



Quincy-Columbia Basin Irrigation District

Telephone (509) 787-3591 Fax (509) 787-3906

Post Office Box 188

Quincy, Washington 98848

March 17, 2015

Cheryl Niemi

Washington State Department of Ecology

Water Quality Program

P.O. Box 47600, Olympia, WA 98504-7600

Subject: Comments on the Proposed Human Health Criteria

Dear Ms. Niemi:

The Quincy-Columbia Basin Irrigation District (District) is concerned with Washington State Department of Ecology's (Ecology) proposal to adopt new acrolein human health criteria (HCC) based on toxicity factors that are not representative of potential environmental exposures to acrolein.

Ecology issued Irrigation System Aquatic Weed Control National Pollution Discharge Elimination System (NPDES) and State Waste Discharge General Permit currently permits 21 ug/L acrolein discharges at points of compliance. The proposed HHC assumptions drive the acrolein water quality standard down by 95% to 1.0 ug/L and are not reflective of actual acrolein uses.

The District relies on acrolein to control aquatic weed growth in irrigation canals and there is no other technology to substantially replace the use of acrolein. Without acrolein, the District's ability to deliver water to over 250,000 acres would be impaired.

New HHC are derived from variables to characterize risk and exposure, including degree and type of toxicity attributed to specific chemicals, human body weight, human drinking water rates, fish and shellfish consumption rates, and others. The preliminary draft rule includes language that explicitly states that the criteria are calculated using duration of exposures that can be up to 70 years, but acrolein is used episodically.

Ecology's risk management assumptions do not properly incorporate acrolein risk and exposure information based on episodic use patterns that are mandated by the Environmental Protection Agency (EPA), Washington State Department of Agriculture (WSDA), and Ecology.

Specifically, Ecology proposes:

- to use the EPA 2000 recommended drinking water intake value of 2 L/day to calculate acrolein criteria in the draft rule;
- to use a fish consumption rate of 175g/day to calculate acrolein criteria in the draft rule; and

- to use a reference dose of 0.0005 mg/kg-day to estimate the daily human exposure via ingestion to calculate acrolein criteria that is likely to be without appreciable risk of deleterious health effects during a lifetime.

The EPA approved label under the Federal Insecticide, Fungicide, and Rodenticide Act limits acrolein treatment intervals to two weeks. The WSDA issued Washington Special Local Need registration number WA-040017 limits the maximum number of acrolein applications to 8 per year and the duration of each application to 8 hours. These restrictions make daily consumptive exposures via drinking water and fish and shellfish impossible to occur.

The 2008 EPA Acrolein Registration Eligibility Decision in a summary of toxicological doses and endpoints for acrolein for use in Human Health Risk found exposures to populations to be unexpected:

Table 6: Summary of Toxicological Doses and Endpoints for Acrolein for Use in Human Health Risk Assessment	
Exposure Scenario	Dose Used in Risk Assessment
Acute and Chronic Dietary – (All populations)	Acute and chronic oral (dietary and drinking water) exposures to acrolein are not expected based on use patterns, physical-chemical properties, and plant metabolism data. Therefore, RfDs are not required and were not selected for this assessment.
Incidental Oral (all durations)	There are no residential uses for acrolein. Therefore, incidental oral exposure endpoints are not required and not selected for this assessment.
Dermal (all durations)	Worker dermal exposures are not expected based on use patterns and personal protective equipment requirements. There are no residential uses for acrolein and dermal exposures to residential bystanders are not expected based on use patterns and physical-chemical properties. Therefore dermal exposure endpoints are not required and have not been selected for this assessment.

The District requests that Ecology reconsider broad daily exposure assumptions for acrolein that do not apply because of EPA, WSDA and Ecology mandated restrictions and develop new standards reflective of acrolein's episodic uses.

Sincerely,

Craig Gyselinck

Water Quality Programs Manager