Section C.2

Recommended Permit Conditions for Rice Pesticides

Introduction

This document provides recommended permit conditions for pesticide applications to rice.

About this section

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Subsection C.2.1

Instructions to County Agricultural Commissioners on Rice Pesticide Permit Issuance

Introduction

The Department of Pesticide Regulation (DPR), in cooperation with the Central Valley Regional Water Quality Control Board (CVRWQCB), developed recommended permit conditions to meet water quality management objectives for Malathion and Thiobencarb. These conditions reflect management practices required by current Board Resolution. DPR and CVRWQCB believe that use of these permit conditions will meet water quality management objectives for these rice pesticides.

Approved resolution

The Central Valley Regional Water Quality Control Board (CVRWQCB) approved resolution is available for review at:
http://www.waterboards.ca.gov/centralvalley/adopted_orders/index.html

Rice Pesticide Water Monitoring and Annual Reporting

CRC responsibility

The rice industry, via the California Rice Commission (CRC), will be responsible for leadership in water monitoring, annual reporting to the CVRWQCB, and coordinating the participation of all program stakeholders.

- The rice industry is ultimately responsible for meeting water quality objectives.
- DPR, as a co-regulator with the water boards, will continue to use its authority to regulate the sales and use of pesticides to address water quality issues involving pesticides. DPR will continue to actively participate with CVRWQCB and the rice industry staff to address rice pesticide issues.

Continued on next page

Seepage Mitigation Requirements

Seepage defined

For purposes of mitigating seepage in rice production:

- Seepage is lateral movement of irrigation water through a rice field levee or border to an area outside the normally flooded production area. Seepage can occur through levees into adjacent dry fields or into adjacent drains and canals.

Seepage documentation

DPR requests that county agricultural commissioners (CACs) continue monitoring for seepage when inspecting for water-holding compliance by:

- Checking for seepage, or collection of seepage, that occurs through the outer borders of a field or the bottom border located at the lowest part of the field.
- Using the water-holding inspection logs to document seepage observations. The Pesticide Use Monitoring Inspection Form (PR-ENF-104) may also be used to document seepage observations. Indicate "water-hold inspection" on the blank line under "application inspection."
- Document in the "Remarks" section on either form: Seepage flow less than five gallons per minute, or seepage flow more than five gallons per minute.

Enforcement action

Any visible seepage moving offsite during the water-holding period that drains into the waters of the State is considered an early release and is a water-holding violation. An enforcement action should be taken in accordance with 3 CCR section 6128.

Brochure

Please continue to distribute the brochure, *Seepage Water Management, Voluntary Guidelines for Good Stewardship in Rice Production,* Publication 21568, to growers at the time of permit issuance.

Continued on next page

Drift Minimization Requirements

Mitigation measures

- DPR will provide "focused" oversight inspection of thiobencarb aerial applications to monitor thiobencarb drift mitigation requirements.
- DPR recommends all rice pesticide permits be conditioned with *General Drift Minimization* restrictions.

Thiobencarb Drift Mitigation Requirements

(*Mandatory Preseason Thiobencarb Stewardship Training* information has been revised and moved to Subsection C.2.6, Thiobencarb, page C-23.)

Continued on next page

General Information

New Thiobencarb product – League® MVP

A new Thiobencarb product – League® MVP Herbicide, EPA Reg. No. 59639-189-AA, a granular formulation – is registered for use on rice for the 2014 rice pesticide use season. Its active ingredients are 10% Thiobencarb and 0.43% Imazosulfuron. Please note that the new product has the same water holding period as Bolero® UltraMax – 30 days – and the Thiobencarb recommended permit conditions apply to the new product.

Malathion water management recommenda-tions

CVRWQCB has approved a water management practice for malathion applied to rice that will help meet water quality performance goals for malathion in surface water. Malathion is currently not a restricted material and not subject to permit conditions. However, it is important that growers comply with the following water management practice:

- **All water from fields treated with pesticides containing malathion should be retained on the site of application or contained within a tailwater recovery system, or other system, adequate to prevent discharge to waters of the State for at least four days following application.**

Storm Event Work Group

The Communication Plan developed by the Storm Event Work Group will be utilized in the event of a severe storm occurrence. The Storm Event Work Group will continue to meet as needed. Currently, the work group is comprised of staff from the Regional Water Board, DPR, University of California, a reclamation district representative, CACs, and the rice industry. The California Rice Commission will take the lead in facilitating this group.

Continued on next page

One-page summary

Table B summarizes the recommended water-holding permit conditions for thiobencarb. This summary can be used as a quick reference. Please refer to the specific permit conditions and pesticide labeling for a complete explanation of the requirements.

Topic	See Table
(Placeholder – for future use)	A
Rice Pesticides Water Management Requirements Summary (Water-holding permit conditions for malathion and thiobencarb)	B

Emergency release forms

Form A is used for an emergency release request. Form B is used for reporting the emergency release. These DPR-suggested forms may be reproduced under county letterhead.

Topic	See Form
Rice Pesticides Water Management Requirements, Emergency Release Request Form	Form A
Rice Pesticides Water Management Requirements, Emergency Release Report Form	Form B

Continued on next page

TABLE A

(Placeholder – for future use)

Table B

Note: Amended – deleted Bolero® 15 G (no longer registered in California) and added League® MVP.

Rice Pesticides Water Management Requirements Summary

	Water must be held for the indicated number of 24-hour periods on the treated field, or within the containment area specified below before release into State waters.	**Thiobencarb**		**Thiobencarb Plus Imazosulfuron**	
		Bolero® UltraMax	**Abolish® 8 EC**	**League® MVP**	**Malathion**
		Hold	Hold	Hold	Hold
NORTH SAC VALLEY	Single treated fields.	30	19	30	4 (b)
	Release into tailwater recovery system or ponded onto fallow land or contained in other systems appropriate for preventing discharge.	19	19	19	
	System controlled by one permittee, then water may be discharged into the system in manner consistent with product labeling.	14	14	14	
	System includes drainage from more than one permittee, then water must be retained on site.	6	6	6	
	Water on fields within bounds of areas that discharge negligible amounts of drainage onto perennial streams. Commissioner must evaluate such sites and verify the hydrologic isolation of the fields.	6	6	6	
	CAC may authorize emergency release of tailwater.	19	19	19	
SOUTH SAC & SJ VALLEY (a)	All water on treated fields must be retained on the treated fields.	19	19	19	4 (b)
	Release into tailwater recovery system or ponded onto fallow land or contained in other systems appropriate for preventing discharge.	19	19	19	
	System controlled by one permittee, then water may be discharged in manner consistent with product labeling.	14	14	14	
	System includes drainage from more than one permittee, then water must be retained on site.	6	6	6	
	Water on fields within bounds of areas that discharge negligible amounts of drainage onto perennial streams. Commissioner must evaluate such sites and verify the hydrologic isolation of the fields.	6	6	6	
	CAC may authorize emergency release of tailwater.	19	19	19	

(a) – South Sacramento & San Joaquin Valley defined as: South of the line defined by Roads E10 and 116 in Yolo County and the American River in Sacramento County.
(b) – Voluntary hold.

FORM A

RICE PESTICIDES WATER MANAGEMENT REQUIREMENTS, Emergency Release Request Form

☐ Thiobencarb

Grower:_____Permit No.:_____

Address:_____Zip:_____

Field Location:_____Site No.:_____

Chemical applied:_____ Chemical applied:_____

Rate of application:_____ Rate of application:_____

Date of application:_____ Date of application:_____

Average water depth
at time of application:_____ Average water depth
at time of application:_____

Starting date of emergency release:_____

Acres treated in field:_____ Laser leveled: Yes_____No _____

Type of irrigation system: Flow through_____Recycle_____Static_____Other_____

Date flooding began:_____ No. of days it takes to fill field:_____

Describe problem that led to emergency release:_____

_____

_____

Steps that can be taken to prevent emergency releases from this field in future years:_____

_____

_____

Recommendation by (attached):_____

Applications by:_____

Grower's signature:_____Date:_____

Approved by:_____
Agricultural Biologist

FORM B

RICE PESTICIDES WATER MANAGEMENT REQUIREMENTS, Emergency Release Report Form

☐ Thiobencarb

Grower:_____ Permit No.:_____

Address:_____ Zip:_____

Field Location:_____ Site No.:_____

Beginning date of release:_____ Ending date:_____

The grower must determine the amount of water discharged during the emergency release period. To do this, measure the width of each weir opened to allow the discharge. Then, on a daily basis, measure the height of water flowing over each weir. Record all information in the table below.

Weir 1		Weir 2		Weir 3	
Width:		Width:		Width:	
Date	Height of water	Date	Height of water	Date	Height of water

Subsection C.2.1.1

Data Reporting Guidelines for the Rice Pesticide Program

Introduction

This document outlines the data reporting guidelines for the Rice Pesticide Program.

Pesticide Use Reporting procedures

Follow your normal download and submittal practices (i.e., via e-mail) when electronically sending pesticide use report (PUR) data to DPR. Please send your rice PUR data to DPR's **Pest Management and Licensing Branch** in a timely manner so this data can be compiled and summarized for the annual report.

California Rice Commission report preparation

The California Rice Commission (CRC) will submit a routine information request[1] to each rice-growing county for inspection data, and compliance and enforcement action data. The CRC will contact DPR to obtain the PUR data.

The CRC will use the data to prepare the annual report required by the Central Valley Regional Water Quality Control Board (CVRWQCB) by December 31 of each year.

Reporting inspection, compliance, and enforcement action data

The California Rice Commission will request the following inspection, compliance, and enforcement action data. You may continue to use Form C, the *Annual Rice Reporting Information* form that follows.

For **thiobencarb** (Bolero® UltraMax, Abolish® 8EC, League® MVP), report the number of:

- Mix/load inspections
- Application inspections
- Water hold inspections
- Release inquiries
- Emergency releases
- Water seepage inspections apply only to Sacramento Valley Rice Growing Counties
- Non-compliance inspections
- Agricultural civil penalties (ACPs)

Continued on next page

[1] The California Rice Commission began obtaining this information directly from the rice-growing counties starting in 2009.

Reporting seepage inspection data

When conducting thiobencarb seepage inspections, please characterize the amount of seepage observed during the inspection as: "no seepage," "less than five gallons of seepage," or "more than five gallons of seepage." Use the *Annual Rice Reporting Information* form that follows; enter the number of sites with:

- No seepage
- Less than five gallons of seepage
- More than five gallons of seepage.

Mail, e-mail, or fax the data

Please mail, e-mail, or fax the inspection and compliance/enforcement action data requested above by **September 30** to:

Roberta Firoved
Industry Affairs Manager
California Rice Commission
1231 I Street, Suite 205
Sacramento, California 95814

Telephone: (916) 387-2264
e-mail: rfiroved@calrice.org
fax: (916) 387-2265

"Completed" water-holding enforcement actions to CVRWQCB

Additionally, at the request of the CVRWQCB, please send all "completed" water-holding enforcement actions within 30 days after enforcement action is completed to:

Rice Pesticide Program
Central Valley Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive #200
Rancho Cordova, California 95670-6114

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FORM C

ANNUAL RICE REPORTING INFORMATION

County: _____ Acres of Rice Planted: _____

INSPECTION TYPES																	
CHEMICALS	* ACP	APPLICA-TIONS		MIX/ LOAD		RELEASE INQUIRIES		EMERGENCY RELEASES		WATER HOLD		WATER SEEPAGE **				
												# of Water Seepage		# of Sites w/ No Seepage	# of Sites w/ Less Than 5 Gallons	# of Sites w/ More Than 5 Gallons
		#	N/C	#	N/C	#	N/C	#	N/C	#	N/C	#	N/C			
BOLERO® UltraMax																
ABOLISH® 8EC																
LEAGUE® MVP																
Totals																

Please send the above information to the **California Rice Commission** by e-mail to rfiroved@calrice.org; by fax at (916) 387-2265; or by mail to 1231 I Street, Suite 205, Sacramento, California 95814 by **September 30th** of each year.

* Administrative Civil Penalty
** Sacramento Valley Rice counties only

(Rev. 5-14)

Subsection C.2.2

General Water-Holding

I. The following seepage control requirements apply to all rice pesticides having mandatory water-holding requirements such as thiobencarb, etc. Non-compliance with seepage requirements is considered a water-holding violation.

   A. Rice pesticides, such as thiobencarb, shall not be applied to rice fields exhibiting visible water seepage that moves offsite into drains that are considered state waters.
   B. Borders surrounding each rice field shall be compacted before water is allowed to fill the field; the degree of compaction shall be sufficient to prevent water from seeping through the border. For example, compaction may be achieved by driving the tires or tracks of a tractor, or other heavy vehicle, on one side of the border.
   C. This requirement applies to new or reworked existing borders for the current rice season.
   D. A common border between two existing rice fields does not need to be compacted.

Subsection C.2.3

(Placeholder – for future use)

Product cancellation	This section is a placeholder for future use. The previous section, *Methyl Parathion*, has been deleted. Methyl parathion was cancelled in 2006 with a 50-month extension. Last legal use on rice was in 2010.

Subsection C.2.4

(Placeholder – for future use)

U.S. EPA Product Cancellation Order

This section is a placeholder for future use. The previous section, *Molinate*, has been deleted; U.S. EPA had a stop use date of August 31, 2009.

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(Placeholder – for future use), Continued

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(Placeholder – for future use), Continued

Continued on next page

(Placeholder – for future use), Continued

Continued on next page

Subsection C.2.5

Suggested Permit Conditions for Phenoxy/Dicamba

Introduction

The following requirements apply to Dicamba; 2,4-dichlorophenoxyacetic acid (2,4-D); 2,4-dichlorophenoxybutyric acid (2,4-DB); 2,4-dichlorophenoxypropionic acid (2,4-DP); and 2-methyl-4-chlorophenoxyacetic acid (MCPA) herbicides when used on rice grown below 1,000 feet elevation in the following areas of the Sacramento Valley:

- All of Butte, Colusa, Glenn, Placer, Sutter, Yolo, and Yuba Counties;
- The portion of Sacramento County situated north of Highway 80; and
- The portion of Tehama County situated west of the Sacramento River.

General application conditions

General application conditions follow:

A. A 24-hour Notice of Intent is required for all applications.

B. No applications shall be made when the temperature at four (4) feet above the ground exceeds 90 degrees Fahrenheit (90°F) or as required by the registered product use label, whichever is the most restrictive.

C. No herbicide in an ester form shall be applied, unless expressly authorized by a permit issued by the commissioner.

D. Unless expressly authorized by permit, no application shall be made on rice within two miles of any cultivated commercial cotton, grape, or pistachio planting.

E. All applicators shall comply with the following good agricultural practices before each application to reduce the possibility of drift with non-target sites:

1. Proper boom pressure.
2. Proper nozzle size.
3. Relationship of boom pressure and nozzle size on droplet size and drift.
4. Proper discharge height above the target crop/site.
5. Effects of excessive boom length and unstable equipment on coverage and drift.
6. Climatic effects such as air temperature, weather, and inversion conditions on drift.

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Ground application conditions

A. Ground equipment applications made between April 1 through October 15 shall be made in accordance with the following requirements:
   1. No ground application shall be made when the wind velocity is greater than ten (10) miles per hour at the application site or as required by the registered label, whichever is the most restrictive. Wind measurements measured by an anemometer shall be made four (4) feet above the crop being treated.
   2. Each operating nozzle shall produce a droplet size, in accordance with the manufacturers' specifications, not less than 500 microns volume median diameter (Dv0.5) with ten (10) percent of the diameter by volume (Dv0.1) not less than 200 microns.
   3. Applications of a pesticide spray solution made to field crops by vehicle-mounted or towed ground equipment shall discharge only after entering the target site; discharge shall be shut off before exiting the target site.

Aerial application conditions

A. Aircraft application equipment used to apply a pesticide spray solution to field crops shall be configured as follows:
   1. Functional boom length, measured from outboard nozzle to outboard nozzle, shall not exceed 75% of the overall wing span or rotor length.
   2. Boom pressure shall not exceed 40 pounds per square inch.
   3. The flow of liquid from each nozzle shall be controlled by a positive shutoff system.
   4. Nozzle orifices shall be directed backward parallel to the horizontal axis of the aircraft in flight.
   5. Aircraft shall be equipped with:
      a. Jet nozzles having an orifice of not less than one-sixteenth of an inch in diameter. Nozzles shall not be equipped with any device or mechanism which would cause a sheet, cone, fan, or similar type dispersion of the discharged material except helicopters operating at 60 miles per hour or less may add a number 46 (or equivalent) or larger whirlplate.
      b. Helicopters operating at 60 miles per hour or less may, instead of #1 (above), be equipped with fan nozzles with a fan angle number not larger than 80 degrees and a flow rate not less than one gallon per minute at 40 pounds per square inch pressure (or equivalent).

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Aerial application conditions (continued)

B. Aerial applications of a pesticide spray solution or granular pesticide made to field crops shall meet the following requirements:
   1. Fixed-wing aircraft and helicopter applications are prohibited April 1 through October 15.
   2. Discharge shall start after entering the target site; discharge height shall not exceed 10 feet above the crop or target; discharge shall be shut off whenever necessary to raise the equipment over obstacles; and discharge shall be shut off before exiting the target site.
      - The 10 feet height restriction does not apply to applications of granular pesticides.
   3. No aerial applications shall be made when the wind velocity is less than two (2) miles per hour or greater than seven (7) miles per hour at the application site or as required by the registered label, whichever is the most restrictive. Wind measurements shall be made at four (4) feet above the crop being treated.

Subsection C.2.6

Thiobencarb

Mandatory preseason thiobencarb stewardship training by the California Rice Commission

- Mandatory preseason thiobencarb stewardship training applies only to thiobencarb restricted material permit holders located in the Sacramento Valley rice-growing counties.
- Restricted material permits shall not be issued to growers who have not received California Rice Commission certification that they attended a preseason thiobencarb stewardship training session that year.
- The county agricultural commissioner may certify a grower that did not attend a thiobencarb stewardship training session by having them view a video of the current preseason thiobencarb stewardship training session.

Drift Minimization

I. The use of Bolero 10G formulation is prohibited in the Sacramento Valley rice growing counties of Butte, Colusa, Glenn, Placer, Sacramento, Sutter, Tehama, Yolo, and Yuba.

II. No aerial applications shall be made or continued within ½ mile of the Sacramento or Feather Rivers in the Sacramento Valley rice growing counties of Butte, Colusa, Glenn, Placer, Sacramento, Sutter, Tehama, Yolo, and Yuba unless there is a continuous positive airflow away from the river.

III. In the Sacramento Valley rice growing counties of Butte, Colusa, Glenn, Placer, Sacramento, Sutter, Tehama, Yolo, and Yuba, no aerial application shall be made or continued within ½ mile of the Sacramento or Feather Rivers when the wind speed exceeds seven miles per hour.

IV. In Sacramento and Yolo Counties, no aerial applications shall be made or continued within ¼ mile of the Sacramento River unless they are made under the direct supervision of the county agricultural commissioner's representative.

V. In Sacramento and Yolo Counties, the maximum acres treated by air each day within ¼ mile of the Sacramento River shall not exceed 33 percent of the average acres treated per day by air within this area in each county during 2002.

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Water Management

I. The following water holding requirements apply to rice fields treated with thiobencarb in the Sacramento Valley (north of the line defined by Roads E10 and 116 in Yolo County and the American River in Sacramento County), except those treated with Abolish® 8EC:

   A. Except as listed below, all water on treated fields must be retained on the treated fields for at least 30 days following application. When drainage begins, discharge must not exceed two inches of water over a drain box weir for seven additional days. Unregulated discharges from these fields may then begin after 37 days.

      1. When water is contained within a tailwater recovery system, ponded on fallow land, or contained in other systems appropriate for preventing discharge, the water must be retained in the system for 19 days, unless:
         (a) The system is under the control of one permittee, then water may be discharged from the application site in a manner consistent with product labeling (14-day water hold).
         (b) The system includes drainage from more than one permittee, then water must be retained on the site of application for six days before being discharged from the application site into the system.
         (c) Water is on fields within the bounds of areas that discharge negligible amounts of rice field drainage into perennial streams until fields are drained for harvest. Water-hold may be reduced to six days if the commissioner evaluates such sites and verifies the hydrologic isolation of the fields.

II. Rice fields treated with thiobencarb in the Sacramento/San Joaquin Valley (south of the line defined by Roads E10 and 116 in Yolo County and the American River in Sacramento County), except those treated with Abolish® 8EC:

   A. Except as listed below, all water on treated fields must be retained on the treated fields for at least 19 days following application. When drainage begins, water discharge must not exceed two inches of water over a drain box weir for an additional seven days. Unregulated discharges from these fields may begin after 26 days.

Continued on next page

1. When water is contained within a tailwater recovery system, ponded on fallow land, or contained in other systems appropriate for preventing discharge, the system may discharge 19 days following the last application of thiobencarb within the system unless:
   (a) The system is under the control of one permittee, then water may be discharged from the application site in a manner consistent with product labeling (14-day water-hold period).
   (b) The system includes drainage from more than one permittee, then water must be retained on the site of application for six days before discharged from the application site into the system.
   (c) Water is on fields within the bounds of areas that discharge negligible amounts of rice field drainage into perennial streams until fields are drained for harvest. Water-hold may be reduced to six days, if the commissioner evaluates such sites and verifies the hydrologic isolation of the fields.

III. All areas, fields treated with Abolish® 8EC:

A. Except as listed below, all water on treated fields must be retained on the treated fields for at least 19 days following application. When drainage begins, water discharge must be released at a volume not to exceed two inches of water over a drain box weir for an additional seven days. Unregulated discharges from these fields may begin after 26 days.

1. For water contained within a tailwater recovery system, ponded on fallow land, or contained in other systems appropriate for preventing discharge, the system may discharge 19 days following the last application within the system unless:
   (a) The system is under the control of one permittee, then water may be discharged from the application site in a manner consistent with product labeling (14-day water-hold period).
   (b) The system includes drainage from more than one permittee, then water must be retained on the site of application for six days before discharged from the application site into the system.
   (c) Water is on fields within the bounds of areas that discharge negligible amounts of rice field drainage into perennial streams until fields are drained for harvest, then water-hold may be reduced to six days if the commissioner evaluates such sites and verifies the hydrologic isolation of the fields.

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IV. Emergency release requirements (Salinity damage):

The county agricultural commissioner may authorize the emergency release of field water after a minimum 19-day water-hold period after the last thiobencarb application, following the review of a written application that demonstrates salinity levels are damaging to the crop.

A. Applicants for such emergency releases must provide the following information:
   1. All information indicated on the emergency release request (Form A), including a description of the severity and extent of salinity damage.
   2. Electrical conductivity (EC) measurements, expressed as deciSiemens per meter (dS/m) or microSiemens per centimeter (μS/cm), from field water in each paddy suspected of having salinity problems. To most effectively demonstrate salinity problems, measurements should be taken wherever salinity problems are evident.
   3. The instrument (make and model) used to determine EC measurements. The instrument must have a sensitivity range that accommodates the full range of EC values in intake and paddy water (usually a range of 0-5.0 dS/m or 0-5,000 μS/cm should be sufficient) and should have a resolution of not less than five percent. The instrument must be calibrated according to the manufacturer's instructions. The applicant must specify the method of temperature compensation (i.e., automatic, conversion table).
   4. Who made the EC measurements.
   5. The source of irrigation water (e.g., district supply canal, drainage canal, well, etc.).

B. An emergency release may be granted only if all of the following conditions are satisfied:
   1. All required information is provided.
   2. Water management requirements for rice pesticides other than thiobencarb are satisfied.
   3. EC of paddy water exceeds 2.0 dS/m or 2,000 μS/cm.
   4. The county agricultural commissioner or his/her staff inspects the site.

C. Water may be released from paddies where EC measurements exceed 2.0 dS/m or 2,000 μS/cm and from paddies down gradient from such paddies within the same field. Water shall only be released in an amount necessary to mitigate the salinity problem.

D. Those issued an emergency release must submit to the county agricultural commissioner, a report (Form B) indicating the time and duration of the emergency release and data that can be used to calculate the total amount of water released during the emergency release.