



Wisconsin Power and Light Co.  
An Alliant Energy Company

Prairie du Sac Plant  
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November 29, 2007

Secretary  
Federal Energy Regulatory Commission  
Mail Code: DHAC, PJ-12.1  
888 First Street, NE  
Washington, DC 20426

In accordance with Article 404 of the Federal Energy Regulatory Commission (FERC) Order Issuing Original License (June 27, 2002) for the Prairie du Sac Hydroelectric Project, FERC Project No. 11162, WP&L was required to develop and implement a dissolved oxygen monitoring and enhancement plan for this facility. Historic water quality monitoring conducted by WP&L and the Wisconsin Department of Natural Resources (WDNR) indicated that at times dissolved oxygen concentrations may be lower than the 5 mg/L Water Quality Standard as specified under Wisconsin Administrative Code Chapter NR 102. Monitoring has shown that dissolved oxygen concentrations may be as low as 2 to 3 mg/L at the intake and in the tailrace during summer months. WP&L also previously investigated the use of turbine vacuum breakers to raise dissolved oxygen levels in the turbine discharge; however the results were reportedly inconclusive.

On behalf of WP&L, Natural Resources Consulting, Inc. (NRC) developed the dissolved oxygen monitoring and enhancement plan for the PDS facility, which was filed with FERC on March 27, 2003.

The *Order Approving Water Quality Monitoring Plan Under Article 404 (Order)* was issued by FERC on September 11, 2003. The plan requires WP&L to monitor dissolved oxygen levels at their PDS facility during the summer low flow periods for a three-year period and re-evaluate the potential for vacuum breakers to increase dissolved oxygen levels in the tailrace. In 2004, the vacuum breakers were evaluated and proven to be ineffective at increasing dissolved oxygen concentrations ([DO]) in the tailrace, and therefore were not evaluated this year.

In 2006, NRC conducted the final year of the water quality investigation at the PDS facility according to the Order. In 2007, NRC continued the water quality investigation to provide an additional year of data to support future efforts to increase DO concentrations in the tailrace. The attached report summarizes the methods and results of the 2007 investigation.

In 2007, Mead&Hunt reviewed methods used at various hydropower projects to increase dissolved oxygen in discharged flows and evaluated their applicability to the Prairie du Sac facility. This evaluation is summarized in the attached document. Based on the results of the

evaluation, WP&L is planning to test the impact of spillway discharges on discharge DO in 2008. With that, WP&L will decide what would be the best action to implement as part of the operating procedures to maintain the DO levels under compliance.

If you have any questions you can reach me at 608-643-7710.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mildred Godoy', with a stylized flourish at the end.

Mildred Godoy  
Hydro Manager

CC:

Louis Clemency – FWLS  
Andy Morton - WDNR

Attachments:

Recommendations to Address Dissolved Oxygen Deficiency in Powerhouse Discharge –  
Mead&Hunt  
Dissolved Oxygen Monitoring and Enhancement Plan – Natural Resources Consulting, Inc