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August 2, 2012

Mr. James D. Marshall  
California Regional Water Quality Control Board – Central Valley Region  
11020 Sun Center Drive, Suite 200  
Rancho Cordova, California 95670

**Re: Comments on the 2012 Tentative NPDES Permit No. CA0085219  
AmeriPride Services Inc. – Operable Unit 3  
8450 Gerber Road, Sacramento, CA  
Burns & McDonnell Project No. 54268**

Dear Mr. Marshall:

Burns & McDonnell, on the behalf of our client AmeriPride Services Inc. (AmeriPride) has prepared the following comments in regard to the *Tentative Waste Discharge Requirements Order* (Tentative NPDES Permit) that was received from the California Regional Water Quality Control Board – Central Valley Region (Regional Water Board) in correspondence dated June 29, 2012.

The Tentative NPDES Permit is a renewal of AmeriPride's existing NPDES permit granted originally in 2007. Under the permit AmeriPride discharges treated groundwater to an unnamed ditch at the above referenced site (Site). The groundwater, impacted with tetrachloroethene (PCE) and its degradation products, is extracted continuously through two extraction wells. The PCE and degradation products are removed from the water by virgin granular activated carbon (GAC) then discharged to the unnamed ditch. No chemicals are added to the water during this process, and the composition of the influent is generally consistent.

**Comment 1: Trigger for Accelerated Chronic Toxicity Monitoring.** As we have discussed, AmeriPride has previously completed accelerated chronic toxicity monitoring using *Ceriodaphnia dubia* (water fleas) at this Site under the original NPDES permit. In 2008 and 2009, the *Ceriodaphnia dubia* reproduction response in the effluent samples was calculated to have a "statistically significant reduction" on occasion when compared to a laboratory prepared control sample. No issues were encountered with the other two species, algae and minnows, used in the tests. As a result, confirmation sampling and accelerated chronic toxicity monitoring was conducted with the *Ceriodaphnia dubia*; however, toxicity was not consistently reproducible in those tests.

As requested by the Regional Water Board in their letter dated July 16, 2009, a *Toxicity Identification Evaluation Work Plan* (TIE Work Plan) was submitted to the Regional Water Board on August 14, 2009, to formally investigate the apparent toxicity. Since the laboratory results for all volatile organic compounds, semi-volatile organic compounds, poly aromatic hydrocarbons and pesticides in the effluent were consistently below each compound's detection



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limit, the Regional Water Board agreed in their July 2009 letter that those compounds are "likely not the cause of toxicity". Several naturally-occurring metals were detected in the effluent, however, the Regional Water Board stated that the "metals found in the effluent would likely have an effect on algae or minnows [used in the tests]", and not cause a statistically significant reduction in the *Ceriodaphnia dubia* reproduction rates. Therefore, it was concluded that "these toxicants [VOCs, SVOCs, PAHs, pesticides and metals] can be ruled out as requiring further investigation". In accordance with that letter, the TIE Work Plan focused on determining the seasonality, stability, frequency and duration of the apparent toxicity through the completion of monthly single species chronic toxicity tests utilizing only *Ceriodaphnia dubia* between October 2009 and March 2010.

The source and treatment of the effluent was also considered during this period. Typically, water discharged under an NPDES permit is used in a manufacturing process where it could come in contact with chemicals, and these chemicals could be sources of toxicity evaluated during a TIE. However in this situation, the groundwater and the treatment system are very consistent and not subject to "upsets". The influent groundwater is pumped at a constant rate from two extraction wells located on the Site. The groundwater is treated with virgin GAC, suitable for treating municipal drinking water, which adsorbs the volatile organic compounds and removes them from the groundwater. No chemicals are added to the water prior to it being discharged; therefore, potential sources of toxicity, which would be evaluated in a full TIE, are limited.

In May 2010, we submitted the TIE Study Plan, summarizing the results of the additional testing completed in accordance the TIE Work Plan. As concluded in the TIE Study Plan:

"The apparent toxicity in the effluent appears to be of limited duration, frequency and magnitude. It does not appear to be connected to TDS, pH, alkalinity, water temperature or specific conductance of the effluent water. The only apparent correlation is with season, in that all the "statistically significant reductions" of the reproduction rates have occurred in the winter months. Previous evaluations of the data have eliminated volatile and semi-volatile organic compounds, pesticides, poly biphenyls and inorganic compounds as likely sources of the apparent toxicity. According to the United States Environmental Protection Agency guidance entitled "*Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program*" dated March 27, 2001, there are



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"direct relationships between increasing toxicity frequency and magnitude and increased success in toxicant characterization and identification [a TIE]". Therefore, given the limited toxicity that the test results have indicated may be present in the effluent, there is a significant chance that a TIE would not be successful."

In light of this conclusion, the Regional Water Board concurred in their August 5, 2010, letter with our recommendation to return to annual monitoring for chronic toxicity with the requirement that a full TIE be conducted in the event that either of these two criteria are met:

1. Results of the annual chronic toxicity tests show a statistically significant reduction in *Ceriodaphnia dubia* reproduction, and the reproduction rate in the effluent sample is less than 50% of the control sample; or
2. Results of the annual chronic toxicity test show a statistically significant increase in the mortality rate of any species used in the test.

If one of these criteria is met, it is more likely that a full TIE could identify the cause of the toxicity, if present. Since that time, we have continued to complete annual chronic toxicity testing and have not met either of these criteria.

In the future, we anticipate operating the system as we have in the past – treating groundwater from the same two extraction wells with virgin GAC suitable for municipal drinking water treatment. With no change in the influent or treatment, we also expect the chemistry of the effluent to remain consistent. As in the past, the *Ceriodaphnia dubia* reproduction response in the effluent samples could be calculated to have "statistically significant reduction" on occasion. In those situations, if neither of the two criteria listed above are triggered, it is unlikely that additional accelerated monitoring or a full TIE would be useful in identifying the source of the potential, intermittent, low level toxicity.

Therefore, we request that the Tentative NPDES Permit be revised to state that accelerated monitoring and a TIE are required only if chronic toxicity monitoring trigger of 1 toxic unit is exceeded and the *Ceriodaphnia dubia* reproduction rate in the effluent sample is less than 50% of the control sample (Attachment 1).

We appreciate your consideration of this change. Based on the extensive work we have done to evaluate chronic toxicity in the past, we feel this is a reasonable approach for moving forward. If you have any questions, please contact me at [cstott@burnsmcd.com](mailto:cstott@burnsmcd.com) or at (952) 656-3667.



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Sincerely,

BURNS & McDONNELL

Catherine J. Stott  
Senior Environmental Engineer

CJS

Enclosure(s):

Attachment 1: Revised Tentative NPDES Permit (supplied electronically)

cc: Mr. Nathan Casebeer – Regional Water Board  
Mr. Randy Cook – AmeriPride Services Inc.  
Ms. Rojean Rada – AmeriPride Services Inc.