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**FROM:** James C. (Chris) Hall **DATE:** July 11, 2016

**TO:** Central Valley Regional Water Quality Control Board  
Attn: Hossein Aghazeynali (Hossein.Aghazeynali@waterboards.ca.gov)

**SUBJECT:** Comments and Recommendations on Waste Discharge Requirements General Orders for Oil Field Discharges to Land

First, we want to thank the staff of the Central Valley Regional Water Quality Control Board (CVRWQCB) for the meetings they have held over the past 16 months on the actions that will be taken by the water board. It allowed us to better understand the reasons for the added requirements as well to enable them to make changes so that the proposed regulations would be workable.

### **GENERAL COMMENTS:**

Our general comments are directed towards General Order #3 (GO-3), since that is the order that we would be regulated under.

1. The financial burden of the General Order will be onerous for most oil and gas producers, especially at this time of historically low oil prices. It is estimated that the cost of installing three ground water monitoring wells and doing quarterly sampling will cost \$200,000 in the first year. This does not include the cost of consulting engineering to analyze and prepare the reports that will be required, which we estimate will add an additional \$100,000.
  - a. The water board staff has often said that they could not fully understand our own particular situations and that it would behoove us to “follow the advice of our in-house attorneys and geologists”. The fact is that most small to mid-sized producers do not have these personal as full time employees; to hire them comes at significant incremental costs greater than that experienced by larger companies.
  - b. The unexpected added water board “fees” imposed last year were sufficient to drive our operations into the red.
  - c. Though over 50 years old, the existing 1959 Waste Discharge Requirements (WDR’s) are in compliance with the Clean Water Act of 1974. They were reviewed by the water board staff in about 1984 and again in 1993. At that time the industry submitted geological studies showing that the use of percolation ponds were not detrimental to ground water. The fact that the Board has allowed the WDR’s to continue as written and to conduct frequent inspections (as they have been doing) is prima facie evidence that they found the on-going activities to be in compliance with existing regulations, including the Tulare Basin Plan.

Therefore, it is incumbent on the Water Board to do a thorough analysis of the economic impact of the proposed regulations as required by Water Code Section 1327(b). They should assess how they can best be implemented so as to reduce the overall costs, both to the producer and the Water Board. Measures that should be taken include:

- a. Take an active role in reviewing the existing hydro-geological studies and reports so as to determine how they should be applied to the affected parties. Heretofore, the staff has stated that they do not have the time, personnel or budget to conduct this review. Furthermore, it is apparent that these studies were not reviewed in detail prior to the writing of the General Orders; one would think that this would have been required prior to undertaking writing such an extensive change to the regulations. **(This is contrary to what is cited in GO-3, Item #51: “The Findings of this General Order, attachments and details in the Information Sheet, and the administrative record of the Central Valley Water Board relevant to oil field facilities were considered in establishing the conditions of discharge.”** (Emphasis added)) Most producers are even less likely to have the resources to economically compile this information and re-submit it to the Board. Most of this information is in the possession of the Board; the prior staff since retired or re-assigned was intimately familiar with its existence, contents and applicability to each individual permitted project.
- b. Evaluate each aspect of the proposed GO-3 to determine where efforts can be coordinated and costs shared so as to reduce the overall costs to all parties involved. An example would be a thorough review of the proposed sampling protocol to determine how it can be reduced to known elements of specific concern based on the samples already submitted to the Water Board. (The current suite of samples is estimated to \$3,000 per sample.) The Board should also review existing data and reports to determine if sampling of specific items is even warranted. For example, the testing or radioactive nucleides is especially costly. Heretofore, in the 1990’s the Division of Oil, Gas & Geothermal Resources (DOGGR) and the industry conducted tests of all producing fields for Normally Occurring Radioactive Materials (NORM) and determined that except for isolated cases this was not an item of concern in most California producing fields. The Water Board has been advised that this information exists and that a copy was provided to the Board at the time it was prepared.
- c. Where ever possible, the staff should address the implementation of GO-3 in regional areas so as to reduce the overall costs to everyone involved. Specifically, the southwest side of the San Joaquin Valley south of the “35<sup>th</sup> anticline” referenced in the 1959 WDR’s recognizes geologic conditions that make the use of ponds less of a concern. The Board should proactively work with producers in unique areas such as this to address the requirements as a group. While this is provided for in GO-3 as drafted, the Board should take an active role in seeing that this happens.

### **SPECIFIC DETAILED COMMENTS:**

Specific Comments are as follows:

#### **1. Limitation on Expansion:**

General Order #3, Paragraph (2) and Attachment A (2): Definition of “Expansion”:

““Expansion” does not include installation or modification of the Facility or equipment to achieve compliance with the requirements of this General Order so long as the modification or installation is sized to accommodate only the existing reported produced wastewater flows from 1 June 2014 through 1 June 2015.”

This is unreasonable for the following reasons:

- This fails to recognize that oil production is cyclic; total production can vary significantly on a year-to-year basis due to economics, the ability to get permits to do well work in a timely manner, as well as other operational factors. It is also a fact that water content increases annually as the field matures.
- Existing ponds are usually designed to handle the existing produced water as well as that that could reasonably be expected during the remaining life of the field (apart from field expansion and change of recovery methods).
- The current Waste Discharge Requirements (WDR's or permits) under which oil producers have operated do not specify a waste water volume limit. Therefore, it would be unreasonable at this time to limit the amount of water that could be handled to some maximum between two arbitrary dates.
- The proposed definition actually puts limitations on produced water volume from what was previously permitted.

Suggested language:

“... so long as the modification or installation is not designed to increase the size of the existing pond(s) to which waste water flows in order to increase wastewater flow above that which the ponds were designed to handle.”

## **2. Amendments to the Basin Plan (General Order #3, Item #32):**

The order provides that dischargers may also be able to obtain amendments to the Basin Plan that de-designate the beneficial uses that cannot reasonably be achieved. The Water Board shares some responsibility helping to apply for the necessary amendments in that they actively maintained and collected annual fees on the existing WDR's, while conducting necessary inspections of the facilities and reviews of the permits in 1984 and 1993 thereby ensuring that they were in compliance with the existing regulations. Under these circumstances, the Water Board should have ensured that the existing facilities were exempted under the Basin Plan at the time that it was first enacted. This should not be a burden shouldered solely by the producers needing the amendments, both for the reasons cited above and for cost effectiveness.

## **3. Storm Water Permit and Waste Discharge Permit Requirements:**

General Order #3, Item #48: Storm Water and Containments:

The Order acknowledges that storm water discharge permits are not required for oil and gas facilities if it was contained on site and not allowed to flow freely off-site. In fact, the storm water discharge requirements provide that rain water can be released after it has been ascertained that it is clean (free of oil, grease and solids).

General Order #3 states that “storm water at oil and gas production facilities may be captured and contained on-site....” It further states that “this General Order prohibits the discharge of wastes from leaving the ...secondary containment area, or entering waters of the United States. (Note: references to “ponds” have been redacted so as to focus on the effect on secondary containments.) Therefore, Dischargers are not required to obtain coverage under Order 2014-0057-DWQ as long as storm water is contained in the Facility”. This implies the following:

- If storm water is discharged, a Storm Water Permit under Order 2014-0057-DWQ is required. This doesn't recognize that it can be released in a controlled manner once it has been verified to be free of oil, grease and solids.

- The General Order should not prohibit the discharge of storm water from secondary containments, unless they are shown to be contaminated above the limits for Storm Water discharge.
- It also creates the perception that if a Storm Water Permit is not issued for the facility, then a Waste Discharge Permit would be needed. This would be unreasonable and extremely costly for both the oil producers and the Water Board to implement and maintain; in most cases it could not be justified or even necessary.

Suggested Language:

Remove all reference to “Facility” and “secondary containments”. The General Order should limit its focus to “pond areas” only and rainfall that comingles with the produced water in the ponds.

**4. Discharge of Well stimulation Treatment**

GO #3, A. Prohibitions (3) & (4): Discharge of produced wastewater from stimulated wells is prohibited. A period of time needs to be specified for which this would be a problem. This is especially important for processes such as “frac-pac” that was done in the 1950’s that should not be included as a current well treatment.

**5. Available Capacity.**

GO #3, Discharge Specifications Item #13: “On or about 1 October of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications B.8 and B.12.” It is unclear what this volume would be when read in conjunction with B.8 and B.12.

**6. Control of Weeds, Algae and Vegetation:**

GO#3, Discharge Specifications, Items #14 (b) & (c): Using herbicides for total control of weeds, algae and vegetation is often a greater environmental hazard than the problem it addressing. Control of weeds, algae and vegetation should be sufficient so as to not pose a problem to the operation of the ponds.

**7. Rehabilitation of Ponds:**

GO#3, Discharge Specification, Item #15: 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 of the berm or levee.

**8. Use of Produced Wastewater:**

GO#3, Discharge Specifications, Items #19 & #20: Items #19 and #20 address a specific use of produced waste water; they should be incorporated into a single item so as to not create specific unintended requirements or emphasis caused by having them listed as two separate items.

**9. Presentation of the Results of Hydrogeological Investigation:**

GO #3, (E) Provisions, Item #4: The results of the hydrogeological investigation are required with 60 days after the issuance of the NOA. Given that industry resources for doing this work simultaneous with over one hundred other operators might make this unachievable. There needs to be a provision for extending the deadlines if they cannot reasonable be met due to no fault of the operator.

**10. Dischargers Reusing Solids for Road Mix**

GO#3, (E) Provisions, Item #7:

- a. This places requirements on the use of solids for road mix that are above and beyond that which is required of other entities using similar products (some of which have been recycled from oil field operations). Are similar requirements being placed on these types of operations, including but not limited to the oiling of roads for dust abatement in agricultural areas? If not, why not?
- b. What constitutes a “permitted facility” to which solid wastes disposed off-site shall be transported to. If the wastes are shown to be non-hazardous, this should not be a requirement.

**11. Definition Waters of the State:**

GO Standard Provisions: (A) General Provisions, Item (6): The term “waters of the state” is used. What constitutes “waters of the state” and what is the legal basis? The Department of Fish & Wildlife has issued Guidance Documents that provide definitions that even they concede extend the definitions beyond that which is reasonable for the exposure that is being regulated.

**12. Evaporation Rates:**

GO#3, Attachment B, Item (D), 9 & 10: The site-specific conditions specify two type of evaporation: “reference evaporation” and “pan evaporation”. While pan evaporation is understood, reference evaporation is not a term commonly used. If this is mean to be “reference evapotranspiration” or “ET” then this term should be used.

**13. Industrial Storm Water General Permit**

GO#3, Attachment B, Item E: The General Order creates the situation whereby a discharger would be required to obtain a discharge permit for secondary containments unless they have an Industrial Storm Water General Permit. However, the Storm Water Permit specifically exempts oil producers from having such a permit under that regulation if they abide by the specific requirements for releasing any storm water collected, or if the facility is located in a remote location where run-off will not have an adverse impact. Thus, the General Order would create a situation where a discharge permit would be required even though another Board order specifically exempted it. This is a “Catch 22” situation that would require unnecessary permits from hundreds of facilities and thousands of wells and vessels having secondary containments required by California Code with no justifiable reason. The economic burden of obtaining these permits under the General Orders, the necessary monitoring wells, and monitoring and reporting requirements is excessive. This specific issue was discussed during the numerous meetings that industry held with staff during the past 16 months; while this was discussed in concept by the staff, we were given the impression that it was not deemed to be an objective of the General Orders or something that warranted specific inclusion.

**14. Department of Water Resources Well Standards:**

GO #3, Attachment B, Item F: This requires that all ground water monitoring wells meet the construction standards of Bulletin 74-90. However, oil fields have many wells whose upper casings could be recompleted and used for ground water monitoring purposes without compromising the objective of sampling ground water. This is especially true in those areas where the ground water is already known to be of exceptionally poor quality. This section should allow for the use of converted oil wells in order to reduce costs and conserve resources.