Issues and Recommendations for Amendments to California Ocean Plan Chapter M Implementation Provisions for Desalination Facilities

Purpose of this Issues and Recommendations Document

CalDesal has prepared this Issues and Recommendations Document to help inform the consideration of amendments by the State Water Resources Control Board (State Water Board) to the current California Ocean Plan, Chapter M. Implementation Provisions for Desalination Facilities (Ocean Plan Amendment or OPA). The current text of Chapter M was adopted by the State Water Board in 2015, reviewed in 2019 (but remained unchanged), and is now under consideration for amendment as a priority in the 2025 State Water Board Work Plan.

The Ocean Plan desalination implementation provisions set policy for the issuance of water quality permits for ocean desalination project proposals. These provisions address site, design, technology, and mitigation considerations. In the ten years since this policy was adopted, several coastal desalination projects already under development at the time have tested the efficacy and feasibility of these provisions and raised significant technical and policy concerns for project proponents and the wider water resources management community. As a result, no new at-scale seawater desalination projects have been proposed for development since the 2015 adoption of the OPA.

The purpose of this Issues and Recommendations Document is to describe several key issues that need to be successfully addressed in the OPA process, and to offer preliminary recommendations for specific amendments to the Ocean Plan that should be considered to meet the spirit and intent of Governor Newsom's "California Water Supply Strategy – *Adapting to a Hotter, Drier Future".*

This document is intended to help inform and promote constructive dialogue among all participants in the OPA process. The recommendations proposed are subject to refinement in collaboration with the State Water Board and other entities.

Water Policy Context

California has been facing a water supply and reliability challenge that has intensified drastically in recent decades as changing climatic conditions and water resource limitations are becoming more evident. In some parts of the state, water supply conditions are now acute. The state has long recognized that water management must be based on planning, collaboration, and cooperation at the local, regional, and state level. Successful water management must also be based on the "portfolio" or "all of the above" approach, where many different water supply sources and management methods must be made available and used together appropriately to ensure reliable and cost-effective local water supplies under all conditions. Desalination of ocean and inland brackish waters under various circumstances statewide is a proven and increasingly necessary water supply technology that many consider the only true "drought-proof" source. Ocean desalination specifically must continue to be considered, along with local surface and groundwater supplies, imported water, water reuse/recycling and brackish desalting where applicable, as part of a resilient water portfolio.

State Policy in Support for Ocean Desalination

The California Water Code sections 10004–100131 mandates the preparation and periodic revision of the California Water Plan (CWP). The CWP presents the statewide and regional status and trends of California's water-dependent natural resources, water supplies, and water demands for a range of plausible future scenarios. California Water Code sections 12946-12949.6, also known as the California Saline Water Conversion Act, provides the fundamental statutory support for the development and utilization of saline water conversion technologies, particularly desalination. The 2023 CWP and its 2024 Desalination Resource Management Strategy (RMS) prepared by the Department of Water Resources (DWR) provides fundamental water supply planning policy support for desalination of ocean and brackish water. The CWP is comprehensively revised every 5 years and provides the overall water supply planning framework at the state, regional, and local level. DWR collaborates with state agencies involved in water resource management and all stakeholders to produce this plan to ensure a safe and reliable water supply. The CWP articulates the "portfolio approach" to water supply planning mentioned above.

California Water Resilience Portfolio

The 2020 Water Resilience Portfolio is the State's plan for water supply resilience to prepare for climate change challenges (irreversible aridification). It identifies desalination as an important tool for adapting to anticipated climate-related water

supply losses of up to 10% statewide. Progress Reports in 2021 and 2023 identify both successes and continued permitting barriers to meeting this challenge.

CA Water Supply Strategy - Adapting to a Hotter, Drier Future

Released in August 2022, Governor Newsom's "California Water Supply Strategy – Adapting to a Hotter, Drier Future" establishes targets and priority actions for developing additional climate adaptation projects by 2040 focused on recycled water, desalination, stormwater capture, conservation, and surface and groundwater storage infrastructure to bolster statewide water supplies. For desalination, it includes the following implementation actions:

> "The State will help streamline and expedite permitting to provide better clarity and certainty to further desalination projects. To this end, by June 30, 2023, the State Water Board, Coastal Commission, Department of Water Resources, and other State entities (e.g., State Lands Commission) will develop criteria for siting of desalination facilities along the coast and recommend new standards to facilitate approval."

Seawater Desalination Siting and Streamlining Report to Expedite Permitting

The 2023 "Seawater Desalination Siting and Streamlining Report to Expedite Permitting" (Siting and Streamlining report) was prepared by the State Water Board in consultation with other state and federal permitting partner agencies (the "Desalination Interagency Group") to address the above Water Supply Strategy implementation action relating to seawater desalination projects.

However, the report's recommendations focus almost entirely on proposed permit streamlining for a highly prescriptive set of small, distributed, subsurface-intake desalination options – while essentially creating and establishing a predisposition against future permitting of larger, regional-scale onshore and offshore desalination projects that require higher intake feedwater flows than can be feasibly produced via subsurface intakes. Additionally, these prescriptive recommendations could unnecessarily impede development of innovative, low-impact desalination technologies. Rather than offer new standards for permitting that would facilitate project approval (as directed by the Water Supply Strategy), the Siting and Streamlining recommendations serve to recapitulate existing Ocean Plan provisions and policies which constrain project permitting and essentially preclude larger regional-scale projects.

Moreover, recommendations of the Siting and Streamlining Report include new and unprecedented marine life mitigation requirements that would be applicable to all desalination projects regardless of seawater intake technology and are in conflict with the legal interpretation of California Water Code section 13142.5(b), pursuant to Surfrider Foundation v. California Regional Water Quality Control Board, San Diego Region. Additionally, the report includes recommendations that conflict with the statutory authority of local water agencies to determine whether seawater desalination is a necessary element of their water supply strategy. CalDesal is concerned that if some of these recommendations from the Siting and Streamlining Report are incorporated into the Ocean Plan as new provisions, seawater desalination on any scale will have virtually no future in California.

CA Assembly Select Committee on Permitting Reform Report, March 2025

This recent legislative report examines systemic permitting challenges that have slowed housing and climate resilience infrastructure projects in California. Water supply and management projects (including specifically brackish water and seawater desalination projects) are identified as experiencing permitting barriers, and multi-year project delays and uncertainty. The report identifies the need to eliminate uncertainty in the application process, enhance interagency coordination and consistency, and create distinct permitting pathways for drought resilience and flood risk reduction projects. The report offers a number of permitting best practices that should be implemented by permitting agencies.

These recommended best practices should be considered and incorporated as applicable into the Ocean Plan amendment process.

Urban Water Management Plans and Integrated Regional Water Management Plans

Urban Water Management Plans (UWMPs) are mandated by the California Water Code sections 10610-10656 and 10608 for all urban water suppliers every five years. These plans support the water suppliers' long-term water resource planning to ensure adequate water supplies to meet existing and future water needs. UWMP's include an assessment of the reliability of water sources over a 20-year planning time frame, existing and planned water supply infrastructure, a description of demand management measures, a water shortage contingency plan, among other requirements. UWMPs are prepared in consultation with other local water suppliers and stakeholders, subject to public review and adoption by local decision-makers, and an adequacy review by the

Department of Water Resources. If ocean desalination is included as a component of the water supply portfolio described in the UWMP, its justification and significance should be assumed.

The California Water Code also authorizes preparation and implementation of regional Integrated Regional Water Management Plans (IRWMP), which may identify a wide range of water supply infrastructure solutions that can include ocean desalination projects. IRWM plans are multi-jurisdictional and multi-objective water resources plans intended to address physical, environmental, societal, economic, legal, and jurisdictional considerations to support water supply reliability and sustainability. If ocean desalination is included in an IRWMP, its justification, function, and broad support as part of the regional water supply portfolio should be accepted by specific project permitting agencies.

Best Available Environmental Science

Since adoption of the 2015 OPA, the understanding of the environmental impacts of seawater desalination plants has evolved significantly. The Claude "Bud" Lewis Carlsbad Desalination Plant now has a decade of operating data while producing over 140 billion gallons of drinking water. This utility-scale facility, while operating a screened open intake and flow augmentation for concentrate management, has remained in compliance with all local, state, and federal permits, and has completed studies demonstrating no significant impacts to coastal ecology, marine life and Pacific Ocean receiving water quality. This knowledge and best available science should be embraced and guide the necessary streamlining amendments to the OPA and other regulatory agency processes.

OPA Process as an Opportunity to Integrate Regulatory Provisions with State Water Policy Support

In the face of an uncertain water resilience future for California's 40+ million residents, the 2015 provisions in Chapter M of the Ocean Plan require comprehensive revision to better align them with best available science, current state policy, thereby removing barriers and facilitating future desalination project approvals statewide. The OPA process is an opportunity to reframe and focus the scope of State Water Board permitting, collaborate and integrate permitting with other state, federal and local desalination approval processes, and provide a responsible regulatory path that will facilitate on-going and future desalination project delivery, consistent with the state's overarching policy objectives to advance desalination opportunities.

CalDesal and its water agency and desalination industry members have been tireless advocates for advancing ocean desalination projects to address water supply needs that have been urgently felt in the context of historic droughts and irreversible aridification. Yet the current permitting process is broadly seen as unworkable. And instead of the streamlining and regulatory relief directed by Governor Newsom's 2022 California Water Supply Strategy, the recommendations offered in the 2023 Siting and Streamlining report in fact provide no material improvements and actually work against the achievement of the stated objectives. Although small, distributed desalination plants may be subject to "streamlining" under highly prescribed provisions under the recommendations, larger-scale desalination to meet regional needs would be essentially precluded under this approach.

Large-scale, regional desalination plants that are planned, designed, constructed, and operated to provide California with a reliable and resilient water supply must remain an option going forward. California's urban, agricultural, and environmental water needs are so great, and the increasing uncertainties and unreliability of the Colorado River and Bay-Delta hydrologic systems are so significant that all scales of ocean desalination must be available to meet the challenge facing us. The pending OPA process offers a significant opportunity to begin to meet this challenge.

OPA Policy Issues and Recommendations

CalDesal has identified the following key Ocean Plan policy issues and proposes the associated recommendations to:

- More effectively implement existing state water resources policy to facilitate desalination projects of all sizes and types,
- Clarify the scope of protections for ocean resources while streamlining permitting,
- Remove counterproductive impediments and add effective management tools,
- Identify current policy and process issues that stand in the way and offer OPA recommendations to reduce risk and improve regulatory certainty to increase potential for public-private partnerships, entirely publicly-owned projects, or entirely investor-owned projects.

1. Determination of Need for and Cost of Desalination Projects

Among the existing Ocean Plan provisions associated with siting, design, technology, and mitigation measures is the following requirement:

> Consider whether the identified need for desalinated* water is consistent with an applicable adopted urban water management plan prepared in accordance with Water Code section 10631, or if no urban water management plan is available, other water planning documents such as a county general plan or integrated regional water management plan. (M 2 13142.5(b))

This section properly identifies that the need for water from an ocean desalination project should be considered in the context of overall water supply planning at the local or regional scales. Local and regional water suppliers are responsible and required to prepare UWMPs and applicable IRWMPs as described above, and elected urban water supplier Board members and other senior decision makers are responsible for UWMP implementation in consideration of local water demand and supplies, system reliability, location and land use, community impacts, and the relative cost and affordability of various water supply alternatives. Consideration of "need" should be solely a local determination, consistent with the applicable UWMP. As it stands, this section *does not* authorize or permit an independent determination by the state or regional permitting agencies of such "need" associated with the proposed desalination project. And in no case does this section authorize permitting agencies to prioritize (or rank) water supply projects to meet water supply needs or to make independent determinations regarding relative water supply costs and affordability. Such a so-called "loading order" concept has no technical or regulatory role in local water supply planning or project permitting. This concept, which is not applied by state regulatory agencies to any other water resource management strategy like wastewater recycling, is in opposition to the state's portfolio/all-of-the-above water supply policy. It is not the responsibility of the State or Regional Boards to determine whether the project is needed or affordable, but rather to confirm that it is consistent with the local and regional plans. With regard to the cost of water produced by the proposed project and its impact on water affordability for customers, including disadvantaged community customers and project environmental justice considerations, analysis that may be contained within the UWMP or other supplemental planning documents should be used to disclose such impacts and how overall water rate structures are expected to address such impacts. From a technical and policy perspective, the cost of desalinated water, like any other water treatment/production facility – used for recycled water, advanced water treatment technologies, and similar water production – is impacted by the size of the intake/facility that is allowed. If proponents are limited to small facilities using subsurface intakes, the water produced is likely to be more expensive than if proponents can take advantage of the economy of scale by building larger facilities using screened ocean intakes. In this regard, the state's preference for subsurface intakes may conflict with the state's desire to provide affordable water to disadvantaged communities.

Request: Revise M2.5(b) to clarify that an independent determination of water need or cost evaluation is not authorized.

Proposed language/redline:

Amend M.2.b.(2)

> ~~Consider~~ *Document* whether the identified need for desalinated* water is consistent with an applicable adopted urban water management plan prepared in accordance with Water Code section 10631, or if no urban water management plan is available, other water planning documents such as a county general plan or integrated regional water management plan. *An independent determination of project need, project prioritization, ranking, or relative affordability is not required or authorized under this part.*

2. Desalination Project Scale, Technology and Design Considerations

The Ocean Plan should be amended to explicitly authorize consideration of ocean desalination projects of any type and scale, incorporating any intake or desalination technology deemed appropriate, and subject to project design determinations made by the project proponent(s). This amendment should provide for consideration of large-scale regional desalination projects, smaller distributed community-scale projects, as well as offshore projects. All would be subject to project-specific technical analyses to support project-specific environmental impact assessments, which should meet programmatic performance criteria and incorporate impact mitigation elements as required.

CalDesal supports the concept of a streamlined permitting track provisions for smaller distributed community-scale projects as generally intended in the "Draft Seawater Desalination Siting and Streamlining Report to Expedite Permitting" recommendations.

Request: Ensure that Ocean Plan requirements explicitly authorize consideration of ocean desalination projects of any type and scale, incorporating any intake or desalination technology deemed appropriate (including surface or subsurface intakes, various intake technologies, and discharge methods), including all project design determinations made by the project proponent(s). Incorporate streamlining provisions for smaller distributed community-scale projects, including environmental assessment provisions for use of Negative Declarations and/or Categorical Exemptions, where warranted.

Rationale: Although smaller distributed community-scale projects may be a good fit for many coastal communities, they will generally be incapable of scaling in a meaningful way to provide the necessary production capacity that will provide significant water resilience benefits at a scale to ensure water reliability for on-going regional agricultural, urban, and environmental needs. Projects of this type should continue to be an option in the Ocean Plan.

Additionally, as described in Issue 7 below, the Ocean Plan should incorporate explicit authorization to consider offshore and deep-sea desalination projects and adopt streamlined permitting of pilot projects that assess technical and environmental impacts that may be associated with such offshore and deep-sea desalination projects.

3. Mitigation Timing and Options

Mitigation measures, including their implementation timing and options, should be closely developed based on project-specific technical analyses and environmental impact assessments. The Ocean Plan should address programmatic considerations but should not prescribe preemptive project mitigation measures for classes of projects (such as projects subject to "streamlining," as discussed above). Additionally, broader mitigation options should be considered, including but not limited to artificial reefs and fee-based mitigation, as intended in the 2015 OPA. In no case should the Ocean Plan prescribe that mitigation be implemented *before* the project is constructed and impacts are realized, as this is not required or authorized in practice for any other types of projects under the California Environmental Quality Act or project discharge permit regulations under the California Water Code. Furthermore, a requirement to complete a mitigation project prior to desalination facility operation conflicts with the legal interpretation of CA Water Code section 13142.5(b) as it renders the mitigation project and desalination facility infeasible because it cannot be accomplished in a successful manner in a reasonable period of time.

Mitigation Timing

Request: Ensure that Ocean Plan requirements regarding mitigation allow for desalination projects to be commissioned before mitigation projects are constructed and meeting performance targets. Also, explicitly include consideration of artificial reefs as a mitigation option.

Rationale: Though the issue of timing is not explicitly addressed in the current Ocean Plan Chapter M language, it was a significant point of contention for the proposed

Huntington Beach project. Requiring a proposed facility to have mitigation projects constructed and meet performance targets prior to project construction is untenable and unprecedented in any other project development and approval setting. As demonstrated in both the Huntington Beach project and the Doheny Desalination Project by the South Coast Water District, the final operational impact estimate, the area of production forgone (APF), is not finalized until late in the desalination plant permitting process. This prevents the project proponent from properly sizing the mitigation project to offset all of the project's operational and construction impacts. Requiring before-the-fact mitigation means that an applicant must first complete a mitigation project (design, permitting, construction, operation, and achievement of performance target) which based on California precedent takes over a decade. There is no precedent for this potential requirement in other industries, and if it became a standing requirement for ocean desalination, neither public nor private industry would be likely to develop desal projects in California.

Proposed language/redline:

Amend Section M2e(3)(b)i:

> Mitigation shall be accomplished through expansion, restoration or creation of one or more of the following: kelp beds,* estuaries,* coastal wetlands, natural *or artificial* reefs, MPAs, or other projects approved by the regional water board that will mitigate for intake and mortality of all forms of marine life* associated with the facility.

CalDesal believes the OPA Process should successfully address regulatory policy and mitigation requirements surrounding each of the following points:

- Pre-mitigation is simply not feasible, is unprecedented, and is not an approach that CalDesal can support in the context of the California Ocean Plan or in other desalination-related guidance or regulations.

- There must be collaborative, cooperative, and feasible approaches to the development and implementation of mitigation. The desalination industry supports the concept of mitigation and is not seeking to avoid mitigation obligations; however, regulatory entities must work together and with project proponents on mitigation to ensure the viability and successful achievement of performance standards.

- Mitigation calculations remain challenging from an industry perspective and require additional discussion and understanding to ensure that there is a common approach to such calculations.

- Implementation of mitigation performance standards – and adjustments of performance standards and associated metrics – require additional discussion among stakeholders.

- Incremental mitigation crediting is an implementation approach that can demonstrate tangible performance and should be a consideration in this discussion area.

- The geography of mitigation requirements is an important element that requires further attention and discussion among stakeholders.

Fee-based Mitigation Option

Request: Ensure that the existing fee-based mitigation becomes an available option.

Rationale: Though fee-based mitigation is authorized in the current Ocean Plan language, the State Water Board has taken the position that it cannot be used until a public agency has been identified that can handle collecting and administering the funds. This policy unnecessarily precludes participation by private (for-profit or non-profit) entities or a public-private partnership. Additionally, an operational fee-based program which has already established a suitable mitigation bank could provide a singular means to achieve project-specific mitigation in a shorter timeframe. The State Water Board needs to make concerted efforts to operationalize this mitigation option.

Proposed language/redline:

Amend Section M2e(4)

> (4) Mitigation Option 2: Fee-based Mitigation Program. If the regional water board determines that an appropriate fee-based mitigation program has been established by a public agency *or private (for-profit or non-profit) entity*, and that payment of a fee to the mitigation program will result in the creation and ongoing implementation of a mitigation project that meets the requirements of chapter M.2.e.(3), the owner or operator may pay a fee to the mitigation program in lieu of completing a mitigation project.

(a) The agency that manages the fee-based mitigation program must have legal and budgetary authority to accept and spend mitigation funds, ~~a history of successful mitigation projects documented by having set and met performance standards for past projects~~ *an approved mitigation project or bank with approved performance standards satisfying Chapter M2e(3),* and stable financial backing in order to manage mitigation sites for the operational life of the facility.

(c) The manager of the fee-based mitigation program must consult with the California Department of Fish and Wildlife, Ocean Protection Council, Coastal Commission, State Lands Commission, and State and regional water boards to develop mitigation projects that will best compensate for intake and mortality of all forms of marine life* caused by the desalination facility.* Mitigation projects that increase or enhance the viability and sustainability of all forms of marine life* in Marine Protected Areas are preferred, if feasible.*

i. If the mitigation program is operated by a private entity it shall have obtained all applicable Federal, State, and Local permits and/or leases for its construction and operation as a mitigation project.

4. Allow Flow Augmentation

Flow augmentation should be considered a viable discharge option for proposed desal projects, and along with brine diffusers, should be considered the best available technology to address entrainment impacts, as specified in amended requirements below.

Request: Eliminate prohibition on flow augmentation which states "Flow augmentation* as an alternative brine* discharge technology is prohibited with the following exceptions.

Rationale: Desalination proponents need some flexibility in compliance options. Prohibiting flow augmentation eliminates a potentially viable brine discharge methodology and limits project design flexibility. Instead, site-specific studies are needed to characterize potential entrainment impacts and assess the efficacy of flow augmentation and/or brine diffusers to mitigate impacts. Monitoring at the Claude "Bud" Lewis Carlsbad Desalination Plant indicates that after 10 years in operation, there has been no measurable entrainment impact associated with brine discharges (as documented in Carlsbad Desalination Plant 2019-2023 State of the Ocean Report, 2023).

Proposed language/redline:

Amend M2d(2)(d):

> Flow augmentation* as an alternative brine* discharge technology is *only allowed* ~~prohibited~~ with the following ~~exceptions~~ *provisions*

Amend M2d(2)(d)ii:

> ~~At a facility that has received a conditional Water Code section 13142.5(b) determination and is over 80 percent constructed by January 28, 2016.~~ If the owner or operator of the facility proposes to use flow augmentation* as an alternative brine* discharge technology, the facility must: use low turbulence intakes (e.g., screw centrifugal pumps or axial flow pumps) and conveyance pipes; convey and mix dilution water in a manner that limits thermal stress, osmotic stress, turbulent shear stress, and other factors that could cause intake and mortality of all forms of marine life;* comply with chapter III.M.2.d.(1); and not discharge through multiport diffusers.*

5. Eliminate Shearing Mitigation for Subsurface Intake and Co-mingling Projects

For projects utilizing subsurface intakes and commingling discharge with an existing wastewater outfall, shearing mitigation requirements are not needed and are unnecessarily burdensome.

Request: Eliminate mitigation for shearing for projects that pursue commingling discharge with an existing wastewater outfall. This should be a bonus for proposed plants that can accept all the streamlining criteria.

Rationale: There are no empirical data to support or refute the existence of shearing as an impact. Substantial theoretical work has been completed on this topic, and there is still no consensus. Shearing impact assessment and mitigation is not required of other ocean discharges, thus unfairly singling out desalination facilities.

Proposed language/redline:

Create new subsection M2d(2)(a)i:

> *Facilities utilizing only subsurface intakes and discharging brine by commingling with wastewater that would otherwise be discharged to the ocean meeting all of the specifications in Section M2d(2)(a) will be determined to use the best technology available and cause no additional loss of all forms of marine life.*

6. Develop Streamlined Permitting Process for Testing New Desalination Technologies

A streamlined permitting process is needed to facilitate pilot technology demonstration projects that can provide the detailed operational and environmental information necessary to support the design and permitting of new desalination projects, including onshore, offshore and deep-sea projects. Such pilot demonstrations would allow testing and evaluation of different innovative technologies or treatment methods, such as new intake screening or brine discharge technologies, to facilitate innovation and efficacy.

Rationale: Emerging innovative modular technologies offer scalable and potentially more effective means to deliver new water supplies appropriate to local community needs. Pilot projects to "field test" these technologies are necessary to evaluate operational and environmental impacts. Such pilot projects should be eligible for a streamlined permitting process, subject to specific performance criteria to ensure minimal impacts.

Proposed language/redlines:

Add new section:

5. Pilot Project Approvals

Pilot projects demonstrating a new or updated desalination technology may be eligible for streamlined permitting if they: 1) Propose to withdraw no more than one million gallons per day (1MGD) of Waters of the State (WOS) and/or Waters of the US (WOUS); 2) Will be deployed in the WOS/WOUS for no longer than 24 consecutive months; 3) cease circulating seawater at the end of the 24 consecutive month period; and 4) be removed from the environment within 6 months of the end of seawater circulation, unless such pilot project has been granted an extension associated with an applications for a long-term installation using the same technology in the same location. Pilot project proponents must provide for the Regional Water Board's review and approval a pilot study plan that includes

a. *An environmental monitoring plan to collect new data relevant to the technology being studied in support of a 13142.5(b) Water Code Determination for future full-scale project,*

b. *Construction, operations, and decommissioning plan that describes the following: consideration for anchoring, temporary pipelines, and subsea power cables; the proposed timeline to allow marine impact studies; the nature of studies to be performed; and other proposed operational parameters.*

c. *Financial assurance that the pilot project and all of its related infrastructure installed to support and maintain the subject of the pilot project will be properly decommissioned in accordance with the approved decommissioning plan.*

7. Offshore and Deep-sea Desalination Permitting

The OPA needs to be amended as necessary to ensure that offshore and deep-sea projects can be considered for permitting. Such projects are promising to provide new sources of desalinated water using innovative desalination technologies, including those that utilize floating or deep-sea reverse osmosis units to produce desalinated water, which is piped onshore and connected to water supply systems.

Current offshore and deep-sea desalination modular technologies being proposed include:

1. Surface modular "buoy" system – using a floating structure that houses seawater intake pumps, filtration, reverse osmosis (RO) membranes, and a brine discharge system, that may be powered by onshore or offshore energy sources, including wave energy, solar energy, and tidal energy. A mooring/anchoring system keeps the desalination buoy anchored to the seafloor, and a permeate pipeline, also anchored to the seafloor, conveys desalinated permeate from the buoy to shore.

2. Submerged modular RO system - using a submerged structure that uses hydrostatic pressure found at depth to drive the reverse osmosis process. As with the surface "buoy" system, a permeate pipeline anchored to the seafloor conveys desalinated permeate to shore.

Request:

Maintain the current Ocean Plan language (in the Applicability and General Provisions section) to cover emergency projects (e.g., Navy needs to deploy a temporary system) as the language intended.

Amend the current Ocean Plan text as needed to explicitly authorize consideration of offshore and deep-sea projects for permitting.

8. Environmental Justice and Tribal Consultation

CalDesal supports incorporating environmental justice and tribal consultation guidance into the Ocean Plan to better align it with applicable regulations and adopted policies. As outlined in the Siting and Streamlining report current process "best practices" can be incorporated by desalination project proponents as part of the project design and environmental assessment processes. Amendments to the Ocean Plan regarding environmental justice and tribal consultation should identify specific, achievable process steps but avoid subjective and potentially unattainable mandates. Project proponents should be asked to "show their work" but cannot be required to obtain "approvals" from affected entities.

As draft Ocean Plan amendment language is developed, CalDesal will work with its members and other water community stakeholders, in proactive consultation with environmental justice and tribal representatives, to provide constructive suggestions and input.

Statement of Commitment

CalDesal and its members have experience and a strong commitment to developing and supporting advanced ocean desalination projects delivering drought-proof water supplies in a sustainable and environmentally protective manner. CalDesal is committed to working with the State Water Board and other state agencies, the Governor and the Legislature, and with other stakeholders to craft a science-based and effective OPA that will improve ocean desalination project design, permitting, and delivery to meet the challenges for effective and responsible water management into the future.