

**Regional Water Quality Control Board
Central Valley Region
Board Meeting – 18/19 August 2016**

**Response to Written Comments on Tentative Waste Discharge Requirements for Oil Field
General Order Numbers One, Two, and Three**

At a public hearing scheduled for 18 August 2016, the Regional Water Quality Control Board, Central Valley Region, (Central Valley Water Board) will consider adoption of Waste Discharge Requirements (WDRs), General Orders for Oil Field Discharges to Land (General Orders) within the Tulare Lake Basin. The Orders are named General Order One, General Order Two, and General Order Three and cover specific types of discharge scenarios. This document contains responses to written comments on all three General Orders, which were circulated for public comment on 11 June 2016. Most comments were on General Order Three; however, many comments pertained to all three General Orders. Written comments from interested parties were required by public notice to be received by the Central Valley Water Board no later than 5:00 PM on 11 July 2016 in order to receive full consideration. Comments were received by the deadline from:

1. Caleco, LLC
2. West American Energy Corp.
3. Tamarack Energy, Inc.
4. Howard E. Caywood, Inc.
5. Center for Biological Diversity (CBD)
6. Environmental Workgroup
7. California Independent Petroleum Association (CIPA)
8. Western States Petroleum Association (WSPA)
9. Valley Water Management Company (VWMC)
10. E&B Natural Resources
11. Macpherson Oil Company
12. Naftex Operating Company
13. Drilling & Production Co.

Written comments from the above interested parties are summarized in the appropriate sections below, followed by responses from Central Valley Water Board staff. Based on the comments, Central Valley Water Board staff has made some minor changes to the proposed General Orders. Staff also made a few minor changes to improve clarity and fix typographical errors. Where specific changes are presented below, additions are in bold text and deletions are in strikethrough. The last section of the response to written comments includes Central Valley Water Board staff revisions/corrections to the General Orders.

**CALECO LLC, WEST AMERICAN ENERGY CORP., TAMARACK ENERGY, INC.,
HOWARD E. CAYWOOD, INC. COMMENTS**

These commenters submitted almost identical comment letters, and therefore, staff has grouped the comments and responses.

COMMENT No. 1 The commenters indicate that the deliverables demanded, particularly those in the Westside oil fields of the Kern County, do not bear a reasonable relationship to the need for the actions and benefits to be obtained from the reports. Their letters state that throughout the Porter-Cologne Water Quality Control Act, there is a general underlying requirement of reasonableness to the regulation of water quality in the state. Their letters state the General Orders fall short of the statutory requirement for reasonableness and that they need to be revised to resolve this conflict.

RESPONSE: Central Valley Regional Water Board staff disagrees with the general comments that the technical and monitoring reports lack a reasonable relationship to the actions and benefits to be obtained from the reports. The monitoring and reporting program allow the Central Valley Regional Water Board to evaluate whether a discharger's practices are effective and comply with the requirements of the General Orders. Monitoring data and reports serve a crucial role in fulfilling the objectives of Porter-Cologne and its implementing regulations. Such information is used, among other things, to evaluate a facility's discharge characteristics and compliance status over time.

The remaining comments regarding the reasonableness of the tentative general orders are conclusory and do not indicate how the Regional Board has failed to meet its statutory requirements. Regional Board staff notes that the commenters cite title 23 of the California Code of Regulations, section 2510, and suggest that the General Orders do not meet its requirements. Title 23 of the California Code of Regulations, section 2510, concerns discharges of hazardous waste to land. The General Orders prohibit such discharge, and accordingly, the cited provision is not relevant to the General Orders.

COMMENT No. 2 The commenters' letters state "the State Board's Guidance Memorandum defines the term 'maximum benefit to the people of the State' as follows: 'Before a discharge to high quality water may be allowed, it must be demonstrated that any change in water quality 'will be consistent with the maximum benefit to the people of the state.' This determination is made on a case-by-case basis and is based on considerations of reasonableness under the circumstances at the site. Factors to be considered include (1) past, present, and probable beneficial uses of the water (specified in Water Quality Control Plans); (2) economic and social costs, tangible and intangible, of the proposed discharge compared to the benefits, (3) environmental aspects of the proposed discharge; and (4) the implementation of feasible alternative treatment or control methods. With reference to economic costs, both costs to the discharger and the affected public must be considered."

RESPONSE: The commenters appear to be referring to the Questions and Answers Document pertaining to State Water Board Resolution 68-16, issued on 16 February 1995. State Water Board Resolution 68-16 is the "Statement of Policy with Respect to Maintaining High Quality of Waters in California," or the State's Antidegradation Policy. Resolution 68-16 allows degradation of high water quality if it is consistent with the "maximum benefit to people of the state."

The Information Sheets for the General Orders each discuss the consistency of the degradation allowed under the General Orders with the maximum benefit to people of the state. In particular, Central Valley Water Board staff has taken into account the economic costs of the degradation, noting the role and impact of the oil and gas industry in the Central Valley on domestic oil production and substantial employment it provides in the region.

COMMENT No. 3 The commenters state the full language of select statutes should be inserted into the General Orders.

RESPONSE: The General Orders recite statutory and regulatory language that the Central Valley Regional Water Board has determined is most relevant to the waste discharge requirements. Official versions of additional statutes and regulations cited in the general orders may be obtained from websites maintained by the California Legislative Counsel

(<http://leginfo.legislature.ca.gov/>) and the California Office of Administrative Law (<http://www.oal.ca.gov/ccr.htm>). Language pertaining to 13241 has been added [refer to response to Valley Water Management Company Comment No. 6].

COMMENT No. 4 The commenters state the orders' comments related to any CEQA exemptions ignore some exemptions that should be included, such as California Water Code section 13389 and California Code of Regulations, Title 14, section 15263.

RESPONSE: Central Valley Regional Water Board staff disagrees. The CEQA exemptions in Water Code section 13389 and 14 CCR 15263 apply only to waste discharge requirements issued pursuant to the federal Clean Water Act's National Pollutant Discharge Elimination System (NPDES) permit program. The General Orders are not NPDES permits; therefore, the provisions the commenters cite are neither applicable to nor appropriate in the General Orders.

COMMENT No. 5 The commenters state the proposed orders appear to compel the State or Regional Board to take action that results in regulating property to a degree that amounts to a taking. Here, the orders as drafted creates [sic] exposure to claims that the orders 'on their face' create a compensable taking of property and thus creates an unconstitutional result.

RESPONSE: Central Valley Regional Water Board staff disagrees. The General Orders and requirement for dischargers to obtain coverage pursuant to them prior to discharging produced wastewater to land do not constitute a regulatory taking. A regulatory taking occurs either when the imposition of a government regulation fails to substantially advance a legitimate government interest or when the imposition of a governmental regulation has the effect of depriving the owner's property of economically viable use. The General Orders bear a clear nexus to a legitimate government interest. In implementing its duty to protect water quality for all beneficial uses, the Central Valley Regional Water Board may prescribe requirements on oil field produced wastewater discharges that may affect waters of the state. The Commenter has not shown how the General Orders deprive property of their economically viable use. Oil and gas extraction operations generally are not prohibited, and development of a permitting scheme is indication that the discharge of oil field produced wastewater to land remains permissible. If a discharger is unable to obtain coverage under the General Orders, other options for produced wastewater disposal are available.

CENTER for BIOLOGICAL DIVERSITY

CENTER for BIOLOGICAL DIVERSITY – COMMENT No. 1: All discharges of produced wastewater to land pose a high threat to human health, water quality, wildlife, and the environment, and must be prohibited.

RESPONSE: Discharges of produced wastewater to land will only be permitted where it is appropriate to do so. The discharges must be conducted in accordance with orders adopted by the Central Valley Water Board and remain protective of water quality.

General Orders One, Two, and Three were not changed in response to this comment.

CENTER for BIOLOGICAL DIVERSITY– COMMENT No. 2: The General Order annual fee structure creates perverse incentive for a discharger to omit factors from its NOI that could increase its Threat to

Water Quality or Complexity Ratings. Also, the penalties assessed are not severe enough to ensure compliance and deter illegal discharge. The general orders rely heavily upon self-reported sampling and analysis requirements. The CBD recommends the Regional Water Board prohibit the discharge of produced wastewater into percolation pits altogether, in order to protect human health, water quality, wildlife, and the environment.

RESPONSE: Waste discharge requirements are adopted in accordance with the laws and regulations of the State of California and the plans and policies of the State Water Resources Control Board and the Central Valley Water Board. WDRs have the force of law and the penalties for violating WDRs can be severe, including large monetary fines and incarceration. Conducting monitoring without self-reporting would be impractical and require resources unavailable to the State.

The General Orders were not changed in response to this comment.

CENTER for BIOLOGICAL DIVERSITY– COMMENT No. 3: Produced wastewater has elevated concentrations of Constituents of Concern (COCs) including volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), radionuclides, petroleum hydrocarbons, heavy metals (e.g., arsenic), trace elements (e.g., boron, strontium, thallium), and general minerals (e.g., chloride and total dissolved solids). The percolation pits threaten to contaminate, or have contaminated groundwater resources.

RESPONSE: All three General Orders require monitoring of the same COCs reported by the CBD in the effluent, in the pond(s), and in the groundwater. The General Orders require Dischargers to maintain groundwater quality to meet Basin Plan water quality objectives. For discharges that can obtain coverage under General Orders One or Two, the Discharger must demonstrate that the beneficial uses of groundwater are protected.

The General Orders are designed to be more restrictive and protective than previous waste discharge requirements. The General Orders require extensive groundwater monitoring of COCs and hydrogeological investigations of the production facilities with ponds to assess present and past impacts of discharges to groundwater.

General Orders One, Two and Three were not changed in response to this comment.

CENTER for BIOLOGICAL DIVERSITY– COMMENT No. 4 Gases from pits could cause climate change. The CBD also states that the direct exposure to contents of pits and inhalation of fumes can be harmful to humans. The CBD states that ingestion of produced water and immersion in the pits can be harmful and fatal to wildlife. General Order Three fails to layout criteria for determining that the pits are “free of oil,” and fails to provide evidence that produced wastewater that is “free of oil,” is safe for wildlife.

RESPONSE: Emissions of fumes and vapors are regulated by the Air Pollution Control District.

The General Orders require regular monitoring of the physical aspects of the ponds as well as the quality of the wastewater contained within the ponds. Animal deaths are reported to the Department of Fish and Wildlife. If evidence shows that a pond poses a threat to wildlife, measures can be taken to mitigate that threat.

General Orders One, Two and Three were not changed in response to this comment.

CENTER for BIOLOGICAL DIVERSITY– COMMENT No. 5: Produced wastewater clearly exhibits the characteristics of hazardous wastes that are covered by the Toxic Pits Cleanup Act and percolation pit disposal of all produced wastewater should be prohibited.

RESPONSE: The three tentative General Orders prohibit acceptance, treatment, or discharge of “hazardous waste,” as defined in the CCR, title 22, section 66261.1 et seq.

General Orders One, Two, and Three were not changed in response to this comment.

CENTER for BIOLOGICAL DIVERSITY– COMMENT No. 6: The “percolation pits,” can accept waste from multiple sources with pollutants or chemicals from different industries and General Order Three fails to address this issue.

RESPONSE: All three tentative General Orders have a prohibition that states, “Discharge of waste to land, other than produced wastewater from production wells to ponds, is prohibited unless authorized by the Executive Officer.” Each General Order also contains a provision that states, “Discharges of wastes from oil field activities other than produced wastewater from production wells to pond(s) may be authorized by the Executive Officer if the Discharger can demonstrate with appropriate data and analyses that the discharge does not pose a threat to beneficial uses of the groundwater.”

General Orders One, Two, and Three were not changed in response to this comment.

CENTER for BIOLOGICAL DIVERSITY– COMMENT No. 7: The “pit disposal,” disproportionately impacts nearby poor communities, which already face a higher pollution burden.

RESPONSE: The General Orders regulate effluent quality and the impacts of wastewater discharge on water quality wherever discharges are located.

General Orders One, Two, and Three were not changed in response to this comment.

CENTER for BIOLOGICAL DIVERSITY– COMMENT No. 8: CBD states that General Order Three lacks basic protections for human health and the environment. The CBD also states that the General Order does not limit the total number of facilities that may be covered by the General Order, the total acreage of percolation pits that may be allowed to operate in the region, or the total amount of produced wastewater that may be disposed of in this manner. The CBD states that the General Order fails to impose a minimum distance that percolation pits must be set back from residences, hospitals, schools, and long-term care facilities.

RESPONSE: The General Orders require protection of beneficial uses of waters of the State. Each facility will be evaluated based on results of investigation of hydrogeological conditions and impact of the discharge to land. Regarding setbacks, some setbacks are required by DOGGR and its regulations. With respect to the General Orders, it is incumbent upon the Discharger to ensure that its facility is situated so it does not cause nuisance or pollution.

General Orders One, Two, and Three were not changed in response to this comment.

CENTER for BIOLOGICAL DIVERSITY– COMMENT No. 9: CBD states the scope of the General Orders has been broadened to include discharge of wastewater for dust control and construction activities, and for application of tank bottoms as road mix. The CBD states that the threat of each discharge must be addressed separately.

RESPONSE: The three General Orders require the Discharger to submit a detailed management plan for application of wastewater as dust control and application of tank bottoms as road mix. These management plans are subject to review by the Central Valley Water Board staff and approval by the Executive Officer.

General Orders One, Two, and Three were not changed in response to this comment.

CENTER for BIOLOGICAL DIVERSITY– COMMENT No. 10: CBD states the monitoring and reporting program requirements fail to ensure proper disclosure of discharged chemicals and detection of illegal discharges. Furthermore, General Order Three, unlike General Orders One and Two, neglects to specify numeric discharge limitations for EC, chloride, boron, arsenic and other COCs.

RESPONSE: The MRP's require the Discharger to provide a list of chemical names and chemical formulas used from production well through surface production facility and require analyzing and monitoring the chemical concentrations in effluent, pond, and groundwater. The Central Valley Water Board will seek appropriate enforcement if the Discharger continues to discharge when it cannot obtain coverage under a Central Valley Water Board WDRs.

General Order Three does not contain effluent salinity limits (EC, chloride, and boron) because General Order Three will only apply when the quality of the groundwater will not support beneficial uses.

General Order Three was not changed in response to this comment.

CENTER for BIOLOGICAL DIVERSITY– COMMENT No. 11: CBD states General Order Three gives incentive to dischargers to contaminate groundwater for five years during the Basin Plan amendment process causing pollution of groundwater resources. The CBD also states that the Regional Board has no authority to extend a five-year safe harbor to oil and gas companies that discharge produced wastewater illegally.

RESPONSE: General Order Three will apply to production facilities that are located where groundwater quality will not support beneficial uses. The Discharger, while under a compliance schedule, must demonstrate that background groundwater quality for the facility meets the Sources of Drinking Water Policy exception criteria and/or parallel exception criteria (collectively referred to as exception criterion) outlined in the tentative General Order Three and the Basin Plan. Early in the NOI process, the Discharger will need to provide preliminary supporting data that the exception criterion will be met

General Order Three was not changed in response to this comment.

CENTER for BIOLOGICAL DIVERSITY– COMMENT No. 12: Tentative General Order Two does not discuss the Sources of Drinking Water Policy (SDWP) exemption criteria that were presented in the administrative draft of same general order.

RESPONSE: Central Valley Water Board staff removed the SDWP exemption criteria discussion because it only applies to Tentative General Order Three where the groundwater quality does not support beneficial uses. However, the SDWP is still described briefly in Finding 16 of General Order Two.

General Order Two was not changed in response to this comment.

ENVIRONMENTAL WORKING GROUP

The Environmental Working Group (Group) referenced for this series of comments is comprised of the individuals and groups listed below:

Name	Position or Title	Organization
Bill Allayaud	California Director of Gov't Affairs	Environmental Working Group
Keith Nakatani	Oil and Gas Program Manager	Clean Water Action
Dan York	Vice President	The Wildlands Conservancy
Patricia McPherson	President	Grassroots Coalition
Tanja Srebotnjak, PhD	Hixon Center for Sustainable Env. Design	Harvey Mudd College
Sue Chaing	Pollution Prevention Prog	Center for Environmental Health
Jennifer Krill	President	Earthworks
Jean Hays	Earth Democracy Team	Women's Int'l League for Peace & Freedom
Jason R. Flanders	Attorney	Aqua Terra Aeris Law Group
Kimberly Rivers	Executive Director	Citizens for Responsible Oil & Gas
Barbara Sattler	RN, DrPH, FAAN	Alliance of Nurses for Healthy Environments

ENVIRONMENTAL WORKING GROUP – COMMENT No. 1: The Group requests the issuance of emergency orders that mandate Dischargers to cease discharge of production wastewater until compliance with the Water Quality Control Plan for the Tulare Lake Basin (Basin Plan (second edition Revised January 2015)) and California Water Code (Water Code) are achieved. The discharge of production wastewater to land prior to demonstrating compliance with the Water Code and Basin Plan will continue to yield production wastewater discharges that exceed water quality goals and objectives. The Central Valley Water Board needs to take a precautionary approach for the protection of underlying groundwater quality.

RESPONSE: The Central Valley Water Board issued Cleanup and Abatement Orders (CAOs) to active facilities that were unregulated. Other regulated facilities are operating under WDRs issued by the Central Valley Water Board. Many have been doing so for over half a century. The CAOs and the General Orders compel Dischargers to achieve compliance with the Basin Plan and Water Code by 31 December 2016 or cease discharge by that date. Central Valley

Water Board staff does not at this time intend to advocate for a ban on discharges of produced wastewater to land.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 2: The Group states the California Environmental Quality Act (CEQA) requirements in the General Order are not adequate. The General Order asserts that existing ponds are categorically exempt and new ponds require evidence of compliance with CEQA in the form of a certified Environmental Impact Report, Mitigated Declaration, or Negative Declaration. California Code of Regulations (CCR), title 14, section 15300.2(b) states that a categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances. The discharge of production wastewater to “pits” normally contains hydrocarbons, heavy metals, large quantities of salts, and various chemicals used during drilling operations. The Environmental Working Group states that the presence of these constituents in the wastewater stream is believed to be an unusual circumstance. In addition, CCR, title 14, section 15300.2(b) states that a categorical exemption cannot be used when the cumulative impact of successive projects of the same type in the same place is significant. Prior to the Discharger submitting evidence of compliance with CEQA, the Central Valley Water Board cannot determine that cumulative impacts are not significant, and therefore the Categorical Exemption cannot be used.

RESPONSE: The “existing facility” categorical exemption from CEQA review is appropriately applied to oil and gas production facilities discharging produced wastewater to land prior to 1 January 2015, regardless of whether they were operating under waste discharge requirements. California Code of Regulations, title 14, section 15301 exempts from environmental review the “*operation, repair, maintenance, [and] permitting . . . of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency’s [CEQA] determination.*” A facility falls under this “existing facility” exemption even though it may not have undergone earlier CEQA review. (*Bloom v. McGurk* (1994) 26 Cal. App. 4th 1307, 1315) Accordingly, a facility falls within the section 15301 categorical exemption even if it was operating in violation of regulatory requirements at the time an agency commenced its environmental review.

Active disposal ponds of production wastewater, both regulated and unregulated, satisfy this requirement and do not require the Discharger to submit proof of compliance with CEQA with a Notice of Intent (NOI). Central Valley Regional Board staff began its environmental analysis for the General Orders in 2015. At the time, staff recognized that a number of oil and gas production facilities lacked waste discharge requirements for their produced wastewater discharges to land and began to develop these General Orders to ensure the protection of water quality. Eligibility for coverage under the General Orders is limited to facilities discharging produced wastewater prior to 1 January 2015, regardless of whether they had been issued waste discharge requirements. This is precisely within the scope of the “existing facilities” exemption. A Discharger seeking coverage under the General Orders for its facility is likely to be similar in threat to water quality and facility complexity to facilities that submitted proof of compliance with CEQA prior to issuance of WDRs. Previously unregulated facilities have been issued CAOs and are required to submit comprehensive site assessments that characterize the nature and extent of any potential pollution to underlying groundwater. As stated in Section 15301, “[t]he key consideration is whether the project involves negligible or no expansion of an existing use.” The General Orders do not authorize the expansion of these facilities beyond their uses as they existed prior to 1 January 2015, or the operation of new

facilities, unless the Discharger demonstrates CEQA compliance. Central Valley Regional Board staff has appropriately determined that only those oil fields facilities discharging waste water to ponds 1 January 2015 – with or without waste discharge requirements – fall within the Section 15301 categorical exemption for “existing facilities” and may obtain coverage under the General Orders without further environmental review.

Central Valley Regional Board staff also disagrees that an exception to the categorical exemption applies. The Group asserts that two exceptions, set forth in California Code of Regulations, title 14, section 15300.2(b) and (c), apply.

In full, California Code of Regulations, title 14, section 15300.2(b) states,

Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.

This exception precludes an agency from issuing a series of minor approvals (i.e. “successive projects”) by citing categorical exemptions when the cumulative effect of all of the approvals would be significant. In contrast, the General Orders do not authorize additional discharges of oilfield produced wastewater to land. The General Orders seek to regulate the currently existing produced wastewater discharges from oil and gas production facilities to reduce their impacts to waters of the state when in compliance with the orders. Thus, the General Orders aim to reduce the cumulative impact currently posed by these existing facilities and to protect water quality. No other actions are contemplated that would preclude the use of the existing facility categorical exemption under 15300.2(b).

California Code of Regulations, title 14, section 15300.2(c) provides, in full:

Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

The inquiry when considering whether this exception to a categorical exclusion applies is whether the project presents “unusual circumstances,” and if so, whether there is a reasonable possibility that a significant environmental impact will arise from the unusual circumstances. The discharge of oil field produced wastewater to land is one of several longstanding wastewater disposal methods that facilities in the Central Valley have employed. Therefore, Central Valley Water Board staff does not believe they present “unusual circumstances.” Even if this industry practice constituted “unusual circumstances,” there is not a reasonable possibility that a significant environmental impact will result. The General Orders seek to regulate facilities that are located in a variety of areas, some of which are more vulnerable to environmental impact due to the characteristics of the soil or underlying groundwater. The General Orders do not authorize new activity and will not increase the threat posed to these vulnerable areas by these existing facilities but will instead impose requirements that will reduce the environmental threat the facilities pose. This is not a case where “the activity will have a significant effect on the environment,” but rather a case where the activity may currently be having a significant effect on the environment that the General Orders seek to reduce. Thus, the project does not

present unusual circumstances that result in a reasonable possibility of a significant environmental impact, and the exception to the categorical exemption does not apply.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 3: The Group states the General Orders do not define the lead agency for CEQA.

RESPONSE: Section 15051(b)(1) of the CCR states that “[t]he lead agency will normally be the agency with general governmental powers, such as a city or county.” No changes have been made in response to this comment.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 4: The Group states that the General Orders do not adequately define scenarios for which the discharge of production wastewater to ponds is prohibited. Ponds located within proximity to water wells, surface water ways, homes, schools, businesses, roads, etc., need to have a minimum setback distance.

RESPONSE: The Central Valley Water Board disagrees that the General Orders do not adequately define scenarios for which the discharge of waste to ponds is prohibited. Prohibitions A.4 through A.7 of the General Orders prohibit the discharge of “well stimulation” fluid, produced wastewater from stimulated wells, hazardous waste, and untreated produced wastewater to ponds.

The Central Valley Water Board does not have specific setback distances for oil/gas facilities from potentially sensitive areas. Prohibitions A.9 and A.10 state that the discharge shall not impact municipal or domestic supply wells and that the collection, treatment, storage, and discharge or disposal of wastes shall not cause a condition of pollution or nuisance. The Discharger is responsible for demonstrating, while applying for coverage under a General Order, that the facility will not cause a nuisance condition or impact supply wells. Dischargers that obtain coverage under a General Order and are later determined to violate these prohibitions shall be required to remediate the issue and may be required to cease discharge.

General Orders One, Two, and Three were not revised for this comment

ENVIRONMENTAL WORKING GROUP – COMMENT No. 5: The Group requests that the Central Valley Water Board prohibit the discharge of production wastewater to land that contains “harmful” chemicals. The Group states that chemicals that are naturally occurring within the formation or introduced to the system via additives for production are not appropriate for land disposal. The Group notes that the General Order prohibits the discharge of fluid from stimulated wells, and should also include water that contains “harmful” chemicals that are naturally occurring or introduced by the Discharger. The California Council on Science and Technology recommended the following:

“Agencies with jurisdiction should promptly ensure through appropriate testing that the water discharged into percolation pits does not contain hazardous amounts of chemicals related to hydraulic fracturing as well as other phases of oil and gas development. If the presence of hazardous concentrations of chemicals cannot be ruled out, they should phase out the practice of discharging produced water into percolation pits.”¹

¹ California Council on Science and Technology “An Independent Scientific Assessment of Well Stimulation in California” July 2015, Executive Summary, page 8.

RESPONSE: Prohibitions A.2 – 7 of the General Orders prohibit the discharger from releasing fluids from “well stimulation”, produced wastewater from stimulated wells, hazardous waste, and untreated or partially treated waste to land. Prohibitions A.9 and A.10 of the General Orders prohibit adverse impacts to wells and conditions of nuisance or pollution, respectively. Upon discovery that the wastewater stream contains chemicals at concentrations that may cause a nuisance or pollution, the Central Valley Water Board has the authority to mandate the discharger to cease discharge. The Central Valley Water Board may begin this process at any time. No changes were made to the General Orders based on this comment.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 6: The Group requests that General Orders One, Two, and Three include the California Council on Science and Technology (CCST) finding that produced water may contain chemicals from other phases of oil and gas production outside of well stimulation.

RESPONSE: The General Orders recognize that oil field produced wastewater may contain chemicals from other phases of production. Accordingly, the General Orders require monitoring of these chemicals to determine if they are in produced wastewater that is discharged to land.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 7: The Group requests the assignment of threat levels for each facility to determine which General Order is appropriate for coverage. The Central Valley Water Board issued 13267 orders that have pertinent information to assist with this determination. In addition, facilities unable to obtain coverage under a General Order need to be identified.

RESPONSE: The discharger is responsible for submitting a NOI, or Report of Waste Discharge, and technical report that demonstrates the discharge of wastes to land can comply with applicable laws, policies, and regulations. To comply with the Water Code and Basin Plan, the discharger may need to implement additional treatment practices and document these facility improvements in the technical report. The Central Valley Water Board shall review the information provided by the discharger and determine whether coverage under that specific order is appropriate. Upon completion of the review process, the Central Valley Water Board will notify the discharger, in writing, of its determination. If coverage under that specific order is determined to be inappropriate, Central Valley Water Board staff will suggest an alternate order or recommend coverage under individual waste discharge requirements. No changes were made to the General Orders based on this comment.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 8: The Group strongly objects to General Order One requirements to satisfy Resolution 68-16 (Antidegradation Policy). The Group states the language in the General Orders appears to allow the discharger to degrade water quality until the maximum salinity limits are met. Economic arguments listed in the information sheets are inadequate and do not address the related benefits to the people of the state for discharging produced wastewater to pits. To satisfy Resolution 68-16, the discharger must conduct an anti-degradation analysis that shows the costs and benefits for a specific discharge, if the discharge has the potential to degrade water quality.

RESPONSE: The findings in General Order One adequately identify the requirements for the discharger to comply with State Water Board Resolution 68-16, with respect to maintain high quality groundwater in California. General Order One was not revised for this comment.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 9: The Group requests an additional provision in the General Order One that states that failure to comply with the General Order will result in the immediate shut-down of the facility.

RESPONSE: Finding 47 of General Order One cites section 13263(g) of the Water Code that states *“the discharge of waste into waters of the state is a privilege, not a right, and this General Order does not create a vested right to continue the discharge of waste. Failure to prevent conditions that create or threaten to create pollution or nuisance or cause degradation will be sufficient reason to modify, revoke, or enforce this General Order, as well as prohibit future discharge.”* Under section 13263(g) of the Water Code, the Central Valley Water Board has the authority to require the Discharger to immediately cease discharge of waste to land upon determination that the Discharger is in violation of the General Order. In addition, Provision E.9 of the General Order states that *“[v]iolations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in termination of coverage under this General Order.”* Finding 47 and Provision E.9 of the General Order adequately cite the authority of the Central Valley Water Board to require the Discharger to cease discharge immediately, and potential enforcement actions that may follow. No changes were made to the General Orders based on this comment.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 10: The Group requests an additional provision in the General Order that grants Central Valley Water Board staff and contractors permission to enter the facility, without notifying the Discharger in advance, to collect water samples and verify compliance with the General Order.

RESPONSE: Provision E.1 of each General Order states that the discharger shall comply with the applicable provisions of Standard Provisions and Reporting Requirements for Waste Discharge Requirements (Standard Provisions) dated 1 March 1991. General Provision A.8 of the Standard Provisions mandates the discharger to grant representatives of the Central Valley Water Board, upon presentation of credentials, to enter the premises, copy any records required under the General Order, inspect monitoring equipment, collect samples, and photograph the discharge or facility. Under Provision A.8 of the Standard Provisions, the Central Valley Water Board has the authority to enter the facility during reasonable hours to verify compliance with the General Order. No changes were made to the General Orders based on this comment.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 11: The Group states Senate Bill 4 (Public Resources Code 3160) establishes strong and appropriate disclosure requirements for chemicals used during “well stimulation.” Chemical disclosure requirements identified for the General Order should reflect the requirements identified in Senate Bill 4. In addition, Senate Bill 4 states that chemicals used during production are not protected as trade secrets and shall be reported within 60 days of application. Similar trade secret language needs to be included in the General Orders.

RESPONSE: Senate Bill 4 requires operators to submit information (i.e., chemical names and volumes) to the Division of Oil, Gas, and Geothermal Resources (DOGGR) related to “well

stimulation” activities. As the primary agency identified in Senate Bill 4, DOGGR has the authority to receive information that are considered trade secrets for outside agencies.

The Central Valley Water Board operates under the California Water Code and is not subject to protections afforded DOGGR under Public Resources Code 3160. The Central Valley Water Board has included a footnote in the MRPs regarding the handling of trade secret information in monitoring submittals.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 12: The Group requests that dischargers submit information regarding the fate and transport of chemicals introduced to the wastewater stream that have limited background data. Chemicals introduced to the wastewater stream may not have approved analytical methods, minimum detection thresholds, and concentrations that are known to adversely impact human health. The General Order should have a provision that limits the volume of wastewater discharged to land that contains these chemicals.

RESPONSE: Prior to obtaining coverage under a General Order, the discharger is responsible for characterizing the quality, volume, and location of the discharge. Central Valley Water Board staff will review the NOI and technical report to determine if the discharge is appropriate. Waste that contains high concentrations of chemicals that may be inappropriate for land disposal may not be eligible for coverage under the General Order. Central Valley Water Board staff will also consider location and volume of the discharge. At the conclusion of the review process, the discharger shall be notified, in writing, whether the NOI has been approved or denied. No changes were made to the General Orders based on this comment.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 13: The Group requests the Groundwater Monitoring section of the Monitoring and Reporting Program include more specific baseline testing to measure the quality of groundwater. Baseline testing needs to occur prior to the discharge for any new or expanded facility.

RESPONSE: The Groundwater Monitoring section of the Monitoring and Reporting Program requires a hydrogeological investigation for each facility. The results of the investigation shall assist the Central Valley Water Board in the determination of whether or not a monitoring well network is appropriate. Investigation results that yield underlying groundwater is potentially susceptible to impact by the discharge, and the location has beneficial uses shall have a monitoring well network installed. Prior to installing a monitoring well network, the discharger is required to complete a site investigation to determine potential monitoring well locations and groundwater flow direction beneath the facility. The monitoring well network shall consist of a minimum of three wells, with a minimum of two wells downgradient of the facility. The installation of a well up-gradient to the facility shall provide water quality data to assess potential impacts caused by the discharge of production wastewater to land and the future flow gradient. No changes were made to the General Orders based on this comment.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 14: The Group requests a provision to the Monitoring and Reporting Program that allows the Central Valley Water Board to modify the Groundwater Monitoring section prior to approving the discharger’s groundwater monitoring work plan.

RESPONSE: The Discharger is responsible for submitting a Monitoring Well Installation and Sampling Plan to the Central Valley Water Board for review and approval. Upon approval by

the Central Valley Water Board, the Discharger is obligated to complete the work as specified in the approved work plan. As indicated in the introduction of the Monitoring and Reporting Program, the “[d]ischarger shall not implement any changes to this MRP unless and until the Central valley Water Board adopts, or the Executive Officer issues, a revised MRP.” The Central Valley Water Board has the authority to issue a revised MRP to modify the monitoring and/or reporting requirements for the facility. The Monitoring and Reporting Program does not require additional language due to the Central Valley Water Board’s authority to amend the MRP. No changes were made to the General Orders based on this comment.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 15: The Group requests a provision in the Monitoring and Reporting Program that mandates Central Valley Water Board staff or contractors have the right to conduct independent samples or split-samples at the facility. In addition, procedures need to be included in the Monitoring and Reporting Program that requires the Discharger to comply with requests to collect split samples, and allow Central Valley Water Board staff to observe the Discharger collect water samples.

RESPONSE: General Provision (A)(8)(d) of the Standard Provisions states that the Discharger shall permit representatives of the Central Valley Water Board to collect samples at the site during reasonable hours. In addition, the provision provides Central Valley Water Board staff access to the property, upon presenting credentials, to observe monitoring equipment or devices at the facility. During the facility inspection, Central Valley Water Board staff may observe the Discharger collect water samples for compliance with the General Order and collect split or duplicate water samples. Under the Standard Provisions, the Central Valley Water Board has the authority to verify compliance with the General Order, and the integrity of water samples collected at the facility. No changes were made to the General Orders based on this comment.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 16 - General Order 1: The Group requests that containment thresholds identified in the General Order are expanded beyond electrical conductivity, chloride, boron, and arsenic. Facilities that may be classified as “low threat” need to comply with safe harbor limits for Proposition 65. Production wastewater that contains “harmful” chemicals need to be removed from the low threat General Order.

RESPONSE: The Basin Plan identifies effluent limitations for the discharge of wastewater to land within the Tulare Lake Basin. The Discharges To Land section of the Basin Plan states that discharges in the Poso Creek Subarea may not exceed 1,000 µmhos/cm electrical conductivity, 200 mg/l chloride, and 1 mg/l boron. Arsenic, with regards to the comment, does not have an effluent limitation in the General Order or the Basin Plan. Effluent limitations identified in the General Order originate from the Basin Plan, and are not subject to drinking water or irrigation water standards since the waste is discharged to land for disposal.

The Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) prohibits any person from knowingly discharging chemicals that are known to cause cancer or reproductive toxicity into water or onto or into land where it passes or probably will pass into a source of drinking water. The General Order NOI process requires dischargers to demonstrate that the discharges that will be covered under the General Order will not exceed applicable water quality objectives. The General Order also requires dischargers to conduct a well survey to assess potential sources of drinking water within the vicinity of the disposal facility, and to monitor

groundwater to demonstrate that beneficial uses are not adversely affected by discharges. No changes were made to the General Order based on this comment.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 17 - General Order 2: The Group states that production wastewater that exceeds the discharge limitation specified in the Basin Plan or chemical thresholds specified in Proposition 65 should not be discharged to disposal ponds. Enforcing this requirement would result in consensus between the General Order and California Council on Science and Technology recommendation that *“Agencies with jurisdiction should promptly ensure through appropriate testing that the water discharged into percolation pits does not contain hazardous amounts of chemicals related to hydraulic fracturing as well as other phases of oil and gas development. If the presence of hazardous concentrations of chemicals cannot be ruled out, they should phase out the practice of discharging produced water into percolation pits.”*

RESPONSE: The Basin Plan identifies effluent limitations for the discharge of wastewater to land within the Tulare Lake Basin. The Discharges To Land section of the Basin Plan states that discharges in the Poso Creek Subarea may not exceed 1,000 $\mu\text{mhos/cm}$ electrical conductivity, 200 mg/l chloride, and 1 mg/l boron. Effluent limitations identified in the General Order originate from the Basin Plan, and are not subject to drinking water or irrigation water standards since the waste is discharged to land for disposal.

The Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) prohibits any person from knowingly discharging chemicals that are known to cause cancer or reproductive toxicity into water or onto or into land where it passes or probably will pass into a source of drinking water. The General Order NOI process requires dischargers to demonstrate that the discharges that will be covered under the General Order will not exceed applicable water quality objectives. The General Order also requires dischargers to conduct a well survey to assess potential sources of drinking water within the vicinity of the disposal facility, and to monitor groundwater to demonstrate that beneficial uses are not adversely affected by discharges. No changes were made to the General Order based on this comment.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 18 - General Order 2: The Group requests that the General Order prohibit the discharge of production wastewater for dust control.

RESPONSE: Under Discharge Specifications B.18 and B.19 of the General Order, the Discharger may apply production wastewater for dust control at reasonable rates that precludes the creation of nuisance conditions or unreasonable degradation of groundwater. Prior to beginning dust control activities, the Discharger is responsible for submitting a proposed management plan under Provision E.5 of the General Order. The management plan shall characterize the wastewater, application rates, application areas, potential constituent loading rates, management practices to verify wastewater remains on-site, and demonstrate the discharge is protective of water quality. The management plan is subject to approval by the Executive Officer and shall be reviewed by Central Valley Water Board staff. The Central Valley Water Board has the authority to deny the request for dust control if the Discharger is unable to adequately demonstrate the discharge will not impact underlying groundwater quality.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 19 - General Order 3: The Group states the General Order does not adequately define “first encountered” groundwater. The Environmental Working Group requests an additional provision in the General Order that states the Discharger shall

demonstrate that underground migration from the facility cannot and will not enter groundwater that may have beneficial uses. Analysis of underlying groundwater needs to consider horizontal migration, naturally occurring or man-made pathways, and potential changes in groundwater movement from a steady discharge. Technical reports need to include adequate geologic modeling and be verified with an explicit approval process by the Central Valley Water Board.

RESPONSE: Finding 31 of the General Order states that *“this General Order applies to areas where first encountered groundwater does not exist (e.g., it is or hydrocarbon producing) or if it does exist, it is such poor quality that it does not, and could not be reasonably expected to support designated beneficial uses.”* If first encountered groundwater at the facility satisfies the requirements of Finding 31, the discharger is responsible for providing information that complies with Provisions E.4 of the General Order.

Provision E.4 of the General Order states the Discharger shall comply with one of two options.

Option 1) The Discharger shall submit results of a hydrogeological investigation that demonstrates there is no groundwater beneath the facility and that migration shall not occur to other areas with groundwater for beneficial uses.

Option 2) The Discharger shall demonstrate that the natural background groundwater quality for the Facility meets Sources of Drinking water Policy exception criteria and/or parallel exception criteria and thus the current Basin Plan groundwater beneficial uses are eligible for de-designation in accordance with the compliance schedule listed in the General Order.

As stated in the General Order, the Central Valley Water Board shall review each hydrogeological investigation. The discharger, or consultants on behalf of the discharger, may use any material that effectively and accurately demonstrates underlying groundwater conditions at the facility. If Central Valley Water Board staff does not agree with the findings, the Executive Officer may require the discharger to cease discharge immediately or require it to proceed with Option 2.

ENVIRONMENTAL WORKING GROUP – COMMENT No. 20 - General Order 3: The Group requests that the discharge of production wastewater to land cease while seeking a de-designation of groundwater from beneficial uses. The de-designation process may take upwards of five years. The group states that continued discharge of produced wastewater to land during the application review process is not appropriate. In addition, de-designation should not be considered for groundwater with total dissolved solids between 3,000 and 10,000 mg/l.

RESPONSE: Generally speaking, many of the discharges that would be regulated under General Order Three have been occurring for 50-plus years. The application and review process for seeking de-designation of groundwater may take upwards of five years. This process consists of meetings, public comment periods, and environmental and legal review. The Central Valley Water Board has the authority to regulate the discharge of production wastewater to land during the de-designation review period. If the de-designation application is denied, the discharger(s) shall be responsible for and pollution that occurred from the discharge of waste to land.

The Existing and Potential Beneficial Uses section of the Basin Plan states that areas with groundwater that exceeds 3,000 mg/l for total dissolved solids may be eligible for de-designation of beneficial uses. In addition to groundwater exceeding 3,000 mg/l total dissolved solids, the discharger is responsible for demonstrating that the area is unable to be treated for domestic use using best management practices or best economically achievable treatment practices. The Central Valley Water Board is responsible for ensuring compliance with the Basin Plan, which offers a discharger(s) an option for de-designation from municipal beneficial uses upon approval by State Water Board and the Office of Administrative Law.

CALIFORNIA INDEPENDENT PETROLEUM ASSOCIATION (CIPA)

CALIFORNIA INDEPENDENT PETROLEUM ASSOCIATION – COMMENT No. 1: CIPA states that the current general orders are not consistent and do not use identical language, which can cause errors, conflicts, confusion, and needless expenses. CIPA cites General Order Three’s reference to the “best efforts,” approach for “reasonable control measures to treat wastewater prior to discharge to land.” CIPA states this approach applies to poor quality groundwater but no authority has been cited for this approach.

RESPONSE: The three tentative general orders apply to different effluent and groundwater conditions where water quality varies from good quality to poor quality. As result different state water policies may apply. Under these circumstances, different language is necessary to describe these different policy applications.

With respect to General Order Three, it is designed to apply to areas where the groundwater quality does not support beneficial uses. In these cases the State Antidegradation Policy does not apply. Where water quality objectives are exceeded, discharge requirements must require implementation of best efforts to comply with best practices requirements.

General Orders One, Two, and Three were not changed in response to this comment.

CALIFORNIA INDEPENDENT PETROLEUM ASSOCIATION – COMMENT No. 2: CIPA, regarding all three tentative general orders, states that they should refer to high, medium and low “priority” rather than “threat.”

RESPONSE: Central Valley Water Board staff initially proposed to use high, medium, and low “threat,” for differentiating the three tentative general orders where the threat is measured by the degree of impact or threat to good quality groundwater. General orders are now referred to as General Orders One, Two, and Three.

General Orders One, Two, and Three were not changed in response to this comment.

CALIFORNIA INDEPENDENT PETROLEUM ASSOCIATION – COMMENT No. 3: CIPA states that “produced water” is recycled and is a valuable resource and beneficial use. It is NOT wastewater unless it is being disposed. CIPA requests the use of term “produced water” instead of “produced wastewater” in the general orders.

RESPONSE: The Basin Plan refers to the “produced water” as “produced wastewater.”

General Orders One, Two, and Three were not changed in response to this comment.

CALIFORNIA INDEPENDENT PETROLEUM ASSOCIATION – COMMENT No. 4: CIPA states that the tentative general orders apply to discharges of produced water to unlined ponds. A clear definition of unlined pond should be included. Discharge to a lined pond or a fully enclosed concrete unit [concrete-lined pond] is not considered a discharge to land.

RESPONSE: The discharge of the waste including produced wastewater to surface to ponds regardless of nature of any liner is considered discharge to land. The tentative general orders Attachment A, titled “Definition of Terms,” define the term pond. This definition has been modified to describe the types of containment units that the Board is choosing to regulate at this time.

CALIFORNIA INDEPENDENT PETROLEUM ASSOCIATION – COMMENT No. 5: For minimizing cost of compliance, CIPA recommends that the water quality testing be structured to establish a baseline and then demonstrate a need for quarterly monitoring based on hydrogeological conditions of the site. Annual monitoring should be substituted for quarterly where possible.

RESPONSE: The tentative general orders are structured initially to establish background and downgradient groundwater quality beneath ponds based on quarterly monitoring. If the Discharger can demonstrate that reduced monitoring is appropriate, it can request the MRP be revised by the Executive Officer.

General Orders One, Two, and Three were not changed in response to this comment.

CALIFORNIA INDEPENDENT PETROLEUM ASSOCIATION – COMMENT No. 6: Minimize the cost of compliance by reducing the number of monitoring wells from three to one downgradient well and allow for regional monitoring where a network exists.

RESPONSE: At least three wells are necessary to determine direction of groundwater flow. The tentative general orders do not proscribe regional or collaborative groundwater monitoring rather than individual groundwater monitoring, where appropriate.

General Orders One, Two, and Three were not changed in response to this comment.

CALIFORNIA INDEPENDENT PETROLEUM ASSOCIATION – COMMENT No. 7: CIPA states that meters or gauges should not be required in every instance. For example, precipitation data for the facility from the official US Weather station should suffice, instead of automated rain gauges and freeboard measurements for ponds using marked depth scales should suffice instead of staff gauges.

RESPONSE: The tentative general orders allow flexibility regarding the metering and gauging devices proposed for a specific facility. The tentative general orders in their MRP require reporting precipitation data using on-site automated rainfall gauge during major storm events but the Discharger can propose an alternate method approved by the Executive Officer. This data can be reported from the official US Weather stations near the facility. The tentative general orders also require metering the effluent flows in addition to other acceptable engineering alternatives to estimate the flow when approved by the Executive Officer. Regarding freeboard markers, see response to E&B Comment No. 9.

CALIFORNIA INDEPENDENT PETROLEUM ASSOCIATION – COMMENT No. 8: CIPA states that the state drinking water Maximum Contaminant Levels (MCLs) standard applied to produced wastewater should reflect an annual average for oil field waste discharges to land. CIPA also states that the general orders maximum discharge limits are unclear in regards to Basin Plan Implementation Plan limits.

RESPONSE: None of the proposed general orders propose MCLs as discharge limits (i.e., effluent limits).

Regarding averaging periods, see response to Valley Water Management Company Comment No. 3 below.

CALIFORNIA INDEPENDENT PETROLEUM ASSOCIATION – COMMENT No. 9: CIPA states that the prohibition regarding well stimulation treatment (WST) in General Orders One, Two, and Three should be modified to read “*the discharge of fluids used during “well stimulation treatment,...” as defined by CCR, title 14, section 1761 (including hydraulic fracturing, acid fracturing, and acid matrix stimulation), to land is prohibited.*”

CIPA also requests to delete the prohibition from the general orders that states “*the discharge of produced wastewater from wells that have been stimulated as defined by CCR, title 14, section 1761 is prohibited.*”

RESPONSE: Two general order prohibitions are derived from California Code of Regulations, title 14, section 1786(a), which states “*operators shall adhere to the following requirements for the storage and handling of well stimulation treatment fluid, additives, and produced water from a well that has had a well stimulation treatment*” and section 1786(a)(4) that states “*fluids shall be stored in containers and shall not be stored in sumps or pits.*” (underline emphasis added)

DOGGR is the lead regulatory agency for the interpretation of SB4 regulation applicable to well stimulation treatment, and at the present time, Central Valley Board staff can only interpret the regulation as presented in the two cited prohibitions until DOGGR provides additional guidance regarding the above regulations or prohibitions. Therefore, no changes to these prohibitions are made.

General Orders One, Two, and Three were not changed in response to this comment.

CALIFORNIA INDEPENDENT PETROLEUM ASSOCIATION – COMMENT No. 10: CIPA states that the produced wastewater be reused in spill cleanups to reduce the use of drinking water.

RESPONSE: The tentative general orders in Prohibition A.1, prohibit the discharge of wastes to surface waters or surface water drainage courses. Thus the reuse of produced wastewater to clean up spills in surface water drainages is not allowed and could be in violation and/or threatened violation of this prohibition if the spill cleanup using produced wastewater reaches the surface drainage courses.

None of the General Orders were changed in response to this comment.

WESTERN STATES PETROLEUM ASSOCIATION (WSPA)

WESTERN STATES PETROLEUM ASSOCIATION – COMMENT No. 1: WSPA states that the tentative general orders Prohibition A.4 refers to prohibition of discharge of fluids to land used “in” well stimulation treatment (WST) versus “during” WST. In addition, WSPA states that Prohibition A.5 prohibits the discharge of any produced wastewater to land where well has been stimulated in accordance to CCR, title 14, section 1786. But this regulation is broadly interpreted and applied to all the wells that have been subject of WST and only applies to wells “during” WST where there is no discharge to land where discharge is contained in a tank during WST process. WSPA recommends to modify Prohibition A.4 and delete Prohibition A.5.

RESPONSE: See Central Valley Water Board response to CIPA Comment 9.

General Orders One, Two, and Three were not changed in response to this comment.

WESTERN STATES PETROLEUM ASSOCIATION – COMMENT No. 2: WSPA recommends a consistency of definition of terms between Central Valley Water Board, San Joaquin Valley Air Pollution Control District, DOGGR, and other agencies for such terms as pond, pit, sump, secondary containment, etc.

RESPONSE: Central Valley Board staff has reviewed the definitions of terms used in the general orders, and also used in other agencies regulations (e.g., secondary containment used by DOGGR in CCR, title 14). Staff has included definitions of those terms that are relevant to the scope of the general orders and consistent with the Water Code and the Basin Plan.

General Orders One, Two, and Three were not changed in response to this comment.

WESTERN STATES PETROLEUM ASSOCIATION – COMMENT No. 3: WSPA states that the produced “wastewater” is not waste and is often reused in oil field for other purposes including agricultural use and should be referred to as “produced water.”

RESPONSE: See Central Valley Water Board response to CIPA Comment 3.

WESTERN STATES PETROLEUM ASSOCIATION – COMMENT No. 4: WSPA states that the definition of “secondary containment” in the General Orders needs to be broadened to include capture of fluid releases from production facilities beyond those associated with catastrophic failure.

RESPONSE: Attachment A for the General Orders defines the term “secondary containment” in accordance with California Code of Regulations, title 14, section 1760(n). It adds a sentence clarifying that secondary containment does not include structures used for routine maintenance or to address a lack of adequate facility treatment capacity or storage. The distinction is necessary to differentiate between secondary containment structures that are operated temporarily and pose little threat to water quality and those that are used frequently and pose a significant threat to water quality.

General Orders One, Two, and Three were not changed in response to this comment.

WESTERN STATES PETROLEUM ASSOCIATION – COMMENT No. 5: WSPA states that none of the General Orders discuss whether the Basin Plan limits are instantaneous or annual average limits.

RESPONSE: Regarding averaging periods, see response to Valley Water Management Company Comment No. 3 below.

WESTERN STATES PETROLEUM ASSOCIATION – COMMENT No. 6: WSPA states that Discharge Specification B.14 should reference Discharge Specifications B.12 and B.13.

RESPONSE: Discharge Specification B.14 was modified to reference Discharge Specifications B.9 and B.13. See also Central Valley Water Board changes section Item 6.

WESTERN STATES PETROLEUM ASSOCIATION – COMMENT No. 7: WSPA states that General Order One Discharge Specification B.19 should read "...from outside an oil and gas production facility..."

RESPONSE: Discharge Specification B.19 in tentative General Order One, Discharge Specification B.17 in tentative General Order Two, and Discharge Specification B.18 in tentative General Order Three have been modified to reflect this change.

WESTERN STATES PETROLEUM ASSOCIATION – COMMENT No. 8: WSPA states that for consistency, the term "Facility" should be used throughout the tentative general orders and that a definition of "Production Facility" consistent with DOGGR regulations should be added.

RESPONSE: The tentative general orders already use the term "Facility" throughout the general orders where appropriate and has defined "Facility" or "Production Facility" in accordance to CCR, title 14, section 1760(r) in Attachment A of the tentative general orders.

General Orders One, Two, and Three were not changed in response to this comment.

WESTERN STATES PETROLEUM ASSOCIATION – COMMENT No. 9: WSPA states that the monitoring of all chemicals used in production facility is unnecessary and cost prohibitive and does not adversely affect groundwater quality.

RESPONSE: The tentative general orders' MRP are designed to identify and evaluate the volumes and concentrations of all the chemicals used in a production facility from downhole well to ponds that have the potential to reach groundwater and impact beneficial uses of the groundwater. Once the discharger has provided sufficient data to support that the use of such chemicals would not adversely impact the beneficial uses of the groundwater, the discharger can request the Executive Officer's approval to reduce monitoring frequency or reduce the list of the chemical constituents monitored.

General Orders One, Two, and Three were not changed in response to this comment.

WESTERN STATES PETROLEUM ASSOCIATION – COMMENT No. 10: WSPA states to include the definition of the term "High Quality Water" in the tentative General Order Three's Attachment A, titled "Definition of Terms," similar to tentative General Orders One and Two.

RESPONSE: The definition of the term “High Quality Water” was added as proposed.

VALLEY WATER MANAGEMENT COMPANY (VWMC)

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 1: VWMC requests deferment of the General Orders until the salinity permitting strategy being developed by CV-SALTS is completed.

RESPONSE: Central Valley Water Board staff do not believe that deferment of the General Orders is appropriate. The General Orders do have findings and provisions that acknowledge the work that CV-SALTS is doing and that the General Orders may need to be reopened and revised to address resulting changes to the Basin Plan.

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 2: VWMC requests the adoption of a single General Order that has provisions for facilities with various threats to water quality.

RESPONSE: The Central Valley Water Board staff generated for Board consideration three General Orders that would provide coverage for the discharge of produced wastewater to land for facilities with different types of discharges and discharge environments. A single General Order covering all circumstances would be difficult to understand and cumbersome to implement.

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 3: VWMC requests that the Basin Plan salinity effluent limits for EC, chloride, and boron not be included in the General Orders and notes that the Basin Plan allows exceptions to the limits where it can be shown that discharges exceeding the limits will not adversely affect the beneficial uses of groundwater. VWMC goes on to say that the limits, if employed, should be interpreted as annual averages as they represent constituents usually associated with state Secondary Maximum Contaminant Levels that are not toxic to human or aquatic life. VWMC states the General Order does not acknowledge that there are additional, higher salinity limits associated with the White Wolf Subarea.

RESPONSE: General Order One is designed to regulate those facilities that discharge relatively good quality produced wastewater to land and present a relatively low threat to groundwater. General Order Two is designed to regulate those discharges where an exception to the Basin Plan limits is appropriate. General Order Three is for discharges over areas with no groundwater or with groundwater that is not suitable for beneficial use. It is appropriate to employ the Basin Plan salinity limits for General Order One. The limits are not included in General Order Two or General Order Three. General Order One has been revised to include the limits as a rolling annual average to be consistent with more recent WDRs adopted by the Central Valley Water Board.

The additional, higher Basin Plan salinity effluent limits for the White Wolf Subarea are not included in General Order One as it is intended to cover lower threat discharges. Additionally, produced wastewater in the White Wolf Subarea is disposed of through underground injection; there are no active disposal ponds in the White Wolf Subarea. Inclusion of the higher limits would add unnecessary complexity to the Order.

No other changes were made to the General Orders based on this comment.

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 4: Valley Water Management Company requests a specific date to delineate between existing and new or expanded facilities.

RESPONSE: The appropriate sections of the General Orders have been modified accordingly.

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 5: VWMC states that the General Orders do not adequately define all potential documents that may satisfy the requirements of CEQA. Valley Water also states that the General Orders ignore some exemptions that should be included, such as California Water Code section 13389 and California Code of Regulations, Title 14, section 15263.

RESPONSE: The General Orders have been modified to acknowledge that other CEQA documents may satisfy the requirements of CEQA. Regarding Water Code Section 13389 and CCR, Title 14, section 15623, Central Valley Regional Water Board staff disagrees. The CEQA exemptions in Water Code section 13389 and CCR, Title 14, section 15263 apply only to WDRs issued pursuant to the federal Clean Water Act's National Pollutant Discharge Elimination System (NPDES) permit program. [See Response to Comment No. 4 for Caleco LLC, et al.]

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 6: VWMC comments that the Central Valley Water Board needs to consider economic impacts of the General Orders as required under section 13241 of the Water Code.

RESPONSE: In developing the General Orders, the Central Valley Regional Water Board considered the factors in Water Code section 13241 and 13263. Accordingly, the following language has been added to the General Orders to reflect the considerations:

General Order 1, after Finding 39
General Order 2, after Finding 38
General Order 3, after Finding 37

Pursuant to Water Code section 13241 and 13263, the State Water Board, in establishing the requirements contained herein, considered factors including, but not limited to, the following:

- a. **Past, present, and probable future beneficial uses of water;**
- b. **Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto;**
- c. **Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area;**
- d. **Economic considerations;**
- e. **The need for developing housing within the region(s); and**
- f. **The need to develop and use recycled water.**

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 7: VWMC comments on the General Order's treatment of the State Water Board's Sources of Drinking Water Policy. Specifically VWMC requests that all the Orders contain consistent language that addresses Central Valley Water Board Resolution 89-098, which incorporates the State Water Board Policy into the Basin Plan. VWMC also requests that the Board remove the sentence from Finding 24 of General Order Three that states the

exceptions to the Sources of Drinking Water Policy are not self-implementing. Further, VWMC requests that instead of having General Order Three require a full de-designation process for MUN use, General Order Three and the accompanying Information Sheet should allow an alternative to de-designation by demonstrating one or more of the exemption criteria existed in 1989 and the groundwater influenced by the discharge is not a currently existing use.

VWMC goes on to state that MUN (or other use designation) should be treated as merely a potential use absent evidence that the use is an existing use, and suggests that the General Orders be modified to protect existing and potential uses differently.

RESPONSE: The Central Valley Regional Water Board staff disagrees with VWMC's requested changes. The text of the Tulare Lake Basin Plan reflects the intent of Regional Board Resolution 89-098 to implement State Board Resolution 88-63 in the Basin Plan. State Water Board Resolution No. 88-63 specifies that except under specifically defined exceptions, all surface and ground waters of the State are suitable or potentially suitable for MUN, and that Regional Boards should designate waterbodies accordingly. *People of California v. Kinder Morgan Energy Partners, L.P.*, 569 F.Supp.2d 1073, 1089 (2008). Once designated, any change in the beneficial use of a waterbody requires an amendment to the Basin Plan. *E.g.*, *California Ass'n of Sanitation Agencies v. State Water Res. Control Bd.*, 208 Cal. App. 4th 1438, 1457, (2012), as modified on denial of reh'g (Sept. 27, 2012). Accordingly, the inclusion of the statement that the exceptions are not self-implementing is reasonable.

Central Valley Water Board staff believe the General Orders appropriately rely on the MUN designation in the Basin Plan for both existing and potential uses of groundwater. The cases that VWMC relies upon do not invalidate the designation of both existing and potential uses of ground water as MUN. In particular, VWMC's reliance on *People of California v. Kinder Morgan Energy Partners, L.P.*, 569 F.Supp.2d 1073 (2008) is irrelevant because it construes the phrase "source of drinking water" in a separate statutory scheme and thus is not relevant to the beneficial use designations in the Basin Plan or how those designations are applied in the General Orders.

No changes were made to the General Orders based on this comment.

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 8: VWMC states the Information Sheets for General Order One and General Order Two include a section titled "Oil Field Discharges and Proposed Discharge Limits" with a discussion of why limits are not being included for certain constituents. This section should also be included in General Order Three.

RESPONSE: The Information Sheet for General Order Three has been modified as appropriate.

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 9: VWMC requests that General Order One include the following in the Groundwater Monitoring section of the MRP:

"If the Discharger demonstrates that the wastes discharged to the ponds cannot affect the quality of underlying groundwater, the Executive Officer may rescind by signed letter all or part of the requirements to complete the groundwater investigation and groundwater monitoring portions of this Order."

RESPONSE: General Order One was revised as proposed.

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 10: VWMC requests that the Groundwater Monitoring section of the MRP be revised to allow fewer groundwater monitoring wells and less frequent monitoring since the maximum salinity limits should be met due to the quality of the discharge:

RESPONSE: The MRP states the following:

“The Discharger shall operate and maintain a groundwater monitoring system that may include groundwater wells available around and downgradient of the Facility and within a reasonable distance from the produced wastewater disposal ponds. At a minimum the monitoring system needs to include three groundwater wells, with at least two wells located downgradient from the ponds’ location that monitor first-encountered groundwater to identify any release at the earliest possible time.”

The MRP is clear that only three groundwater monitoring wells are required for a facility with several ponds.

The General Orders were not revised in response to this comment.

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 11: VWMC requests that existing groundwater monitoring wells may be used for the required groundwater monitoring network at the facility.

RESPONSE: See response to VWMC Comment No. 10 above.

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 12: VWMC requests that automated rainfall gauges not be required for all facilities if there is a weather station within a reasonable distance of the facility.

RESPONSE: See response to E&B Comment No. 2.

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 13: VWMC requests the identification of ponds that do not require groundwater monitoring if the facility has more than one pond.

RESPONSE: See response to VWMC Comment No. 10.

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 14: VWMC requests an automatic approval for monitoring frequency reduction of COCs if technical justification is submitted in an annual report and if Central Valley Water Board has not reviewed the report within a specified time period then is considered automatic approval.

RESPONSE: The MRP includes a section that describes how a reduction in the monitoring frequency of COCs can be requested by the Discharger for the approval by the Central Valley Water Board Executive Officer. Central Valley Water Board staff do not believe automatic reductions are appropriate.

General Order One, Two, and Three were not revised based on this comment.

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 15: VWMC requests that ponds with automatic level controls should not require two feet of freeboard or freeboard monitoring.

RESPONSE: Discharge Specifications of the General Orders allow dischargers to submit a technical report by a registered civil engineer that demonstrates less than two feet of freeboard is appropriate for specific ponds. Dischargers can in the same demonstration provide their rationale on whether freeboard markers and monitoring of specific pond(s) are unnecessary.

General Orders One, Two, and Three were not revised for this comment

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 16: VWMC states that unreasonable amount of analysis is required in the MRP and should be corrected.

RESPONSE: See response to E&B Comment No. 1.

General Orders One, Two, and Three MRPs were not revised for this comment.

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 17: VWMC requests that the definition of "Degradation" in Attachment A (Definitions) be modified to read: - "Any measurable adverse change in water quality that adversely affects beneficial uses."

RESPONSE: Central Valley Water Board staff does not believe the proposed change reflects the meaning of degradation as contemplated in state water quality plans and policies. No change was made.

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 18: VWMC requests that the definition of "New Production Facility" in Attachment A be modified to read: - A production facility at which the Discharger proposes to or begins to operate after 1 January 2015.

RESPONSE: See response to VWMC Comment No. 4.

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 19: VWMC requests that Section A.I.b. of Attachment B (Information Needs Sheet) be modified to read: "...the Discharger will need to provide evidence of compliance with the requirements of CEQA in the form of a certified Environmental Impact Report, Mitigated Negative Declaration, Negative Declaration, CEQA exemption, or other environmental document."

RESPONSE: See response to VWMC Comment No. 5.

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 20: VWMC requests that Section D.I.f. of Attachment B (Information Needs Sheet) for GO1 and G02 be changed to be C.I.f [Section C is missing from these documents so renumbering throughout is needed], and to read:

"Demonstrate that any water quality degradation that may be caused by the discharge is in conformance with Resolution 68-16," or move the current language to an explanatory footnote or to the information sheet.

RESPONSE: The language has been moved to the General Order Information Sheets.

VALLEY WATER MANAGEMENT COMPANY – COMMENT No. 21: VWMC states the General Orders should be modified to remove provisions that duplicate or contradict the Standard Provisions, and include with all references to the Standard Provisions the term "as applicable."

RESPONSE: Some duplication is for emphasis. However, the General Orders have been modified to include the "as applicable" language where appropriate. The NOAs issued will delineate the Standard Provisions that are applicable.

E&B NATURAL RESOURCES – Comments on General Order Three

E&B NATURAL RESOURCES – COMMENT No. 1: Costs to comply with the General Order are estimated at \$50,000 per year, or 40 cents per barrel of oil produced. Additional costs may be associated with compliance if E&B Natural Resources (E&B) needs to conduct a hydrogeological investigation. Reducing the number of constituents in the Monitoring and Reporting Program (i.e., volatile organic compounds and radionuclides) would cut the analysis cost for complying with the General Order. Pertinent information related to produced wastewater quality would be submitted to the Central Valley Water Board at the frequency identified in the Monitoring and Reporting Program. In addition, modifying the Monitoring and Reporting Program to incorporate a baseline study period would allow Dischargers to cease analysis of specific constituents if results were continuously non-detect during a specified time period.

RESPONSE: The Central Valley Water Board generated the list of constituents in the Monitoring and Reporting Program based on Senate Bill 4 and risk potential of constituents at detectable concentrations in produced wastewater. The Discharger may submit a technical report to the Central Valley Water Board that demonstrates a reduction is appropriate for the facility. Prior to the submittal of a technical report by the Discharger, consideration for reduction of the sampling frequency is not appropriate. Potential reductions in the monitoring frequency need to be reviewed by Central Valley Water Board staff to verify a reduction is appropriate for the facility.

E&B NATURAL RESOURCES – COMMENT No. 2: E&B requests modifications to the following items to reduce the cost of complying with the General Order: (1) automated rain gauge installed at each facility and (2) chemical tracking by lease and facility per quarter. Permitting Dischargers to use rain data from a nearby weather station would reduce initial capital costs for the Discharger. In addition, reducing the reporting frequency of chemicals to annually and not requiring the volume per lease would cut down on labor time to generate self-monitoring reports.

RESPONSE: The Central Valley Water Board agrees that rainfall data from a local weather monitoring station is appropriate and has revised the Facility Monitoring section of the Monitoring and Reporting Program in this regard.

Chemical volumes are required for the volume of chemicals that may end up in the produced wastewater discharge to land, not necessarily the total volumes used per lease. Quarterly monitoring is necessary to identify potential variances throughout the year and to identify the locations that chemicals are introduced to the system each quarter.

E&B NATURAL RESOURCES – COMMENT No. 3: E&B is seeking a modification to the General Order that does not prohibit the discharge of produced wastewater from all wells that were previously stimulated. E&B has ten wells that may require abandonment due to the interpretation of section 1786 (a)(4), title 14, of the California Code of Regulations. The General Order prohibits the discharge of production wastewater that originated from wells that were stimulated. Due to the remote location of the facility, transporting production wastewater via truck is unreasonable and may pose a net loss investment. Abandoning ten wells may cost E&B up to one million dollars. The wells were fractured using oil generated from the field, no additional chemicals were introduced.

RESPONSE: Central Valley Water Board staff does not agree with E&B's interpretation. No changes have been made to the General Order based on this comment.

E&B NATURAL RESOURCES – COMMENT No. 4: E&B requests exemptions for Dischargers that have Waste Discharge Requirements from 2000 or newer from applying for coverage under the General Order.

RESPONSE: Dischargers regulated under Waste Discharge Requirements are not required to seek coverage under the General Order by a specific date. Central Valley Water Board staff will review all Waste Discharge Requirements to assess if coverage for a facility is best suited under its individual Waste Discharge Requirements or the General Order. The review process will consider the Waste Discharge Requirements' consistency with current rules, regulations, and policies.

E&B NATURAL RESOURCES – COMMENT No. 5: E&B requests additional information regarding the application process for a basin plan amendment.

RESPONSE: Provision 4.b of the General Order Three describes the application process and time schedule for a basin plan amendment.

E&B NATURAL RESOURCES – COMMENT No. 6: E&B requests the following addition to Finding 25 of the General Order:

f: Discharger has an updated WDR or a recent application for a WDR that has not been reviewed.

RESPONSE: The contents of Finding 25 of the General Order originates from the Basin Plan requirements for exceptions to the State Water Board Sources of Drinking Water Policy. The requested change has not been made.

E&B NATURAL RESOURCES – COMMENT No. 7: E&B requests that Finding 42 of the General Order exclude wells that were stimulated using oil from the extraction formation.

RESPONSE: See response to E&B Comment No. 3.

E&B NATURAL RESOURCES – COMMENT No. 8: E&B states objectionable orders in Discharge Specification 9 of the General Order are not adequately defined.

RESPONSE: Discharge Specification 9 of the General Order states *“Objectionable odors shall not be perceivable beyond the limits of the property where the waste is generated, treated, and/or discharged at an intensity that creates or threatens to create nuisance conditions.”* Additional language is not required to define objectionable odors in the General Orders.

E&B NATURAL RESOURCES – COMMENT No. 9: E&B requests modifying Discharge Specification 11 to read:

“As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge **or equivalent** with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.”

RESPONSE: The Central Valley Water Board agrees with E&B’s comment and has modified the General Orders accordingly.

E&B NATURAL RESOURCES – COMMENT No. 10: E&B requests modifying the last sentence of Discharge Specification B.16 to read as follows.

“Specifically, if the estimated volume of solids in any units exceeds **five ten** percent of the permitted capacity, the Discharger shall complete solids cleanout within 12 months after the date of the estimate or demonstrate that a lesser pond capacity is adequate.”

RESPONSE: Discharge Specification B.16 allows the Discharger to submit a demonstration to the Central Valley Water Board that a lesser pond capacity is adequate. Demonstrations submitted by the Discharger shall be reviewed by Central Valley Water Board staff. If Central Valley Water Board staff agrees with the findings, the Discharger shall be notified in written concurrence that the amended volumes are acceptable for the facility.

E&B NATURAL RESOURCES – COMMENT No. 11: The application of oil base for road mix provides paths for individuals to drive to remote locations, and generate less debris in populated areas. During storm events, roads that do not have oil base applied are normally not able to be traveled. E&B requests modifying Solids Disposal Specification D.5 to allow oil base application to any location since oil base roads are less likely to erode during storm events.

RESPONSE: Solids Disposal Specification D.5 of the General Order allows the application of oil base to roads, excluding locations that have potential to run-off into a surface waterway. Displacement of these recycled wastes to surface waters would potentially result in impacts to surface waters and violations of the federal Clean Water Act. No changes were made to the General Order based on this comment.

E&B NATURAL RESOURCES – COMMENT No. 12: E&B requests that the management plan for dust control activities be submitted 45 days prior to the anticipated discharge, in lieu of 90 days.

RESPONSE: Modifying the reporting time would not provide sufficient review time for Central Valley Water Board staff. No changes were made to the General Order based on this comment.

E&B NATURAL RESOURCES – COMMENT No. 13: E&B requests that the management plan for beneficial reuse of solid waste be submitted 45 days prior to the anticipated discharge, in lieu of 180 days.

RESPONSE: Modifying the reporting time as requested would not provide sufficient review time for Central Valley Water Board staff. No changes were made to the General Order based on this comment.

E&B NATURAL RESOURCES – COMMENT No. 14: E&B requests that Provision E.9 of the General Order not apply for reductions to the volume or size of ponds.

RESPONSE: Reducing the volume or size of a pond is likely the result of a change in volume of the discharge. Changes in the volume of the discharge require a complete NOI, as stated in Provision E.9 of the General Order.

E&B NATURAL RESOURCES – COMMENT No. 15: Facilities that are unable to record the duration that runoff occurs at the facility are not able to comply with completing an inspection of the facility following a major storm event. The Facility Monitoring section of the Monitoring and Reporting Program needs to identify a major storm event as a specific height of rainwater per hour.

RESPONSE: The Monitoring and Reporting Program requires the Discharger to inspect precipitation diversion and drainage facilities for damage within seven days following a major storm event. The objective of this requirement is for the Discharger to observe areas that may experience significant erosion from runoff that continues over an hour. Modifying the Facility Monitoring section to require an inspection for a storm event that has a specific height of rainwater per hour may not satisfy the same objectives. Storm events that have a runoff period that exceeds an hour are likely to pose a greater impact to the facility via erosion channels and require the Dischargers immediate attention. The Facility Monitoring section of the Monitoring and Reporting Program has not been changed.

E&B NATURAL RESOURCES – COMMENT No. 16: E&B requests the following language be added to the Groundwater Monitoring section of the Monitoring and Reporting Program:

“If the Discharger demonstrates that the wastes discharged to the ponds cannot affect the quality of the underlying groundwater or there is no groundwater present beneath the impoundments, the Executive Officer may rescind by signed letter.”

RESPONSE: The quote seems to be incomplete. The MRP already contains the requested language.

MACPHERSON OIL COMPANY

MACPHERSON OIL COMPANY– COMMENT No.1: Macpherson Oil Company (MOC) is concerned with the definition of surface impoundments and the inclusion of certain types of facilities. MOC operates a facility referred to as “the sand basin” in the Round Mountain Oil Field. The sand basin is a

concrete structure that separates produced water from solids produced during oil field operations. Produced water is sent to the MOC dehydration system, and the solids are recycled for road base mix. MOC stated in the comments that the sand basin should be exempt from the General Orders, as it does not fit the definition for a surface impoundment, nor does it serve the same purpose.

RESPONSE: The Central Valley Water Board is currently reviewing a document submitted by MOC regarding the sand basin. The review may find that the sand basin is not appropriate for coverage under the any of the General Orders. This does not mean that MOC will not need regulatory coverage for the Round Mountain facility. The facility may require a permit which is specific to the operations at Round Mountain. The Central Valley Water Board will contact MOC when the review process is finished.

MACPHERSON OIL COMPANY– COMMENT No. 2: MOC comments that the General Orders should include alternate methods of monitoring without an extensive technical and geological report or groundwater monitoring program. These requirements will have large installation and operating costs, and MOC believes that alternate methods will be as effective and less costly.

RESPONSE: The investigations, technical reports, and monitoring required by the General Orders are necessary to investigate impacts to water quality at various facilities. If a discharger can demonstrate that reduced monitoring is appropriate, then the discharger may request that the Monitoring and Reporting Program be revised by the Executive Officer.

General Orders One, Two, and Three were not changed in response to this comment.

MACPHERSON OIL COMPANY– COMMENT No. 3: MOC does not support the requirement of a licensed professional, or limiting the types of licensed professionals. The use of licensed professionals adds significant costs. MOC also does not support the requirement of the use of a certification statement or data submitted by the operator.

RESPONSE: The Central Valley Water Board requires the use of licensed professionals and certification of data for the submission of technical documents consistent with the regulatory requirements of the California Business and Professions Code. Geologic and engineering plans, specifications, and reports are required to be prepared by appropriately licensed professionals by the Business and Professions Code. It is also appropriate to require a certification statement to ensure that data submitted is true and accurate.

General Orders One, Two, and Three were not changed in response to this comment.

NAFTEX OPERATING COMPANY

NAFTEX OPERATING COMPANY– COMMENT No. 1: Naftex Operating Company (Naftex) previously submitted a document to the Central Valley Water Board regarding the Naftex Racetrack facilities. Naftex requested that its Racetrack facilities be considered exempt from permitting based on California Code of Regulations, Title 27, section 20090, which refers to enclosed facilities.

RESPONSE: Exemption from Title 27 permitting requirements does not exempt a discharger from all permitting requirements under the California Water Code. The General Orders define

surface impoundments or ponds in Attachment A, "Definition of Terms." The discharge of produced water to ponds may or may not require WDRs depending on its threat to water quality. Each case will be evaluated individually.

General Orders One, Two, and Three were not changed in response to this comment.

NAFTEX OPERATING COMPANY– COMMENT No. 2: Naftex is concerned about the potential cost associated with the MRP. Naftex requests further review of monitoring options to obtain the needed security of protecting potential impacts identified in the General Orders.

RESPONSE: The requirements of the MRP are necessary to fully investigate the potential impacts of the discharges. The General Orders are structured to establish some background information about the discharge, investigate conditions at individual facilities, and collect data on the impacts of the discharge to groundwater. If a discharger can demonstrate statistically that there are no significant variations in magnitude of the constituent concentrations, the discharger can request the MRP be revised by the Executive Officer.

NAFTEX OPERATING COMPANY– COMMENT No. 3: Due to a recent reduction in staff, Naftex is concerned about the time and schedule requirements of the General Orders. Naftex feels that the time schedules outlined in the General Orders will be unattainable and costly.

RESPONSE: The Central Valley Water Board staff believe that the time schedules outlined in the General Orders give operators sufficient time to complete the tasks required by the General Orders.

General Orders One, Two, and Three were not changed in response to this comment.

DRILLING & PRODUCTION CO.

DRILLING AND PRODUCTION CO. – GENERAL COMMENTS: Drilling and Production Co. (Drilling and Production) is concerned about the costs associated with the implementation of the General Orders. Listed in these concerns are the need for professionals (geologists and engineers), fees from the Water Boards, the costs associated with the submittal of hydrogeological reports, costs associated with the MRP and coverage under the General Orders.

RESPONSE: The requirements of the General Order are necessary to fully investigate the potential impacts of the discharge and to be protective of water quality. The General Orders are structured to establish some background information about the discharge, investigate conditions at individual facilities, and collect data on the impacts of the discharge to groundwater. However, some of the monitoring requirements may be reduced over time. If a discharger can demonstrate statistically that there are no significant variations in magnitude of the constituent concentrations, the discharger can request the MRP be revised by the Executive Officer.

DRILLING AND PRODUCTION CO. – COMMENT No. 1: Drilling and Production's comments mainly apply to General Order Three, because that is the Order that they anticipate obtaining coverage under. Drilling and Production is concerned about the use of the term "expansion." Drilling and Production states that the use of the term in the General Orders fails to recognize that water produced during oil production can vary, that existing ponds are designed to handle fluctuations in produced water, that

discharge limits are not found in existing WDRs, and the definition of expansion puts limits on produced water volumes.

RESPONSE: Under Attachment A of the General Order, the term “expansion” includes any activity that results in a material change in the character, location, or volume of discharge. In preparation for coverage under the General Orders, dischargers reported analytical data and volumes of produced water flows from June 2014 to June 2015. This allows both dischargers and the Central Valley Water Board to characterize the discharge and capacity of the surface impoundments. Regulating produced water volumes is necessary to ensure not only that the surface impoundments are adequate for the discharge, but that the design can be protective of water quality. If the character or volume of the discharge is expands (under the current definition), the discharger shall submit a complete Notice of Intent in accordance with the Water Code Section 13260 at least 140 days before the material change.

General Orders One, Two, and Three were not changed in response to this comment.

DRILLING AND PRODUCTION CO. – COMMENT No. 2: The General Orders provide that dischargers may also be able to obtain amendments to the Basin Plan that de-designate the beneficial uses of waters of the Water Quality Control Plan for the Tulare Lake Basin (Basin Plan). Drilling and Production feels that the Water Boards share some responsibility in helping dischargers apply for amendments.

RESPONSE: Central Valley Water Board staff will aid in the Basin Planning process where appropriate.

General Orders One, Two, and Three have not been changed in response to this comment.

DRILLING AND PRODUCTION CO. –COMMENT No. 3: Storm Water Permits (Order 2014-0057-DWQ) are not required for oil and gas production facilities if storm water is contained on the facility. The General Orders prohibit the discharge of produced water from secondary containment areas. Drilling and Production feels that the discharge of storm water should not be prohibited from secondary containment structures unless they are shown to be contaminated above the limits in Order 2014-0057-DWQ. Drilling and Production comments that the General Orders should not require coverage under either one of the General Orders or Order 2014-0057-DWQ.

RESPONSE: Dischargers only need a storm water permit in circumstances where storm water that comes into contact with wastes is not captured and contained on site. The General Orders prohibit discharges of wastes to ephemeral drainages and other surface waters. The discharge of pollutants to any water of the United States without a storm water permit would result in violations of the federal Clean Water Act. Rain water in secondary containment areas could be discharged provided it contains **no** waste constituents.

General Orders One, Two, and Three have not been changed in response to this comment.

DRILLING AND PRODUCTION CO. – COMMENT No. 4: Prohibitions in the General Orders do not allow water from stimulated wells to be discharged to land. Drilling and Production states that a time period needs to be specified for this, as processes such as “frac-pac” that was done in 1950 should not be included in the prohibition.

RESPONSE: This prohibition comes from California Code of Regulations, Title 14, Section 1786 which states that operators shall not store well stimulation treatment fluids in surface impoundments, including produced wastewater from wells that have been stimulated. If the process used meets the definition of well stimulation, then it is prohibited by the General Orders.

General Orders One, Two, and Three have not been changed in response to this comment.

DRILLING AND PRODUCTION CO. – COMMENT No. 5: In General Order Three, Discharge Specifications Item #13 states that on 1 October of each year, the available capacity shall at least be equal the volume necessary to comply with Discharge Specifications of B.8 and B.12. Drilling and Production are unclear on what that volume would be.

RESPONSE: Discharge Specifications B.8 and B.12 indicate that all components of the facility, including those components designed to accommodate produced wastewater, shall be adequate and maintained to prevent inundation or washout due to floods with a 100-year return frequency. This volume will differ depending on facility and production volumes. Each facility is responsible for making sure that it has the capacity to store the volumes of wastewater it produces, as well as the capacity to prevent washout from a flood with a 100-year return frequency.

General Orders One, Two, and Three have not been changed in response to this comment.

DRILLING AND PRODUCTION CO. – COMMENT No. 6: Drilling and Production is concerned with the use of herbicides for total control of weeds, algae, and vegetation, as it is often a greater environmental hazard than the problem it addresses.

RESPONSE: The General Order Discharge Specifications do not require that pesticides be used for weed control. The General Orders state that weeds, algae, vegetation, must be controlled to prevent the spread of vectors (such as mosquitos), erosion, and debris accumulation. These goals can be reached through a variety of ways, but if pesticides are used, it must be done in compliance with labeling instructions and all applicable laws and regulations.

General Orders One, Two, and Three have not been changed in response to this comment.

DRILLING AND PRODUCTION CO. – COMMENT No. 7: Under the General Orders, rehabilitation of berms or levees should not require the design and construction under the supervision of a California registered civil engineer unless it substantially changes the design or location.

RESPONSE: Civil engineering works and repairs to those works must be conducted under the supervision of the appropriately licensed individuals as required by the Business and Professions Code. The Department of Consumer Affairs, Board for Professional Engineers, Land Surveyors, and Geologists business and professionals code 7810.1 states that “protection of the public shall be of the highest priority of the board in exercising its licensing, regulatory, and disciplinary functions.”

General Orders One, Two, and Three have not been changed in response to this comment.

DRILLING AND PRODUCTION CO. – COMMENT No. 8: General Order Three, Discharge Specifications, Items #19 and #20 address specific use of produced water. Drilling and Production believes that they should be incorporated into a single item.

RESPONSE: These Items are separate for emphasis. Item #19 emphasizes that wastewater used for dust control or construction shall be applied at minimum rates and follow an approved management plan. Item #20 emphasizes that the rates shall not create a nuisance, degrade groundwater, surface water, or be allowed to pool or runoff.

General Orders One, Two, and Three have not been changed in response to this comment.

DRILLING AND PRODUCTION CO. – COMMENT No. 9: The results of the hydrogeological investigation are required within 60 days issuance of the Notice of Applicability (NOA). Drilling and Production believes that this amount of time may not be sufficient, and that there should be a provision for extending the deadline if it cannot be met due to no fault of the operator.

RESPONSE: The Central Valley Water Board believes that this is sufficient time to report on the results of the hydrogeological site investigation. This is because many facilities seeking coverage under the General Orders have, or should have, already began these investigations pursuant to Cleanup and Abatement Orders issued in 2015. The information gathered may be sufficient for the hydrogeological investigation that must be provided for the NOA. For General Order Three, that investigation must demonstrate that there is no groundwater beneath the facility, the produced wastewater will not migrate to areas where there is groundwater with beneficial uses, or that the natural background of the groundwater meets the Sources of Drinking Water Policy exception criteria.

General Orders One, Two, and Three have not been changed in response to this comment.

DRILLING AND PRODUCTION CO. – COMMENT No. 10: General Order Three, Provisions, Item #7 places requirements on the use of solids for road mix above what is required for entities using similar products. Drilling and Production questions whether similar requirements are being placed on other operations including agricultural areas. Drilling and Production also questions the requirement for using a permitted facility, especially for waste that is not characterized as hazardous.

RESPONSE: Road mix is a waste that the oil field operators reuse. The General Orders regulate discharges of wastes to land, not the application of products according to label instructions. The California Water Code requires that wastes be discharged under appropriate WDRs (permits) unless WDRs have been specifically waived.

General Orders One, Two, and Three have not been changed in response to this comment.

DRILLING AND PRODUCTION CO. – COMMENT No. 11: The term “waters of the state” is confusing. Drilling and Production would like clarification on this term and its legal basis.

RESPONSE: “Waters of the state” is defined by Water Code section 13050 (e) as “any surface or groundwater, including saline waters, within the boundaries of the state.”

General Orders One, Two, and Three have not been changed in response to this comment.

DRILLING AND PRODUCTION CO. – COMMENT No. 12: General Order Three, Attachment B, Item (d) 9 & 10 reference two types of evaporation. Drilling and Production requests that the term “reference evaporation” be clarified.

RESPONSE: In this case, the term “reference evaporation” means the actual evaporation occurring in the facility’s surface impoundments.

General Orders One, Two, and Three are not changed in response to this comment.

DRILLING AND PRODUCTION CO. – COMMENT No. 13: General Order Three, Attachment B, Item E creates a situation where a discharger would be required to obtain a discharge permit for secondary containment structures unless they have coverage under Order 2014-0057-DWQ.

RESPONSE: See response to Drilling and Production Co. – Comment No. 3 above.

DRILLING AND PRODUCTION CO. – COMMENT No. 14: General Order Three, Attachment B, Item F requires that all groundwater monitoring wells meet the construction standards of the California Department of Water Resources bulletin 74-90 and standards set in the State of California bulletin 94-81. Drilling and Production feels that oil fields have wells whose upper casings could be repurposed for groundwater monitoring purposes.

RESPONSE: Oil wells can be repurposed if the discharger can demonstrate that they can be an appropriate part of a sampling plan.

General Orders One, Two, and Three are not changed in response to this comment.

CENTRAL VALLEY WATER BOARD CHANGES

The following are Central Valley Water Board staff (staff) revisions to the General Orders not covered by the written comments received. Staff has also made a few minor and major changes to improve clarity and fix typographical errors where specific changes are presented below, additions are in bold text and deletions are in strikethrough.

Applicable to General Orders One, Two, and Three:

1. Staff revised the Monitoring and Report Program (MRP) to clarify that the MRP is effective from the day Executive Officer issues the NOA.
2. Revised the MRP Tables I in Footnote 8 and Table II in Footnote 9 to improve clarity. The revisions are:

~~A list of all chemicals and or additives used in the well drilling, production, and or processing of all oil and wastewater discharged into ponds or on to the ground surface~~

The Discharger shall provide analytical results for all chemicals and additives used in the exploration, production, and/or processing of all oil and the treatment of produced wastewater discharged to land (e.g., ponds, roads, etc.) as described under the Chemical

and Additive Monitoring section of the MRP for which there are ELAP approved analyses. For those constituents for which there are not ELAP approved analytical methods, the Discharger shall submit a technical report describing how it intends to address this issue.

3. Revised the MRP Tables I for effluent monitoring and Table II for groundwater monitoring to include Total Organic Carbon (TOC).
4. Added an item to the Information Needs Sheet of all three General Orders as Item B.8.d. The Item refers dischargers to the Provision sections of the General Orders to obtain additional information about what is required in the a solids management plan.
5. Added Item B.9.c to the Information Needs Sheet of all three General Orders to refer to provisions section of the General Orders where additional requirements for dust control and construction activities management plans are provided.

Applicable to General Order One:

6. Added a new finding 56 to General Order One regarding potential salinity exceptions to Basin Plan Water Quality Objectives as implemented by Central Valley Water Board Resolution No. R5-2014-0074. The new finding reads as follows:

Where the Discharger's efforts to improve the quality of the land discharge cannot meet Basin Plan maximum salinity limits, the Discharger may submit an application for an exception from water quality objectives related to salinity pursuant to Chapter IV, *Exception to Discharge Requirements Related to the Implementation of Water Quality Objectives for Salinity*, paragraph 8 of the Basin Plan. The application must provide justification as to why the exception would be necessary, a description of salinity reduction measures that the Discharger has undertaken or is proposing, and an evaluation of whether water conservation has had an impact on the salinity of the discharge. The Discharger must participate in the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) Program to qualify for an exception.

7. Revised General Order One, Discharge Specification B. 14, to read as follows:

On or about 1 October of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications B.14 **9** and B.15**13**.

8. Added new Provision 21 to General Order One regarding applying for salinity exceptions to Basin Plan Water Quality Objectives as implemented by Central Valley Water Board Resolution No. R5-2014-0074. The new provision reads as follows:

Dischargers may apply for an exception from water quality objectives related to salinity pursuant to Chapter IV, *Exception to Discharge Requirements Related to the Implementation of Water Quality Objectives for Salinity*, paragraph 8 of the Basin Plan. The application must be made in accordance with Finding No. 56 of this Order and the Discharger must participate in the CV-SALTS Program to qualify for an exception.

9. Added a new finding 55 to General Order Two regarding potential salinity exceptions to Basin Plan Water Quality Objectives as implemented by Central Valley Water Board Resolution No. R5-2014-0074. The new finding reads as follows:

Where the Discharger's efforts to improve the quality of the land discharge cannot meet Basin Plan maximum salinity limits, the Discharger may submit an application for an exception from water quality objectives related to salinity pursuant to Chapter IV, Exception to Discharge Requirements Related to the Implementation of Water Quality Objectives for Salinity, paragraph 8 of the Basin Plan. The application must provide justification as to why the exception would be necessary, a description of salinity reduction measures that the Discharger has undertaken or is proposing, and an evaluation of whether water conservation has had an impact on the salinity of the discharge. The Discharger must participate in the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) Program to qualify for an exception.

10. Revised tentative General Order Two in Discharge Specification B.12 as follows:

On or about 1 October of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications B.40 7 and B.11.

11. Added new Provision 21 to General Order Two regarding applying for salinity exceptions to Basin Plan Water Quality Objectives as implemented by Central Valley Water Board Resolution No. R5-2014-0074. The new provision reads as follows:

Dischargers may apply for an exception from water quality objectives related to salinity pursuant to Chapter IV, Exception to Discharge Requirements Related to the Implementation of Water Quality Objectives for Salinity, paragraph 8 of the Basin Plan. The application must be made in accordance with Finding No. 56 of this Order and the Discharger must participate in the CV-SALTS Program to qualify for an exception.

Applicable to General Order Three:

12. Added a new finding 55 to General Order Two regarding potential salinity exceptions to Basin Plan Water Quality Objectives as implemented by Central Valley Water Board Resolution No. R5-2014-0074. The new finding reads as follows:

Where the Discharger's efforts to improve the quality of the land discharge cannot meet Basin Plan maximum salinity limits, the Discharger may submit an application for an exception from water quality objectives related to salinity pursuant to Chapter IV, Exception to Discharge Requirements Related to the Implementation of Water Quality Objectives for Salinity, paragraph 8 of the Basin Plan. The application must provide justification as to why the exception would be necessary, a description of salinity reduction measures that the Discharger has undertaken or is proposing, and an evaluation of whether water conservation has had an impact on the salinity of the discharge. The Discharger must participate in the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) Program to qualify for an exception.

13. Added new Provision 21 to General Order Two regarding applying for salinity exceptions to Basin Plan Water Quality Objectives as implemented by Central Valley Water Board Resolution No. R5-2014-0074. The new provision reads as follows:

Where the Discharger's efforts to improve the quality of the land discharge cannot meet Basin Plan maximum salinity limits, the Discharger may submit an application for an exception from water quality objectives related to salinity pursuant to Chapter IV, Exception to Discharge Requirements Related to the Implementation of Water Quality Objectives for Salinity, paragraph 8 of the Basin Plan. The application must provide justification as to why the exception would be necessary, a description of salinity reduction measures that the Discharger has undertaken or is proposing, and an evaluation of whether water conservation has had an impact on the salinity of the discharge. The Discharger must participate in the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) Program to qualify for an exception.