



CITY OF KODIAK  
2410 Mill Bay Road, Kodiak, AK 99615  
Public Works Department  
(907) 486-8060 Fax: (907) 486-8066

November 18, 2013

Ms. Beth Verrelli, P.E.  
State of Alaska  
Department of Environmental Conservation  
555 Cordova Street  
Anchorage, AK 99501

UV Disinfection Project PN 03-14  
Kodiak – UV Water Treatment Facility

ADWF Loan no. 503061  
Project Affirmative Certification, Certificate of Performance for Public Water System

Dear Ms. Verrelli, PE:

The City of Kodiak's UV Disinfection Project PN 03-14 Affirmative Certification form is attached. The date for initiation of operation was November 23, 2012 and the attached form was required to be submitted one year later.

The project was constructed in accordance with CH2M HILL's Contract Documents for the Construction of the City of Kodiak's UV disinfection Facility dated November 2010. Record Drawings have been produced and were delivered to ADEC's Anchorage office on March 13, 2013.

### **PROJECT PERFORMANCE CRITERIA**

The drinking water treatment project performance criteria for the installed Calgon Carbon Corporation's UV reactors are to be capable of providing 3-log inactivation of *Giardia* and *Cryptosporidium* under the requirements of the Long-Term 2 Enhanced Surface Water Treatment Rule (40CFR141.712). More specifically, the US EPA's 2006 Final Ultraviolet Disinfection Guidance Manual (UVDGM) is used by ADEC to determine the performance requirements of UV reactors for drinking water disinfection. Interim Approval to Operate the Facility was issued on June 20, 2013.

Per CH2M HILL's Contract Documents for Construction, Drawing G-3, Basis of Design and Flow Schematic, the new UV Disinfection Facility is to be capable of the following design criteria:

### **FLOW**

Peak Hour Flow = 18.0 MGD  
Maximum Month Flow = 12.0 MGD



Average Flow = 6.6 MGD  
Minimum Flow = 1.0 MGD

### **UV Disinfection Treatment**

*Cryptosporidium* Log Inactivation = 3-Log  
*Giardia* Log Inactivation = 3-Log  
Design UVT = 86.5%  
UV Reactors = Calgon 24-inch Sentinel 5x10KW  
No. Reactors = 2; 1 On-line and 1 Redundant  
Reactor Size = 24-inch  
No. of Lamps per Reactor = 5  
Power Per Lamp = 10 KW  
Minimum Validated UVT = 70%

The City has conducted additional operator training and continues to monitor the performance of the water treatment equipment for conformance with the specified operational requirements during this last year. Just prior to November 23, 2013 the City of Kodiak City Engineer and City Building Official will make a final facility inspection.

### **Construction Final Inspections and Submittal and Training Requirements**

The City has confirmed that all components of new treatment facility are performing in a satisfactory manner. As facility construction was nearing completion, both the City and CH2M HILL performed comprehensive inspections. The City and CH2M HILL worked with the construction contractor, Jay Brant General Contractor, LLC, and the Owner Furnished Treatment Equipment Supplier, Calgon Carbon Corporation, to make sure all materials were supplied and equipment and construction met specified performance requirements. All required O&M manuals have been provided and all required operator training has been completed.

Final operator training was conducted in Kodiak with CH2MHill in September 2013. This operator training made additional modifications to water report forms and computer programming to assist in the preparation of the monthly water reports.

### **Equipment Warranty**

The City has contacted both the Construction Contractor and Equipment Supplier on equipment warranty issues during the performance period and each noted item has been satisfactorily addressed.

### **ADEC Operational Approval**

ADEC issued Interim Approval to Operate the UV Water Treatment Plant on June 20, 2013. This interim approval is valid until October 2014 or until final Approval is issued.



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### **Recommendation**

Based on the above statements, this project has met all established performance criteria. I recommend this project for an Affirmative Certification for ADEC's Certificate of Performance for Public Water Systems. Please see the attached signed certificate.

Sincerely,

A handwritten signature in blue ink that reads "Mark Kozak".

Mark Kozak  
Public Works Director  
mkozak@city.kodiak.ak.us

STATE OF ALASKA  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AFFIRMATIVE CERTIFICATION

Certificate of Performance  
for  
Public Water System

- I. As required by 18 AAC 76.250 of the Alaska Drinking Water Revolving Loan Fund Regulations and Loan Agreement Conditions for the UV Disinfection Facility Project, the City does hereby certify that it is in full compliance, and that it has:
- a) Provided to the ADEC Project Engineer written notification of the actual date of Initiation of Operation. This date of initiation was on the 23<sup>rd</sup> day of November, 2012.
  - b) Over the course of this project, utilized the following engineering services for:
    - 1. Design: CH2M HILL
    - 2. Construction Inspection: CH2M HILL
    - 3. Construction Administration: City of Kodiak, Mark Kozak
    - 4. Project Performance: City of Kodiak, Mark Kozak
  - c) Within one year following the Date of Initiation of Operation, ending on the 23<sup>rd</sup> day of November, 2013, the following items were completed for Project Performance:
    - Directed project operation and maintenance;
    - Trained operating personnel, prepared the required curricula and training materials, and revised the operation and maintenance manual(s), and;
    - Advised the City on the status of the project meeting performance standards.
- II. The City having access to and control of all the necessary data and having monitored the construction of this project, hereby certifies that the project built under this loan meets the performance and operational requirements applicable to the project together with the enforceable requirements of the Safe Drinking Water Act, and the specifications which the project was planned, designed, and built to achieve.

Mark Kozak  
Signature

UV Disinfection Facility  
Project Name/Community

Mark Kozak, Public Works Director  
Name and Title

11-18-2013  
Date