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EXECUTIVE OFFICE
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

JENNIFER LUCCHESI, *Executive Officer*
(916) 574-1800 *Fax* **(916) 574-1810**
California Relay Service TDD Phone 1-800-735-2929
Voice Phone 1-800-735-2922

March 9, 2018

Kelly Hammerle
National Program Manager
Bureau of Ocean Energy Management
45600 Woodland Road, Mailstop VAM-LD
Sterling, VA 20166

RE: 2019-2024 National Oil and Gas Leasing Draft Proposed Program

Dear Ms. Hammerle:

This letter is submitted in response to the Bureau of Ocean Energy Management's (BOEM) request for comments on the 2019-2024 National Oil and Gas Leasing Draft Proposed Program (DPP). This letter follows a prior submission by the California State Land Commission (Commission) dated February 7, 2018.

The Commission again urges BOEM and Secretary of the Interior, Ryan Zinke, to withdraw California from the 2019-2024 National Leasing Program. For over 30 years, the Commission has consistently opposed any expansion of the Outer Continental Shelf (OCS) leasing program into the Pacific Region.[1] California has been directly impacted by catastrophic oil spills stemming from OCS production and its citizens know firsthand the unacceptable harm that OCS development can and will pose to the state's marine environment, economy, and natural resources.

The Commission, on behalf of the state, has exclusive jurisdiction over leasing on tide and submerged lands for pipeline and utility rights-of-way that serve the OCS, along with numerous marine oil terminals and other facilities that serve OCS operations.[2] In issuing leases, the Commission balances competing Public Trust uses, which include commerce, navigation and safety, fisheries, recreation, public access, and conservation, in the best interests of the state. As the state agency responsible for remediating orphaned coastal hazards (including oil seeps from legacy wells) and ensuring the safe decommissioning of existing offshore platforms, the Commission grapples with the real

[1] *See*, Commission resolutions supporting a ban on Pacific OCS expansion dated: September 17, 2001; August 19, 2003; October 20, 2005; April 9, 2009; April 28, 2011; December 6, 2016; and June 22, 2017. Available at: www.slc.ca.gov.

[2] The Commission manages oil and gas leases off the Santa Barbara Channel and Orange County; the Commission has not issued a new production lease in state marine waters since 1968.

costs and risks of offshore development. The Commission's stance, borne from actual experience, is that revenue generation based on the boom and bust nature of the petroleum markets should not come at the expense of the public's natural resources, health, or access to recreational opportunities. The Commission will continue to aggressively protect the best interests of the people of the State of California, as it has done for 80 years, and will not simply accept BOEM's, or the Secretary's, attempts to upset 34 years of established policy by opening the Pacific OCS to new leasing. More specifically, the Commission wishes to make clear that *any application seeking to modify or install infrastructure to support new OCS development that may result from the DPP, will be reviewed with extreme scrutiny and the Commission will fulfill its statutory obligation to act in the best interests of the State of California, whatever the cost*.

For years the Commission has worked with BOEM, the Bureau of Safety and Environmental Enforcement, and its OCS partners to cooperate on issues of mutual concern including the Interagency Decommissioning Working Group, renewable energy projects, and issues of operational safety. Despite its opposition to the 2019-2024 National Oil and Gas Leasing Program, the Commission appreciates the opportunity to comment on the DPP and respectfully submits the following.

I. General Comments

BOEM's Inadequate Outreach and Coordination Has Harmed Public Participation

In general, the level of public outreach by BOEM has been inadequate, given the scale and scope of the DPP. Only on January 4, 2018, was the Pacific OCS presented as being included in the DPP and insufficient time and attempts have been made to obtain public comment. The one public meeting held in California (on February 8, 2018) was insufficient in many ways. It was held in Sacramento, an inland northern California city that is hundreds of miles away from the coastal communities most likely to be affected by the lease sales. One of the very first lease sales is scheduled for the Southern California Program Area, in 2020, with Central California and Northern California to follow shortly in 2021.[3] Yet, many residents in these Program Areas have not been given the chance to express their concerns through a public forum with BOEM. Additionally, the format of the Sacramento meeting was not designed to elicit the public's input. It was set up in such a way so that BOEM staff could disseminate basic information, but not to actively listen to public comment. Indeed, citizens who attended could not voice their comments nor hear those of other community members because the only option that was offered was to submit public comment to BOEM staff through written cards or at computer stations. The issuance of the DPP should be delayed until more public meetings are held in communities adjacent to the offshore Program Areas, and the meetings should allow for verbal comments to be made and heard.

[3] Table 1: 2019-2024 Draft Proposed Program Lease Sale Schedule, p. 8.

The Secretary's Disproportionate Focus on Fossil Fuel Production Is Short Sighted and Harms California and its People

As a general comment, the Commission strongly believes that the Secretary's focus on fossil fuels development in the OCS is shortsighted, outdated, and will not obtain "American energy dominance". California is strongly committed to reducing greenhouse gas (GHG) emissions and addressing the impacts of climate change. The signs of climate change are clear. Every year there are larger wildfires, additional sea-level rise, reduced snowpack, more frequent heat waves, major storms, and drought.[4] For example, about half of the 20 largest wildfires in California burned in the last decade with seven of the state's largest, deadliest, and most destructive wildfires in 2017 alone. The state has aggressively moved to stem the cause of climate change by reducing its dependency on fossil fuels and incentivizing the transition to renewable energy.

A series of state executive orders and legislation have prompted massive increases in energy efficiency and rapid reductions in greenhouse gas emissions (AB 32, E.O. B-30-15, SB 350, *etc.*)[5] even while its economy has recovered and thrived post-recession, proving that environmental responsibility and economic growth are not mutually exclusive. Through these state mandates, local planning initiatives like Climate Action Plans, and market incentives such as cap and trade policies, California has exceeded its Renewable Portfolio Standards and become a global leader in renewable energy development, particularly in solar, wind, and geothermal.

Further oil and gas development on the OCS is not only unnecessary with respect to meeting California's energy needs, but is also incompatible with the state's energy policies, transitioning energy markets, and vision for the future. The Commission believes that both diversity in energy sources and a conscientious, objective consideration of the pending impacts of climate change provide the best path towards energy independence and dominance. The People of California would greatly benefit if Secretary Zinke shared this vision.

The Needs of Regional and National Energy Markets Do Not Support Leasing of California's OCS

The national and regional energy markets are vastly different now from what they were in the 1970s and 1980s or even the early 2000s. Currently, there is a surplus of oil, and prices are low. Much of the surplus is due to onshore oil and gas development using

[4] California Energy Commission staff. 2017. 2017 Integrated Energy Policy Report. California Energy Commission. Publication Number: CEC-100-2017-001-CMF.

[5] AB 32: California Global Warming Solutions Act, Núñez, Chapter 488, Statutes of 2006, required a 20% reduction in greenhouse gas emissions by 2020. Executive Order B-30-15, 2015, called for an even greater amount of emissions reductions of 40% below 1990 levels by 2030 (and was codified into law by SB 32 and AB 197). SB 350, De León, Chapter 547, Statutes of 2015, addresses the electricity and natural gas sector goals specifically, setting a target to derive 50% of electricity from renewable sources by 2030 and increase energy efficiency in all buildings. Source: California Energy Commission. 2017 Integrated Energy Policy Report. CEC-100-2017-001-MF. January 2, 2017.

techniques such as fracking. The surplus of oil is projected to continue, and the Energy Information Agency expects the United States to become a net energy exporter by 2022, or even 2020, well within the span of the proposed 5-year program.[6]

BOEM justifies scheduling additional OCS leasing by stating that there is an export market for heavy sulfurous crude such as that produced from the OCS, and the Outer Continental Shelf Land Act's (OCSLA)[7] purpose supports the development of resources for export.[8] However, BOEM must analyze whether the DPP helps to satisfy *domestic* needs for fuel security and net supply, and the fungibility of commodities does not mean that BOEM can neglect to differentiate between domestic and international needs for energy. Contrary to Secretary Zinke's statements, attaining global "energy dominance" is simply not a sufficient basis to lease the OCS.[9] Furthermore, very little oil is exported from the West Coast Petroleum Administration for Defense District (PADD), despite California being the third largest oil-producing state in the nation.[10] As such, there is little support for the contention that increased OCS production offshore California would support an export market.

In addition, given the lack of onshore infrastructure, it is unlikely OCS production offshore California would benefit regional energy markets. As noted in the DPP, any West Coast PADD would need additional refinery capacity to allow the region to use resources from Pacific OCS.[11] More specifically, California has 17 operating refineries capable of distilling 1.9 million barrels of refined products per day from crude oil.[12] Crude oil supplies to California refineries over the last 10 years have averaged 1.7 million barrels per day, with occasional fluctuations of less than 10 percent annually.[13] Approximately 50 percent of the refined product is gasoline that is consumed almost exclusively within California and represents a supply to refining capacity percentage of 90 percent.[14] Based on fluctuating gasoline demand, operating volumes regularly stretch existing refineries to roughly 95 percent of their capacity, which is the actual maximum capacity for daily operations as refineries require a 5 percent cushion, at least, for maintenance and unexpected operating upsets.[15]

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[6] "Annual Energy Outlook," United States Energy Information Agency 2018, available at: https://www.eia.gov/outlooks/aeo/pdf/AEO2018_FINAL_PDF.pdf.

[7] OCSLA, codified as 43 U.S.C. § 1331.

[8] DPP 6.9.

[9] Secretarial Order No. 3350, at 2.

[10] DPP 6.9; https://www.eia.gov/state/analysis.php?sid=CA.

[11] DPP 6.2.5.

[12] US Energy Information Administration, https://www.eia.gov/dnav/pet/pet_pnp_cap1_dcu_SCA_a.htm.

[13] *California Energy Commission*, http://www.energy.ca.gov/almanac/petroleum_data/refineries.html.

[14] *Ibid.*

[15] *California Energy Commission presentation October 5, 2017 Long Beach*, http://www.coqa-inc.org/docs/default-source/long-beach-2017/100517-eggers-california-crude-trends.pdf?sfvrsn=13245bb_2.

The economics associated with any expansion of infrastructure or refinery capacity in California would be extremely difficult because of California's large coastal population and the limited availability of land. Siting requirements for infrastructure, environmental review under the California Environmental Quality Act (CEQA) and other permitting requirements would require far more capital expenditures than in other locations that already have sufficient infrastructure in place to accommodate greater federal production. By way of example, one of the largest interstate pipelines in California, the Plains All American Pipeline (a portion of which was implicated in the May 2015 Refugio Oil Spill)[16] is preparing its repair and replacement plan for a 125-mile portion of its line which connects the southern central coast OCS development, including the Federal Santa Ynez Unit and others, with inland California markets.[17] Plains Pipeline, LLC, has determined that the original 24-inch to 30-inch line should be reduced to 12 inches and 16 inches, respectively, because the line was overdeveloped originally based on a faulty assumption that a significantly greater volume of product would be developed and demanded by California's ever-growing population and economy. This example, while a discrete instance, illustrates that California's demand for petroleum products is not increasing, but rather is stable, and decreasing from a per capita perspective. California's growing renewable energy portfolio has relieved the state, and its people, of the need to rely exclusively on petroleum products for energy or fuel. California's trajectory towards significantly greater reliance on renewable energy, addressed elsewhere, alongside reduced reliance on petroleum products all militate against additional Pacific OCS leasing and development.

Additionally, if the state of California or its local governments will not or cannot permit placement of the necessary transportation or refinery infrastructure, other options, such as a Floating Production Storage and Offloading (FPSO) facility might be required. As such, the possibility of the placement of an FPSO facility should be evaluated in the programmatic environmental impact statement (PEIS) for the DPP. The result of the added capital costs for new onshore or offshore refining will drive the base cost of any newly developed West Coast OCS product to levels that will impact its ability to compete in the market place with far cheaper options. The simple reality is that California-based refineries will continue to purchase oil at the most competitive price, which will continue to be from locations like Alaska, the Gulf, or other foreign producers. Flooding the local market with more product, from the proposed OCS leases, that cannot compete due to the significant capital startup costs will have the effect of immediately hampering the long-term viability of these operations and may increase BOEM's net liability as it relates to the Pacific OCS operations. Other locations may benefit from federal offshore leasing but given the supply and demand issues in California and the significant upfront costs to generate product from the Pacific OCS, BOEM and the Secretary should foreclose the option and seek to protect both California

[16] Unified Command Website for Refugio Oil Spill, http://refugioresponse.com/go/doc/7258/2522638/index.html.

[17] Santa Barbara County, Planning Department Project Site - http://www.line901r.com/index.php/project.

and the federal government from unnecessary liability associated with the present Pacific OCS leasing program.[18]

II. Specific Comments on the DPP and OCS Act section 18(a) Factors

Beyond the market based issues weighing against expanding OCS leasing in California, the Commission opposes the DPP because of its experience with the costs and harms to the state from OCS production. The DPP discounts, or omits entirely, many of the risks and costs that will result from the DPP; overstates the benefits and production possibilities under the DPP; undervalues the OCS uses beyond oil production; and fails to acknowledge the strong legal and policy goals of the state towards a sustainable and renewable energy future.

A. The DPP's Discussion of Equitable Sharing Concerns Excludes Nearshore and Onshore Risks and Costs That Clearly Weigh Against the DPP

Section 18(a)(2)(B) of the OCSLA requires that the Secretary base the size, timing, and location of the OCS exploration, development, and production on a consideration of "an equitable sharing of developmental benefits and environmental risks among the various regions." The cost to California from the DPP greatly outweighs the benefits that may be seen by either the people of California or the U.S. population. The DPP fails to capture the true costs, externalities, and impacts that the program will have onshore and offshore making an objective balancing of the benefits and risks impossible.

Nearshore Spill Risk and Environmental Impacts

The Commission has jurisdiction over many elements of offshore oil and gas production that are located or must pass through the state's sovereign submerged lands and tidelands, as well as the 34 marine oil terminals where petroleum products are transferred over water. Any increases to offshore oil and gas production in the OCS will likely impact the associated infrastructure under the Commission's oversight and regulatory authority, by either increasing the use intensity of existing infrastructure or necessitating the construction of new infrastructure, or both. Section 7.2.1 of the DPP discusses oil spills from platforms and pipelines and assumes that spills, if they occur, will happen adjacent or near those facilities. The DPP excludes from its analysis spill impacts that may result from increased barging and tankering to the state's marine oil terminals, many of which are in the state's major ports. In 1990, the *T/V American Trader* spilled approximately 416,598 gallons of crude oil off the coast of Huntington Beach, affecting 60 square miles of ocean water and shoreline.[19] Had this destructive event happened in the Ports of Long Beach or Los Angeles, nationwide economic damage to commerce and trade would have occurred. Increased oil production in the

[18] As discussed above the current and foreseeable lack of onshore infrastructure in California to support OCS development should also be quantified as part of BOEM's Net Social Value and hurdle price analyses.

[19] *See,* https://www.cerc.usgs.gov/orda_docs/CaseDetails?ID=959.

OCS will certainly lead to additional vessel calls and oil transfers at terminals along with additional voyages along the state's nearshore coastline, increasing the risk for spills. The DPP should analyze and consider impacts, both financial and environmental, from nearshore transfers and transportation along the state's coastline and apply those to the DPP's cost/value analysis.

Onshore Spill and Environmental Impacts

The DPP will greatly impact the need for onshore infrastructure. The DPP acknowledges that onshore refining and transportation infrastructure in California is inadequate to address new potential OCS production (DPP, sections 6.2.5, 8.2.1.1).[20] The Commission agrees with that assessment but also has significant concerns over the impacts that would occur from constructing new refineries, pipelines, processing, and transportation facilities. The DPP extolls the alleged benefits from building onshore infrastructure but glosses over the cost, externalities, and environmental impacts. The constraints in existing infrastructure in the California market would require new facilities resulting in construction and operational impacts to air quality, water quality, GHG emissions, aesthetics, and Public Trust resources and values. These impacts will disproportionally burden low-income and disadvantaged communities that reside near such facilities. Inversely, the near absence of infrastructure in the Central and Northern California Program Areas will require the industrialization of pristine coastline. The DPP fails to adequately assess the costs, both financial and environmental, of the significant onshore development that would occur as a direct result of the DPP making it impossible for the Secretary to objectively balance the developmental benefits and environmental risks.

In addition, the DPP does not assess the impacts from onshore spills due to increased OCS production. On May 19, 2015, line 901, transporting OCS crude, ruptured near Santa Barbara, spilling 100,000 gallons down a storm drain into the ocean.[21] This event demonstrated that offshore production leads to onshore oil spill impacts. Besides the obvious risk from pipelines, oil spill risks exist from trucking OCS crude to refineries and to downstream distributers and retailers. Because of the pipeline capacity limitations in California, more OCS production will result in more trucks being required to transfer petroleum products, thus increasing the risk of inland spills. Freshwater environments are highly sensitive to pollution spills as they serve as spawning habitat and food sources for freshwater organisms. The toxicity of crude and refined products, such as diesel, impact mammals, aquatic birds, fish, insects, microorganisms, and vegetation.[22] The DPP acknowledges a goal of establishing "Energy Dominance" which includes exporting and supporting interregional demand, including building refineries and transportation facilities. BOEM acknowledges that additional onshore facilities will be required for refining and transportation under the DPP; therefore, the DPP must analyze

[20] "[In the] Southern California planning areas, the existing infrastructure network is smaller and more focused around state-level projects."

[21] *See*, Refugio Beach Oil Spill, https://darrp.noaa.gov/oil-spills/refugio-beach-oil-spill.

[22] *See*, Inland Spills Fact Sheet, https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=54676.

the impacts from these facilities (both pipeline and trucking) and the onshore spill impacts that would necessarily result from transporting OCS pre-and-post refining.

Costs Associated with Platform Decommissioning

Recent bankruptcies by OCS producers and subsequent platform decommissioning suggest a weakening Pacific offshore energy market that will produce less benefit and greater cost than the DPP claims. In 2017 alone, Venoco, LLC, an operator of two OCS platforms (Gail and Grace) and one state platform (Holly) surrendered its interests in all three, and Rincon Island Limited Partnership released its interest in an offshore oil production island in state waters. The Commission is now responsible for the decommissioning of Platform Holly and Rincon Island and BOEM was faced with the prospect of decommissioning Platforms Gail and Grace until Chevron accepted liability. Chevron has estimated the decommissioning costs for Gail and Grace to total at least $242 million. The Commission estimates that costs associated with decommissioning Platform Holly and Rincon Island to be, at minimum, $125 million[23] and $70 million, respectively. The estimate for Platform Holly is currently being revised to reflect the significant repairs needed prior to the execution of any abandonment operations. This experience shows that decommissioning will cost more than $125 million per platform which amounts to an aggregate liability of nearly $2.9 billion for the existing Pacific OCS platforms. Considering that only one major oil company has expressed interest in OCS development (DPP, table 9-1), BOEM would likely be leasing to smaller, less capitalized operators that have little ability to guarantee their obligation to decommission a platform if they fell into insolvency. The extraordinarily high cost of decommissioning these facilities and the frequency with which operators are falling into insolvency weighs heavily against OCS expansion and must be fully analyzed in the DPP.

In all, the exclusion of these nearshore and offshore risks and costs make an objective assessment of the benefits and risks impossible, and thus must be included in the DPP. With these downstream factors included in the analysis, the obvious costs to California, from onshore and offshore pollution begin to substantially outweigh the benefits of further OCS development.

B. <u>The DPP Overstates the Benefits and Understates the Costs Associated with the State's Geographical, Geological, and Ecological Characteristics</u>

Geological Characteristics

The information used in the DPP to evaluate these characteristics for California is incomplete and outdated. Because there has not been a lease sale in the Pacific OCS in 34 years, due in part to Congressional restrictions and Presidential withdrawals from 1990-2008, very few recent geologic and seismic surveys have been conducted to

[23] *See*, http://archives.slc.ca.gov/Meeting_Summaries/2017_Documents/06-22-17/Items_and_exhibits/76.pdf.

inform resource estimates. The consequences of this omission in the DPP are significant, in that, (1) it creates an inaccurate narrative about the costs and ecological harm related to conducting high energy geophysical surveys, which would be necessary offshore California, and (2) it leads to the DPP's inaccurate depiction of the potential availability of the resource.

With respect to determining the location and characteristics of resources in the Pacific OCS offshore California, the DPP briefly acknowledges that "[t]he general process for oil and gas exploration on a lease typically begins by conducting geophysical seismic surveys early in an exploration cycle to obtain information about subsurface geologic formations and potential oil and gas traps. Such activity on a lease is conducted pursuant to the lease and/or plan requirements and does not require a separate permit, as is the case for pre-lease survey activity." (DPP, page 1-16). Later, in Section 5.2.3, the importance of surveys in locating resource is highlighted, as is the high cost of this form of data acquisition: "the acquisition and processing of marine seismic data is a complex process that often requires a significant time and cost investment measured in years and millions of dollars." (DPP, page 5-6). By its own account, approximately 99 percent of 3-dimensional seismic survey data has been acquired for the Gulf of Mexico Region (DPP, page 5-6). The Commission finds these statements highly problematic, in that it appears to defer the consideration of these surveys to the "exploration" or "project" phase (or post lease sale), and completely glosses over the time, cost, and environmental consequences of high energy geophysical survey permitting and activities that would clearly be part of developing these resources offshore California.

The Commission notes that high energy seismic surveys offshore California have been associated with intense controversy for decades, and because of grave concerns about environmental harm voiced by permitting agencies, have not been carried out since 1995, where the "regulatory review of the project took eight months to complete because of concerns expressed regarding the scope of environmental review, California Coastal Commission jurisdiction, adequacy of mitigation requirements, the late timing of public participation, and the need for better agency cooperation."[24] More recently, on November 14, 2012, the California Coastal Commission denied a Coastal Development Permit application by Pacific Gas and Electric to conduct a high energy seismic survey in state and OCS waters along the central coast area.[25] Additionally, the programmatic analysis conducted by BOEM for the Atlantic OCS (*Atlantic Geological and Geophysical (G&G) Activities Programmatic Environmental Impact Statement,* ROD 2014), consists of thousands of pages of text, thousands of public comments, and took over 5 years to complete—no such programmatic analysis exists for the Pacific, nor does it appear such an analysis is part of BOEM's intention for the 2019-2024 PEIS. These facts, taken together, demonstrate the extreme challenge that would be associated with the permitting and conduct of seismic surveys offshore California and the Commission

[24] BOEM, *High Energy Seismic Survey Review Process and Interim Operational Guidelines for Marine Surveys Offshore Southern California*, dated February 18, 1999, https://ntrl.ntis.gov/NTRL/dashboard/searchResults/titleDetail/PB2001100103.xhtml.

[25] California Coastal Commission, November 2012 agenda https://www.coastal.ca.gov/meetings/mtg-mm12-11.html

urges BOEM to address the issue in the DPP and PEIS, given its important bearing on the feasibility of locating and developing resources in the state's OCS waters.

Secondly, the lack of survey data and the reliance on incomplete information in the DPP means that the estimates of Undiscovered Technically Recoverable Resources and Undiscovered Economically Recoverable Resources are uncertain and not helpful for analysis. While the DPP does discuss uncertainty in assessing the resources (DPP, section 5.2.4) because the reservoirs have not been fully discovered and assessed, it is appropriate to introduce the exploration chance of success. A rule of thumb in the oil and gas industry is to count on an exploration hit rate of roughly 30 percent.[26] Applying this commonly used rule reduces the potential reserves which significantly minimizes the geological characteristics, especially in the Central and Northern California Program Areas.

The DPP also vastly underestimates the costs associated with oil and gas exploration and development in the California Program Areas, in part because there has been no accounting of the unique seismic characteristics off the coast of California, nor consideration of the relatively large economic and ecological impacts from oil spills that would devastate densely populated coastlines, such as those in Southern California. There are hundreds of identified faults in California; about 200 are considered potentially hazardous based on their slip rates in recent geological time (the last 10,000 years). More than 70 percent of the state's population resides within 30 miles of a fault where high ground shaking could occur in the next 50 years.[27] Some of the highest risk seismic areas are concentrated on the coast, particularly in the San Francisco Bay Area, Santa Barbara and Ventura, and Los Angeles.[28] In the United States, California is ranked second only to Alaska in the number of earthquakes per year over magnitude 3.[29] These seismic conditions would contribute significantly to the costs of oil and gas exploration and extraction in OCS waters. Any new infrastructure for exploration, extraction, and conveyance would have to meet strict building requirements to safeguard against the risk of spills associated with seismic events, increasing the capital and operational (maintenance) costs. In addition, the risk of oil spills and subsequent environmental damage will be higher due to the increased likelihood of a massive earthquake, when compared to areas of low seismic activity, like the Gulf of Mexico.

Ecological Characteristics

The DPP similarly does not sufficiently analyze nor account for California's ecological setting and the high costs of ecological damage to the state's economy, public health, culture, and natural resources. California has many highly productive and unique

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[26] *See,* http://wiki.aapg.org/Risk:_expected_value_and_chance_of_success#Probability_of_geological_success.

[27] California Department of Conservation, http://www.conservation.ca.gov/index/Earthquakes.

[28] Please see https://earthquake.usgs.gov/earthquakes/byregion/california-haz.php for the most recent Seismic Hazard Map.

[29] USGS, https://earthquake.usgs.gov/earthquakes/browse/stats.php.

offshore and coastal ecosystems, including giant kelp forests, coral reefs, eel grass beds, rocky intertidal habitat, deep water submarine canyons, soft bottom mud, coastal islands, and wetlands. These ecosystems serve vital functions for climate regulation, carbon sequestration, fisheries, cultural values, water and air quality, tourism and recreation, and wildlife habitat. The state and the federal governments have considered these areas so important that much of the state and OCS waters are established as marine protected areas, including four national marine sanctuaries. The California Current Large Marine Ecosystem is one of the most productive upwelling systems in the world, producing high amounts of nutrients that support invertebrates, fish, seabirds, and marine mammals.

California marine and coastal waters are home to hundreds of endemic species, many that are rare, threatened, or endangered. However, the majority are not evaluated for their significance in the economic model. For this reason, and others, the Commission fundamentally disagrees with the Offshore Environmental Cost Model (OECM), the methodology chosen to assess the value of these ecological resources as part of the Net Social Value (DPP section 5.3.2). The methodology inappropriately discounts the complexity and richness of California's marine ecology by omitting many of the critical ecosystem functions and services that are vital, including climate regulation, sport fishing, scientific research and education, blue technology, aquaculture, and renewable energy potential. Furthermore, its metric for air quality is inappropriately narrow and unrepresentative of the true costs and impacts of greenhouse gas emissions. By only looking at the onshore effects of dispersed criteria pollutants emitted offshore, it neglects to quantify the impacts to public health in port and onshore refinery communities from the transportation and processing of petroleum products. Many of these communities are economically disadvantaged and disproportionately affected by emissions. The methodology was created and revised in the past two decades when California waters were excluded from BOEM's previous Oil and Gas Leasing Programs. The state has therefore not had the opportunity to participate in the development and critique of this methodology until now and finds that the OECM fails to comprehensively and accurately evaluate California's marine resources.

C. California Residents Have Many Uses for OCS Lands, the Sea, and Seabed

There are many other important uses of the sea and seabed offshore of California that BOEM and Secretary Zinke should carefully consider before including California in the final DPP, including marine transportation and shipping, tourism and recreation, fisheries, and conservation. These uses have high economic, ecological, and social values, and could be negatively impacted or disrupted by increased oil and gas exploration and extraction.

Evaluation of Other Uses of the OCS Within the Pacific Region

The Commission disagrees with the assessment of other uses of the OCS within the Northern, Central, and Southern California Planning Areas, found in Table 6-4, on pg. 6-21 of the DPP. This assessment, based on older data from 2009, discounts the significance of commercial fishing in the Northern and Central California Planning

Areas, potential OCS renewable energy in the Northern California Planning Area, and subsistence in all three California Planning Areas. The DPP should reflect current trends by referencing the most recent data available rather than using data that is almost a decade old.

Commercial Fishing

Commercial fish landings by value were much higher in Northern and Central California in recent years than in 2009 (one of the worst years for fisheries in recent decades due to the economic recession).[30] In 2016, the value of landings in the Northern California Planning Area totaled $56.7 million, not far behind Southern California's $66.5 million. Central California Planning Area fish landings totaled $42.1 million in 2016.[31] These values indicate that commercial fishing is incredibly important to the coastal communities in Northern and Central California, as well as Southern California, and should be included as uses that should be evaluated under the DPP.

Subsistence Fishing

Subsistence fishing and kelp harvesting are important sources of sustenance for many Tribal communities in rural parts of California's coast, as well as environmental justice communities, particularly in Humboldt, San Francisco, Monterey, San Pedro, and San Diego Bays. Subsistence fishing and kelp harvesting are protected rights in the State of California. Though subsistence fishing may not physically take place often in the OCS, the species that are caught use OCS waters as habitat (salmon, for example). Subsistence should be added back into the list of other uses considered by BOEM, particularly because the practice supports food security and cultural heritage of California coastal residents.

Potential OCS Renewable Energy

There is tremendous potential OCS renewable energy in the Northern California Planning Area, primarily from offshore wind. According to a report by the National Renewable Energy Laboratories commissioned for BOEM, the top three out of six sites identified for commercial offshore wind potential are located in the Northern California Planning Area, and the market growth curve indicated that commercial phased

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[30] Andrews, K.S., et al. 2015. The legacy of a crowded ocean: indicators, status, and trends of anthropogenic pressures in the California Current ecosystem. *Environmental Conservation* 42(2):139-151.

[31] National Ocean Economics Program. 2018. http://www.oceaneconomics.org/LMR/topPortsResults.asp?selStates=6&selYears=2016&selOut=display&noepID=unknown. Northern California ports are Crescent City, Eureka, Bodega Bay, and Fort Bragg. Central California ports are San Francisco, Moss Landing, Monterey, and Morro Bay. Southern California Ports are Santa Barbara, Port Hueneme, Los Angeles, and San Diego.

development for floating wind turbines could be realized by 2025.[32] Though Northern California is not an ideal location from which to export renewable offshore wind energy, it is an excellent location for local market capitalization. A recent partnership has been formed between a private offshore wind developer, Principle Power, and a local utility provider, Redwood Coast Energy Authority, to develop the first commercial offshore wind farm in Northern California, with the support of the nearest coastal power station, local communities, and local Native American Tribal governments.[33]

Economic Value of Other Uses of the OCS Within California

California's ocean economy includes six industrial sectors: marine transportation, tourism and recreation, living marine resources, marine construction, ship and boat building, and mineral extraction.[34] In 2013, California's direct ocean economy generated $44.2 billion or 2.0 percent of the state's GDP, contributed $19.3 billion in wages and salaries, and provided 502,073 jobs.[35] The two most important sectors of California's ocean economy include tourism and recreation, and marine transportation.[36] The GDP of these two sectors ($31.7 billion combined)[37] exceeded the GDP produced by farms in the State of California in 2012 ($25.6 billion).[38]

In 2013, tourism and recreation contributed $18.4 billion (41.6 percent) to the state's ocean GDP. Visitors are primarily drawn to coastal California for its beaches and ocean-related recreational activities. Some of the state's main attractions include surfing, offshore fishing, kayaking, and spending time along the 340 miles of coastline and major bay frontage and estuaries protected by the California State Park system. In FY 2015/16, the State Park system reached 74,393,798 in visitor attendance, and generated $130,644,343 in total revenue—an increase of 94.67 percent over the

[32] BOEM, NREL. 2016. Potential Offshore Wind Energy Areas in California: An Assessment of Locations, Technology, and Costs. Technical Report NREL/TP-5000-67414. OCS Study BOEM 2016-074. https://www.boem.gov/2016-074/.

[33] Greenson, T. "In the Wind: Can offshore wind energy reshape the future of Humboldt County?" North Coast Journal. Published Feb. 22, 2018. https://www.northcoastjournal.com/humboldt/in-the-wind/Content?oid=8027430.

[34] National Ocean Economics Program, *Coastal and Ocean Economics Summaries of Coastal States-Update 2016,* Middlebury Institute of International Studies at Monterey, Center for the Blue Economy, February 2016. Available at: http://oceaneconomics.org/Download.

[35] *Ibid*.

[36] NOAA, *The National Significance of California's Ocean Economy, 2015.* Available at: https://coast.noaa.gov/data/digitalcoast/pdf/california-ocean-economy.pdf.

[37] National Oceanic and Atmospheric Administration, Economics: National Ocean Watch (NOAA ENOW). 2015. ENOW Explorer. Available at: http://coast.noaa.gov/digitalcoast/tools/enow.

[38] Bureau of Economic Analysis (BEA). 2015. "Regional data." Available at: http://www.bea.gov/itable/iTable.cfm?ReqID=70&step=1#reqid=70&step=1&isuri=1.

previous year.[39] Sport fishing is another key visitor activity, accounting for 86,000 non-resident anglers and 316,000 non-coastal Californians in 2012.[40]

California's commercial fishing industry generates millions of dollars of ex-vessel revenues annually.[41] In 2014, commercial fishery landings were 358 million pounds, valued at $234.8 million. Fishing communities extend throughout the state from Crescent City in the north to San Diego in the south, providing a diverse supply of seafood and a visible reminder of California's maritime heritage.[42]

California's 545,280 acres of marine protected areas (MPAs)[43] support the state's valuable commercial fisheries and serve as living laboratories for academic research by state colleges and universities. Hundreds of millions of dollars are spent each year locally along the coast adjacent to marine protected areas to conduct scientific marine research. In Monterey Bay alone, $337 million, representing both federal and state investments, was spent in 2016 by local research institutions and scientists in the marine environment.[44]

Marine transportation is the second largest of California's six ocean dependent economic sectors, accounting for 31 percent of the ocean dependent GDP in 2012 ($14.1 billion).[45] The marine transportation sector's GDP contribution was over $250 million in Alameda County, over $1 billion each in Orange and San Diego Counties, and over $6 billion in Los Angeles County alone. In 2012, California represented approximately a quarter of the U.S. marine transportation sector in terms of wages (27 percent) and GDP (25 percent), and it also accounted for substantial shares of the U.S. total for establishments (17 percent) and employment (22 percent).[46]

California's marine transportation provides ports of entry and exit for the inland U.S. economy to accept foreign goods and ship goods internationally. In 2012, approximately $331 billion of foreign goods were imported to the United States through California's

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[39] California State Parks, *Statistical Report 2015/16 Fiscal Year.* Available at http://www.parks.ca.gov/pages/795/files/15-16%20Statistical%20Report%20FINAL%20ONLINE.pdf.

[40] National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA NMFS). 2012. Fisheries Economics of the U.S. 2012: Pacific. Available at: http://www.st.nmfs.noaa.gov/Assets/economics/documents/feus/2012/FEUS2012_Pacific.pdf

[41] California Department of Fish and Game, *The Economic Structure of California's Commercial Fisheries, June 3, 2009. Available at:* https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=30741&inline

[42] California Sea Grant, *Discover California Commercial Fisheries,* 2018. Available at: https://caseagrant.ucsd.edu/project/discover-california-commercial-fisheries

[43] Wildcoast. (2018). *California Marine Protected Areas.* Available at: http://www.wildcoast.net/programs/8-california-marine-protected-areas

[44] University of California, Santa Cruz: https://www.ucsc.edu/features/marine_sciences/economic-impact.html

[45] National Oceanic and Atmospheric Administration, Economics: National Ocean Watch (NOAA ENOW). 2015. ENOW Explorer. Available at: http://coast.noaa.gov/digitalcoast/tools/enow.

[46] *Ibid.*

ports, and $99 billion of goods were exported through California ports to foreign countries.[47] This accounts for 15 percent of all imported foreign goods ($2.28 trillion, total U.S. imports) and 6 percent of all exported goods ($1.55 trillion, total U.S. exports).[48] Los Angeles was the largest port for foreign imports and exports, accounting for 85 percent of foreign imports and 81 percent of foreign exports through California ports. In addition to supporting the inland economy by providing ports for foreign imports and exports, California ports also serve to help move domestic goods to and from other states.[49]

D. The Laws, Goals, and Policies of the California are Opposed to, and Incompatible with the Purposes of the DPP

California's Laws Promote Conservation and Rehabilitation of Lands Affected by the State's Fossil Fuel Past

California has long-established laws and policies to protect its coast and deemphasize oil production. The California Coastal Sanctuary Act of 1994 (Cal. Pub. Resources Code, § 6240 et seq.) created a coastal sanctuary which banned new oil and gas development in state waters subject to tidal influence because of the unacceptably high risk of damage and disruption to the state's marine environment. In 2017 alone, the Commission permanently added 15,000 acres of former state oil and gas leases to the Coastal Sanctuary. Additionally, California holds and manages its sovereign tidelands and submerged lands pursuant to the common law and statutory Public Trust Doctrine for the benefit of the people of California.[50] Increased development from the OCS threatens the state's interest in these lands and the ability of its people to access and enjoy them. Senate Bill 44, passed in 2017, launched a coastal hazard remediation program to fund the Commission's efforts to abandon orphan and legacy wells on state sovereign land. These laws illustrate the state's policy of promoting conservation and rehabilitating lands damaged by California's fossil fuel past.

California and the Commission Have Worked with its Federal Partners Towards Achieving a Sustainable, Renewable Energy Future

The Commission and its staff have been engaged in California's efforts to transition the state to a lower carbon, renewable energy generation system for many years, both on and offshore. On land, as early as 2008, the Commission was seeking to include

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[47] NOAA, *The National Significance of California's Ocean Economy, 2015.* Available at: https://coast.noaa.gov/data/digitalcoast/pdf/california-ocean-economy.pdf.

[48] Bureau of Economic Analysis (BEA). 2012. U.S. International Trade in Goods and Services. Available at: http://www.bea.gov/newsreleases/international/trade/2013/pdf/trad1212.pdf.

[49] See footnote 45.

[50] See, State Lands Commission, http://www.slc.ca.gov/PublicTrust/PublicAccess.html. Historically, the Public Trust has referred to the basic right of the public to use its waterways to engage in "commerce, navigation, and fisheries." More recently, the doctrine has been broadened by various landmark court decisions to include the right to swim, boat, and engage in other forms of water recreation, and even to preserve lands in their natural state in order to protect scenic and wildlife habitat values.

renewable energy generation in its management portfolio on school lands, approving a *Resolution by the California State Lands Commission Supporting the Environmentally Responsible Development of School Lands Under the Commission's Jurisdiction for Renewable Energy Related Projects* on October 16, 2008. In 2011 and 2013, the Commission entered into two memoranda of understanding with state and federal agencies to participate in the Renewable Energy Action Team and planning activities related to the Desert Renewable Energy Conservation Plan (DRECP), in recognition of the Commission's widespread landholdings in the DRECP area and the Commission's responsibilities to develop those lands. As part of its DRECP activities, and consistent with a 2012 memorandum of agreement between the Commission and the Department of Interior, Commission staff worked with staff from the Bureau of Land Management to pursue land exchanges with the federal government (pursuant to Assembly Bill 982, 2011). The land exchanges, when completed, will consolidate school land holdings in the DRECP area to facilitate renewable energy development on school lands.

Offshore, the Commission has been active for many years in developing policies and partnerships related to renewable energy research and development in the marine environment. The Commission, for example, has been a member of the Marine Renewable Energy Working Group, led by the Ocean Protection Council, since 2011, and in 2013 the Commission developed an informational report entitled *Marine Renewable Energy and Environmental Impacts: Advancing California's Goals* that discusses the state of marine-based wind and wave energy technology development and the environmental impacts that may result from deployment of those technologies. In 2015 and 2016, the Commission provided support in the form of in-kind services for the CalWave study, a Department of Energy grant-funded exploration of the feasibility of siting a national wave energy test center off the coast of California. Ultimately, while the California site was not selected for the test center, the study yielded valuable information on which agencies and industry will continue to build. Currently, the Commission is a participating member of the Intergovernmental Renewable Energy Task Force, a partnership established between the state and BOEM that seeks to explore and facilitate offshore renewable energy development. The common goals and objectives of the respective state and federal agencies were memorialized in a December 12, 2016 memorandum of understanding signed by Governor Brown and former Secretary of the Interior Sally Jewell. The Task Force has compiled and organized a tremendous amount of data and is actively working with the Department of Defense, Tribal governments, utilities, fishermen, and industry developers to move forward with siting and deployment of wind facilities in the OCS.

The Commission, Working in the State's Best Interests, Has Adopted Policies to Utilize State Lands Towards Achieving a Sustainable, Renewable Energy Future

On December 18, 2015, the Commission adopted its 5-year Strategic Plan.[51] Recognizing the need for active participation in the state's transition to renewable energy, the Commission included a foundation in the Strategic Plan for how the

[51] *See*, State Lands Commission, http://www.slc.ca.gov/About/StrategicPlan.html.

Commission should endeavor to build the bridge to a sustainable future. To that end, the Commission has committed to build that bridge by responsibly increasing its renewable energy development portfolio. The Commission also recognizes that any new renewable energy projects in California will have a positive impact on the state's economy, climate change efforts, water availability, and air quality.

The Strategic Plan, the culmination of robust stakeholder input and collaboration, guides the Commission's stewardship of public lands and resources, which includes addressing challenges such as adapting to sea-level rise and climate change, and promoting public access. Several key actions in the Strategic Plan Workplan focus on identifying and promoting lands with potential for renewable energy which enables the Commission to adapt to these emerging challenges. For example, key action 2.1.3. seeks to "[i]dentify sovereign and school lands resources that have renewable energy or other development potential or are suitable for mitigation purposes." Moreover, key action 4.2.1. seeks to "[b]uild a comprehensive set of authoritative geospatial data that will enhance Commission decision making and enrich the public's understanding of the Commission's mission, vision, policies and activities." The targeted outcomes in the Workplan provide additional detail and guidance, including:

- Conduct[ing] a thorough inventory of lands with renewable resources potential (including solar, wind, wave, biomass, and geothermal), leveraging GIS, and in collaboration with recognized authoritative entities, to actively market and promote resource development potential.
- Develop[ing] science-based criteria to identify Commission lands suitable for developing renewable energy resources while protecting ecologically core land.

The laws and policies of California work towards conservation, rehabilitation, and moving towards a sustainable, renewable energy future. The basis underlying the DPP undermines these aspects of state governance and are entirely incompatible with the state's ongoing mission. These factors weigh against inclusion of the Pacific OCS in the DPP.

E. PEIS Scoping Comments

Potential Impact on Environmental Resources

Nearshore and Onshore, New Facilities Impacts: As stated above, any future environmental analysis should analyze the impacts from construction and operation of reasonably anticipated onshore and nearshore facilities. These facilities may likely reside near lower income and disadvantaged communities and will have a disproportionate impact. This analysis should include construction and operational impacts to air quality, water quality, GHG, aesthetics, and environmental justice values.

Ecological and Economic Impacts to Non-OCS Sectors: The PEIS should analyze, with updated information, the full potential ecological and economic impacts with updated

information. In addition, the PEIS should analyze the impacts from geophysical surveys utilizing air guns and other acoustic generating equipment on the marine environment.

Table 7-2 (page 7-32) of the DPP provides a synopsis of the overlap between Program stressors and environmental resource receptors in space and time. Comments on stressor-specific impacts to environmental resource receptors are as follows:

Vessel or Vehicle Traffic: Increased oil and gas exploration and extraction will likely lead to greater vessel traffic for offshore platform and pipeline construction, as well as transport of petroleum products to onshore facilities, such as marine oil terminals. Marine benthic habitats, marine pelagic habitats, and invertebrate species may be impacted by this activity due to biofouling of ship hulls and transport of marine invasive species in ballast water, and should be considered as environmental resource receptors. Under the authority of California's Ballast Water Management for Control of Non-Indigenous Species Act (1999), the Commission regulates all vessel traffic arriving to California ports to minimize the risks of invasive species introduction. Contamination from vessel traffic is not limited, however, to the nearshore or coastal environment. Vessels passing through the OCS can impact marine benthic habitats and pelagic habitats both in OCS and State waters before ever reaching the ports, through the discharge of ballast water. Ballast water is one of the most significant vectors of non-indigenous species – single ballast discharge and exchange offshore can release over 21.2 million individual planktonic animals.[52] In addition, onshore trucking of OCS refined and unrefined product will increase the risk of inland oil spills affecting inland waterways and water quality.

Drilling Debris & Discharge: Terrestrial wildlife should be included as an environmental resource receptor with the potential to be impacted by the DPP. For example, terrestrial species such as the polar bear traverse coastal marine waters and feed on aquatic species that could be impacted by drilling debris and discharge (as indicated in Table 7-2). Thus, impacts to aquatic habitats and prey could affect polar bears and other terrestrial wildlife that utilize these environmental resources.

Air Emissions: Program-related air emissions have the potential to affect not only humans and birds (as indicated in Table 7-2), but also other air-breathing species such as marine mammals and sea turtles. Air emissions, including greenhouse gases, also affect ocean chemistry, and thus water quality. For example, when carbon dioxide (a greenhouse gas) dissolves in seawater, the ocean becomes more acidic (i.e., ocean acidification). This change in ocean pH can have dramatic effects on some calcifying species, including shallow-water and deep-sea corals, as well as oysters, mussels, clams, and sea urchins. These ecosystem-level effects will likely ripple up the food chain, ultimately impacting marine and estuarine habitats as well as U.S. commercial fisheries. The long-term effects of continued fossil fuel use should also be considered when evaluating the impacts of this stressor on environmental resource receptors.

[52] State Lands Commission. http://www.slc.ca.gov/Programs/MISP/InfoShts/General_Info.pdf.

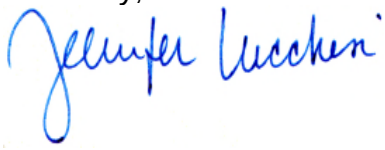
Explosives: To successfully evaluate how explosives could affect environmental resource receptors, the DPP must explain how and in what context this stressor would be used.

Space-Use Conflict: The potential for space-use conflicts should consider how marine and terrestrial species utilize habitats that could be affected by the DPP. For example, species distribution patterns (e.g., resident, non-migratory species; migratory species), as well as feeding and breeding grounds must be taken into consideration when determining DPP-related impacts to environmental resource receptors such as marine and terrestrial wildlife.

III. Conclusion

The Commission opposes any additional oil and gas development in Pacific OCS waters and will heavily scrutinize any associated application for a lease, easement, or right of way through state lands. The Commission has concerns that BOEM's public outreach was insufficient, that the focus on fossil fuel production underlying the DPP is shortsighted, and that California's market cannot support a glut of new crude production sufficient to make it economically viable. In addition, the California experience with OCS production shows that it inevitably results in irreparable harm to marine and coastal Public Trust resources, the state's sovereign submerged lands and tidelands, coastal communities, and other important ocean uses. It is also incompatible with the state's policies and laws, which are transitioning away from conventional fossil-fuel based energy sources to renewable energy sources to minimize the risks of climate change and build a robust energy economy with greater stability and fewer environmental costs. The Commission asks that BOEM and Secretary Zinke consider the information provided in this letter and revise its evaluation of the Section 18(a)(2) factors with respect to the Northern California, Central California, and Southern California Program Planning Areas and should exclude all of California from the 2019-2024 National Oil and Gas Leasing Draft Proposed Program.

Sincerely,



JENNIFER LUCCHESI
Executive Officer