

# BOYCE HYDRO POWER LLC

A W.D. Boyce Trusts Legacy Enterprise

Lee W. Mueller & Stephen B. Hultberg, Co-Member Managers  
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May 18, 2016

The Secretary  
Federal Energy Regulatory Commission  
888 First Street NE  
Washington, D.C. 20426

RE: 2016 Plan for Water Quality Testing for P-2785, P-10808, P-10809, P10810

Dear Secretary,

We are submitting herewith our plan for 2016 Water Quality Testing at our 4 project locations.

Sincerely,  
Boyce Hydro Power, LLC



Frank O. Christie, P.E.  
General Manager

cc: Lee W. Mueller, Co-Member Manager  
Stephen B. Hultberg, Co-Member Manager

**BOYCE HYDRO, LLC**  
**PLAN FOR 2016 WATER QUALITY TESTING**  
May 18, 2016

After evaluating several quality improvement options with our Consultants, we have decided to begin the 2016 year water quality testing program with the installation of an air supply system at our Edenville, Smallwood and Secord Projects. The Sanford project seems to be satisfactory with the turbine operations and the release of the required bypass water.

We will introduce air at the outlet of the turbine draft tube(s) at these three sites by means of an air supply line fastened to the top of the downstream end of the draft tube slab, and extended across the full width of the slab. An air blower will be mounted in each powerhouse with piping extending down to the air supply line mounted on the draft tube slab. We intend to run this air supply system 24/7 unless data shows it is not needed while the turbines are running. With the turbine shut down we believe the discharge by leakage through the closed wicket gates will be in the area of 5 cfs or more. We will measure the flow from the turbines in a shut down condition to confirm that flow. The anticipation is that with air infused into a flow of 5 cfs, it will be enough to raise the DO to appreciate levels. We will experiment with different volumes of air to try and establish a successful discharge.

In the event that the air system is not successful we will begin to convert to an over the dam siphon system to test various volumes of water discharge in to the tailrace.

Our current proposed schedule for implementation is as follows:

- May 16 Received the reconditioned and recalibrated sensors back from Fondriest.
- May 16 – 20 Boyce is fabricating the piping for the air system.
- May 20 Order the DO monitoring/alarm relays.
- May 23 – 27 Install the air system. Divers will be on site to install the underwater portion on May 23, 24. Install temperature tidbits in Reservoir and begin a monthly program of DO profiling in the Reservoir
- May 28 & 31 Turn on and test the air system.
- June 1 Install DO/Temperature sensors and begin recording and monitoring data.
- June 30 Complete the installation of the DO monitors/alarms to the SCADA system.

Document Content(s)

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