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Development Commission

In the Matter of: WILLOW ROCK ENERGY STORAGE CENTER	Docket No. 21-AFC-02

INTERVENOR CENTER FOR BIOLOGICAL DIVERSITY COMMENTS ON PRELIMINARY STAFF ASSESSMENT FOR WILLOW ROCK ENERGY STORAGE CENTER

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INTERVENOR CENTER FOR BIOLOGICAL DIVERSITY COMMENTS ON PRELIMINARY STAFF ASSESSMENT FOR WILLOW ROCK ENERGY STORAGE CENTER

Pursuant to the Committee's Fourth Revised Scheduling Order (TN 262690) for the Willow Rock Energy Storage Center proceeding (21-AFC-02), Intervenor Center for Biological Diversity (the "Center") respectfully submits these comments regarding the CEC Staff's Preliminary Staff Assessment ("PSA") for the Willow Rock Energy Storage Center Project ("Willow Rock Project").

The PSA is a critical step in the environmental review process under the Warren-Alquist Act and the California Environmental Quality Act ("CEQA"). The purpose of this letter is to comment on the PSA's adequacy in disclosing, analyzing, and proposing appropriate minimization and mitigation for the Willow Rock Project's potential impacts to biological resources—particularly western Joshua trees (*Yucca brevifolia*) and Joshua tree woodland, both of which are highly sensitive components of California's desert ecosystems and subject to heightened regulatory protections under the Western Joshua Tree Conservation Act ("WJTCA").

As explained below, the PSA contains significant factual and legal deficiencies, including:

- Reliance on outdated or inaccurate Project description;
- Incomplete mapping and evaluation of Joshua tree woodland;
- Failure to identify or mitigate impacts to individual western Joshua trees consistent with statutory requirements under the WJTCA;
- Insufficient baseline data for key transmission line segments; and
- Inadequate analysis and mitigation of impacts associated with the surface reservoir.

I. Factual Background

The proposed Willow Rock Project would be located approximately four miles north of Rosamond, California, immediately east of State Route 14 in unincorporated

Kern County. The Project site lies within a 112-acre parcel, with a proposed 88.6-acre footprint for the power plant facility itself.

The Willow Rock Project would utilize Hydrostor's advanced compressed air energy storage (A-CAES) technology. This system is designed to store electricity during off-peak periods by compressing air and pumping it into a purpose-built underground cavern. The compressed air would be held in place by a hydrostatic column of water drawn from a surface reservoir. When electricity demand increases, the compressed air would be released from the cavern to drive turbines and generate power. According to the PSA, the system would provide a net storage capacity of 500 megawatts (MW) and 4,000 megawatt-hours (MWh) of dispatchable electricity.

The Willow Rock Project also includes the construction of approximately 19 miles of 230-kilovolt (kV) generation tie-line ("gen-tie") to interconnect with Southern California Edison's Whirlwind Substation. The gen-tie route crosses a mosaic of private, public, and utility-owned lands, including areas that support sensitive desert vegetation communities such as Joshua tree woodland. Multiple optional alignments have been proposed, though the PSA appears to analyze an early version that has been superseded.

Construction of the Willow Rock Project would require substantial grading, blasting, excavation, and infrastructure development—activities that have the potential to result in significant direct, indirect, and cumulative impacts to biological resources, including special-status species and sensitive vegetation communities. As described in greater detail below, the PSA does not adequately analyze, minimize, or mitigate some of these impacts.

II. Statement of Interest

The Center is a party via intervention to the Willow Rock Project's AFC proceeding before the CEC. The Center is a nonprofit organization with offices nationwide, including California. The Center advocates for the protection of threatened and endangered species and their habitats through science, policy, and

environmental law. The Center's mission also includes protecting air quality, water quality, and public health while supporting the timely development of renewable energy sources in California.

For over two decades, the Center has worked to conserve and recover rare, imperiled, and threatened and endangered species in the California deserts. More specifically, the Center has advocated for protection for the western Joshua tree, desert tortoise, Mojave ground squirrel, Swainson's hawk, burrowing owl, migratory birds, and many other imperiled species in the California deserts. Through its advocacy, the Center aims to reduce impacts on species and habitats from development, off-road vehicles, mining, predation, and other threats to California's fragile desert ecosystems.

To address the climate and extinction crises, the Center supports California's goal to transition from fossil energy systems to 100% clean and renewable energy. As part of this commitment, the Center advocates for energy solutions that reduce greenhouse gas emissions, safeguard ecosystems, and ensure a just transition for impacted communities. As California transitions to a carbon-free energy future, the Center works to ensure that the clean and renewable energy transition is achieved in a way that is equitable and protects California's beloved wildlife, landscapes, and diverse habitats.

III. Comments on the Preliminary Staff Assessment for the Willow Rock Project

A. The PSA fails to reflect the Applicant's most recent preferred transmission line route.

The PSA's Project Description (PSA 3-6) and Appendix C rely on outdated maps that do not reflect the Applicant's most recent preferred gen-tie route. Specifically, materials submitted by the Applicant, which pre-date the publication of the PSA, identify areas labeled in the PSA as the "Preferred" gen-tie line as the

"Superseded Preferred Route." (*See, e.g.*, TN 262196 at 24–34[1]; TN 261516 at DR125, DR125-1, DR125-5, DR125-6, DR125-10, and DR125-11).

The PSA's omission of the correct preferred transmission line route raises concerns regarding the adequacy of the project description—including the delineation of the "project area" and "study area"—as well as the accuracy and completeness of the impact analysis.

Accordingly, the Center requests that CEC Staff revise the PSA to incorporate the Applicant's current preferred and optional gen-tie routes and ensure that the environmental analysis evaluates the full range of potential impacts associated with these alignments, and, where necessary, identify and propose feasible minimization and mitigation measures.

B. The PSA fails to accurately identify and analyze impacts to Joshua tree woodland.

The PSA states that 83.82 acres of Joshua tree woodland were mapped within the study area (PSA 5.2-6). However, the Applicant appears to have mapped this vegetation type only along the northern portion of the optional gen-tie alignment west of the WRESC site (PSA 5.2-148), despite the fact that other areas—including within and around the WRESC site, P1, P2 North, and P2 South—exhibit characteristics that may meet the California Native Plant Society ("CNPS") definition of Joshua tree woodland. (PSA 5.2-148; *see also* PSA 5.2-21, which notes Joshua tree woodland occurs in the northern portion of P1 and in P2).

The Applicant appears to have adopted an ambiguous and unsupported definition of Joshua tree woodland, characterizing it as limited to dense stands of Joshua trees with little to no other dominant or co-dominant vegetation (PSA 5.2-6;

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[1] For clarity, citations to whole-number pages refer to the page number of the docketed PDF (e.g., "24"), while citations in the format of "section-page" (e.g., "5.2-148") correspond to the internal pagination used within the PSA or other docketed materials.

see also, e.g., TN258316 at 26). This approach risks underrepresenting the true extent of this sensitive natural community in the project area. Moreover, to the extent that Joshua tree woodland was identified based solely on modeled habitat data, the analysis is insufficient. A defensible assessment must be grounded in site-specific vegetation mapping and quantified tree density data to accurately determine the number of acres that would be subject to permanent and temporary impacts.

The PSA identifies a range of direct and indirect impacts to Joshua tree woodland and other native vegetation communities, including: permanent and temporary habitat loss; loss or disruption of native seedbanks; alteration of local drainage patterns, potentially leading to offsite runoff and increased erosion; long-term type-conversion of desert habitats; long-term alterations to hydrology; and degradation from non-native invasive species. (PSA 5.2-148 to 5.2-150). Yet it remains unclear how many acres of Joshua tree woodland would actually be affected, making it impossible to determine whether the proposed avoidance, minimization, and mitigation measures are sufficient to reduce impacts to less than significant levels.

Without a defensible accounting of the extent of impact, Staff cannot reasonably conclude that the minimization and mitigation measures are adequate or that the Willow Rock Project's impacts to sensitive vegetation communities—particularly Joshua tree woodland—have been properly disclosed, minimized, and mitigated.

C. The PSA fails to adequately identify, avoid, minimize, and mitigate impacts to individual western Joshua trees.

1. Regulatory context and proposed revisions to the PSA's narrow description of the WJTCA

The Western Joshua Tree Conservation Act ("WJTCA") regulates the take of western Joshua tree and establishes an incidental take permitting ("ITP") process. Among other provisions, the WJTCA prohibits the unauthorized "take" of "a western

Joshua tree or any part or product of the tree." (Cal. Fish & Game Code § 1927.2(a)). To obtain a WJTCA ITP, an applicant must *avoid* and *minimize* all impacts to, and the taking of, the western Joshua tree ("WJT") to the maximum extent practicable. (*Id.* § 1927.3(a)(2)). This is in addition to the statutory requirement that an applicant *mitigate* all impacts to, and the taking of, the WJT. (*Id.* § 1927.3(a)(3)).

As CDFW has explained, "[i]mpact avoidance should be emphasized as the first preferred choice whenever feasible," and when complete avoidance is not possible, efforts must be made to minimize impacts. (California Department of Fish and Wildlife. Western Joshua Tree Conservation Plan. June 2025 Revision at 5-8 to 5-9). "Minimization may include efforts to reduce the number of trees and seeds taken; the area of habitat that is lost or degraded; the severity of impacts on individual trees; impacts on other organisms on which western Joshua tree depends; and indirect impacts on trees, seeds, habitats, and other ecologically related organisms." (*Id.* at 5-9).

In light of the WJTCA's application to WJTs and "any part or product of the tree," the PSA should be updated to accurately reflect the full scope of the statute. (*See*, *e.g.*, PSA 5.2-133, 5.2-210 (describing the WJTCA as prohibiting "the importation, export, take, possession, purchase, or sale of any western Joshua tree in California unless authorized by CDFW," but omitting the statute's express reference to parts or products of the tree)).

2. WJT census data gaps undermine WJTCA compliance

The PSA acknowledges that WJT census data could not be collected for portions of the gen-tie alignment due to lack of access (PSA 5.2-24). However, even within gen-tie areas where right-of-entry was granted, the data appears incomplete. A comparison of the Applicant's survey mapbooks with publicly available imagery (e.g., Google Earth) reveals several WJTs that were not recorded in the Applicant's survey data. (*Compare* Confidential Mapbook Figure 4, DR126-1 at 10 with Google Earth imagery reproduced below).

Google Earth Street View: West side of 170th St. at 34°51’53.55”N 118°25’52.59”W

Google Earth Street View: East side of 170th St. at 34°51’47.86”N 118°26’00.23”W

Additionally, a comparison of materials provided by the Applicant, including DR125 and WJT GIS data, show that ground disturbance areas associated with the construction of the gen-tie line, including pull and tensioning sites, are likely to impact unmapped WJTs. For example, the Willow Rock Project proposes a new access road along the northern and western boundaries of the Villa Haines site, as well as a pull and tensioning site extending northwest from the site's northwest corner. While the Supplemental Joshua Tree Census Report shows no WJTs in this area—depicting none outside the northwest boundary of Villa Haines (*see* DR126-1 at 5)—earlier GIS data provided by the Applicant indicates the presence of several WJTs in this same vicinity. This discrepancy appears to result, in part, from the Applicant's decision to limit mapping to WJTs within 50 feet of the transmission line centerline. However, associated construction activities, including grading at pull and tensioning sites, will clearly extend beyond this narrow 50-foot buffer in several areas. (*See, e.g.* DR125-1 at 7). By excluding areas just outside the 50-foot corridor from the census, the PSA fails to account for WJTs that may be directly impacted by construction activities and impedes any meaningful evaluation of trees that may be indirectly affected by nearby disturbance.

In short, these omissions raise serious concerns about the adequacy of the environmental review. Accurate and complete baseline data is critical to identifying WJTs subject to direct and indirect impacts, and to informing required avoidance, minimization, and mitigation measures under the WJTCA. Without complete baseline data, it is not possible to determine the full extent of potential impacts or to ensure that the Willow Rock Project complies with statutory obligations to avoid, minimize, and mitigate impacts to the WJT.

3. The PSA fails to demonstrate adequate avoidance or minimization

The PSA acknowledges that 3,970 WJTs were recorded in survey area during the Applicant's 2024 verification census. (PSA 5.2-60, 5.2-155). However, in light of the survey gaps described above, this figure likely underrepresents the actual

number of WJTs present. While the PSA asserts that not all surveyed trees are expected to be impacted, it concludes that under Option 1 (without berm), up to 1,158 trees would be permanently removed and 249 relocated; under Option 2 (with berm), 1,625 trees would be removed and 266 relocated (PSA 5.2-155).

In addition to direct removal, the PSA concedes the Project has the "potential to directly and indirectly impact trees that are avoided within the project area or occur within adjacent habitats." (PSA 5.2-157). According to CDFW's initial comments, a 290-foot buffer is warranted to avoid not only direct impacts to individual trees, but also effects on the seedbank, as this reflects the maximum seed dispersal distance by rodents (CDFW Comment Letter, Aug. 31, 2022, TN245782 at 17, citing Vander Wall et al. 2006). CDFW literature also recommends a 50-foot buffer from the base of a WJT one meter or greater in height or a 25-foot buffer from a WJT less than one meter in height to prevent damage to the root zone. (California Department of Fish and Wildlife. Western Joshua Tree Conservation Plan. December 2024 at 5-10).

Despite the recommended buffers and the proposed Willow Rock Project's potential to impact WJTs preserved in place, the PSA's mitigation analysis is focused solely on trees that would be lethally removed or relocated. The preliminary mitigation fee calculation therefore fails to account for western Joshua trees that would be preserved in place but still subject to potential impacts, such as impacts to the seed bank and damage to roots (PSA 5.2-248 to 249). This represents a significant gap in compliance with the WJTCA's mitigation mandate.

Moreover, the PSA fails to meaningfully discuss feasible avoidance measures (*see* PSA 5.2-243). The WJTCA requires avoidance "to the maximum extent practicable" (Fish & G. Code § 1927.3(a)(2)), yet the PSA has not demonstrated that alternatives have been explored for project components unrelated to the Willow Rock Project's core purpose—such as the optional aboveground architectural berm (proposed to reuse excavated cavern rock, TN254806 at 37), and laydown/staging and

parking areas—and that these components could not be sited to avoid WJT impacts. This is especially concerning given that the Applicant's own filings also fail to provide information on alternative siting and avoidance measures, but simply assume that that "access routes, staging areas, and the total footprint of disturbance will be selected/placed to avoid impacts to sensitive habitat/resource." (TN254806 at 186).

Finally, the PSA does not adequately address important impacts to WJT and its habitat, including potential exclusion or mortality of obligate pollinators and seed dispersers (e.g., yucca moths, rodents), and impacts to nurse plants or other organisms that support Joshua tree recruitment.

To comply with the WJTCA and CEQA, the PSA must be revised to account for survey data gaps, evaluate impacts to all western Joshua trees—including those preserved in place but subject to direct or indirect impacts—and incorporate feasible avoidance measures for non-essential project components. Additionally, the PSA should be updated to reflect recommended buffer distances and address broader ecological impacts to pollinators, seed dispersers, and supporting plant communities critical to Joshua tree recruitment and long-term viability.

D. The PSA fails to fully analyze and substantiate wildlife impact avoidance measures for the surface reservoir.

The Willow Rock Project includes a 600-acre-foot hydrostatic compensating surface reservoir, a permanent project component intended to regulate pressure within the underground compressed air storage system. While the PSA notes that the reservoir would be covered with an interlocking floating cover to reduce evaporation by approximately 90 percent, it also acknowledges that this feature could entrap wildlife and attract insects and other wildlife (PSA 5.2-145, 5.2-162). This concern is particularly significant in a desert environment, where anthropogenic water sources can become unnatural attractants, potentially altering predator-prey dynamics or subsidizing generalist predators like common ravens and coyotes, which are known to prey on desert tortoise, ground squirrel, and other sensitive species.

In response to these concerns, the PSA references the Applicant's response to Data Request DR-146, which indicate that perimeter fencing or walls and escape ramps would be installed to limit wildlife access and facilitate escape for any animals that manage to enter the reservoir. (PSA 5.2-162 to 5.2-163). These features are purportedly further supported by specific measures in BIO-7, which includes general impact avoidance measures applicable to construction and operation, such as fencing, ramp installation, traffic limits, spill prevention, waste control, and lighting restrictions.

While these commitments represent a baseline effort to address potential entrapment, the PSA fails to fully analyze the effectiveness, enforceability, or long-term adequacy of these measures in reducing impacts to a less-than-significant level under CEQA. For example, the PSA does not describe performance standards, design specifications, or maintenance and inspection protocols for the fencing, escape ramps, or floating cover. Nor does it explain how these components will be adapted over time if they prove ineffective at deterring wildlife or minimizing access. Additionally, the potential for the reservoir to act as a long-term raven or other predator subsidy is acknowledged but not meaningfully evaluated. While BIO-7 includes a requirement to "minimize standing water" in construction zones to deter predators, it does not address the more complex, permanent nature of this large surface reservoir. The PSA also lacks any discussion of monitoring protocols specific to wildlife interactions with the reservoir (e.g., raven and coyote presence, wildlife mortality, reservoir access attempts) or any adaptive management triggers that would require mitigation refinement if the reservoir contributes to increased wildlife conflict.

In short, while BIO-7 and the Applicant's stated design measures are a useful starting point, the PSA does not provide the site-specific analysis or detailed mitigation planning necessary to support a conclusion that wildlife impacts associated with the reservoir have been sufficiently avoided or minimized. Accordingly, the PSA should be revised to: specify fencing height, material, and

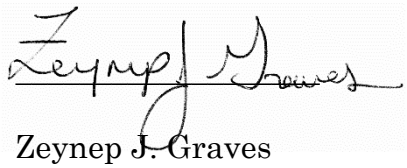
placement requirements and include enforceable standards for inspection and maintenance; clarify the number, location, and design of escape ramps, and require documentation of their continued accessibility and functionality; specify material requirements for the interlocking floating cover and its maintenance and repair; include long-term monitoring requirements and contingency measures if wildlife mortality or conflict is observed; and analyze alternatives that could further reduce or eliminate these risks, including enclosure, habitat restoration offsets, or design modifications and additional mitigation requirements if impacts are higher than expected.

Without these revisions, the PSA's treatment of this permanent operational feature remains speculative and insufficient to ensure long-term protection of wildlife species in and around the project area.

IV. Conclusion

Thank you for the opportunity to provide comments on the Willow Rock Project PSA. We look forward to discussing these issues with CEC staff and/or the Applicant further.

Respectfully,



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