Prior to this, the output of the project was sold to BPA and other public power utilities. Mason 3's allocation is 10% of the output yielding 1.11 aMW in Base Year 2018. In critical water conditions and as specified in the Power Sales Agreement with BPA Mason 3's specified resource amount is 0.656 aMW.

Wind:

Mason 3's allocation of the Nine Canyon Wind project is 3.14% of the output yielding 0.91 aMW in Base Year 2018. The future year estimates in the plan utilize the specified resource amount of 0.809 and 0.808 aMW, as provided in the BPA Power Sales Agreement.

Beginning October 1, 2014, Mason 3 began taking its share of the White Creek Wind project to load. Prior to this, BPA re-marketed the output of the project. Mason 3's allocation is 1.573% yielding 1.03 aMW in Base Year 2018. The 2023 estimate in the plan utilize the specified resource amount of 0.92 aMW, as provided in the BPA Power Sales Agreement. The Power Sales Agreement terminates on November 21, 2027 so the resource is not included in 2028 estimates.

Distributed Generation:

In June 2011, Mason 3 began taking the entire output of a 225 kW DC (173.2 kW AC rating) fixed tilted photovoltaic system (Solar Project) from AP Development Corporation. The Solar Project is located on Mason 3's property and is used to serve a portion of the energy consumed at Mason 3's facility. The Base Year 2018 yield was 0.02 aMW and the Solar Project is expected to continue to generate that same amount in future years. Staff is currently undergoing a cost benefit analysis to determine whether the system should be purchased in 2021 upon termination of the lease agreement with AP Development.

CETA:

Mason 3 plans to implement CETA provisions under RCW 19.405.040 and 19.405.050 for 2030 and 2045 by continuing to partner with BPA to take advantage of hydro as a renewable resource.

Mason PUD 3

Washington State Utility Resource Plan Year 2020

| | Base Year | 5 Year Est. | 10 Year Est. |
|--------------------------------|--------------|--------------|--------------|
| Estimate Year | 2018 | 2023 | 2028 |
| Period | Annual | Annual | Annual |
| Units | (MWa) | (MWa) | (MWa) |
| Loads | 77.53 | 82.44 | 99.25 |
| Resources: | | | |
| Future Conservation/Efficiency | | 0.34 | 0.45 |
| BPA Tier 1 (include BPA PF) | 74.21 | 79.69 | 79.31 |
| BPA Tier 2 | 0.25 | | 18.00 |
| Non BPA: | | | |
| Hydro (critical water) | 1.11 | 0.66 | 0.66 |
| Wind | 1.94 | 1.73 | 0.81 |
| Distributed Generation | 0.02 | 0.02 | 0.02 |
| Total Resources | 77.53 | 82.44 | 99.25 |