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LOWER SNAKE RIVER DAMS – ENERGY PRODUCTION

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The Lower Snake River dams (LSRD) are pivotal components of the Western United States' energy infrastructure, contributing significantly to the region's power supply and its transition towards cleaner energy sources. With a capacity to generate up to 3,000 MegaWatts (MW) of electricity, equivalent to the output of three large nuclear plants or six medium-sized coal plants, these dams play a crucial role in meeting the energy needs of millions of households.

UNDERSTANDING THE ELECTRIC GRID

The electric grid, while resilient, operates within a delicate balance. The amount of electricity generated must match the amount of electricity consumed, on a second-by-second basis. If this balance isn't maintained, region-wide blackouts can occur, like the 2003 blackout in the US Northeast. Such events represent major public safety threats.

Efforts to decarbonize the grid by integrating renewable energy sources like wind and solar have been notable but come with inherent challenges. The variability of these sources, dependent on fluctuating weather conditions, underscores the necessity for supplementary on-demand generation to maintain grid reliability, particularly during extreme weather events or periods of high demand.

HYDROPOWER DAMS: LIKE COLOSSAL, CLEAN ENERGY BATTERIES

Hydropower dams, exemplified by the LSRD, function as indispensable clean energy reservoirs. Their ability to store water during low-demand periods and release it through hydropower turbines when needed, effectively transforms them into colossal, clean energy batteries, essential for grid stability. Their storage duration goes far beyond utility-scale lithium-ion batteries.

A January 30, 2024 press release entitled, "Federal Hydro System Powers Region Through Arctic Blast," from the Bonneville Power Administration gives important insight into the reliability provided by the LSRD. BPA writes:

> *The lower Snake River dams made major contributions to BPA's efforts to keep the lights on during the cold snap…[they] registered an impressive, 18-hour sustained peak during the cold snap. Sustained peak measures the highest six hours per day of generation over a three-day period. The chart below demonstrates that sustained peak was 1,071 MW.*

AFFORDABILITY CRISIS

Threats to remove the LSRD pose a range of complex challenges. Beyond the considerable financial investments needed to replace their energy output with alternative clean sources, there are worries about how this transition could affect both the affordability and reliability of energy. Research suggests that such a shift would result in substantial cost increases, especially for marginalized communities, widening existing socio-economic gaps and presenting obstacles to equitable energy access. As an example, over 25% of Northwest residents require government assistance to meet basic needs. The numbers are higher in rural and Indigenous communities.

Studies that have examined replacing the LSRD in a CO_2-free future have estimated it would cost from $15 billion to $70 billion, using commercially available technologies. A $15 billion cost could result in electricity rate increases of 40% or more for homes and businesses who get their power from the region's community-owned utilities.

RELIABILITY CRISIS

The reliability of our energy supply faces escalating threats, as highlighted by assessments indicating potential energy shortfalls in the coming years. The excerpt below comes from the Western Electricity Coordinating Council (WECC) 2023 Assessment of Resource Adequacy. WECC is the grid reliability watchdog for the Western United States:

> *Current [electric generation] resource plans are not sufficient to meet future demand over each of the next 10 years…Starting in 2026, the number and magnitude of demand-at-risk hours increase by orders of magnitude. This indicates that current resource plans do not fully cover demand under a full range of potential conditions.*

The above statement demonstrates that the blackouts that have impacted at least 12 states over the past four years are a growing threat to our region as well. This reality underscores the urgency of preserving existing reliable energy infrastructure while thoughtfully advancing towards cleaner energy solutions.

SUMMARY

In summary, the Lower Snake River dams constitute indispensable assets in our pursuit of a sustainable and resilient energy future. Their unique capacity to provide on-demand, carbon-free electricity aligns seamlessly with our clean energy goals. As policymakers, it is imperative to recognize their significance and explore avenues to leverage their potential while addressing associated challenges to ensure a smooth transition towards a cleaner, more reliable energy system.