

September 13, 2013

130211:EC

Sent via e-mail to MAWong@waterboards.ca.gov

Subject: Sacramento River Source Water Protection Program Comments on ILRP Administrative Draft WDRs General Order for Sacramento Valley Rice Growers

Dear Ms. Margaret Wong:

On behalf of the Sacramento River Source Water Protection Program (SRSWPP), thank you for the opportunity to provide comments on the Irrigated Lands Regulatory Program (ILRP) Administrative Draft Waste Discharge Requirements General Order for Sacramento Valley Rice Growers (Rice Order). The SRSWPP is sponsored by the City of Sacramento and the Sacramento County Department of Water Resources; this program is coordinated with other agencies that draw their drinking water from the Sacramento River (or have plans to do so), including the City of West Sacramento, East Bay Municipal Utility District, and the Woodland-Davis Clean Water Agency. We serve drinking water to more than 600,000 people in Northern California.

Watershed management programs are essential for preserving the high quality of the Sacramento River watershed. The Central Valley Regional Board and other regulatory agencies, regulated communities, and educational organizations have made significant strides. We appreciate the substantial efforts of the ILRP to protect water quality. We believe that the draft Rice Order initiates the major components for this long-term order, and we are proposing specific modifications to assist in finalizing the Order while meeting our substantial concerns.

The SRSWPP seeks to maintain the high quality of the Sacramento River drinking water supply for the current and future generations. It is our responsibility as water utilities to ensure that our water is both healthful and free of any unpleasant taste, odor, or other aesthetic effects. We have been actively providing stakeholder input during the development of the Long Term Irrigated Lands Regulatory Program (ILRP) orders, because they have the potential to impact source water quality for current and future water quality constituents of interest.

Source water protection is part of a "multi-barrier" approach to providing safe drinking water. Drinking water treatment alone cannot always be successful in removing contaminants. Even in cases where treatment is an option, treatment can be substantially more costly than source water protection. We

rely on management programs, including the Long Term ILRP, as part of the source water protection in the Sacramento Valley.

Over the last two decades, on many occasions the City of Sacramento and City of West Sacramento have detected pesticides at our water treatment plant intakes on the Sacramento River that are used only on rice. The presence of rice pesticides at our intakes demonstrates that there are pathways for water pollutants in rice discharges to reach downstream water supplies (see enclosed materials detailing the scientific insights provided by the thiobencarb case study). In addition, our ongoing drinking water source assessments continue to identify agriculture as a significant potential contaminating activity in our watershed. We appreciate the efforts of the rice industry and regulatory agencies through the Rice Pesticide Program, which have resulted in significant reductions in frequency and detected levels of thiobencarb in the Sacramento River. We support the continued management of thiobencarb through the existing Rice Pesticides Program, as noted in the draft Rice Order.

Agriculture, including rice cultivation, has the potential to contribute numerous constituents of interest to our source water. Our key interests for the Sacramento River drinking water supply, in addition to pesticides, include turbidity, organic carbon, and pathogens. Historical data collected as part of the ILRP indicates that these constituents are contributed by agriculture, so we support their inclusion in this long term Order by monitoring and implementing control measures, as appropriate.

Our comments include a summary of major issues, as well as specific requested modifications to the language in the Draft Order and its supporting documents (Attachment 1).

Adaptive Management

Because this is a long-term order, we believe it is important to include adaptability during its 5 year cycles, as well as long-term adaptability if issues of importance arise. Our experience with the Rice Pesticides Program has demonstrated the importance of intergovernmental coordination and year-to-year adaptive management in protecting Sacramento River water quality.

Antidegradation

The Order and its attachments do not appear to be fully consistent with the state Antidegradation Policy (State Water Board Resolution 68-16), state guidance for implementing this policy (including but not limited to the State Water Board Guidance Memorandum of February 16, 1995, and the Memorandum from M. Lauffer to Tom Howard dated February 22, 2013 and its attachments), and case law; e.g., *Asociación de Gente Unida por el Agua v. Central Valley Regional Water Quality Control Board* (2012) 210 Cal.App.4th 1255 (AGUA).

Under the authorities cited above, the Antidegradation Policy applies whenever there is (a) existing high quality water (surface water or groundwater), and (b) an activity that will discharge waste into such high quality water. High quality waters are those that contain levels of one or more water quality

constituents or characteristics that are better than the applicable water quality objective(s). Available monitoring data in the Water Board's records indicate that many—if not most—of the waters receiving rice discharges are “high quality waters” as defined by Resolution 68-16, as are downstream waters, such as the Sacramento River, which serves as our drinking water source.

Under California Antidegradation policy: (1) the existing high quality must be maintained, unless it is demonstrated that any change “will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed” by the applicable water quality objectives; and (2) the activity will be required to meet waste discharge requirements “which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.”

Prior to issuance of the Order, state policy, guidance, and case law require an anti-degradation analysis and specific findings, since surface water quality has degraded, in part due to rice operations, and degradation would continue under the Order. The antidegradation analysis is lacking in several ways, including but not limited to the following:

Effective Monitoring Program and Response Mechanism to Minimize Degradation. A major issue is whether the Order includes an effective monitoring requirement to detect surface water degradation, and an adequate mechanism to ensure that no further surface water degradation will occur. Without such a mechanism, the order's monitoring program would be inadequate as a matter of law.

An adequate monitoring mechanism must include an effective monitoring system that will detect degradation in water quality, as well as mandatory standards governing the response if degradation is detected, to ensure that no further degradation of water quality occurs. The program must be structured such that a trend of degradation alone provides the basis for initiating a response. It must be sufficiently robust in terms of locations, constituents, and frequencies, to have scientific capacity to detect degradation trends, such as for constituents that can degrade drinking water quality (the MUN beneficial use in receiving waters and/or downstream waters). We strongly believe that a monitoring program and response mechanism can be designed to achieve these legal requirements while not being onerous for dischargers. In our detailed comments, we have proposed specific revisions to the monitoring program toward this goal.

Completeness of Required Findings of Maximum Benefit to the People of the State and Substantial Evidence to Support Each Finding. To support the required finding that the discharge will be consistent with the maximum benefit to the people of the State, there must be a consideration of various factors, including:

- (1) past, present, and probable beneficial uses of the water,

- (2) environmental factors,
- (3) the implementation of feasible alternative treatment or control methods, and
- (4) economic and social costs of the proposed discharge compared to the benefits.

All findings required by the SWRCB's anti-degradation policy cannot be conclusory and must be supported by evidence and analysis in the record.

The fourth consideration – economic and societal costs – must consider both the costs to the discharger (rice growers) and the costs to the affected public (such as increased costs to treat surface water affected by the discharge). Cost savings to the discharger, standing alone, are not adequate justification for allowing degradation.

We found no information in the Order or any of its attachments or appendices describing the cost of drinking water treatment, nor any consideration of these costs or non-monetary costs (such as odor and taste issues) when making the determination of the “maximum benefit to the people of the State” as required by Resolution 68-16, other than a single conclusory statement on page 56 of Attachment A (first full bullet), which is not supported by any evidence in the record.

The Order, by allowing surface water degradation, could increase concentrations of constituents in surface water. Such degradation could require construction of additions to drinking water utilities' treatment facilities. Additions could potentially include capital costs for new treatment process facilities and the land for construction of the facilities, and ongoing operational costs. On a life cycle basis (including both capital and operation and maintenance), using estimates from California-specific water industry cost information, we project that additional treatment could easily cost on the order of tens of millions, approaching hundreds of millions, of dollars per year and potentially rival the total annual cost of the Order (which includes substantial costs unrelated to surface water quality protection). To establish the maximum benefit to the people of the State, these potential costs need to be weighted against the incremental costs of surface water monitoring and management responses that minimize degradation.

To assist the Water Board with the process of developing substantial evidence for its assessment of potential costs to drinking water utilities, we have enclosed cost estimates for drinking water treatment, based on a recent compilation of annualized capital and operational treatment costs by the Association of California Water Agencies (ACWA) (these data are available on the internet at <http://www.acwa.com/content/water-quality/2013-public-health-goals-report-guidance>). When evaluating cost ranges, the Water Board should recognize that the ACWA compilation includes very large utilities that may have lower unit treatment costs, due to the benefits of economies of scale.

For the above reasons, we believe that the Order's treatment of the antidegradation issue will require significant additional analysis and consideration on the part of the Water Board, in light of the AGUA decision and the other authorities cited above.

Intergovernmental Coordination. State Water Board Guidance for implementation of Resolution 68-16 requires "intergovernmental coordination" with affected local, state, and Federal agencies. The record must document the intergovernmental coordination, which has been defined in Water Board guidance to entail specifically requesting that affected local agencies review proposed actions. Affected downstream drinking water utilities, which are local government agencies, comprise a key group for this required intergovernmental coordination due to their responsibilities for ensuring drinking water quality for their customers.

Given the ongoing nature of the Order, which will involve many decisions that could relate to water quality degradation in future years, intergovernmental coordination should be provided on an ongoing basis in this Order. Below and in the attached mark-up of the draft Order, we propose specific mechanisms to achieve the required coordination that are intended to minimize the burdens on the Water Board and dischargers.

Opportunity for Participation

It is essential for the Sacramento River drinking water utilities, through the SRSWPP, to have the opportunity for sharing information and input to this management process because of the long-term nature of this Order and our commitment to provide high quality drinking water for current and future generations. This opportunity for participation is only being requested for the two Long Term ILRP Orders that address the watershed upstream of Sacramento area drinking water utility intakes — the Rice and the Sacramento Valley Water Quality Commission (SVWQC) Orders. The direct relationship between agricultural discharges and downstream surface water intakes serving a large population that occurs in this watershed is relatively unique in California. The participation in the role of interested parties that we propose is intended to serve multiple purposes under the Safe Drinking Water Act and California's Porter-Cologne Water Quality Control Act, including the intergovernmental coordination requirements of State guidance for implementation of Antidegradation requirements.

Interested Party

The Sacramento River drinking water utilities, through the SRSWPP, propose to be included as an interested party in this Order. In accordance with federal and state law we operate a Source Water Protection Program which has identified agriculture as a significant potential contaminating activity. We propose our role as an interested party to include participation in the pesticide evaluation process, and coordination on development of trigger limits, prioritization of management plans, and periodic review of management plans. We have also requested notification of surface water exceedance

reports in cases of drinking water related water quality problems in order to allow us to perform a timely assessment of potential treatment or water quality impacts.

Availability of Electronic Information

We request that the Central Valley Water Board make key documents readily available on its Internet website in a timely manner. The scientific information developed as part of this program is essential in the assessment portion of our Source Water Protection program. Internet accessibility reduces requests to staff and increases efficiency of information sharing.

Monitoring Program

It is essential that surface water monitoring programs in the Order be sufficiently robust to ensure detection of degradation in water quality (as required for compliance with Antidegradation requirements) and in order to address both cumulative effects and drinking water-specific water quality issues. The monitoring program must be designed to protect the safety of drinking water (e.g., MUN beneficial use) from the watershed receiving rice discharges. This entails a slightly different focus than monitoring focused on solely on aquatic life protection. We discuss below considerations for addressing drinking water in the surface water monitoring program.

Pesticides

Scope Of Pesticides Monitoring Program. According to CDPR's pesticide product database (accessed August 2013), more than 200 pesticide products containing about 60 pesticide active ingredients can be applied to rice ("rice, grain") in California. Of the pesticide active ingredients, two (thiobencarb and malathion) are managed under the Rice Pesticide Program. The other 58 active ingredients—and any future pesticides—are covered under this Order.

Pesticides sometimes degrade to chemicals that are also hazardous to water quality. Such degradates require consideration in monitoring programs.

Pesticide active ingredients are formulated with other ingredients into pesticide products. The other ingredients provide multiple characteristics to the final product. Some of these other ingredients are also water pollutants—but because their identities are confidential, their water quality implications have yet to be explored.

Changing Pesticides Market. From August 2008 through August 2013, five new pesticide active ingredients were approved for use on rice, an average of one per year.

Changing the non-pesticide ingredients in pesticide product can correlate with changes in the quantity of a pesticide that is released to surface water, as exemplified by the reformulation of the thiobencarb granular product in the late 2000s (see enclosed information on thiobencarb).

Pesticides are often reformulated. The frequency of reformulation is demonstrated by the fact that more than half of rice pesticide products were registered in the last five years (since August 2008). Most of these recently registered products contain pesticide active ingredients that were in use prior to 2008.

Ongoing Changes In Regulation Of Pesticides In Drinking Water. The United States Environmental Protection Agency (USEPA) and the California Department of Public Health (CDPH) continually evaluate constituents for new or revised drinking water regulation. This results in periodic updates to our list of constituents of interest. The USEPA's Contaminant Candidate List (CCL) is an example of this process. Every five years the USEPA identifies a list of constituents that will be considered for Regulatory Determination. The current list, CCL3, includes 116 constituents. Chlorate, a rice pesticide, is included on the CCL3 and is projected by USEPA to get a positive Regulatory Determination (meaning that a primary drinking water standard will begin development) and will likely have a new standard in the next five years.

Another USEPA program is the Endocrine Disrupters Screening Program, which is evaluating chemicals for potential non-cancer impacts to the endocrine system. The initial list of constituents was comprised of 67 constituents and a second list was completed with 109 constituents; including, 2,4-D, glyphosate, propiconazole, cypermethrin, and carbaryl (all rice pesticides). This program could potentially lead to new or revised primary drinking water standards if they are determined to be of human health concern.

Current Monitoring Priorities for Drinking Water Quality. Since 2008, the SRSWPP has used a simple methodology to prioritize rice pesticides for our attention. The prioritization approach is described in the enclosed memorandum (Rice Pesticide Prioritization Memorandum, September 2013). This approach is relatively similar to the prioritization process previously employed by the Water Board and the CRC, except that it uses drinking water benchmark values—instead of aquatic life protection values—as the basis of the prioritization process. The prioritization process goes beyond a simple tabular comparison to bring in available scientific information about the highest ranking pesticides. This second step has the effect of winnowing down the priority list to a manageable subset.

The current review has identified two pesticides (propanil and chlorate) and one degradate (the propanil degradate 3,4-dichloroaniline [3,4-DCA]) as monitoring priorities, to characterize concentrations of these constituents in the watershed, particularly at times coinciding with the four types of rice-related pesticide discharges identified in the scientific studies conducted in support of the Rice Pesticide Program. We are particularly interested in obtaining additional information about the degradate, as there have been questions raised by the Water Board's own staff as to its implications for drinking water quality, which we understand will be considered in an upcoming Pesticide TMDL.

Pesticide Monitoring Program Design. Protecting water quality does not require monitoring for every registered pesticide, every stable degradate, and every other ingredient. We agree that a prioritization process is appropriate for water quality monitoring under the Order, but have several key concerns about the approach to the pesticide monitoring program:

- The arbitrary limitation of pesticide monitoring to two chemicals (pesticides or degradates) could be insufficient to detect water quality degradation, and thus and is inconsistent with Antidegradation requirements. Such a narrow limitation would make it difficult to ensure protection of both aquatic life and drinking water beneficial uses in the watershed. No other Order under the ILRP contains this type of limitation.
- The prioritization process to select pesticide and pesticide degradates for monitoring must consider not only aquatic life, but also drinking water quality for human health protection.
- The design of the monitoring program should address all four ways that pesticide discharges occur: drift at the time of application, early discharges, seepage through dikes, and discharges when held water is released from treated fields.
- The timing and frequency of pesticide monitoring should be designed to identify peak discharges.
- The monitoring program should provide the potential for modifications more often than once every five years, so as to ensure that monitoring can effectively measure trends of degradation by responding to the latest pesticide product data, new use patterns driven by new pest pressures, the most recent scientific information, and drinking water regulatory changes.
- A re-opener provision should be provided in the order to allow for inclusion of the findings of the upcoming Pesticide TMDLs.

Organic Carbon

Total organic carbon (TOC) is a surrogate measure of disinfection by-products (DBP) precursor material in water. TOC levels in either source or treated water are used to determine treatment requirements in the Stage 1 Disinfectant/Disinfection By-Product Rule (D/DBP Rule).

Disinfectants used in drinking water treatment can react with the naturally-occurring portion of organic carbon in the water to form byproducts, such as trihalomethanes and haloacetic acids, which are both defined by EPA as a carcinogens, and may pose health risks. Organic carbon is recognized in the chemical constituents narrative of the Basin Plan and therefore must be evaluated as part of the Long Term ILRP. Protection of the municipal and domestic beneficial use should include looking at cumulative effects of watershed activities and ensuring that reasonable efforts are made to prevent degradation in the long term.

Management Plan Requirements

Erosion and Sediment Control. Our review of the Rice Order and supporting materials has determined that there are no provisions for erosion and sediment control. We understand the

rationale for exclusion identified in Attachment A - Information Statement, page 51 Section XV.D.3.1., is that "rice fields are controlled releases and are not expected to cause erosion or excess sediments from the fields," and therefore are exempt from the agricultural management measures described in the State and USEPA reference documents.

We believe that some amount of erosion and sediment control measures should be included during the farm evaluation process to address the potential for construction and maintenance activities that disrupt soil or have the opportunity to suspend sediments. There are two primary types of releases from rice fields (irrigation season and winter drainage) which typically provide a slow and controlled flow pattern, thus minimizing transport of sediment from the fields. It should be noted that although the rice fields are acting similarly to sedimentation basins in this capacity, our understanding is that they are not specifically designed or engineered as such and do not have a proven efficiency of treatment or control for sediment. Also, this does not account for other rice-related activities besides field drainage (i.e. construction, soil disturbance, levee maintenance) that may contribute to or cause erosion.

Sediment is represented in water quality with turbidity measurement. Turbidity represents particulate matter in water, including suspended colloids and fine suspended solids such as clay, organic particulates, and microorganisms. Turbidity is a general indicator of water quality and is measured to evaluate the efficiency of the treatment process at removing particles and comply with regulatory requirements. High turbidity levels in surface water sources, such as rivers and lakes, are typically the result of erosion and sediment transport and are undesirable because high turbidity can mask the presence of harmful particulates. Agricultural drainage is a known source of turbidity.

We support inclusion of general management measures related to sediment and erosion control in this order, similar to requirements in the other ILRP orders as applicable, to address potential current impacts caused by rice operations as well as potential future impacts that may be identified during this long term Order implementation.

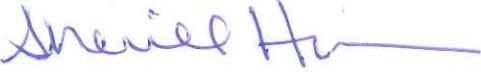
We also request a clarification regarding timing of the transition between the Conditional Waiver Program and the Rice Order. The Monitoring and Reporting Program for this Order is scheduled to begin in 2015, as per Section III. B. Table 2 of the MRP. The current extension of the Conditional Waiver Program for the Rice Order expires in December 2013. It is our understanding that the Conditional Waiver Program will be extended an additional year, through 2014, to allow for time to prepare and implement the requirements of this Order. We believe that the Central Valley Water Board needs to coordinate Finding 5 of the Draft Rice Order and Section V (Effective Dates of this Order) to ensure that there is discharge coverage during 2014.

If there are significant changes made to the Order or its attachment, prior to the October 3rd or 4th public hearing, we request another public comment period.

Please contact Elissa Callman at 916-808-1424 if you have any questions or would like to discuss our comments. We look forward to working cooperatively with Regional Board staff on the completion of this Order.

Thank you.

Sincerely,



Sherill Huun
Supervising Engineer

Cc:

Joe Karkoski, Central Valley Water Board
Jeanne Chilcott, Central Valley Water Board
Susan Fregien, Central Valley Water Board
David Duncan, CDPR
Nan Singhasemanon, CDPR
KayLynn Newhart, CDPR
Ali Rezvani, CDPH
Dave Brent, Director
Joe Robinson, Senior Deputy City Attorney
Bill Busath, Engineering & Water Resources Manager
Michael Malone, Operations & Maintenance Manager
Pravani Vandeyar, Water Quality Superintendent
Dave Phillips, Water Treatment Superintendent
Forrest Williams, Sacramento County Department of Water Resources
Vicki Butler, Sacramento County Department of Water Resources
Dan Gwaltney, Sacramento County Department of Water Resources
Dan Mount, City of West Sacramento
Hubert Lai, EBMUD
Elaine White, EBMUD
Jacques DeBra, Woodland-Davis Clean Water Agency
Bonny Starr, Starr Consulting
Kelly Moran, TDC Environmental

List of Attachments for Sacramento River Source Water Protection Program Comments on ILRP Draft Rice WDRs

Attachment 1: Specific proposed modifications to the Order, attachments, and appendices. These specific language modifications do not address all of the concerns identified in our comment letter, and are in addition and supplementary to the comments provided in our letter.

Attachment 2: Thiobencarb Memorandum (February 2012) and Related Attachments. As scientific background for the design of the WDR and its monitoring program, we have enclosed a memorandum that summarizes and evaluates Sacramento Valley thiobencarb monitoring data from the last decade. The memorandum also includes background on thiobencarb and drinking water, an overview of management practices to protect surface water quality in the Sacramento Valley, the history of thiobencarb use and thiobencarb formulations, and an analysis of factors that have affected surface water thiobencarb concentrations. Since they are already in the possession of the Water Board, we have not enclosed RPP thiobencarb monitoring reports, which are summarized in the memorandum and incorporated by reference into our comments.

This case study exemplifies the threat that pesticides can pose to the MUN beneficial use in the Sacramento River, and specifically to Sacramento area drinking water supplies. The data and analysis in this case study demonstrates that there are four pathways for pesticides to be discharged to surface water from rice growing operations: off-target application (e.g., drift), emergency discharges, water seeping through dikes around fields, and water discharges from treated fields (discharge is allowed after hold time).

- a. TDC Environmental 2012. —Thiobencarb Monitoring Data Evaluation. Memorandum prepared for the Sacramento River Source Water Protection Program.
- b. California Regional Water Quality Control Board Central Valley Region 2010. Resolution No. R5-2010-9001 Rice Pesticides Program - Control of Rice Pesticides.
- c. California Department of Pesticide Regulation (CDPR) 2011. —Recommended Permit Conditions for Rice Pesticides. Appendix C. 2. of CDPR Pesticide Use Enforcement Program Standards Compendium; Volume 3, Restricted Materials and Permitting.
- d. USGS Monitoring data:
 - i. Orlando, J.L., and Kuivila, K.M., 2004, Changes in rice pesticide use and surface water concentrations in the Sacramento River watershed, California: U.S. Geological Survey Scientific Investigations Report 2004–5097.
 - ii. Smalling, K. L., J. Orlando, and K. Kuivila. 2007. Occurrence of Pesticides in Water, Sediment, and Soil from the Yolo Bypass, California. San Francisco Estuary and Watershed Science. Vol. 5, Issue 1 (February 2007). Article 2.

- iii. Kuivila, K. and G. E. Moon 2002. Exposure of Delta Smelt to Dissolved Pesticides in 2000. IEP Newsletter. Vol. 15, No. 2 (Spring 2002), p. 42-45.
- iv. Orlando, J.L., 2013, A compilation of U.S. Geological Survey pesticide concentration data for water and sediment in the Sacramento–San Joaquin Delta region: 1990–2010: U.S. Geological Survey Data Series 756, 46 p.

Attachment 3:

Rice Pesticides Prioritization Memorandum, September 2013. To illustrate the use of drinking water-related quality objectives and human health risk values associated with drinking water (e.g., U.S. EPA Human Health Benchmarks for Pesticides, and other U.S. EPA and California Drinking Water Program reference values), we have enclosed a memorandum that uses these drinking water values to prioritize pesticides for potential monitoring. Subsequent to the initial prioritization, the memorandum brings in other available scientific information to develop a final recommended list of pesticides and pesticide degradates for near-term monitoring. This methodology has been used by the SRSWPP since 2008.

Attachment 4:

Data from the Association of California Water Agencies that provides ranges of costs for installing and operating various drinking water treatment technologies. These data have been gathered from a variety of sources and represent estimates for different size systems, different sources, and different constituents targeted for reduction by the treatment. Table 1 represents the results of a 2012 ACWA Survey of its member agencies. Table 2 includes data from several agencies that was gathered separately from the survey. Table 3 is treatment cost data from previous ACWA Guidance documents with the costs updated to 2012.

ATTACHMENT 1
Specific Requested Modifications on Draft Rice WDRs
and Supporting Documents

Additions underlined; deletions in ~~strikeout~~

Waste Discharge Requirements General Order

Findings

Page 9, item 35, Second paragraph, addition to clarify consistency with antidegradation requirements.

The Order will also result in the implementation of BPTC by those discharging to high quality waters and assures that any change in water quality will provide the highest water quality ~~be~~ consistent with maximum benefit to the people of the state.

Page 11-12, Coordination with Other Agencies, add new:

Sacramento River drinking water utilities. The Sacramento River is the source of drinking water for drinking water utilities serving the greater Sacramento area. In accordance with California and Federal law, Sacramento River drinking water utilities operate Source Water Protection Programs to assess and protect the Sacramento River – their source of drinking water – from microbiological and chemical contaminants. The Central Valley Water Board will work cooperatively with the Sacramento River drinking water utilities to coordinate and leverage their efforts and to ensure protection of Sacramento River source water quality.

IV. Provisions, C. Requirements for California Rice Commission

Page 19, item 8.b, addition to provide the Water Board with a means to determine the extent of compliance with Grower requirement IV. B.4.

The annual summary must report the total number of growers who attended the outreach events, specify the percentage of all growers with parcels in an area governed by a SQMP/GWMP that attended, and describe how growers could obtain copies of the materials presented at these events.

Page 19, item 9, modification to clarify that all water quality issues associated with the production of rice – not solely issues identified by the CRC – must be addressed.

Work cooperatively with the Central Valley Water Board to ensure Growers are providing required information and taking necessary steps to address water quality issues ~~identified by the California Rice Commission~~ that are associated with the production of rice.

Page 19, item 10, addition at end of item in order to set a time limit for Grower contact with Regional Board staff:

The California Rice Commission shall ensure that the procedure allows for the Central Valley Water Board to receive the contact information in a timely manner.

VII. Required Reports and Notices – Grower

Page 21, item B, third paragraph, modification to ensure accuracy of information in Farm Evaluation while minimizing burden on growers:

After 1 March 2017, the Executive Officer may approve ~~reduction in the frequency of updates and submission of optional~~ submittal of certifications of no changes in lieu of annual updates to Farm Evaluations if none of the Grower's parcels are in an area governed by a SQMP/GQMP or Special Study, if the California Rice Commission demonstrates that year to year changes in Farm Evaluation updates are minimal and the Executive Officer concurs that the practices identified in the Farm Evaluations are consistent with practices that, when properly implemented, will achieve receiving water limitations or best practicable treatment or control, where applicable.

VIII. Required Reports and Notices – California Rice Commission

Page 22, item B.1, modify to ensure that the Farm Evaluation Template includes all rice-specific management practices:

The California Rice Commission may utilize a Farm Evaluation Template that was developed with other agricultural water quality coalitions only if the Central Valley Water Board's Executive Officer determines that the template fulfills the requirements of Attachment B, Section VI A., addresses the unique circumstances associated with rice farming, and includes the on-farm management practices uniquely associated with rice farming.

Page 24, item E. Annual Monitoring Report (AMR), modify text to add posting of the final AMR to the Central Valley Water Board website:

The Central Valley Water Board will post the final AMR on its website in a timely manner.

Page 25, item F.1, SQMP/GQMP General Requirements, modify text to add Special Study to public review and comment period:

The Central Valley Water Board will post the proposed SQMP/GQMP or Special Study on its website for a public review and comment period.

Page 25, item F. 2, Surface Water Quality Management Plan (SQMP), modify for compliance with state Antidegradation policy:

A SQMP shall be developed by the California Rice Commission where: (1) an applicable water quality objective or applicable water quality trigger limit is exceeded (considering applicable averaging periods) twice in a three year period for the same constituent at a monitoring location (trigger limits are described in Section VII of the MRP) and rice lands may cause or contribute to the exceedances; (2) the Basin Plan requires development of a surface water quality management plan for a constituent or constituents discharged by rice lands, or (3) the Executive Officer determines that rice lands may be causing or contributing to a trend of degradation of surface water ~~that may threaten applicable Basin Plan beneficial uses.~~

Page 26, final paragraph of item F.2, correct erroneous reference:

If the extent of Grower contribution to a water quality exceedance(s) or degradation trend is unknown, the California Rice Commission may propose activities to be conducted to determine the cause, or eliminate irrigated agriculture as a potential source instead of initiating a management plan. Requirements for source identification studies are set forth in the MRP, Appendix MRP-1, section I.GD.

Page 26, item F. 3, modification to provide public review and comment on determination:

At the request of the California Rice Commission or upon recommendation by Central Valley Water Board staff, the Executive Officer may determine the development of a SQMP/GQMP is not required. Prior to the Executive Officer's determination, the Central Valley Water Board will post the California Rice Commission request or staff recommendation on its website for a review and comment period. Such a determination may be issued if there is sufficient evidence indicating that the Growers discharging waste to the affected surface or groundwater are meeting the receiving water limitations given in Section III of this Order (e.g., evidence indicates that rice lands does not cause or contribute to the water quality problem) or the Executive Officer determines the exceedance is not likely to be remedied or addressed by a management plan.

IX. Reporting Provisions

Page 28, item 4, modification to provide the public the ability to know that a report exists:

All reports prepared and submitted to the Executive Officer in accordance with the terms of this Order will be made available for public inspection at the offices of the Central Valley Water Board, except for reports, or portions of such reports, subject to an exemption from public disclosure in accordance with California law and regulations, including the Public Records Act, Water Code section 13267(b)(2), and the California Food and Agriculture

Code. A list of all reports submitted will be posted to the Central Valley Water Board website. If the California Rice....

Attachment A - Information Sheet

IV. Rice Production in California

Page 9, item E, third paragraph, revise first two sentences for scientific accuracy:

More than 200 pesticide products containing about 60 pesticide active ingredients~~Pesticides that can be applied to rice in California~~are limited. Figure 3 shows when 10 of the 25 most heavily used pesticide active ingredients are normally applied.

Page 9, item E, add new final paragraph based on data from DPR:

Pesticides, quantities used, and application timing change every year in response to weather, pest pressure, pesticide resistance, regulatory changes, and availability of new products. More than half of the pesticide products approved for use on rice in California as of August 2013 were registered in the last five years (i.e., after July 2008). During this period, 5 new pesticide active ingredients became available to rice growers.

VI. Surface Water Monitoring

Page 18, item C, first three paragraphs revised for scientific accuracy and consistency with the Order:

The surface water monitoring program is designed to assess whether materials applied to rice cause or contribute to identified surface water quality problems. This is assessed by measuring concentrations at times that materials would be expected to be present (coincident with application, shortly after application during the water holding period, and when discharges occur), and by measuring the toxicity to representative organisms of waters and sediments that might be affected by these materials.

The basic questions to be answered by the updated surface water quality monitoring program are similar to those established under the previous MRP Order (R5-2010-0805):

1. Are receiving waters to which rice lands discharge meeting receiving water limitations specified (Section III of the Order)~~applicable water quality objectives and Basin Plan provisions?~~

Page 19, continuation of item C, revised for scientific accuracy, to include all cooperating agencies with regulatory responsibilities for water quality protection in the Sacramento River watershed, and to address scientific shortcomings in the proposed monitoring approach that would preclude achievement of the monitoring objectives:

Based on past monitoring results (see above), rice pesticides pose a low risk of causing surface water quality problems. In the 1980s, water pollution in the Sacramento Valley associated with rice pesticides revealed that pesticide registration procedures do not fully protect the beneficial uses of the surface waters in the Sacramento Valley such as municipal and domestic supply and warm and cold freshwater habitat. Over the following years, California rice growers, the California Rice Commission, the Department of Pesticide Regulation, the Central Valley Water Board, pesticide manufacturers, and the Sacramento River drinking water utilities worked together through the Rice Pesticide Program to identify and implement management practices to address this water pollution. The Rice Pesticides Program, which is managed through a separate resolution (R5-2010-9001), embodies an adaptive management program involving pesticide and water quality regulation, rice grower management practices, water quality monitoring, and annual coordination meetings to address the use of the last of the five rice pesticides that were initially part of the program.

The Rice Pesticide Program and resolution (R5-2010-9001) address only one of the approximately 60 pesticide active ingredients approved for use on rice in California. Therefore, this Order's MRP requires monitoring of two pesticides in any given year to verify compliance with receiving water limitations. During the Assessment year, the Executive Officer may require monitoring of more than two pesticides if the Executive Officer determines that insufficient information is available to assess the potential threat to water quality of the pesticide or that available information suggests there could be a water quality threat associated with the pesticide. The two pesticides and/or pesticide degrades to be monitored during any given year will be based on the pesticide evaluation performed by the CRC and. The Central Valley Water Board staff will consult with DPR and Sacramento River drinking water utilities prior to finalization.

The Rice Pesticide Program revealed that rice pesticides discharges occur in four ways: drift at the time of application, early discharges, seepage through dikes, and discharges when held water is released from treated fields. Therefore, the pesticide monitoring schedule will be determined as part of the pesticide evaluation based on the time of application, holding time for treated water on fields, and release, the most vulnerable times for release to surface water, with a minimum of two monitoring events per month required during the growing season. A minimum of two months (during and following peak application, during holding time, and at time of discharge) of monitoring for each pesticide is required during Assessment and Modified Assessment years; a minimum of one month (two sampling events within the month) of pesticide monitoring for each pesticide during peak application, holding time, and discharge for those pesticides is required during Core years.

Page 20, item D, modify to reflect coordination with agencies with regulatory responsibilities related to rice pesticide discharges and to add human drinking water protection considerations to the monitoring prioritization process:

Selection of pesticides to be monitored under this Order is based on an evaluation of previous years' monitoring results, changes in pesticide use and/or application, new scientific information such as USGS monitoring data or updated EPA human health risk estimates, and assessment of the potential for affecting water quality using physical and chemical properties of the pesticides. A typical evaluation starts with a compilation of pesticides used in rice operations.

The evaluation for trends in pesticide use includes evaluation of reported use, or knowledge of potential drivers for change in use patterns. For example, clomazone and triclopyr were chosen for assessment monitoring in 2012 due to the expected increase in use from previous years with the reports of increased thiobencarb-resistance for sprangletop in rice fields.

The pesticides are then evaluated for chemical, physical, and use properties to determine risk to water quality. Published field dissipation and degradation rates are also taken into account for pesticides that have required hold times before release from the field. Another step in the evaluation examines the aquatic toxicity values for freshwater biota (ECOTOX data), water quality objectives, human health risk values (e.g. U.S. EPA Human Health Benchmarks for Pesticides), and scientific evidence of potential to cause pollution or nuisance.

VIII. Farm Evaluations

Page 38, third and fourth paragraphs of section. Revised to reflect relationship between Farm Evaluation and surface water quality protection:

The farm evaluation is intended to provide the CRC and the Central Valley Water Board with information regarding Grower implementation of the Order's requirements. Without this information, the board would rely solely on representative surface and groundwater monitoring to determine compliance with the Order. Farm evaluations will provide assurance that Growers are implementing management practices to protect surface and groundwater quality while trend data are collected, and to evaluate implementation of any applicable Surface Water Quality Management Plan or Groundwater Quality Management Plan.

Further, the reporting of practices identified in the farm evaluation will allow the CRC and the Central Valley Water Board to effectively implement a SQMP or an MPEP, should one be triggered. Evaluating management practices at representative sites (in lieu of farm-specific monitoring) is effective if the results of the monitored sites can be extrapolated to non-monitored sites. One of the key methods for extrapolating such results is to have an understanding of which rice farming operations have practices similar to the site that is monitored. The reporting of practices will also allow the Central Valley Water Board to evaluate if the SQMP or GQMP is being implemented by Growers according to the approved

schedule. It is understood that rice farming operations and practices do not vary significantly for Growers represented by the CRC.

XII. Technical Reports

Page 39, second paragraph of section, revised to remove an undefined phrase and replace it with a phrase consistent with antidegradation requirements:

Therefore, if Surface Water Quality Management Plans and Groundwater Quality Management Plans are triggered, such plans must evaluate the effectiveness of management practices in protecting water quality. Thus, through the evaluations and studies conducted by the CRC, the reporting of practices by the Growers on the Farm Evaluations, and the board's compliance and enforcement activities, the Central Valley Water Board will be able to determine whether a Grower is complying with the Order and meeting providing the best practicable treatment or control of its discharges established farm management performance standards.

XV. Water Quality Objectives

Page 41, second and third paragraph of section, revised to include all enforceable California MCLs, including secondary MCLs, which were omitted in the cited code references, and drinking water related narrative objectives:

Water quality objectives that apply to surface water are described in the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins* (Basin Plan). Applicable water quality objectives include, but are not limited to, (1) the numeric objectives, including the bacteria objective, the chemical constituents objective (includes listed chemicals and state drinking water standards, i.e., maximum contaminant levels (MCLs) promulgated in Title 22 California Code of Regulations (CCR) Division 4, Chapter 15 ~~sections 64431 and 64444~~ that are applicable through the Basin Plan to waters designated as municipal and domestic supply), dissolved oxygen objectives, pH objectives, and the turbidity objectives, and (2) the narrative objectives, including the biostimulatory substances objective, the chemical constituents objective, the taste and odor objective, the pesticides objective, the sediment objective, and the toxicity objective. The Basin Plan also contains numeric water quality objectives that apply to specifically identified water bodies, such as specific temperature and salinity objectives. Federal water quality criteria that apply to surface water are contained in federal regulations referred to as the California Toxics Rule and the National Toxics Rule. CFR, sections 131.36 and 131.38.

Water quality objectives that apply to groundwater include, but are not limited to, (1) numeric objectives, including the bacteria objective and the chemical constituents objective (includes state MCLs promulgated in Title 22 CCR Division 4, Chapter 15, ~~sections 64431 and 64444~~ and are applicable through the Basin Plan to municipal and domestic supply),

and (2) narrative objectives including the chemical constituents, taste and odor, and toxicity objectives.

Page 42, item A, third paragraph, modify to include all cooperating agencies with responsibilities for water quality protection in the Sacramento River watershed in the process to develop trigger limits:

For constituents where there are no adopted numeric water quality objectives, the Central Valley Water Board staff will develop trigger limits in consultation with the Department of Pesticide Regulation (for pesticides), CRC, Sacramento River drinking water utilities, and other agencies as appropriate. Central Valley Water Board staff will provide interested parties, including the CRC, with an opportunity to review and comment on the trigger limits. The Executive Officer will then provide the trigger limits to the CRC. Those trigger limits will be used to address applicable narrative objectives. In locations where trigger limits are exceeded, water quality management plans must be developed that will form the basis for reporting which steps have been taken by Growers to achieve compliance with numeric and narrative water quality objectives.

Page 45, item D, Statement of policy with respect to maintaining high quality waters in California (State Water Board Resolution 68-16) - This section requires substantial revisions in order to comply with State Water Board Resolution 68-16, as clarified by the AGUA case. Given its direct relevance to this Order, this section should include a summary of the AGUA case. This might fit best in the subsection that starts at the end of page 49.

Pages 45-46, item D, revise second and third paragraphs of section for consistency with antidegradation requirements and available evidence:

Initially, all Growers will need to conduct an on-farm evaluation to determine whether their practices are protective of water quality and whether they are meeting the established farm management performance standards. Through the process of becoming aware of effective management practices; evaluating their practices; and implementing improved practices; Growers are expected to meet the farm management performance measures and, thereby, achieve best practicable treatment or control (BPTC) except in situations where the receiving water body can be demonstrated to not have achieved the applicable water quality objective since 1968, in which case growers are expected to demonstrate best efforts, where applicable. All Growers must prepare and implement a farm-specific nitrogen management plan.

Monitoring of surface water and groundwater together with periodic assessments of available surface water and groundwater information is required to determine compliance with water quality objectives and determine whether any trends in water quality improvement or degradation are occurring. If trends in such degradation are identified ~~that could result in impacts to beneficial uses~~, a surface (or groundwater) quality management plan must be prepared by CRC. The plan must include the identification of practices that

will be implemented to address the trend in degradation and an evaluation of the effectiveness of those practices in addressing the degradation. The CRC must report on the implementation of practices by their Growers. Failure to implement practices or address the degradation by individual Growers will result in further direct regulation by the board, including, but not limited to, requiring individual farm water quality management plans; regulating the individual grower directly through WDRs for individual farmers; or taking other enforcement action.

Page 46: Revise fourth sentence under "Background" to read:

In such waters, some degradation of water quality may occur without compromising protection of beneficial uses, subject to the analysis and findings required by State Water Board Resolution 68-16.

Page 50, item 2 (which starts on page 49), final two paragraphs, revise for scientific accuracy in light of RPP monitoring data (that reveals the opposite) and the lack of monitoring data appropriate for drawing this conclusion for key constituents such as organic carbon:

~~This Order regulates discharges from thousands of individual fields to a very large number of water bodies within the Sacramento Valley. There is no comprehensive, waste constituent-specific information available for all surface waters and groundwater aquifers accepting wastes discharged from rice lands that allow site-specific assessment of current conditions. Likewise, there is no comprehensive historic data. However, available information and analysis that should be representative of discharges from rice operations do not indicate that such discharges are causing or contributing to exceedances of water quality objectives or increasing trends of degradation.~~

Given the significant variation in conditions over the broad areas covered by this Order, any application of the antidegradation requirements must account for the fact that at least some of the waters into which agricultural discharges will occur are not high quality waters (for some constituents), even though all waters that receive discharge flow into high quality waters. Further, the Order provisions should also account for the fact that even where a water body is not high quality (such that discharge into that water body is not subject to the antidegradation policy), the board should, under State Water Board precedent, impose limitations more stringent than the objectives set forth in the Basin Plan, if those limits can be met by "best efforts."

Page 50, item 3, third paragraph, revise for consistency with antidegradation requirements:

There is no specific set of technologies, practices, or treatment devices that can be said to achieve BPTC/best efforts universally in the watershed. This Order, therefore, establishes a set of performance standards that must be achieved and an iterative planning approach that will lead to implementation of BPTC/best efforts. The iterative planning approach will be implemented as two distinct processes, 1) establishment of a baseline set of universal

farm water quality management standards combined with upfront evaluation, planning and implementation of management practices to attain those goals, and 2) additional planning and implementation measures where degradation trends are observed that ~~threaten to impair a beneficial use~~ or where beneficial uses are impaired (i.e., water quality objectives are not being met). Taken together, these processes are considered BPTC/best efforts. The planning and implementation processes that growers must follow on their farms should lead to the on-the-ground implementation of the optimal practices and control measures to address waste discharge from irrigated agriculture.

Page 51, item 3.1, addition to list of performance standards consistent with antidegradation requirements:

h. minimize degradation of high-quality waters

Page 56, second paragraph, revise to reflect consistency with antidegradation requirements and to delete inaccurate statement about costs to water utilities associated with the water quality degradation allowed by this order:

- The Order prohibits degradation ~~above a water quality objective~~ and establishes representative surface water monitoring and groundwater monitoring programs to determine whether rice operation waste discharges are in compliance with the Order's receiving water limitations or causing trends of degradation. ~~Local communities should, therefore, not incur any additional treatment costs associated with the degradation authorized by this Order;~~ and

Attachment B – Monitoring and Reporting Program

III. Surface Water Monitoring Requirements

Page 2, before item A, add monitoring objectives consistent with the WDR and antidegradation requirements:

The objectives of surface water quality monitoring are to determine compliance with the receiving water limitations in Section III of the Waste Discharge Requirements and to determine if a trend of degradation of surface water is occurring. The Executive Officer may require modification of the monitoring program upon determination that the monitoring program does not meet these objectives.

Pages 2-3, items B.1, 2, and 3, modify to address scientific shortcomings in the proposed monitoring approach that would preclude achievement of the monitoring objectives:

1. Assessment monitoring

Assessment monitoring shall include field and general parameters, nutrients (nitrate + nitrite as nitrogen and total ammonia as nitrogen), at least two pesticides and/or pesticide

~~degradates identified by CRC after finalized through the evaluation and assessment as specified in Section III.C., and water column and sediment toxicity testing. The Executive Officer may require additional monitoring of more than two pesticides if the Executive Officer determines that insufficient information is available to assess the potential threat to water quality of the pesticide or that available information suggests there could be a water quality threat associated with the pesticide. The pesticides shall be monitored twice during their peak-use month and twice in the following month. Water TOC, sediment toxicity, sediment TOC and grain size testing shall occur once during the pre-harvest drainage. The monitoring schedule for each pesticide shall be tailored through the process specified in Section III.C. to the peak use and/or time periods when the pesticides (respectively) are likely to be discharged to surface water. Water column toxicity testing with *Ceriodaphnia dubia* and *Pimephales promelas* shall occur during the two months when pesticides are analyzed. For *Selenastrum capricornutum*, toxicity testing shall start during the month when pesticides are first applied and continue for a total of three months. Assessment monitoring shall begin when most rice fields start pesticides application and end with the pre-harvest drainage, and then re-start to include the winter drainage period, monitoring Field Measurements and general physical parameters only during this period (see Table 3) only.~~

2. Modified assessment monitoring

Modified assessment monitoring shall include the field and general parameters, nutrients, and ~~two~~ pesticides selected based on the process specified in Section III.C. on results from the prior assessment year. ~~The two selected pesticides shall be monitored twice during their peak-use month and twice in the following month.~~ The monitoring schedule for each pesticide shall be tailored through the process specified in Section III.C. to the peak use and/or time periods when the respective pesticides are likely to be discharged to surface water. The pesticide monitoring period shall be for at least two months of the growing season. Field Measurements and General Physical parameters (see Table 3) shall be monitored beginning when rice field start pesticides application and end with the pre-harvest drainage, and then re-start to include the winter field drainage period.

3. Core monitoring

Core monitoring shall include field parameters, general physical parameters, and ~~two~~ selected indicator rice-pesticides selected through the process specified in Section III.C.. Monitoring of the ~~indicator~~ pesticides shall be based on a pesticide evaluation and assessment as specified in Section III.C. The monitoring schedule for each pesticide shall be tailored through the process specified in Section III.C. Monitoring shall ~~occur~~ be at least two times during one month of each indicator pesticides' peak use discharge period. Field Measurements and General Physical parameters (see Table 3) shall be monitored beginning when rice field start pesticides application and end with the pre-harvest drainage, and then re-start to include the winter field drainage period.

Page 4, last sentence of first paragraph item C, modify for consistency with antidegradation requirements:

Parameters of concern may include, but are not limited to, parameters that exceed an applicable water quality objective or water quality trigger (see Section VII) or that show a trend of degradation of surface water.

Page 4, Table 3. Add an "X" in the table cell for General Physical parameters to indicate that these parameters will be part of Core monitoring.

Page 4, item C.1, modify to reflect coordination with agencies with regulatory responsibilities related to rice pesticide discharges and to add human drinking water protection considerations to the monitoring prioritization process and to ensure a scientifically robust process for determining pesticide monitoring priorities and schedules:

1. Pesticide monitoring

Pesticides to be monitored are based on a pesticide evaluation of the previous years' prior monitoring results, whether changes in the pesticide usage and/or application has occurred (e.g., acres applied), new scientific information such as USGS monitoring data or updated EPA human health risk estimates, and the most recent CRC rice pesticide evaluation (see Section V.C.). The pesticide monitoring schedule will be determined as part of the pesticide evaluation based on the time of application, holding time for treated water on fields, and release, which are the most vulnerable times for potential impact to surface water. The CRC shall propose the pesticides to be monitored and the monitoring schedule in their Annual Monitoring Report and provide the rationale for their proposal. The pesticides to be monitored must be approved by the Executive Officer.

Page 5, item D, second paragraph, modify for consistency with pesticide evaluation process specified above:

Table 4 shows the monitoring schedule and frequency required for surface water. Pesticides to be monitored, as approved by the Executive Officer based on the pesticide evaluation submitted process described above, are to be monitored in accordance with the schedule approved by the Executive Officer ~~during the months when peak application and/or release occur.~~

Page 5, Table 4:

- delete text in the Pesticides row under the Assessment, Modified Assessment, and Core columns
- In the General physical parameters row in the Core column, delete "N/A" and replace with "two monthly sampling events"

Page 7, item F, request public notice of Special Project Monitoring proposals by adding sentence to paragraph:

The Central Valley Water Board will make final Special Project Monitoring proposals available on their website in a timely manner.

V. Reporting Requirements

Page 16, item A. Annual Monitoring Report (AMR), modify text to add posting of the final AMR to the Central Valley Water Board website:

The Central Valley Water Board will post the final AMR on its website in a timely manner.

Page 16, item A.11, modify for consistency with antidegradation requirements:

11. Discussion of data relative to water quality objectives, trigger limits, any trend of degradation of surface water, data gaps, and water quality management plan milestones, where applicable;

Page 16, item A.12, modify electronic surface water data submittal requirements to clarify a timeline requirement:

12. Electronic surface water data submitted as specified in Section III G and by the time of AMR submittal on 31 December of every year.

Page 16, items A. 18 and 19, modify for consistency with antidegradation requirements:

18. Summary of exceedances of water quality objectives/trigger limits, and any trends of degradation of surface water occurring during the reporting period and related pesticide use information;

19. Actions taken to address water quality exceedances and any trends of degradation of surface water that have occurred, including but not limited to, revised or additional management practices implemented;

Page 17, remove erroneous header:

**Report Component (12) – Electronic Submittal of Monitoring Data Report
Component (11) – Data Discussion to Illustrate Compliance**

For surface water data, electronic submittal of the field and laboratory data in a SWAMP comparable format must be included with the AMR. For groundwater data, monitoring results must be provided electronically as specified by the Executive Officer. Exceptions to the due date for submittal of electronic data may be granted by the Executive Officer if sufficient rationale exists.

Report Component (12) – Electronic Submittal of Monitoring Data

The Surface Water Monitoring Data Report shall include the following for the required reporting period:

Page 18, clarify that reporting for items 18 and 19 must address antidegradation requirements:

Record Components (18/19) -- Summary of Exceedance Reports

A summary of the exceedances of water quality objectives or triggers that have occurred during the monitoring period and any trends of degradation of surface water is required in the AMR. In the event of exceedances for pesticides or toxicity, pesticide use data must be included in the annual monitoring report.

Page 19, item B, first paragraph, modify text to include drinking water notification of exceedance report preparation in case of drinking water related water quality problems to allow for timely notice of potential cause for impact to water treatment:

Upon determining an exceedance, the CRC shall send the Exceedance Report by email to the CRC's designated Central Valley Water Board staff contact by the next business day. The CRC or Central Valley Water Board staff shall notify the Sacramento River drinking water utilities of exceedances on drinking water related water quality problems within 7 days of the notification from the CRC.

Page 19, item C, clarify that rice pesticide matrix process must be updated to add human drinking water protection considerations and allow for input from the Sacramento River drinking water utilities prior to finalization:

C. Rice Pesticide Evaluation

In its first AMR following adoption of this Order and every five (5) years thereafter, the CRC shall submit in its AMR an updated evaluation of rice pesticides relative to potential effects on surface water quality using the process applied in the Rice Pesticide Matrix, modified to include water quality objectives, human health risk values (e.g., U.S. EPA Human Health Benchmarks for Pesticides), and scientific evidence of potential to cause pollution or nuisance. The evaluation shall include, but not be limited to, the annual pounds applied and the acreage treated, an identification of newly registered or cancelled pesticides that are registered for use on rice fields, and any applicable updates to the information contained in the Rice Pesticide Matrix. The pesticides evaluation will be performed by the CRC. The Central Valley Water Board staff will consult with DPR and the Sacramento River drinking water utilities, in recognition of their responsibilities related to rice pesticide discharges, prior to finalization.

VI. Templates

Page 20, item A, modify to clarify that the template must provide a place to identify the point of discharge to receiving water:

- Identification of whether or not water leaves the property, and where water leaves the property as well as identifying drainage ditches where water is discharged and the ultimate point of discharge to the receiving water body.

VII. Water Quality Triggers for Development of Management Plans

Page 21, modify to clarify meaning of Table 7 and to specify coordination with agencies with regulatory responsibilities related to discharges in the Sacramento River watershed:

This Order requires that Growers comply with all adopted water quality objectives and established federal water quality criteria applicable to their discharges. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins* (Basin Plan) contains numeric and narrative water quality objectives applicable to surface water and groundwater within the Order's watershed area. USEPA's 1993 National Toxics Rule (NTR) and 2000 California Toxics Rule (CTR) contain water quality criteria which, when combined with Basin Plan beneficial use designations constitute numeric water quality standards. Table 7 of this MRP provides a non-comprehensive lists of Basin Plan numeric water quality objectives and NTR/CTR criteria for constituents of concern that may be discharged by Growers.

Table 7 does not include water quality criteria that may be used to interpret narrative water quality objectives, which shall be considered trigger limits. Trigger limits will be developed by the Central Valley Water Board staff through a process involving coordination with the Department of Pesticide Regulation (for pesticides), Sacramento River drinking water utilities, and stakeholder input. The trigger limits will be designed to implement narrative Basin Plan objectives and to protect applicable beneficial uses. The Executive Officer will make a final determination as to the appropriate trigger limits

Attachment MRP-1 – Management Plan Requirements

I. Management Plan Development and Required Components

Page 1, provide for consultation with agencies with regulatory responsibilities related to discharges in the Sacramento River watershed when establishing priorities for the order of multiple SQMP/GWMPs:

If a number of management plans are triggered, the CRC shall submit a SQMP/GQMP prioritization list to the Central Valley Water Board Executive Officer. This list may prioritize the order of SQMP/GQMP development based on, for example, 1) the potential to harm public health; 2) the beneficial use affected; and/or 3) the likelihood of meeting water quality objectives by implementing management practices. Prioritization schedules shall be consistent with requirements described in section XII of this Order, Time Schedule for Compliance. After consultation with Department of Pesticide Regulation (for pesticides) and Sacramento River drinking water utilities, The Executive Officer may approve or require changes be made to the SQMP/GQMP priority list. The CRC shall implement the prioritization schedule approved by the Executive Officer.

Page 1, fifth paragraph, minor editorial correction:

Special studies may be proposed when a Management ~~M~~Plan is triggered.

Page 4, item D, propose revision to this item to be consistent with Section I, paragraph 5, provide Special Study as an option in the Management Plan Strategy:

~~D. Special Study Requirements~~

5. Special Study Option

In lieu of developing subsections 2. and 4. of the a Management Plan Strategy above, the CRC may propose a special study when a management plan is triggered. The special study may ~~replace~~ include site monitoring to answer specific questions, such as identifying if rice is causing or contributing to the conditions that triggered the requirement to develop a Management Plan, and/or the effectiveness of certain management practices. The proposal must include the following elements:

- Clear stated objectives and goals of the study, with information on how the study will be representative of rice field operations.
- A description of the study, including any sampling or monitoring that will be required.
- An estimated schedule for the special study that will include milestones, such as completion of sampling, data evaluation, and reporting of results.
- If addressing a COC, evaluate the locations and management practices that can be implemented to address rice discharges of the COC.

~~Any request for a special study must be submitted to the Executive Office for approval.~~ If results of an approved study show that rice operations are not a source for the COC, then the CRC can request completion of the triggered management plan. If rice lands are identified as a source, a SQMP/GQMP-revised Management Plan strategy shall be prepared and implemented.

Page 4, clarify requirement for downstream monitoring and clarify reference to MRP:

E. Monitoring Methods

1. General Requirements

The monitoring system must be designed to measure effectiveness at achieving the goals and objectives of the SQMP or GQMP and capable of determining whether management practice changes made in response to the management plan are effective in ending the water quality problem and can comply with the terms of the Order.

Management practice-specific or commodity-specific field studies may be used to approximate the contribution of irrigated lands operations. Where the CRC determines that field studies are appropriate or the Executive Officer requires a technical report under CWC

13267 for a field study, the CRC must identify a reasonable number and variety of field study sites that are representative of the particular management practice being evaluated.

2. Surface Water – Additional Requirements

The strategy to be used in the development and implementation of the monitoring methods for surface water should address the general requirements and, at a minimum, include the following elements:

- a. The location(s) of the monitoring site and schedule (including frequencies) for monitoring should be chosen to be representative of the COC discharge to the watershed. Where the water quality problem being addressed occurs downstream of the discharge, monitoring should include at least one representative downstream location to determine the effectiveness of the SQMP in addressing the water quality problem that is the basis for the SQMP.
- b. Surface water monitoring data must be submitted electronically per the requirements given in section III.DG of the MRP.

Page 5, item G, add a requirement for submittal to Central Valley Water Board and public notification of the Management Plan Progress Report:

G. Records and Reporting

When Management Plan Evaluation Programs are in place, by 1 May of each year, the CRC must prepare a Management Plan Progress Report that summarizes the progress in implementing management plans and submit it to Central Valley Water Board. The Central Valley Water Board shall post this annual report on its website in a timely manner.

II. Approval and Review of the Management Plan

Page 6, item II, a, clarify that Special Studies are also subject to review and comment:

a. Water quality management plan approval – Prior to Executive Officer approval of any management plan (including special studies), the Central Valley Water Board will post the draft management plan or Special Study on its website for a review and comment period. Stakeholder comments will be considered by Central Valley Water Board staff. Based on information provided by the CRC and after consideration of comments provided by other interested stakeholders, the Central Valley Water Board's Executive Officer will either: (1) approve the management plan; (2) conditionally approve the management plan or (3) disapprove the management plan. Review of the management plan and the associated action by the Executive Officer will be based on findings as to whether the plan meets program requirements and goals and contains all of the information required for a management plan.

Page 6, item II, b, specifically list the Sacramento River drinking water utilities as an interested party:

...Central Valley Water Board staff will meet with the CRC and other interested parties, including Sacramento River drinking water utilities, to evaluate the sufficiency of management plans.

Page 7, third paragraph, subitem (a), provide, in accordance with scientific practice and the history of rice pesticide variability in the watershed, that a minimum of three years of monitoring data are required for all determinations of completion of a management plan:

a) Demonstration through evaluation of monitoring data that the water quality problem is no longer occurring (i.e., 3 or more years with no exceedances during the times of the year when previous exceedances occurred) or demonstrated compliance with the Order's surface and groundwater receiving water limitations for a minimum of 3 consecutive years.

Attachment E – Definitions, Acronyms & Abbreviations

Page 2, item 8, revise to add trigger limits, consistent with use of this term in Attachments A and MRP-1:

8. Exceedance - For the purposes of this Order, an exceedance is a reading using a field instrument or detection by a California State-certified analytical laboratory where the detected result indicates an impact to the beneficial use of the receiving water when compared to a water quality standard or trigger limit for the parameter or constituent. Exceedances will be determined based on available data and application of the appropriate averaging period. The appropriate averaging period may be defined in the Basin Plan, as part of the water quality criteria established by the U.S. EPA, or as part of the water quality criteria or trigger limit being used interpret a narrative water quality objective. If averaging periods are not defined as part of the water quality objective, trigger limit, or the water quality criteria being used, then the Executive Officer may use its best professional judgment to determine an appropriate period.

Page 6, item 44, clarify that pesticide discharges known to occur from rice fields (as demonstrated by the RPP) are included in the definition of waste discharge:

44. Waste discharges from irrigated lands – The discharge or release of waste to surface water or groundwater. Waste discharges to surface water include, but are not limited to, irrigation return flows, tailwater, drainage water, subsurface (tile) drains, stormwater runoff flowing from irrigated lands, aerial drift, seepage through dikes, and overspraying of pesticides. Waste can be discharged to groundwater through pathways including, but not limited to, percolation of irrigation or storm water through the subsurface, backflow of waste into wells (e.g., backflow during chemigation), discharges into unprotected wells and dry wells, and leaching of waste from tailwater ponds or sedimentation basins to groundwater.

A discharge of waste subject to the Order is one that could directly or indirectly reach waters of the state, which includes both surface waters and groundwaters. Direct discharges may include, for example, discharges directly from piping, tile drains, wells, ditches or sheet flow to waters of the state, or seepage or percolation of wastes through the soil to surface water or groundwater. Indirect discharges may include aerial drift or discharges from one parcel to another parcel and then to waters of the state. See also the definition for “waste”.

Page 6, item 48, revise for consistency with Receiving Water Limitations and antidegradation requirements:

48. Water quality problem – Exceedance of an applicable water quality objective, condition of pollution or nuisance, impairment of a Basin Plan beneficial use, or a trend of degradation of surface waters or ground waters that may threaten applicable Basin Plan beneficial uses.