

Fax Cover Sheet



Minnesota Pollution Control Agency

Municipal Division
 St. Paul Office
 520 Lafayette Road North - St. Paul, MN 55155

Date:	November 5, 2008	Number of pages (including this page):	7
To:	Tom Montgomery / Heidi Wahto		
Company or agency:	City of Hastings, Public Works / Hatch Acres		
Fax number:	651-437-7082 / 206-352-5734		
Subject:	Final Amended Clean Water Act Section 401 water quality certification for the Mississippi Lock and Dam 2 Hydroelectric Project		
Message:			
From:	Judy Mader		
Division:	Municipal Division		
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Minnesota Pollution Control Agency

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J. Madu

November 5, 2008

CERTIFIED MAIL NO: 7006 0810 0002 0972 0404
RETURN RECEIPT REQUESTED

Mr. Thomas M. Montgomery
Public Works Director
City of Hastings
1225 Progress Drive
Hastings, MN 55033

RE: Federal Energy Regulatory Commission Project No. 4306
Mississippi Lock and Dam No. 2 Hydroelectric Project
Mississippi River, Dakota County, Minnesota
Amendment of the Clean Water Act Section 401 Water Quality Certification

Dear Mr. Montgomery:

This letter is submitted by the Minnesota Pollution Control Agency (MPCA) under authority of Section 401 of the Clean Water Act (33 USC 1251, et seq.) and Minn. Stat. chs. 115 and 116. The project involves the Federal Energy Regulatory Commission (FERC) license referenced above.

The MPCA has taken new information into consideration and bases its amendment of the existing certification, issued on October 23, 1984, on an evaluation of that information and such other information that is relevant to water quality considerations. That new information consists of the proposed installation of a kinetic energy hydropower turbine array (HTA) downstream of and in line with the existing hydropower facility (Main Facility) in the U.S. Army Corps of Engineers' (COE) Lock and Dam 2.

The MPCA hereby amends the October 23, 1984, certification, through a revision of conditions in that certification, for the referenced project because there is reasonable assurance that the facility will be operated in a manner that will not violate applicable water quality standards, provided the revised conditions are complied with:

- Condition #1, "Mode of operation shall be strict run of river. If river forecasts predict low flow such that a peaking mode of operation will be necessary to maintain the power production of the facility, prior approval of the anticipated peaking procedure shall be obtained from the MPCA Commissioner. In seeking approval of the Commissioner, the permittee shall submit an impact assessment of the proposed peaking operational procedure which shall include but not necessarily be limited to the following:

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- a. Impacts to fish and wildlife resources resulting from the changes in existing flow patterns and water levels both upstream and downstream of Lock and Dam #2, including effects of changes in downstream flow patterns on aquatic habitat and resulting changes in fish distribution.
- b. The potential for increased thermal effects below Northern States Power (NSP) Prairie Island Nuclear Generating Plant.
- c. Changes in dissolved oxygen levels below Lock and Dam #2.
- d. Effects of peaking on scour and sedimentation upstream and downstream of the turbines and the impacts to habitat and water quality” is rescinded and replaced with the following:

The city of Hastings (City), or its designee, shall operate the facility in a strict run of river mode. If river forecasts predict low flow such that a peaking mode of operation will be necessary to maintain the power production of the facility, then prior written approval of the anticipated peaking procedure shall be obtained from the MPCA Commissioner. In seeking approval of the Commissioner, the City or its designee shall submit an impact assessment of the proposed peaking operational procedure to the Commissioner 30 days prior to the desired commencement of peaking operation. This impact statement shall include but not necessarily be limited to the following:

- a. Impacts to fish and wildlife resources resulting from the changes in existing flow patterns and water levels both upstream and downstream of the entire hydropower facility, including the effects of changes in downstream flow patterns on aquatic habitat and resulting changes in fish distribution.
 - b. The potential for increased thermal effects below Xcel Energy’s Prairie Island Nuclear Generating Plant.
 - c. Changes in dissolved oxygen levels below the entire hydropower facility.
 - d. Effects of peaking on scour and sedimentation upstream and downstream of the entire hydropower facility and the impacts to habitat and water quality.
- Condition #2, “Permittee shall implement a water quality monitoring plan in accordance with the requirements of the MPCA and comply with all other regulations of the MPCA”, is rescinded and replaced with the following:

The City, or its designee, shall monitor the water quality of the Mississippi River at two locations: (1) between the platform that houses the hydropower turbine array (HTA) and the Main Facility; and (2) downstream of the platform that houses the HTA at a point and depth representative of the water passed through the HTA. (The sampling location between the platform and the Main Facility is necessary as the information on the sampling location for the water quality data collected by Metropolitan Council–Environmental Services appears to

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be upstream of the abandoned lock chamber and, therefore, is not representative of the water quality that exits the Main Facility.)

- a. The City should take the water quality samples year round at least once per week prior to 9:00 a.m. to catch the low point of the diurnal dissolved oxygen cycle. If the City monitors any parameter more frequently than once per week, then the results and frequency of monitoring shall be reported to the MPCA.
- b. The City shall take water quality samples year round with sampling required only monthly from December 1st to March 31st. If the HTA is removed from the river, then water quality sampling can be reduced to location (1) cited above when the HTA is not installed.
- c. The City should only conduct sampling during winter months when safety concerns are not compromised (e.g. no sampling when the ice is too thin to support all of the necessary equipment or when there is an extremely low air and/or wind chill temperature that could negatively affect sampling personnel).
- d. If the City misses a sampling event, regardless of the time of year, then the reason for the omission must be documented in the report on the data.
- e. The City must record the following at each sampling location for each sampling event:
 - i. Dissolved oxygen (D. O.) (in milligrams/Liter).
 - ii. Water temperature (in °C).
 - iii. Turbidity in nephelometric turbidity units (NTU).
 - iv. Depth of the D.O., water temperature and turbidity reading for each sampling event.
 - v. Date of each sampling occurrence.
 - vi. Time of the sampling at each site.
 - vii. All information on equipment calibration and maintenance (e.g. date, time, equipment setting, etc.).
 - viii. River flow (in cubic feet/second).
 - ix. Air temperature (in °F).
 - x. Which dam gates are open and what the opening is for each.
 - xi. Which turbine(s) is/are operating in the Main Facility.
 - xii. Wind speed and direction.
 - xiii. Percent (%) cloud cover.
 - xiv. Information on the most recent precipitation event (e.g. date, duration, and amount -- if known or obtainable).
- f. The City, or its designee, is required to calibrate all field instruments in the field prior to sample collection. All monitoring and analytical instrumentation, used to monitor any of the parameters required as part of the license amendment, must be calibrated and

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maintained at the intervals recommended by the equipment manufacturer(s) to insure the accuracy of all measurements.

- g. The City must conduct the water quality monitoring for a period of three years in order to minimize the influence of abnormal weather conditions. The City must submit the water quality data and equipment calibration and maintenance records to the MPCA on a quarterly basis during the first year of monitoring. At the conclusion of the first year of monitoring, the MPCA will evaluate the first year's monitoring results to determine the frequency for report submittals in the second and third year.
- h. At the conclusion of the water quality monitoring, if the monitoring demonstrates that D.O. downstream of the HTA is reduced below the 5.0 milligrams/Liter water quality standard two times in a quarter as a result of HTA operations, then the MPCA will revoke this 401 certification and may require mitigation (i.e. use of aeration equipment, discontinuation of HTA operation during critical aquatic life stages, etc.) in the new water quality certification that the MPCA would then issue to extend through the remainder of the facility's license from the FERC.
- Condition #3, "Permittee shall, after consultation with the MPCA, the MDNR and the U.S. Fish and Wildlife Service (USF&WLS) and within one year from the commencement of project operations, conduct a study to determine fish mortality that may be associated with impingement and turbine passage. Within six (6) months after completion of the above study, permittee shall, in cooperation with the above agencies, review the effects of project operation on the downstream passage of fish and develop recommendation to mitigate any project related adverse effects on the fishery" is rescinded and replaced with the following:

The City, or its designee, shall, after consultation with the MPCA, the MDNR and the U.S. Fish and Wildlife Service (USFWS), conduct a study to determine fish mortality that may be associated with impingement and turbine passage. Within six (6) months after completion of the above study, the City shall, in cooperation with the above agencies, review the effects of project operation on the downstream passage of fish and develop recommendation to mitigate any project related adverse effects on the fishery.
- Condition #4, "Daily records of flow through the power house and over and through Lock and Dam #2 shall be kept in cooperation with the St. Paul District of the Corps of Engineers and the U.S. Geological Survey and submitted to the MPCA by January 1 of each year" is rescinded and replaced with the following:

Daily records of flow through the hydropower facility and over and through Lock and Dam 2 shall be kept in cooperation with the St. Paul District of the Corps of Engineers and the U.S. Geological Survey and shall be made available on the internet.
- Condition #5, "Detailed project plans and specifications shall be submitted to the MPCA Director, for approval at least thirty (30) days prior to construction. The plans and specifications shall address erosion control, dewatering discharges, solid waste disposal or utilization (including removed concrete), and removal of dredged or excavated material. Construction shall be generally in accordance with Part II of the October 13, 1982

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certification which this document modifies" is hereby rescinded as this condition was met on September 3, 1985.

- Condition #6, "Within thirty (30) days after completion of construction, permittee shall submit certification by a professional engineer that the project was constructed in accordance with the approved plans" is rescinded and replaced with the following:
The City, or its designee, shall submit certification by a professional engineer that the Main Facility was constructed in accordance with the approved plans.
- Condition #7, "Aeration equipment shall be installed in the turbine and shall be demonstrated by analytical or by empirical data to provide aeration equivalent to the present flow over the weirs. The operation of the equipment shall be operated, so as to maintain water quality standards, by automated equipment or by a testing program in accordance with MPCA approved procedures" is hereby rescinded as the requirement for the installation of aeration equipment was replaced by a Dissolved Oxygen Mitigation Plan developed by the city of Hastings and approved by the MPCA and the COE in the spring of 1990.
- Conditions 8 and 9 remain unchanged and in effect.
- Condition #10, "Permittee shall ensure that the contractor has received and thoroughly understands all conditions of the permit" is rescinded and replaced with the following:
The City, or its designee, shall ensure that the party/ies installing the HTA and operating the entire hydropower facility has/have received and thoroughly understands all conditions of the permit.
- Condition #11, "Any modification of the proposal from the original license application, and not specified in the findings of fact listed above, shall require separate action and approval by the MPCA Director prior to implementation" is rescinded and replaced with the following:
Any modification of the proposal from the original license application and application for license amendment shall require separate action by and written approval from the MPCA Commissioner prior to implementation.
- Condition #12, The City, or its designee, shall employ Best Management Practices during the installation of the platform housing the HTA to protect water quality from drill cuttings and other materials used in the installation.
- Condition #13, The City, or its designee, shall submit a copy of the zebra mussel control and monitoring plan during the plan's development to the MPCA for review and comment on potential adverse impacts to water quality.

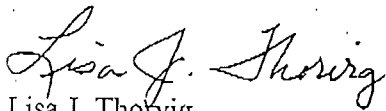
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This action does not exempt the applicant from the responsibility of complying with all applicable local, state, and federal requirements, nor does it grant any right to violate personal or property rights.

Minnesota Statutes and Rules can be accessed on the Internet at www.revisor.leg.state.mn.us/pub/.

If you have any questions regarding this matter, please contact Judy Mader either through the MPCA's toll-free number at 800-657-3864, or directly at 651-296-7315 before November 20, 2008. (After November 20, 2008, the direct dial telephone number for Judy Mader will be 651-757-2544.)

Sincerely,



Lisa J. Thorvig
Division Director
Municipal Division

LJT/JM:wgp

cc: Kimberly D. Bose, Federal Energy Regulatory Commission
Daniel J. Mahoney, Federal Energy Regulatory Commission – Region 5
Milo Anderson, U.S. Environmental Protection Agency – Region 5
Tony Sullins, Twin Cities Field Office, U.S. Fish and Wildlife Service
Charlotte Cohn, MN Department of Natural Resources
Dennis Gimmestad, State Historic Preservation Office, MN Historical Society
Paul Labovitz, National Park Service
Nanette Bischoff, St. Paul District, U.S. Army Corps of Engineers
Wayne Krouse, Hydro Green Energy, LLC
Heidi Wahto, Hatch Acres Corporation