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Secretary for
Environmental
Protection

California Regional Water Quality Control Board
Central Valley Region
Katherine Hart, Chair

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Arnold
Schwarzenegger
Governor

18 May 2010

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REVIEW OF 2009 ANNUAL MONITORING REPORT -- CALIFORNIA RICE COMMISSION

Thank you for submitting the California Rice Commission 2009 Annual Monitoring Report (AMR) on 30 December 2009. This report was submitted to meet the conditions of Monitoring and Reporting Program (MRP) Order R5-2009-0809 and the associated Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands adopted by the Central Valley Water Board on 1 July 2006 (Resolution R5-2006-0053). We appreciate CRC submitting the AMR by the required deadline.

Central Valley Water Board staff review of the AMR is in the attached memorandum. In particular, please note that Item 1 identifies discrepancies between laboratory notes and laboratory reports with regard to EDTA addition during algae toxicity test. Please provide a written clarification of the discrepancies and provide corrected laboratory reports, as appropriate.

If you have any questions or comments regarding the review, please contact Susan Fregien at 916-464-4813, or Margaret Wong at 916-464-4857.

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Enclosure

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TO: Susan Fregien
Sr. Environmental Scientist
Monitoring and Implementation Unit

FROM: Margaret Wong
Water Resources Control Engineer
Monitoring and Implementation Unit

DATE: 13 May 2010

SIGNATURE: Margaret Wong

REVIEW OF 2009 ANNUAL MONITORING REPORT -- CALIFORNIA RICE COMMISSION

On 30 December 2009, the California Rice Commission (CRC) submitted its Annual Monitoring Report (AMR) as required by CRC Monitoring and Reporting (MRP) Order No. R5-2009-0809 (2009 MRP Order) for the Irrigated Lands Regulatory Program (ILRP). The CRC consolidated reporting by including the report required by the Rice Pesticide Program (RPP) in Resolution No. R5-2007-0018. The AMR was submitted on a compact disc (CD).

AMR REPORTING UNDER THE ILRP

The CRC AMR was submitted in electronic format and evaluated for the presence and completeness of the components described in the 2009 MRP Order. In general, the required components of the AMR were completely and satisfactorily addressed by the CRC. The items that need to be addressed are noted below.

Item 1: Reports from AQUA-Science for algae aquatic toxicity are inconsistent with the lab notes (attached in Appendix B-3) regarding the addition of ethylenediaminetetraacetic acid (EDTA) to the algal assay media. For the April and May sampling events, the report and the lab notes are consistent stating EDTA was added. For the 2 June 2009 sampling event at the primary sites (CBD5, BS1, CBD1, and SSB), AQUA-Science stated no EDTA was added and was supported by the attached lab notes in Appendix B-3. For the secondary sites (Sites F, G, and H) sampling event on 3 June 2009, the attached lab notes stated the algae toxicity test was performed "without EDTA" but the report states "algal assay media with EDTA". There is the same inconsistency between the report and lab notes for the remaining 2009 sampling events.

The CRC's 2009 MRP Order states in Attachment C.4.9 (d) that EDTA is not to be added for the initial screening algae toxicity tests. This item was noted in the 2008 AMR review and addressed by the Laboratory Round Table TIE Procedures Focus Group in November 2009.

The CRC should inform AQUA-Science of the discrepancies and ask them to verify whether algae toxicity tests were performed with or without the addition of EDTA for each sample analyzed.

Item 2: As noted in the following section regarding the Algae Aquatic Toxicity Management Plan, the control cell numbers changed dramatically with no addition of EDTA to the algal

media. Due to the low absorbance for the control, the percent differences between the control and sample for absorbance and cell number are no longer the same. AQUA-Science reports the percent difference for the absorbance which is reported in the AMR (Table 5-11). The percent difference in cell number is higher than for absorbance starting with the June samples. The reported number in the AMR should be the percent difference in cell numbers between the control and the sample.

Item 3: In the Propanil Testing section, please note that there were three exceedances of the chronic exposure target (NOAEC) of 9.1 µg/L (ppb) for freshwater fish. The third exceedance on the 6/9/09 monitoring event at CBD5 was noted in the Propanil Management Plan submitted 27 April 2010.

Item 4: A new QAPP as specified in MRP Order R5-2009-0809 was received 16 April 2009. Due to errors in the MRP Order R5-2009-0809 and recommended changes by the Technical Issues Committee (TIC), this QAPP was never approved.

The QAPP guidance in MRP Order R5-2010-0805 contains changes recommended by the TIC. A draft QAPP consistent with the requirements for the new MRP was received by email on 29 April and is undergoing review.

Algae Aquatic Toxicity Management Plan

Results from the monitoring for the Algae Aquatic Management Plan (AMP) showed two statistically significant reductions in May at CBD1 and SSB. The algae toxicity testing was changed between May and June from EDTA to no EDTA in the algal test media. The comparison of sample cell number to the control changed dramatically from May to June. Absorbance, which is used to determine cell numbers, was reduced a factor of 5-10 in the controls when EDTA was removed. There is no background data to determine if these increased percent differences between the control and samples are normal. There is also no relationship between the algae toxicity results and the herbicide concentrations found in the samples.

The CRC worked with the Central Valley Water Board on strategies to identify and isolate the source of algae toxicity. Since there appears to be no relationship between algae toxicity and rice discharges, the Executive Officer removed the requirements for the AMP. In 2012 the primary sites will return to assessment monitoring, including all aquatic toxicity testing. If algae toxicity is observed in the 2012 monitoring, staff will reassess the need for a new management plan.

Review of nutrient monitoring by UC Davis Grant

The AMR included results and evaluation of the nutrient study portion of the UC Davis Grant #04-183-555-0. The study was reviewed and evaluated to determine if there was adequate information to fulfill the nutrients requirement of MRP Order R5-2009-0809. That review was transmitted by email to the CRC on 29 April 2010.

The information in the UC Davis report was adequate to conclude that further sampling for nutrients under the 2010 MRP Order is not required. The edge-of-field studies show no or low

impact on water quality due to nutrients such as nitrates or phosphorus.

Propanil monitoring and results

Registrant funded propanil monitoring data from 2006 to 2009 at the primary sites were submitted in the AMR. This data and the report prepared by Dr. Lenwood Hall were reviewed by staff and sent to the CRC in a letter dated 31 December 2009.

On 14 December, the CRC submitted a draft Propanil Management Plan which was revised on 2 February 2010. A final Propanil Management Plan was submitted 27 April 2010 and approved by the Executive Officer on 30 April 2010.

Under the approved management plan, propanil will be sampled weekly at the primary core sites and Lurline Creek in conjunction with the Rice Pesticides Program during the month of June and possibly into early July. The CRC will modify the monitoring schedule to capture the peak application period in the event there is a delay in planting. The CRC also proposes to increase education and communication with propanil stakeholders, including growers, registrants, and professional applicators. A progress report on the management plan monitoring is due two weeks after receipt of all data for the season. The sampling results will be reported as a section in the CRC 2010 AMR.

QA/QC requirements

All analyses required by the 2009 MRP Order were done. Labs provided validation packages for any non-EPA specified analytical methods used. Laboratory quality assurance (QA) and quality control (QC) requirements were evaluated in accordance with the 2009 MRP Order.

The 2009 MRP Order requires field and lab QA/QC samples to confirm accuracy and precision. Field QA/QC was acceptable for precision and accuracy.

Overall, laboratory precision was acceptable with the relative percent difference (RPD) below the 35% limit. Miscommunication between the laboratory and consultant resulted in no matrix spikes and matrix spike duplicates being performed for some of the pesticides during the months of April to July. For the months of August and September, analytical results for lab control spikes (LCS), lab control spike duplicates (LCSD), matrix spikes (MS), and matrix spike duplicates (MSD) for clomazone and pendimethalin had recovery rates higher than the recovery limit, although RPD was acceptable. There were no detections of clomazone or pendimethalin during the August and September events. The reporting limits for clomazone and pendimethalin for August were10 µg/L and 2 µg/L, respectively; in September, the reporting limits were 1 µg/L and 0.2 µg/L, respectively.

PESTICIDES MONITORING UNDER THE RPP

The Rice Pesticides Program (RPP) requires monitoring during the peak application period of five rice pesticides that are under a Basin Plan prohibition of discharge. In the 2009 season, only two of these pesticides, thiobencarb and molinate, were still being applied in sufficient quantities to warrant monitoring. The CRC performed monitoring at four agricultural drain sites (CBD5, BS1, CBD1 and SSB) to determine if implemented management practices would meet

the stated performance goals. Additional monitoring was performed by the Cities of Sacramento and West Sacramento at their respective water intakes to ensure the water quality objective for thiobencarb was met.

There were no exceedances of the molinate performance goal (10 µg/L) at any of the CRC or monitoring sites or city intakes. The thiobencarb water quality objective of 1.0 µg/L was not exceeded at the city water intakes, but the performance goal of 1.5 µg/L at the upstream agricultural drains was exceeded, triggering new or additional management practices that were specified in Resolution No. R5-2010-9001, approved on 24 February 2010 by the Executive Officer.

The RPP report contained the information required by the RPP resolution, including monitoring data, pesticide use, management practices implemented, and inspection reports.

GENERAL COMMENTS

I appreciate the efforts by the CRC and their consultant, CH2M Hill, to ensure the monitoring and AMR meets the MRP Order requirements. The report format was easy to follow, summary monitoring and pertinent information were provided in tables, and supporting information such as lab reports, raw data, field sheets and chain of custody forms were provided.

The laboratory reports, raw data and QA/QC information were provided in appendices. I especially want to commend the lab reports from McCampbell Analytical, Inc. which were concise and easy to evaluate for completeness, accuracy and precision.