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Central Valley Regional Water Quality Control Board

2 April 2012

Tim Johnson, CEO
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1231 I Street, Suite 205
Sacramento, CA 95814-2933

SUBJECT: REVIEW OF 2011 ANNUAL MONITORING REPORT – CALIFORNIA RICE COMMISSION

Thank you for submitting the California Rice Commission (CRC) Annual Monitoring Report (AMR) on 30 December 2011. This report was submitted to meet the conditions of Monitoring and Reporting Program (MRP) Order R5-2010-0805 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). The submitted report also contained the monitoring and reporting required by the Rice Pesticides Program (RPP) in Resolution R5-2010-9001. Staff appreciates the CRC submitting these reports in a timely manner.

The RPP portion of the AMR was revised in response to stakeholder comments and submitted to the Central Valley Water Board on 22 February 2012. As a result of Central Valley Water Board staff review, certain sections of the AMR were modified and/or clarified in this revision. The Central Valley Water Board staff review of the AMR is in the attached memo. The CRC will be starting assessment monitoring at its primary sites in 2012.

The staff review also indicates there were two exceedances. To comply with the MRP Order, the CRC must submit exceedance reports within the time frame specified (see Part IV.B).

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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cc: Roberta Firoved, California Rice Commission

Enclosure

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Central Valley Regional Water Quality Control Board

TO: Susan Fregien
Sr. Environmental Scientist

FROM: Margaret Wong *M. Wong*
Water Resources Control Engineer
SACRAMENTO OFFICE

DATE: 30 March 2012

SUBJECT: REVIEW OF 2010 ANNUAL MONITORING REPORT – CALIFORNIA RICE COMMISSION

On 30 December 2011, the California Rice Commission (CRC) submitted by e-mail its 2011 Annual Monitoring Report as required by the CRC Monitoring and Reporting Program (MRP) Order R5-2010-0805 for the Irrigated Lands Regulatory Program (ILRP). The CRC included in its submission the status of the Propanil Management Plan (Propanil MP) and a draft Rice Pesticide Program (RPP) report required by Resolution R5-2010-9001. These reports were incorporated into the AMR.

The sampling schedule for the ILRP, Propanil MP and RPP is show in Table 1 with an X indicating a sample was collected. Analytical results for each of these monitoring programs will be discussed in this review.

Table 1. 2011 Monitoring Schedule

Sampling date	ILRP	RPP	Propanil MP
5/12/11	X	X	
5/17/11		X	
5/24/11		X	
5/31/11		X	
6/2/11		X	
6/7/11		X	X
6/9/11		X	
6/14/11	X	X	X
6/16/11		X	
6/21/11		X	X
6/23/11		X	
6/28/11		X	X
7/5/11		X	X
7/12/11		X	X
7/19/11	X		X
7/26/11			X
8/23/11	X		

REVIEW OF THE ILRP AMR REPORT

The CRC AMR was submitted in electronic format and evaluated for the presence and completeness of the components described in the 2010 MRP Order. The required components of the AMR were completely and satisfactorily addressed by the CRC.

Monthly sampling occurred at the four primary core sites (CBD5, BS1, CBD1 and SSB) from May through August. The sites were monitored for field parameters (flow, pH, electrical conductivity, dissolved oxygen, temperature, and turbidity) and samples were taken for lab analysis of total dissolved solids (TDS) and total organic carbon (TOC). During the May and June events, dissolved copper and hardness were analyzed as well.

Exceedances of Water Quality Objectives

Field parameters: The 14 June sampling event showed exceedances of water quality objectives at CBD1. Exceedances were found for dissolved oxygen (DO), pH, and electrical conductivity (EC). The DO was measured at 4.55 mg/L, below the water quality objective of 5 mg/L for warm water. The pH was measured at 4.5 units, below the water quality objective of 6.5 units. Electrical conductivity was measured at 761 $\mu\text{S}/\text{cm}$, above the 700 $\mu\text{S}/\text{cm}$, which is the trigger generally used for the protection of salt sensitive crops.

Total dissolved solids and total organic carbon: The highest TDS value was 470 mg/L observed at the 14 June event at CBD1. The highest TOC value was also found during the June event with a value of 19 mg/L at CBD1 and CB5.

Copper and hardness: Samples were collected for dissolved copper and hardness (required to determine toxicity potential) at the primary sites for the May and June events. This period is during the period of copper sulfate application, if needed. All dissolved copper sample results were below the 1-hour and 4-hour California Toxics Rule hardness-adjusted copper criterion for the measured hardness at the sample location.

Maximum flow velocity at CBD1 for the 14 June event was measured at 0.2 ft/sec with a water temperature of 79.1 °F. The low flow and warm temperature may contribute to the low DO, high EC, and associated high TDS.

Propanil Management Plan

The CRC voluntarily submitted a Propanil Management Plan (MP) that was approved by the Executive officer on 30 April 2010. As required under the approved MP, propanil sampling occurred weekly at the primary core sites (CBD5, BS1, CBD1 and SSB) and Lurline Creek during the peak application period with weekly monitoring starting in early-June and lasting until late July.

The highest detection observed was 6.5 $\mu\text{g}/\text{L}$ at CBD5 on 21 June 2011. Lurline Creek had the next highest detection on 28 June at 5.4 $\mu\text{g}/\text{L}$. Results for all other samples in the 2011 season were 5 $\mu\text{g}/\text{L}$ or less for propanil. Although no water quality objective has been established for propanil, the lowest EC_{50} is 16 $\mu\text{g}/\text{L}$ for diatoms based on 5-day static test for population abundance.

This is the second year that monitoring results have shown acceptable propanil concentrations. The outreach efforts to growers and applicators appear to be effective. In a letter dated 3 February, the CRC requested termination of the Propanil Management Plan, but stated the outreach efforts would continue. On 9 March, the Executive Officer gave approval to terminate the Propanil Management Plan.

REVIEW OF RICE PESTICIDE PROGRAM

Table 2 shows the monitoring results for the RPP during 2011. The Basin Plan specifies a thiobencarb performance goal of 1.5 µg/L with a secondary MCL for sources of drinking water at 1 µg/L. There were no exceedances of the performance goal, with the highest concentration of 1.42 µg/L at CBD5. There were no exceedances of the secondary MCL, with one detection of 0.12 µg/L at the West Sacramento drinking water intake. All other samples at the City of Sacramento and West Sacramento water intakes showed results less than the reporting limit of 0.1 µg/L for thiobencarb.

Table 2. Rice Pesticides Program 2011 – Thiobencarb µg/L

Sampling date	Event	CBD5	BS1	CBD1	SSB	SR1	WSR	SRR	% Sac River at intake
4/25/11							<0.1	<0.1	65.6
5/5/11							<0.1	<0.1	62.3
5/9/11							<0.1	<0.1	58.7
5/12/11	W1D1	<0.5	ND	ND	ND	ND			
5/17/11	W2D1	<0.5/ND	ND	ND	ND	ND	<0.1	<0.1	58.6
5/18/11							<0.1	<0.1	70.5
5/23/11							<0.1	<0.1	67.2
5/24/11	W3D1	1.42	ND	0.64	ND	ND			
5/26/11							<0.1	<0.1	64.2
5/30/11							<0.1*	<0.1	67.0
5/31/11	W4D1	<0.5	0.53	0.88	<0.5	ND	<0.1	<0.1	70.9
6/1/11							0.12	<0.1	70.1
6/2/11	W4D2	<0.5	0.6	<0.5	<0.5/ND	ND	<0.1	<0.1	73.6
6/6/11							<0.1	<0.1	67.5
6/7/11	W5D1	1.07	<0.5/ND	1.16	<0.5	ND	<0.1	<0.1	70.0
6/9/11	W5D2	<0.5	ND	0.86	<0.5	ND/ND			
6/13/11							<0.1	<0.1	55.2
6/14/11	W6D1	ND	ND	<0.5	ND	ND			
6/16/11	W6D2	ND	ND/ND	ND	ND	ND			
6/20/11							<0.1	<0.1	43.1
6/21/11	W7D1	<0.5	ND	ND	ND	ND			
6/23/11	W7D2	<0.5	<0.5	<0.5	ND/ND	ND			
6/28/11	W8D1	ND	ND	ND	ND	ND			
7/5/11	W9D1	ND	<0.5	<0.5	<0.5	ND			
7/12/11	W10D1	ND	ND	ND	ND	ND			

WSR = West Sacramento results at its water intake

SRR = City of Sacramento results at its water intake.

* Sampled at Riverbank Marina.

Two numbers indicate split sample results from Valent and CLS laboratories, respectively

ND = Not detected above laboratory reporting limits. Detection limit for Valent 0.5 µg/L, California Laboratory Services 0.15 µg/L. Detection limit for City of Sacramento and West Sacramento is 0.1 µg/L.

If <0.5 µg/L is shown, there was a detection but cannot be quantified in accordance with QA/QC requirements.

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

implemented for the 2010 season included additional outreach to growers and commercial applicators in the form of presentations, newsletter and letters. These management practices and those implemented in previous years, such as the Thiobencarb Stewardship Meeting and additional inspections by the County Agricultural Commissioner's staff will continue.

In accordance with Resolution R5-2010-9001, the draft RPP report was sent out for review to stakeholders for comment. Staff requested minor edits in the RPP sections in response to these comments on 19 January. The requested changes/clarification were made and submitted with the revised AMR on 22 February to the Central Valley Water Board.

The CRC sent a letter to the Executive Officer dated 2 February recommending continuation of the 2010 management practices. The approval for continuation of the 2011 management practices for the 2012 season was approved on 24 February 2012.

QA/QC REQUIREMENTS

ILRP: The primary laboratory analyzing the ILRP parameters was California Laboratory Services (CLS). McCampbell Analytical, Inc. (MAI) performed the propanil analyses for the Propanil Management Plan.

All analyses required by the 2010 MRP Order were performed. Laboratory quality assurance (QA) and quality control (QC) requirements were evaluated in accordance with the 2010 MRP Order. Field QA/QC results were acceptable for precision and accuracy.

Laboratory precision was acceptable with the relative percent difference (RPD) below 10% for duplicate samples, including field, matrix spikes, and lab control spikes. One duplicate sample for propanil (Propanil 4) was recorded as broken and the contractor was not notified during the allowed holding time. The lab has been informed of proper procedure for future broken sample bottles.

Laboratory accuracy as determined by field blanks, method blanks, matrix and lab control spikes, and surrogate standard samples were all within the acceptable limits.

RPP: QC sampling events consisted of splitting samples and submitting one sample to the analyte-specific (primary) lab at Valent¹ and the other sample to CLS.

Field QA/QC samples consisted of rinse blanks, field duplicates, and matrix spike and duplicates. Field duplicates generally yielded similar results, although analyzed at different labs. For event W6D2 matrix spike sample results from both Valent and CLS were above the acceptable range of recovery limits (75-120%). Since all samples for this event were non-detect, the high recovery limit does not invalidate the sample results.

Laboratory QA/QC samples included method blanks, laboratory control spikes and duplicates (LCS/LCSD), and surrogate standards. All QA/QC samples analyzed by Valent were within acceptable recovery limits.

CLS reported that recoveries for the lab control spike/duplicate for the W2D1 event were above the acceptable range, although the RPD was good. Since the results were ND (not detected), the results are acceptable. For the W4D2 event, CLS results for the LCS recovery, RPD result

¹ Valent is the registrant for thiobencarb.

of the LCS/LCSD and the LCSD surrogate recovery were not within control limits. A corrective action report was issued noting the ILRP QA/QC control limits and requiring reanalysis of samples if within the holding time. It was also agreed that two bottles for each sample would be provided to allow for re-extraction and analysis when QC control limits are not met.

GENERAL COMMENTS

A SWAMP-comparable spreadsheet of monitoring and QA/QC data was received and is undergoing QA/QC by Central Valley Water Board staff.

Staff also submitted to the CRC some deficiencies and clarifications in the AMR. A revised copy of the AMR and the requested RPP changes were received on 22 February and will be posted on the ILRP website.

The CRC is reminded that field measurements exceeding the water quality objectives or trigger limits must be reported to the Central Valley Water Board. MRP Order No. R5-2010-0805 requires reporting of any parameter exceedances to the Central Valley Water Board within five business days of receipt of the information or analytical report, as well as reporting the exceedances in the AMR.

Central Valley Regional Water Quality Control Board

2 April 2012

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APPROVED	
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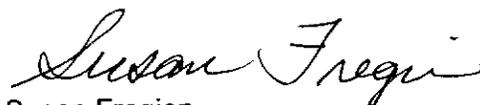
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cc: Roberta Firoved, California Rice Commission

Enclosure

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TO: Susan Fregien
Sr. Environmental Scientist

FROM: Margaret Wong *M Wong*
Water Resources Control Engineer
SACRAMENTO OFFICE

APPROVED	
author	<i>MW</i>
senior	<i>SLF</i>

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6/14/11	X	X	X
6/16/11		X	
6/21/11		X	X
6/23/11		X	
6/28/11		X	X
7/5/11		X	X
7/12/11		X	X
7/19/11	X		X
7/26/11			X
8/23/11	X		