The National Hydropower Association, Inc.
200 Massachusetts Ave NW, Suite 320, Washington, DC 20001 • 202.805.5057 • www.hydro.org

November 3, 2026

Chair David Hochschild
Vice Chair Siva Gunda
California Energy Commission
Docket Unit, MS-4
Docket No. 24-SB-605
715 P Street, Sacramento, CA 95814-5512

Subject: National Hydropower Association Comments on the Draft Senate Bill 605 Wave and Tidal Energy Report to the Governor and Legislature (CEC-700-2026-032-CMD, TN 272333)

Dear Chair Hochschild and Vice Chair Gunda:

On behalf of the National Hydropower Association (NHA) and its Marine Energy Council, which represents the U.S. wave, tidal, and current energy industry, we appreciate the opportunity to comment on the Draft Senate Bill 605 Wave and Tidal Energy Report to the Governor and Legislature. This report is the culmination of more than two years of work under SB 605 (Padilla, Chapter 405, Statutes of 2023), and NHA commends Commission staff and its consultants for the sustained attention they have given to California's marine energy potential.

NHA has participated at every stage of this process. Our comments on the 2024 IEPR (April and August 2024, and January 2025) and on the SB 605 Draft Consultant Report on Sea Space Analysis (May 16, 2025, TN 263154) consistently made one central point: California has a world-class wave resource, and the state's analysis should now give way to action. Because this report goes to the Governor and the Legislature, it is the right vehicle to make that transition explicit. Our comments below reiterate the recommendations we have made on the record and ask that the final report carry them forward.

I. What the Draft Reflects and What Remains

Progress since our earlier comments: NHA appreciates that the Draft Report reflects several points we raised. It no longer attributes the PacWave facility's 11-year permitting timeline to a California project, and it describes FERC-licensed timelines as 7 to 10 years (p. 12). It identifies Northern California as having the fewest spatial restrictions and the highest resources (pp. 2, 27), recognizes savings from sharing foundations, cables, and grid connections with offshore wind (pp. 11, 31), and documents military interest, including from Vandenberg Space Force Base (pp. 6–7, 20).

California's own track record belongs in the report: The Draft describes the Port of Los Angeles and Fort Bragg pilots (pp. 37–38) but omits CalWave's x1 open-ocean pilot off San

Diego, deployed from September 2021 to July 2022. The 2024 feasibility report found that project exceedingly unlikely to contribute to cumulative adverse effects on marine life. Including it would give the Legislature a complete picture of what has already been permitted and monitored in California waters.

Environmental understanding: The Draft states that understanding of potential environmental impacts is limited (p. 9). It cites the OES-Environmental 2024 State of the Science report only for its list of potential stressors (pp. 31–32), not for its findings. That report, which synthesizes monitoring results from deployments worldwide, concluded that some risks from small numbers of devices are low enough to be retired. The final report should reflect those findings while continuing to support monitoring and adaptive management for new projects.

The real barrier to scale: The Draft states that the high cost of stand-alone wave projects has limited large-scale deployment (p. 31). As NHA noted in May 2025, the principal barrier has been the lack of consistent funding to carry technologies from R&D, to single-unit demonstrations, to multi-unit arrays. Costs fall as developers scale manufacturing, share infrastructure across arrays, and learn from deployed systems, so marine energy should be evaluated on total system cost to ratepayers, not LCOE alone.

II. Legislation and Development Activity Considerations

SB 605 has brought marine energy to the forefront of California energy discussion, but a report alone will not put devices in the water. The Draft Report records that commenters, including NHA, called for a funded pathway from R&D to arrays, EPIC integration, and Resource Adequacy eligibility (pp. 9–10). None of these appear in the Chapter 4 considerations, which cover only research, pilot-scale permitting, and engagement (pp. 38–40). Because Chapter 4 is where SB 605 directs considerations for legislative and executive action, we urge the Commission to add a fourth category, Deployment and Policy Considerations, that includes the following:

1. **A marine energy strategic plan modeled on AB 525:** The Draft already points to the AB 525 Offshore Wind Strategic Plan as a model for monitoring and mitigation (p. 15). It should also serve as the model for legislation directing a wave and tidal strategic plan, built on the SB 605 sea space analysis and coordinated with BOEM for federal waters.

2. **Investment in California's testing infrastructure:** The Draft finds that test sites and pilots reduce technological and environmental uncertainty (p. 36), and it rightly points to the Cal Poly Pier and PacWave South as part of a West Coast testing pathway. NHA strongly supports PacWave South, which gives the industry a pre-permitted, grid-connected open-ocean site. California can strengthen that pathway by expanding testing opportunities along its own coast, which offers

different wave conditions, applications, and end users. California already has assets to build on: the Cal Poly Pier, now a TEAMER facility (p. 36); University of California and California State University marine research stations, including Scripps, where the CalWave x1 pilot operated with shore-side power and an existing permitting and monitoring record; and partners such as Vandenberg Space Force Base that have expressed interest in wave energy (p. 6). Rather than starting new sites, the State should invest in building out these facilities and supporting their expansion so they can serve a wider range of marine energy technologies, device sizes, and testing needs, from early prototypes to longer open-ocean deployments. State investment through existing research and infrastructure funding programs, leveraged with federal and private funding, would expand testing opportunities off California's coast and generate California-specific performance and environmental data to inform future projects.

3. **A funded pathway from R&D to arrays:** Make marine energy explicitly eligible under EPIC, including cost share for federally funded projects, and provide state matching funds for DOE awards. The CEC's BRIDGE program, which provides follow-on funding to technologies holding prior federal or CEC awards, is a ready model; a marine energy topic in its next round would help keep California-developed technologies, jobs, and data in the state.

4. **Marine energy's value to ratepayers:** The Draft recognizes that wave and tidal energy may complement other renewables (p. 8) and that hybrid systems with offshore wind or storage may improve system stability (p. 31). The final report should explain why that matters for bills. Waves can be forecast days in advance, peak in winter, and do not follow the daily solar cycle, so wave energy can fill gaps that solar and wind leave and that the state now fills with storage and natural gas. A Pacific Northwest National Laboratory analysis cited in the Commission's 2024 SB 605 consultant report found that replacing 30 percent of wind and solar generation with marine energy reduced the hourly mismatch between generation and load by 19.5 percent and produced the greatest reduction in storage needs. Less storage and balancing means lower total system costs for ratepayers. The generation-profile research the Draft already proposes (p. 38) should be designed to quantify this value: the CEC, with the CPUC and CAISO, should develop California wave generation profiles and evaluate wave energy's effective load-carrying capability, so it can be modeled in the Integrated Resource Plan and SB 100 planning and inform future Resource Adequacy eligibility (p. 10).

5. **A state permitting pathway aligned with federal review:** The Draft supports a coordinated permitting framework for pilot-scale deployments but points only to guidance from 2011 (p. 39). Rather than build a new framework from scratch, the Commission should adapt tools that already exist. The DOE Handbook of Marine Hydrokinetic Regulatory Processes, the DOE's Portal and Repository for Information on Marine Renewable Energy (pp. 12, 39), and the environmental research and risk-retirement findings from Pacific Northwest National Laboratory and other national laboratories offer a tested foundation. The Commission can work with the national laboratories, outside consultants, and states such as Oregon that have permitted marine energy test facilities to make these resources California-specific. A pathway built this way, and grounded in the existing FERC–California memorandum of understanding on NEPA, CEQA, and Coastal Zone Management Act coordination (p. 12), would let state and federal reviews proceed concurrently rather than one after the other. This alignment becomes more urgent if Congress enacts the Bipartisan American Affordability and Jobs Act, which would give FERC one year to act on license applications for hydrokinetic projects of 5 MW or less while leaving state permits in place. A state process that cannot keep pace would become the bottleneck. The pathway should also extend beyond pilots to grid-connected and commercial-scale projects, including multi-use planning with BOEM for offshore wind lease areas.

Conclusion

California has the resource, the coastal infrastructure, and a growing need for clean, predictable generation that complements other renewables. The final SB 605 report can turn that potential into a clear roadmap for the Legislature. NHA respectfully urges the Commission to include the recommendations above and stands ready to work with the Commission, the Legislature, and stakeholders to build a California-based marine energy industry.

Thank you for your leadership and for considering these comments.

Sincerely,

Kelly Rogers, Senior Program Manager, National Hydropower Association

kelly@hydro.org