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**To:** <creed@waterboards.ca.gov>  
**Date:** 2/28/2011 1:47 PM  
**Subject:** Crescent City Wastewater Treatment Facility  
**CC:** "Wiedemann, Tony (CDPH-DDWEM)" <Tony.Wiedemann@cdph.ca.gov>, "Barnard,Ra..."

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**Dear Mr. Charles Reed,**

**SUBJECT:** Crescent City Wastewater Treatment Facility, Order No. R1-2011-0019  
NPDES Permit No. CA0022756

CDPH requests delete words formatted with ~~strike-through~~; add words underlined as follows:

Pages 16-17,

#### **D. Other Requirements**

##### **2. Disinfection Process Requirements for the UV Disinfection System.**

The Discharger shall operate the UV disinfection system in accordance with the following operating protocol and technical and administrative requirements in order to demonstrate compliance with Effluent Limitations IV.C.2.a of this Order.

- a. Disinfection of tertiary treated wastewater shall be accomplished using a disinfection process that operates in accordance with the UV dose equation and operations/maintenance plan that is approved by CDPH.  
~~when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration. The demonstration shall be performed on-site at the Facility at both maximum and minimum plant flows. At a minimum, the Discharger shall demonstrate a 99.99 percent removal and/or inactivation through the UV disinfection system only.~~
- b. The Discharger shall provide continuous, reliable monitoring of flow per each reactor channel, UV transmittance, UV intensity, UV dose, UV power, and turbidity. The Discharger must demonstrate compliance with the UV dose requirement.
- c. The Discharger shall operate the UV disinfection system to provide a minimum UV dose of 80 millijoules per square centimeter (mJ/cm<sup>2</sup>) at all times, unless otherwise approved by CDPH.
- d. The UV transmittance (at least 254 nanometers) in the wastewater shall not fall below 65 percent of maximum at any time, unless otherwise approved by CDPH.
- e. The quartz sleeves and cleaning system components shall be visually inspected per the manufacturer's operation manual for physical wear (scoring, solarization, seal leaks, etc.) and to check the efficacy of the cleaning system.
- f. The quartz sleeves shall be cleaned at fixed intervals to ensure the minimum required UV dose delivery is consistently achieved. Cleaning intervals shall be

established based on the presence of coliform organisms.

- g. Lamps and sleeves shall be replaced per the manufacturer's recommendation, or sooner, if there are indications the lamps are failing to provide adequate disinfection. Lamp age and lamp replacement records must be maintained for a time period consistent with the record retention requirements in the Standard Provisions (Attachment D, Section IV).
- h. The UV disinfection system shall be operated in accordance with an approved operations and maintenance plan.
- i. The Discharger shall comply with all of CDPH's acceptance conditions for the UV disinfection system.
- j. **Prior to initial discharge to REC-001**, the Discharger shall submit to the Executive Officer a copy of a letter from CDPH stating that all the UV disinfection system pre-operation acceptance conditions specified by CDPH have been satisfied.

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ADD to Table E-5, the following:

UV Dose	mJ/cm <sup>2</sup>	online	continuous
UV Intensity	mW/cm <sup>2</sup>	online	continuous
UVT	%	online	continuous
Flow at each reactor	gallons/min	online	continuous

Tony Wiedemann, Klamath District Engineer may have other comments.

Brian Bernados, CDPH Technical Specialist - 1350 Front St, Room 2050, San Diego, CA 92118 - 619-525-4497

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