



July 30, 2015

Linda G. McIntyre, Moss Landing Harbor District
c/o Aspen Environmental Group
235 Montgomery Street, Suite 935 San Francisco, CA 94104
VIA EMAIL TO PeoplesDesal@aspeneg.com

Re: Scoping Comments on Notice of Preparation to Prepare EIR for the People's Moss Landing Water Desalination Project

Dear Ms. McIntyre,

The Surfrider Foundation Monterey Chapter appreciates this opportunity to provide public comments in response to the Notice of Preparation ("NOP") to prepare an Environmental Impact Report ("EIR") on the People's Moss Landing Water Desalination Project ("Project"). The Surfrider Foundation is a non-profit 501(c)(3) organization that is dedicated to the protection and enjoyment of oceans, waves and beaches through a powerful activist network. Towards this mission, and specifically in support of protecting water quality and marine ecosystems, the Surfrider Foundation Monterey Chapter has been very engaged in the effort to identify water supply and demand-offsetting solutions for peninsula cities, which will protect and preserve a healthy coastal environment.

The Surfrider Foundation Monterey Chapter ("Surfrider Foundation") hereby submits the following scoping comments on the NOP.

Legal Requirements Under CEQA

The California Environmental Quality Act ("CEQA") was enacted to further legislative policies including the maintenance of a quality environment for the people of California now and in the future, and preventing environmental damage. Cal. Pub. Res. Code § 21000. CEQA further declares that policies of the State include: taking "all action necessary to protect, rehabilitate, and enhance the environmental quality of the state" (Cal. Pub. Res. Code § 21001(a)); taking all action necessary to provide the people of this state with clean air and water, enjoyment of aesthetic,

natural, scenic, and historic environmental qualities (Cal. Pub. Res. Code § 21001(b)); and preventing the elimination of fish or wildlife species due to man's activities, and insuring that fish and wildlife populations do not drop below self-perpetuating levels (Cal. Pub. Res. Code § 21001(c)).

CEQA requires the preparation of an Environmental Impact Report ("EIR") for projects that may have significant effect(s) on the environment, the purpose of which is "to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided." Cal. Pub. Res. Code § 21002.1(a). The lead agency shall be responsible for considering the effects, both individual and collective, of all activities involved in a project. Cal. Pub. Res. Code § 21002.1(d). Therefore, under CEQA, an EIR must consider all significant effects on the environment from the project, including any irreversible effects; any cumulative effects from the project; and any feasible mitigation measures to mitigate or avoid those effects. Cal. Pub. Res. Code § 21100; 14 Cal. Code Regs. § 15130. The EIR requirement is the heart of CEQA. *County of Inyo v. Yorty*, 32 Cal. App. 3d 795.

Any person may submit comments to the lead agency to assist in preparing the draft EIR, and the lead agency must consider all information and comments received. 14 Cal. Code Regs. § 15084.

Therefore, pursuant to CEQA's mandates, the Moss Landing Harbor District ("District"), as lead agency for the Project, must consider these comments submitted by the Surfrider Foundation on the NOP, and must prepare an EIR which considers the affected environment, all feasible project alternatives, all significant project impacts, including cumulative impacts, consistency with other laws, and all feasible mitigation measures.

Affected Environment

According to the Project Notice of Preparation, the Project will be located on approximately 16 acres at the Moss Landing Green Commercial Park located in Moss Landing, California, at the corner of State Route 1 and Dolan Road, immediately east of Moss Landing Harbor and south of the existing Moss Landing Power Plant and will consist of a seawater reverse osmosis desalination facility. The Project will include seawater intake and brine discharge lines that will extend west from Moss Landing Harbor about 50 feet into the bay and, as a result, into the Monterey Bay National Marine Sanctuary. Pipelines for the delivery of fresh water produced by the Project are proposed and will run northerly from the Project to Watsonville, easterly to Prunedale, and southerly to Seaside, where a terminal reservoir consisting of two 5-million gallon tanks will also be located. Thus, in addition to considering all of the affected onshore land resources affected by the Project, including from the 16-acre facility site, and the distribution pipelines, the EIR must consider the affected ocean and aquatic environments, particularly all of the natural resources and species in the Monterey Bay National Marine Sanctuary ("MBNMS"),

Moss Landing Harbor, and Elkhorn Slough National Estuarine Research Reserve (“ESNERR”). The ocean environment is home to numerous species of fish, marine mammals, and seabirds, as well as kelp, marine algae, and invertebrates, potential impacts to which must be analyzed in the EIR.

Further, there must be definitive proposed locations of each of the project components, including the pipelines carrying water to and from the desalination plant and the terminal reservoir, such that the EIR can adequately consider the entire affected environment, and all of impacts to that environment.

Additionally, due to the Project’s location in and near the coast, the EIR must consider the potential for and effects of sea level rise, as well as other climate change-related effects, in the Project area, and the Project must be consistent with the California Coastal Act and the California Coastal Commission’s Sea Level Rise Policy Guidance (available at: <http://www.coastal.ca.gov/climate/slrguidance.html>). Specifically, the Project - both in terms of infrastructure construction and operations - must minimize coastal hazard risks without the use of bluff retaining or shoreline protection devices that would substantially alter natural landforms, and must avoid or minimize impacts to coastal resources, including public access, recreation, marine resources, agricultural areas, sensitive habitats, archaeological resources, and scenic and visual resources in conformity with Coastal Act requirements.

Feasible Mitigation Measures

The EIR must consider and fully analyze all mitigation measures, and the Project must include all feasible measures to mitigate impacts. 14 Cal. Code Regs. §15021(a)(2); 40 CFR 1500.2(f). “Feasible” means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors. Cal. Pub. Res. Code § 21061.1. The required mitigation measures must “minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy.” Cal. Pub. Res. Code § 21100(b)(3). A lead agency for a project has authority to require feasible changes in any or all activities involved in the project in order to substantially lessen or avoid significant effects on the environment, consistent with applicable constitutional requirements such as the “nexus” and “rough proportionality” standards established by case law. 14 Cal. Code Regs. §15021, citing *Nollan v. California Coastal Commission* (1987) 483 U.S. 825, *Dolan v. City of Tigard*, (1994) 512 U.S. 374, *Ehrlich v. City of Culver City*, (1996) 12 Cal. 4th 854.

These measures cannot be duplicative of another project’s mitigation measures which are already required, or current marine life protection measures already in place in the region, but must be new measures to mitigate the Project’s environmental impacts to less than significant levels.

Alternatives

The EIR must consider all feasible alternatives of and to the project. This should include considering a “no project alternative” and whether a smaller project, with fewer environmental impacts, can meet the project needs in lieu of the proposed 13,400 afy Project. This will require addressing several related questions. For instance, is there verifiable demand for all of the potable water that will be supplied by this desalination Project? The EIR must consider and analyze how much need there is in light of other proposed projects in the region including the Pure Water Monterey Groundwater Replenishment Project, the Cal Am Monterey Peninsula Water Supply Project, DeepWater Desal’s proposed Monterey Bay Regional Water Project, and new desalination facilities approved by the Marina Coast Water District.

Additional alternatives with respect to certain Project attributes that must also be considered are discussed below.

Significant Environmental Impacts

The EIR must include all significant environmental impacts from the project. This project will likely have multiple significant impacts on precious natural resources due to its brine discharges, open ocean intake system, energy use, and greenhouse gas emissions. Thus, these impacts must be analyzed.

Open Ocean Intake System

According to the Project Notice of Preparation, the bay seawater collector system would be located 50 feet into the bay at a depth 15 feet below mean sea level. An open ocean intake system inherently poses major risk of impingement and entrainment of marine species, including fish, planktonic animals, and benthic species, and thus, an open ocean intake system risks disrupting the entire ecological balance in the area. All of these potential impacts must be considered in the EIR.

The EIR must consider intake alternatives that would appropriately avoid or, if not possible to avoid, mitigate the intake’s impacts to aquatic and marine species. To adequately assess the respective levels and degrees of impact associated with intake alternatives, the EIR must include analysis of studies of potential impacts.

Specifically, with regard to the study and analysis of impacts to species, to adequately gauge potential impacts, such studies must look at impacts to species known or believed to be present within and in the vicinity of the proposed intake area. Both direct mortality and indirect mortality resulting from impingement and entrainment should be considered. Additionally, impacts to total numbers and proportional numbers (i.e. proportion of population) should be considered and used to determine the significance of the impact of impingement and entrainment.

Further, the EIR must describe the proposed open ocean intake, including the location, design, and compliance with the California Ocean Plan, and its recent amendments (see http://www.swrcb.ca.gov/water_issues/programs/ocean/desalination/docs/desal_amend_050515.pdf). Specifically, the Ocean Plan requires determining whether a subsurface intake pipe is feasible, and *only allows surface water intakes where a subsurface intake pipe is determined to be infeasible*. Ocean Plan, chapter III.M, (2)(d)(1)(a)(i). According to a 2013 survey and study led by experts at the Water Desalination and Reuse Center at King Abdullah University of Science and Technology in Saudi Arabia, the use of subsurface intake systems for seawater reverse osmosis desalination plants significantly improves raw water quality, reduces chemical usage, virtually eliminates marine life impacts associated with intake, decreases the carbon footprint, and reduces cost of treated water to consumers.¹ Subsurface intakes may not be appropriate in all locations, however, with new drilling technologies, e.g., directional drilling, it may be possible to find a pocket with the right conditions surrounded by generally unfavorable ones.² Geotechnical data, hydrogeology, benthic topography, oceanographic conditions, presence of sensitive habitats, presence of sensitive species, energy use for the entire facility, design constraints (engineering, constructability), and project life cycle costs must be considered. *Subsurface intakes shall not be determined to be economically infeasible solely because subsurface intakes may be more expensive than surface intakes*. Ocean Plan, chapter III.M, (2)(d)(1)(a)(i). Further, if the regional water board determines that subsurface intakes are not feasible for the proposed intake design capacity, it shall determine whether subsurface intakes are feasible for a reasonable range of alternative intake design capacities, and therefore could require utilizing a downsized Project. *Id.*, at (2)(d)(1)(a)(ii).

If an open ocean intake is identified as the best available technology, any such intake must be designed to minimize harm to species. In order to reduce entrainment surface water intakes must be screened with a 1.0 mm (0.04 in) or smaller slot size screen when the desalination facility is withdrawing seawater, and in order to minimize impingement, through-screen velocity at the intake shall not exceed 0.15 meters per second (0.5 feet per second). *Id.*, at (2)(d)(1)(c). Since the Project proposes to use multiple large mesh screens, the impact of multiple co-located screen structures would need to be evaluated.

Brine Discharges

The EIR must adequately explain, clarify, and substantiate the method for brine discharge and dilution, the anticipated discharge volumes, and where the brine will be discharged. The potential volume of discharge and impacts should also be

¹ See <http://www.nrdc.org/oceans/files/ca-drought-seawater-desalination-IB.pdf>

² See <http://www.pacinst.org/wp-content/uploads/2013/12/desal-marine-impacts-full-report.pdf>

estimated and considered for any potential alternative project, which could be a downsized version of the proposed Project.

According to the Project Notice of Preparation, the outfall would convey brine from the reverse osmosis process to the Monterey Bay at a rate of approximately 17.5 mgd and at a salinity concentration of approximately 62,000 milligrams/liter (mg/L), which is approximately 1.8 times the ambient salinity of the Monterey Bay (i.e., approximately 34,000 mg/L). The brine would be discharged into the federally protected Monterey Bay National Marine Sanctuary.

Elevated salinity and its impact on marine ecology, both within and outside of the zone of initial dilution, is one of the major concerns of ocean water desalination projects. Brine may also contain heavy metals from corroding equipment and can cause thermal pollution if the discharge is warmer than the receiving waters.³ Therefore, the EIR must fully explain whether, how, and where this amount of brine will adequately dilute, how it will affect the area's water quality, and how it will affect the myriad marine species and resources in this area. Invertebrates near shore include small, mobile, deposit-feeding crustaceans, brittle stars, clams, tube anemones, and sea pens.⁴ Fish species including juvenile lingcod, white croaker, plainfin midshipman, staghorn sculpin, sand sole, english sole, speckled sand dab and curlfin sole, are important forage for large predatory fishes, seabirds and marine mammals.⁵ The required analysis must include brine impacts to the vicinity of the discharge, in the zone of initial dilution, and beyond.

Furthermore, the Project, and all associated brine discharges, must comply with the California Ocean Plan, and the EIR must demonstrate said compliance. This must include, for example, compliance with the Ocean Plan's receiving water limitation for salinity, 2 parts per thousand ("ppt") above natural background salinity, as measured no further than 100 meters horizontally from each discharge point (or an alternative limitation approved pursuant to the Ocean Plan). Ocean Plan, chapter III.M, (3)(b)(1). Additionally, the Project should comply with the recommendations of the Southern California Coastal Water Research Project, which recently produced a technical report on brine discharges to California's coastal waters for the State Water Resources Control Board, which recommends an incremental salinity limit at the mixing zone boundary of no more than 5% of that occurring naturally in the waters around the discharge.⁶ Expressing the limit as a percentage increase allows for natural variability in the background waters, and for most California open coastal waters this increment will be about 1.7 ppt.⁷ Thus, salinity levels at the zone

³ See <http://www.nrdc.org/oceans/files/ca-drought-seawater-desalination-IB.pdf>

⁴ See <http://sanctuarysimon.org/monterey/sections/sandyFloor/overview.php>

⁵ *Id.*

⁶ See

http://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/694_BrinePanelReport.pdf, at iii.

⁷ *Id.*

of dilution boundary must be limited to an increase of either 2 ppt or 5% above ambient salinity levels, whichever is less.

The EIR must also adequately consider the preferred alternatives from the California Ocean Plan, such as (1) the potential for comingling brine with wastewater (e.g., agricultural, municipal, industrial, power plant cooling water, etc.) that would otherwise be discharged to the ocean (*Id.* 2(d)(2)(a)); and alternative mechanisms for diffusion, like (2) multiport diffusers, which are engineered to maximize dilution, minimize the size of the brine mixing zone, minimize the suspension of benthic sediments, and minimize the mortality of all forms of marine life. *Id.* 2(d)(2)(b). With regard to comingling brine with wastewater, the potential for future reclamation/use of any wastewater should be considered so that the discharge does not rely on wastewater for dilution. With regard to the multiport diffusers, the EIR should be sure to explain how the diffusers would specifically be designed and placed to adequately diffuse the brine, and should also analyze an array of scenarios that consider factors such as volume and availability of proposed dilution waters (if brine will be comingled with other water to dilute the brine).

To understand the potential impacts that the Project's brine discharge might have on this special ecosystem, CEQA requires an accurate description of the existing environmental baseline. CEQA Guidelines § 15125(a); *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722. Without information regarding the current conditions at the discharge site it is impossible to fully evaluate the potential impact that the brine discharge could pose to marine organisms there. *Berkeley Keep Jets Over the Bay Committee v. Board of Port Com'rs* (2001) 91 Cal.App.4th 1344, 1382-83.

The EIR must describe "the physical environmental conditions in the vicinity of the project, *as they exist at the time the notice of preparation is published.*" CEQA Guidelines § 15125(a). This echoes the previously noted requirement to describe the "affected environment," and emphasizes its importance.

Energy Use / Greenhouse gas emissions

The EIR must determine the Project's net energy consumption and resulting greenhouse gas ("GHG") emissions (i.e. the amount of energy consumption and GHG's which are new, or increased above baseline conditions). This calculation must take into account that the Project creates a new need for energy since the desalination process itself is very energy intensive, and also include emissions from construction, vehicle trips necessary for operation, etc.. When an agency's analysis indicates that a proposed project will have a significant project-specific or cumulative impact related to climate change, the agency must identify and adopt feasible mitigation measures to address that impact. CEQA Guidelines § 15126.4 (c).

Precise greenhouse gas mitigation measures must be incorporated into the EIR and may not be deferred to a later date. This could include development of a

conservation plan, determination as to whether and how much renewable energy will be available, and the production of a clear menu of options and a calculation of potential emissions reductions from each option. Measures such as requiring installation of solar photovoltaic panels throughout the site, use of the most energy efficient technologies and engineering processes for the Project's operation, use of low or zero-emission construction vehicles, and ride sharing programs and employee shuttle programs to and from the Project site are potential measures that could be incorporated. Numerous agencies and organizations have documented feasible and effective greenhouse gas mitigation options.

The lead agency must consider all of the applicable measures listed in the following documents, and must adopt *all* feasible measures needed to reduce the Project's impacts. "[A]gencies should not approve projects as proposed if there are . . . feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects." Cal. Pub. Res. Code § 21002.

- ❖ Governor's Office of Planning and Research. 2008. Technical Advisory. CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review. See Attachment 3, "Examples of GHG Reduction Measures." Available: <http://www.opr.ca.gov/docs/june08-ceqa.pdf>
- ❖ California Air Pollution Control Officers Association (CAPCOA). 2008 (January). CEQA & Climate Change. Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act. See page 79, "Mitigation Strategies for GHG." Available: <http://www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA-White-Paper.pdf>.
- ❖ California Air Pollution Control Officers Association (CAPCOA). 2010 (August). Quantifying Greenhouse Gas Mitigation Measures. A Resource for Local Government to Assess Emission Reduction from Greenhouse Gas Mitigation Measures. Available: <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>.
- ❖ Attorney General of the State of California. 2008 (December). The California Environmental Quality Act. Addressing Global Warming Impacts at the Local Agency Level. Available: http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf.

Cumulative Impacts

As provided above, CEQA requires an EIR to fully disclose and analyze a project's cumulative impacts. CEQA defines "cumulative impacts" as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." CEQA Guidelines § 15355(a). "[I]ndividual

effects may be changes resulting from a single project or a number of separate projects.” *Id.* “Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.” CEQA Guidelines § 15355(b). The cumulative impacts concept recognizes that “[t]he full environmental impact of a proposed . . . action cannot be gauged in a vacuum.” *Whitman v. Bd. of Supervisors* (1979) 88 Cal. App. 3d 397, 408.

Therefore, this EIR must thoroughly discuss any other potential projects and existing facilities, and their effects, which, when considered with this Project’s impacts, will be significant. Surfrider Foundation is presently aware of several other desalination projects, and projects with brine discharges, being considered in the Monterey Bay area, including the Pure Water Monterey Groundwater Replenishment Project, the Cal Am Monterey Peninsula Water Supply Project, DeepWater Desal’s proposed Monterey Bay Regional Water Project, and new desalination facilities approved by the Marina Coast Water District. These projects, and any other potential or existing projects and facilities which will have effects on the Monterey Bay region, including those with potential brine discharge effects, or other effects due to ocean water intake pipelines or water supply transport pipelines, must be included and their impacts analyzed in conjunction with those associated with the proposed Project in the EIR.

Project Segmentation

The pipeline conveyance system and storage facilities must be analyzed as part of this Project’s EIR. Under CEQA, a “Project” means the *whole* of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment. CEQA Guidelines §15378. A public agency may not divide a single project into smaller individual projects in order to avoid its responsibility to consider the environmental impacts of the project as a whole. *Orinda Assn. v. Board of Supervisors* (1986) 182 Cal. App. 3d 1145, 1171. Since the desalination facility is being built to deliver potable water to municipalities, then all physical aspects of the Project associated with creating and delivering this water are part of the “Project” and must be included and analyzed in the EIR.

While the NOP includes details on the purposed conveyance system, the Project website currently provides that “[s]pecific water storage and conveyance facilities for the North Monterey County Area needs will be determined *after consultation with applicable water districts and companies.*”⁸ Since the specific water storage and conveyance facilities are a part of this Project they must be considered and analyzed in the EIR despite the discrepancy between the NOP and Project website.

Further, without certain knowledge of which areas this project will serve, it is not possible to appropriately identify the scope and location of impacts. The areas the

⁸ See <http://thepeopleswater.com/the-project/>

project plans to serve, including the volume of product water demanded by each area, must be included in the EIR.

Compliance With Existing Law

The Project must be consistent with all existing laws, and the EIR must address the Project's consistency. Specifically, the EIR must address how this Project will be consistent with the Marine Life Protection Act, and related Marine Protected Area regulations; the National Marine Sanctuaries Act of 1972, and related Monterey Bay National Marine Sanctuary regulations; laws applicable to the Elkhorn Slough National Estuarine Research Reserve; and the California Ocean Plan.

These laws include, but are not limited to, the following:

- ❖ **Marine Protected Area regulations** - The Project is proposed to be located near the Elkhorn Slough State Marine Reserve and Elkhorn Slough State Marine Conservation Area. As to the Reserve, the "take" (i.e. killing) of any living marine resource is prohibited; and as to the Conservation Area, the take of all living marine resources is prohibited except the recreational catch of finfish by hook and line only, and limited taking of clams.⁹
- ❖ **Federal legislation and regulations applicable to the Elkhorn Slough National Estuarine Research Reserve** - The Project is proposed to be located near this 1700 acre Reserve, which is one of 28 National Estuarine Research Reserves established nationwide as a field laboratory for scientific research and estuarine education.¹⁰ See, e.g. U.S. Code, Title 16, Section 1461, National Estuarine Research Reserve System; and 15 C.F.R. § 951.¹¹ The EIR must illustrate that the Project is consistent with the Management Plan for the Elkhorn Slough Reserve, which broadly focuses on the protection, restoration, and conservation of the estuarine habitat of the watershed.¹²
- ❖ **Monetary Bay National Marine Sanctuary regulations** - These regulations prohibit drilling, dredging, or altering submerged lands within the Monterey Bay National Marine Sanctuary; prohibit discharging or depositing any material or matter within or into the sanctuary or from outside the boundaries of the sanctuary if it subsequently enters and injures the sanctuary; and prohibit disturbing, taking or possessing any marine mammal, sea turtle or bird within or above the sanctuary.¹³

⁹ See http://www.dfg.ca.gov/marine/mpa/mpa_summary.asp#rules

¹⁰ See <http://www.elkhornslough.org/esnerr/>

¹¹ See <http://www.nerrs.noaa.gov/about/legislation.html>

¹² See http://coast.noaa.gov/data/docs/nerrs/Reserves_ELK_MgmtPlan.pdf

¹³ See <http://montereybay.noaa.gov/resourcepro/prohibitions.html>

- ❖ **California Ocean Plan, including the new Desalination Amendment** – The Plan contains requirements with respect to intake structures, brine discharges, etc., which the Project must comply with. Further, specifically, the Desalination Amendment requires that intake and discharge structures not be located within a Marine Protected Area (MPA) or in a California State Water Quality Protection Area (SWQPA) (except for intakes structures that do not have marine life mortality associated with the construction, operation, and maintenance of the intake structures), and discharges shall be sited at a sufficient distance from an MPA or SWPQA such that the salinity within the boundaries of the MPA or SWPQA does not exceed natural background salinity. To the extent feasible, surface intakes must be sited at a maximum distance from an MPA or SWPQA. Ocean Plan, chapter III.M, (2)(b)(7).

Conclusion

The Surfrider Foundation Monterey Chapter appreciates the opportunity to provide these comments. The preceding matters are significant issues, which warrant inclusion and in-depth analysis in the Draft EIR. This Project must be carried out such that our ocean and coastal resources are protected to the maximum extent possible for generations to come, and CEQA demands that all feasible alternatives, impacts, cumulative impacts, and mitigation measures be considered with respect to this People's Moss Landing Water Desalination Project.

Sincerely,



Staley Prom, Esq.
Legal Associate
Surfrider Foundation



Ian Cecere
Legal Intern
Surfrider Foundation

