November 20, 2009

Response to Public Comments
Final Modification of National Pollutant Discharge Elimination System (NPDES) General Permit No. CAG280000 for Offshore Oil and Gas Exploration, Development and Production Operations off Southern California.

Public notice of EPA's tentative decision to modify the general permit was published in the Federal Register on April 3, 2009 (74 Fed. Reg. 15267) and in the Santa Barbara News-Press on April 2, 2009. The following parties submitted written comments on the proposed permit modification within the public comment period which closed on May 4, 2009:

Western States Petroleum Association (WSPA)
Environmental Defense Center (EDC)
Plains Exploration & Production Company
Ventura County Public Works Agency – Transportation Department

The written comments that were submitted were reviewed by Region 9 and considered in the formulation of the final determinations regarding the permit modification. Our responses to the comments follow below.

1) Comment: In deriving the proposed effluent limitations for produced water discharges, one commenter (WSPA) objected to the use of more stringent water quality criteria from the California Ocean Plan (COP) at the edge of the 100-meter mixing zone rather than at the boundary of state waters. The commenter noted that the COP was adopted by California to achieve the state's water quality objectives for the state's territorial seas. The commenter also cited Region 9's earlier legal analyses concluding that the COP itself does not require application of the COP water quality objectives as discharge limits outside of the state's territorial waters. Another commenter (EDC) supported this method for deriving the limits.

Response: Region 9 acknowledges inconsistency between earlier legal positions asserted by the Region regarding its Coastal Zone Management Act (CZMA) obligations and application of the water quality criteria from the COP in the development of requirements for this general permit. Today's requirements reflect the Region's re-consideration of the legal and factual issues presented. In doing so, EPA also has reconsidered its evaluation of compliance with the ocean discharge criteria established pursuant to CWA section 403(c).

When the Region proposed today's general permit modification, it also indicated its intention to consider data and analysis supporting (or refuting) the need for permit limits to assure compliance with the COP objectives at the edge of the 100-meter mixing

zone. No parties have submitted any data or analysis relevant to assure compliance with COP objectives, either at the edge of a mixing zone or at the boundary of State waters. More importantly, no commenter challenges EPA's conclusion that discharges to be authorized under the general permit, that occur outside of the coastal zone, "affect" water uses and natural resources of the coastal zone, thus triggering consistency obligations applicable under CZMA section 307(c).

In the 2004 reissuance of the general permit, the Region responded to comments explaining why it decided to apply more stringent water quality criteria from COP objectives at the edge of the mixing zone to derive effluent limits notwithstanding its 2003 proposal to apply such objectives at the boundary of State waters. In March 2004, the California Coastal Commission (CCC) had objected to Region 9's consistency certification under the CMZA, which was based on the Region's proposal to apply the more stringent criteria from the COP objectives at the boundary of State waters. Without CCC concurrence for the permit, authorization to discharge under the re-issued general permit would have been delayed for an indeterminate period while permittees pursued the CCC's concurrence on each permittee's CZMA consistency determination on a platform-by-platform basis. For many of the platforms to be authorized under the 2004 re-issuance, the general permit included some requirements updated for the first time since 1982. The 1982 general permit authorized discharges from 14 platforms and had established effluent limitations for produced water including limits for some metals based on the State's marine water quality criteria, some of which were more stringent than water quality criteria recommended under CWA section 304(a). Since that time, the Region also issued individual NPDES permits for the platforms with discharges now authorized under the 2004 general permit, the last individual permit of which was issued in 1993.

Section 307(c)(1)(A) of the CZMA requires that each federal agency activity within or outside the coastal zone that affects any water use or natural resource of the coastal zone shall be consistent to the maximum extent practicable (MEP) with the enforceable policies of approved state management programs. The implementing regulations at 15 CFR 930.31(d) defining "federal agency activity" explain that any general permit proposed by a federal agency is subject to CZMA section 307(c)(1) implementation procedures if the general permit does not involve case-by-case or individual issuance of a license or permit by the federal agency. The regulation further requires that, when proposing a general permit, the federal agency must provide a consistency determination to the relevant management programs and request that the relevant state agency or agencies review, and if necessary, provide conditions, based on specific enforceable policies of the approved program, that would enable the state agency to concur with the federal agency's consistency determination. Federal agencies must incorporate state conditions to the maximum extent practicable, which is defined at 15 CFR 930.32.

The general permit modified today authorizes discharges from locations outside the coastal zone that affect water uses and natural resources of the coastal zone. The Region's ocean discharge criteria evaluation supporting the general permit (initially

prepared in 2000) describes oceanic current patterns offshore southern California, noting that current directions vary during the year and at times discharges from platforms located on Outer Continental Shelf lands may be carried into State waters, thereby affecting water quality of the State waters. Certain platforms, such as Platform Gina, are in close proximity to State waters (about 400 meters away), increasing the potential for such water quality effects. In the 2000 ocean discharge criteria evaluation, the Region documented the geographic scope of commercial fisheries off Southern California, which straddle State waters and waters of the Outer Continental Shelf. The geographic scope of the commercial fisheries is further documented in more recent commercial landing data compiled by the California Game and Fish Department in a 2008 report entitled "Draft Regional Profile of the MLPA South Coast Study Region Point Conception to the California/Mexico Border."

As noted above, because no commenter contests the Region's conclusion that discharges under the general permit affect water uses and natural resources of the coastal zone, no commenter contests that CCC should have had the opportunity to provide its review. If necessary, the CCC could have described conditions based on specific enforceable policies that would permit the CCC to concur on the Region's consistency determination, or to object to the general permit, thus requiring the Region to notify potential users of the general permit that the general permit would not be available until such potential users provide the CCC with a consistency determination and the CCC concurs. The CCC did so in 2004. Under the CZMA regulations, "consistent to the MEP" means fully consistent with the enforceable policies of management programs unless full consistency is prohibited by existing law applicable to the federal agency. 15 CFR 930.32(a). The regulations continue by explaining that the CZMA "was intended to cause substantive changes in Federal agency decision-making within the context of the discretionary powers residing in such agencies." 15 CFR 930.32(b). Whenever legally permissible, a federal agency must consider the enforceable policies of management programs as requirements to be adhered to in addition to existing federal agency statutory mandates. Id.

CWA section 403 and its implementing Ocean Discharge Criteria regulations provide significant discretion to assure there will be no unreasonable degradation of the marine environment, and the Region has relied on those provisions in the past, as well as today, as the basis for the implementation of water quality-based controls in NPDES permits for off-shore oil and gas facilities. Within that context, EPA also has evaluated whether its federal actions are consistent to the maximum extent practicable with the enforceable policies of the State's coastal zone management program. Under the Ocean Discharge Criteria Regulations, Region 9 determines whether a discharge will cause an unreasonable degradation of the marine environment "based on consideration of … [among other things,] … [e]xisting or potential recreational and commercial fishing, including finfishing and shellfishing; …." 40 CFR 125.122(a)(7). Given the comment regarding EPA's action as it relates to the consistency requirements of the Coastal Zone Management Act, EPA has re-considered its Ocean Discharge Criteria evaluation, specifically with respect to protection of recreational and commercial fisheries.

Protection of recreational and commercial fisheries was a substantial motivation for the CCC's earlier objection to EPA's proposal to establish permit limits (at the edge of a 100-meter mixing zone) based only on CWA section 304(a) criteria. In its December 2003 staff report, adopted by the CCC, the CCC recommended that the permit include effluent limits based on the more stringent of the numeric water quality criteria in the COP objectives or those under CWA section 304(a). The staff report explained that application of more stringent State criteria would be necessary for protection of commercial fishing. CCC Staff Report and Recommendation; CD-109-03, pp. 17-19 and 22-23. Enforceable policies of the approved State coastal zone management program include a focus on the protection of recreational and commercial fisheries.

Two of the several enforceable policies for the protection of, among other things, recreational and commercial fisheries state:

"Marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and *species of* special biological or *economic significance*. Uses of the marine environment shall be carried out in a manner that will sustain the *biological productivity of coastal waters* and that will maintain healthy populations of all species of marine organisms adequate *for long-term commercial, recreational,* scientific, and educational purposes."

Coastal Act section 30230 (emphasis added).

"The *biological productivity and the quality of coastal waters,* streams, wetlands, estuaries, and lakes appropriate *to maintain optimum populations of marine organisms and for the protection of human health* shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams."

Coastal Act section 30231 (emphasis added).

The Region has based its re-consideration of its Ocean Discharge Criteria Evaluation in light of these enforceable policies, particularly with respect to the water quality criteria to protect recreational and commercial fisheries. (See Memorandum to File titled "Re-evaluation of Region 9's Ocean Discharge Criteria Evaluation for Discharges from Offshore Oil and Gas Facilities in Federal Waters off Southern California" and attachments). As a result of this re-consideration, the Region concludes that limits necessary to meet the more stringent of CWA 304(a) or COP objectives applied at the edge of a 100-meter mixing zone are necessary to avoid unreasonable degradation of the marine environment, specifically, to avoid significant adverse changes in ecosystem diversity, productivity and stability of the surrounding biological community, as well as to avoid threat to human health through consumption of exposed aquatic organisms.

Under section 304(a), EPA develops and recommends to states water quality criteria that EPA deems protective of designated uses, which states may use in establishing water quality criteria under CWA section 303(c). The objectives of the COP that are relevant to the issue of unreasonable degradation in this matter are the State water quality criteria that are more stringent than EPA's recommended criteria under CWA section 304(a). Because CWA section 510 preserves the authority of States to be more stringent than required under other sections of the CWA, a State like California may establish more stringent water quality criteria than EPA recommends, for example, to assure protection of water uses and natural resources subject to the State's regulatory authority, including recreational and commercial fisheries.

Moreover, the Region notes that in numerous previous permits for oil platforms offshore from Southern California dating back to the Region's first general permit issued in 1982 (47 Fed. Reg. 7312), the Region included effluent limits for produced water discharges based on the numeric criteria in the COP objectives, particularly for certain metals. Maintaining those limits in today's permit modification is important to avoid backsliding from existing water quality protections. EPA recognizes that, according to the terms of the COP, the COP objectives apply only in State waters. EPA also notes that the legal basis for CCC's earlier objection – that the COP objectives apply to the discharges authorized under the permit by virtue of the Coastal Zone Management Act – is different from the Region's legal basis for the limits in today's modified permit. EPA believes, however, that it has legal authority and technical bases for applying the more stringent of the State and Federal water quality criteria to derive appropriate limits to avoid unreasonable degradation of the marine environment under the Clean Water Act. Because the Region can accomplish the result sought by the CCC, albeit for legal and technical reasons different than those articulated by the CCC, the Region again concludes that today's modified permit is consistent to the maximum extent practicable with the enforceable policies of the approved coastal zone management program. As mentioned above, the Region has prepared a memorandum for the administrative record for the final permit modification which further discusses Region's rationale for this decision.

For these reasons, the Region retains the general permit effluent limitations based on application of the more stringent water quality criteria of either COP objectives or CWA section 304(a) criteria at the edge of the mixing zone.

2) Comment: Two commenters objected to the continued testing for semi-volatile compounds which were not detected during the reasonable potential (RP) study for produced water discharges, but for which RP to exceed water quality criteria was demonstrated by the procedure for analysis of RP required by the general permit. A commenter also suggested two approaches to consider for demonstrating an absence of RP for the pollutants in question.

Response: The general permit requires the procedure found in the document entitled "Procedures for Reasonable Potential Evaluation in NDPES Permit No. CAG280000" to evaluate whether a particular pollutant is present in produced water at a level which would have Reasonable Potential (RP) to cause or contribute to an

exceedance of an applicable water quality criterion. Depending on the maximum reported minimum level of the analytical equipment used in the RP study, it is possible that RP could be demonstrated without an actual detection of a pollutant. However, since such an analysis has not demonstrated an absence of RP, Region 9 disagrees with the commenters that the monitoring requirements should be deleted.

With regards to the suggested options for demonstrating an absence of RP, the first would replace the minimum level required by the RP procedure with the method detection limit (MDL). However, the RP procedure itself was outside the scope of the proposed permit modification and use of the modified procedure would be contrary to the requirements of the general permit. Concerns about the RP procedure should have been raised when the general permit was issued in 2004. Moreover, laboratory measurements in the vicinity of the MDL are less reliable than at the minimum level, and use of the MDL would raise questions about the validity of any RP conclusions. The second option would remove about five datapoints that were affected by matrix interference which produced high minimum levels in the samples. If these samples were removed, the commenter indicated the remaining data would demonstrate no RP. However, removal of the five datapoints would also reduce the dataset to less than the 12 samples required by the general permit for the RP analysis, and Region 9 does not believe this would be appropriate.

Overall, if the commenters wish to remove a given pollutant from the list for which monitoring is required, they should ensure their test methods and laboratory procedures are sufficient to demonstrate an absence of RP for a given pollutant, in accordance with the procedure set forth in the general permit. Region 9 will re-evaluate the available data when the general permit is reissued and re-evaluate whether the data at that time are sufficient to demonstrate an absence of RP.

3) Comment: A commenter urged Region 9 to require third party monitoring for the discharges to ensure an independent assessment of the compliance status of the discharges with the permit effluent limits.

Response: Region 9 is continuing to implement its memorandum of agreement (MOA) with the Minerals Management Service (MMS) which provides that MMS will conduct certain inspection and sampling activities for Region 9 at offshore oil and gas facilities. Implementation of these activities has been ongoing since the MOA was established in 1989. EPA believes that the inspection and sampling activity conducted by MMS is sufficient to address the concerns of the commenter regarding an independent assessment of the compliance status of the offshore facilities.

Region 9 would also point out that self-monitoring of discharges is authorized by section 308 of the Clean Water Act (CWA) and is a standard provision of all NPDES permits issued across the country. A permit requirement for third party monitoring would simply not be consistent with the provisions and authorities provided by the CWA. In fact, such a requirement would be unique. EPA has also found self-monitoring to be an effective and efficient tool for determining compliance with permit requirements and for

ensuring proper operation of pollution control facilities.

4) Comment: A commenter requested that Region 9 consult with the CCC concerning the proposed modification of the water quality criterion in the permit for undissociated sulfide.

Response: On March 27, 2009, Region 9 submitted a consistency determination for the proposed permit modification (including the revised criterion for sulfide) to the CCC for review for consistency with the State's Coastal Management Plan. On November 19, 2009, the CCC concurred with the consistency determination.

5) Comment: A commenter expressed concern regarding the statement on page 7 of the fact sheet which notes that dilution may be used to meet water quality-based limits as long as the requirements of 40 CFR 125.3(f) are met. The commenter reminded Region 9 the goal of the Clean Water Act (CWA) is to reduce the discharge of pollutants not dilute them.

Response: Region 9 recognizes the goal of the CWA is reducing pollutants. However, the CWA also provides for a balancing of environmental and economic factors as set forth at 40 CFR 125.3(f). Further guidance is available in a memo from EPA's Office of General Counsel (undated) which is part of the administrative record and addresses low flow augmentation and dilution to meet water quality standards. Region 9 believes the final permit has appropriately considered the relevant factors and guidance in setting the post-dilution effluent limits for produced water.

6) Comment: A commenter argued that the procedure used by Region 9 to derive the proposed site-specific water quality criterion for undissociated sulfide was overly conservative. In essence, the commenter objected to the inclusion of certain sublethal toxicity data in the database used to derive the acute water quality criterion. The fact sheet had also noted that Region 9 had followed the advice of EPA's Office of Science and Technology (OST) in deriving the site-specific criterion. The commenter requested to meet with representatives of OST if Region 9 did not revise the criterion as recommended by the commenter.

Response: As recommended by OST, Region 9 used a 1985 EPA guidance document[1] to derive the proposed site-specific criterion for undissociated sulfide. This guidance document encourages the inclusion of certain sublethal toxicity data (such as EC50s for larval tests) in the database used to derive an acute criterion (see sections IV.E.2 and E.3 of the 1985 guide), and Region 9 followed the guide in this respect. Further, the guide recommends that a downward revision be considered to protect significant species when a calculated criterion is not protective of such species. The commenter had recommended a criterion on the order of 11-12 ug/l rather than the 5.79

[1] Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and their Uses (1985 Guidelines), U.S. EPA, available at: http://www.epa.gov/waterscience/criteria/aqlife/index.html

ug/l proposed by Region 9. However, we would point out that the commenter's recommended criterion is higher than the concentrations shown in the toxicity database to cause adverse effects to certain significant species including *Mytilus galloprovincialis* and *Americamysis bahia*, whereas Region 9's criterion is lower than these concentrations.

Given the above factors, Region 9 believes its criterion of 5.79 ug/l is the more appropriate value, and this value was used in developing the produced water effluent limitations for undissociated sulfide in the final modified general permit. Region 9 also forwarded the comment to OST for review, as well as Region 9's proposed response. OST concurred with Region 9's response in a memo dated June 24, 2009 and the memo is part of the administrative record for the final permit modification. Also, since OST has reviewed the commenter's concerns and Region 9's response, we do not see the need for the meeting requested by the commenter, but Region 9 and OST would nevertheless be willing to discuss this matter further, should the commenter wish to do so.

7) Comment: A commenter (PXP) requested a one-year compliance schedule if the proposed site-specific criterion for undissociated sulfide ultimately proves to be the Agency's final determination. The commenter indicated that additional time would be needed to comply with the effluent limits for produced water derived from the proposed site-specific criterion. The fact sheet for the proposed permit modification had noted that Region 9 would consider a compliance schedule provided information were submitted showing the need for the compliance schedule and that the schedule would ensure compliance at the earliest possible date; such information was provided by the commenter in support of the request.

Response: Region 9 has reviewed the information provided by the commenter in support of the compliance schedule of one year to meet the new effluent limits for undissociated sulfide in the modified general permit. The commenter submitted specific information concerning platforms Harvest and Hermosa, explaining that these platforms cannot currently meet the new limit, after having operated without a sulfide limit for the past 20 years. The commenter also provided detailed information concerning the necessary changes and modifications to the treatment systems, namely, the addition of multiport diffusers to both platforms. Lastly, the commenter explained why a one-year compliance schedule was necessary, based on the need to design, construct, and install the multiport diffusers, which would require the of use of divers. The commenter stated that, based on its experience with offshore oil and gas operations, this constituted compliance "as soon as possible." The Region believes that this information adequately supports the commenter's request for the one-year compliance schedule, as it complies with the relevant requirements in 40 CFR 122.47. Thus, the final permit modification includes a compliance schedule of one year to meet the final effluent limitations for undissociated sulfide in the modified general permit.

8) Comment: A commenter expressed support for consideration of alternatives to direct discharge for produced water discharges, and drilling muds and cuttings. The commenter noted that pursuant to the CZMA review process, the 2004 general permit required that a discharge alternatives study be prepared and submitted to Region 9 by the

permittees. Further, Region 9 committed to modify the general permit if discharge alternatives are identified as "feasible" in accordance with the definition of this term in the California CMP.

Response: The discharge alternative study was submitted by the permittees in late 2006 as required by the general permit. However, after review of the study, Region 9 concluded that feasible alternatives (as defined under the California CMP) had not been identified by the study. Region 9 notified the CCC of its findings in a letter to the CCC in early 2009, and Region has not heard further from the CCC on this matter. The general permit is scheduled to be reissued and, at that time, all the permit effluent limits will be reconsidered during the reissuance, including discharge alternatives.

9) Comment: A commenter contended that an erroneous measurement for copper (likely due to laboratory error or field sample contamination) in the produced water monitoring data for Platform Hermosa inappropriately resulted in reasonable potential being demonstrated. The commenter recommended that the datapoint be excluded and reasonable potential be recalculated. As an alternative, reasonable potential could be reconsidered during the next reissuance of the general permit based on the data available at that time. The commenter also indicated that one particular measurement of dibenzo(a,h) anthrazine at Platform Harvest was likely spurious and should be deleted.

Response: Region 9 has no way of knowing for sure whether a laboratory measurement is real or a result of laboratory error and sampling error. We believe it would be inappropriate to exclude the datapoints based on such speculation. However, Region 9 will reconsider all the available data during the reissuance of the permit, as requested by the commenter.

10) Comment: A commenter noted that Region 9 had proposed to allow the use of total or dissolved sulfide in the determination of the undissociated sulfide concentration which is regulated by the permit. However, the commenter indicated the proposal did not specify where in the permit this modification would appear; the commenter suggested two locations.

Response: The final permit modification indicates the general permit has been modified to change footnote 5 in Table 4 to allow the use of total or dissolved sulfide in the determination of the undissociated sulfide concentration. This is one of the two locations in the permit suggested by the commenter. However, Region 9 does not see the need to include the same provision in the other suggested location of the permit (Part I.B.6) and the final permit modification does not include this change.

11) Comment: A commenter suggested two relatively minor revisions to the effective date of the proposed permit modification. Region 9 had proposed a series of potential effective dates which would largely depend on the actions of the CCC in concurring with or objecting to the modification.

Response: Given that the effective date of the modification is November 30,

2009 as explained in the Addendum to Fact Sheet, the requested changes are no longer relevant or necessary.

12) Comment: The proposed permit modification allowed a permittee to request a further modification which would reflect the results of a study of the decay of undissociated sulfide within the mixing zone allowed by the permit. The commenter recommended the permit modification clarify where in the permit this option would be located to ensure it was clearly available; two locations were suggested by the commenter.

Response: The final permit modification was clarified to indicate that footnote 5 of Table 4 (one of the two locations suggested by the commenter) was modified to allow the submittal of the study of the decay of undissociated sulfide. However, Region 9 does not believe the same provision is needed in the other suggested location of the permit (Part I.B.6), and the final permit modification does not include this other change.

13) Comment: A commenter recommended the text of Appendix C in the permit modification simply refer to Appendix A in the existing general permit rather than repeat some of the same information. The commenter also noted the language in Appendix C is slightly different from the language in Appendix A.

Response: Region 9 agrees this would be a reasonable revision, and it is included in the final permit modification.

14) Comment: A commenter recommended a change in the definition of Dm (the produced water dilution ratio) in Appendix A of the permit to indicate the calculation would be based on the average flow for the quarter in which the monitoring sample is collected. The commenter also requested Appendix A be modified to delete the requirement to include end-of-pipe sampling results on the DMR, since these can be calculated, if desired, by Region 9 based on the post-dilution results and Dm.

Response: It is already the intent of the permit to require that compliance be determined using sampling results and average flow dilution during the same quarterly monitoring period. The commenter appears to be misinterpreting the definition of "average quarterly flow" in the permit to mean the flow of the quarter prior to the one in which a compliance sample is taken. As such, Region 9 sees no need to modify the permit as recommended by the commenter.

With regards to the requirement for reporting end-of-pipe sampling results, Region 9 believes this is not a significant burden and the issue is outside the scope of the proposed permit modification. The ready availability of end-of-pipe sampling results would also make review and understanding of the discharges easier for any third parties wishing to review DMRs. Therefore, the permit was not modified as requested at this time. However, this reporting requirement can be re-evaluated when the general permit is reissued.

15) Comment: A commenter recommended the definition of C_o in Appendix D be made consistent with the definition in Appendix A of the existing general permit. Further, the definition of Dm should be changed as described in comment #14 above; the commenter also requested that reporting of end-of-pipe sample results be deleted.

Response: Region 9 has modified the definition of C_o in Appendix D so that it is identical to the definition in Appendix A. However, the definition of Dm and the end-of-pipe reporting requirements were not changed for reasons discussed above in the response to comment #14.

16) Comment: A commenter noted that in Table C-1 the constituent "benzo (k) fluoranthene" appeared twice, and apparently one of the two should have been benzo (b) fluoranthene. Another commenter noted the word "fluoranthene" was misspelled in the proposal.

Response: These indeed were errors in the proposal. They have been corrected in the final permit modification.