



**Minneapolis
Park & Recreation Board**

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1 February 2017

Mr. Matthew Miller
Xcel Energy | Hydro License Compliance Consultant
1414 West Hamilton Avenue
P. O. Box 8
Eau Claire, Wisconsin 54702

RE: Comments on St. Anthony Falls Aesthetic Flow Survey

Dear Mr. Miller:

The Minneapolis Park & Recreation Board (MPRB) has received a copy of the St. Anthony Falls Aesthetic Flow Survey prepared for Xcel Energy by Barr Engineering Company, dated December 2016. The MPRB maintains its consistently and publicly stated position that a 2,000 cubic feet per second flow scenario, which is presented in the survey report as the greatest minimum flow scenario, is artificially low relative to the visual and aural experience of the Falls. In addition, the MPRB takes exception to the methodology of the survey, noting it was not conducted in ways that offer statistically valid results or that fairly reflect the patterns of use of the Central Mississippi Riverfront Regional Park. Further, there would appear to be requirements of United States of America 113 FERC 62.215 Federal Energy Regulatory Commission Order Modifying and Approving Aesthetic Flow Adequacy Plan Pursuant to Article 403 (Article 403) that are not met by the referenced survey.

The MPRB was created by an act of the Minnesota Legislature in 1883. It serves as an independently elected, semi-autonomous governmental unit responsible for governing, maintaining, and developing the Minneapolis park system. The MPRB exists, in part and according to its mission, to “permanently preserve, protect, maintain, improve, and enhance is natural resources, park land, and recreational opportunities for current and future generations.”

The MPRB is one of ten regional park implementing agencies in the Minneapolis-Saint Paul metropolitan area. It works with the Metropolitan Council to acquire and develop regional parks and trails to protect natural resources and provide outdoor recreation for public enjoyment in the metropolitan area. St. Anthony Falls is the centerpiece of the MPRB’s Central Mississippi Riverfront Regional Park. With more than 2.1 million annual visits, the park is the fourth most visited regional park in the Twin Cities metropolitan area according the Metropolitan Council’s annual visitor counts. The Board of Commissioners of the MPRB adopted a master plan for the park on 1 April 2015 (Resolution 2015-144), including a primary recommendation to rename the park to recognize Saint Anthony Falls as the park’s primary natural feature.

Since the mid-1980s, the MPRB has consistently and publicly indicated that flows over St. Anthony Falls should not be less than 2,000 cfs. On this subject,

the MPRB agrees with the National Park Service, contending that flows at 100 cfs over the dam greatly impair the falls as a natural, cultural, visual, and economic resource, and further contends that flows need to be far greater than the 200 cfs indicated as a minimum in the Low Flow Contingency and Management Plan for St. Anthony Falls. Further, the MPRB believes the water flow aesthetics should consider visual and aural factors, as the sound of the water passing over the dam is a significant factor in park users' experience. In the St. Anthony Falls Aesthetic Flow Survey, only visual factors appear to have been considered. The survey also presented low flow scenarios with the greatest minimum flow being 2,000 cfs, following the requirements of Article 403 but failing to demonstrate flows the MPRB and other agencies believe necessary to maintain the Falls as a natural, cultural, visual, and economic resource.

In its review of the Aesthetic Flow Survey Report, the MPRB finds the following:

- The Aesthetic Flow Survey Report fails to indicate clearly the methodology used in the conduct of the survey or the qualifications of those individuals tasked with infield survey work or the analysis of collected results. Because those factors are not indicated in the report, it is impossible to determine whether the collection of data, its interpretation, or the conclusions of the report are statistically valid. Article 403 requires the use of "a professional survey firm or group to conduct the interviews," however it is not clear that Barr Engineering Company is such a professional survey firm.
- Days when the survey was conducted may not fairly reflect visitorship to the Central Mississippi Riverfront Regional Park. To wit, the Aesthetic Flow Survey Report suggests that no surveys were conducted on Sundays during the survey period. In fact, the survey dates seem to skew toward mid-week, with 16 of 23 survey dates occurring on Tuesdays, Wednesdays, and Thursdays, with those weekdays being nearly 70 percent of dates when surveys were conducted. There are no conclusions presented to reflect a correlation between preferences for flow scenarios and days of the week when surveys were conducted.
- Times when the surveys were conducted appear to be largely those hours between noon and 4 pm, which may skew results toward more infrequent visitors to the Falls area. In fact, information included in the report indicates that of the 23 dates when surveys were conducted, 78 percent were conducted between noon and 4 pm. There are no conclusions presented to reflect a correlation between preferences for flow scenarios and times when surveys were conducted.
- There is no correlated data or analysis to suggest preferences for flow scenarios between those visitors characterized as frequent or infrequent visitors. More frequent visitors to the Falls area may be more aware of changes in flow, especially when considering more dramatic high flow regimes. Correlated data could reveal valuable insights and information, but no such data is presented in the survey report.
- Survey data appears to have been collected in locations where respondents would have a clear view of the Falls, which suggests that a correlation between a response and the flow condition might exist and be revealing as a part of the conclusions presented in the report. While flows are noted in the report being as much as 25,000 cfs on some survey dates, there is no correlation between

actual flows and collected survey data. Without this correlation, there could be a tendency for responses to reflect actual flow conditions as opposed to those demonstrated by the images of the flow scenarios.

- The St. Anthony Falls Aesthetic Flow Survey report noted that images presented to survey respondents for a 1,000 cfs scenario were incorrectly displayed. This error was recognized only when survey results were being tabulated. Further, the report notes that the error was discovered “when tabulated results showed a surprising 21% of respondents considered this flow rate to be unacceptable.” Regardless of the error, the use of the term “surprising” would seem to indicate a bias in the interpretation of the survey. Further, instead of dismissing that flow scenario based on incorrectly collected data, the report indicates the survey results were recalculated, raising questions of inconsistencies in all calculations. Further still, Article 403 requires the survey to be conducted with “at least 500 users during the late-spring through early-fall seasons,” with those users looking at photographs representing various flow levels. If one set of data were inappropriately used in the survey, the requirements of Article 403 would appear to remain unsatisfied. It is unclear in the report if the recalculation reduced the number of respondents to less than the 500 users required by Article 403.
- The report repeats images for a 2,000 cfs scenario in Section 2.9.8, essentially showing images of that scenario from the viewpoint of the USACE Visitor Center at Lock and Dam twice, and not showing the image from the viewpoint of Water Power Park. While this may be an error in the presentation of the report, it reflects poorly on quality review processes that might extend to other aspects of the survey.

The need to correlate information across survey questions becomes critical in assessing and understanding the perspectives of responders. For instance, a quick review of the data suggests:

Of the 119 respondents indicating they visit one of the three interview sites “frequently (one or more times per week),” 67 respondents (56 percent) indicated a preference for the image representing a flow at the Falls of 2,000 cfs. An additional 14 respondents who identified as frequent visitors indicated a preference for a flow of 1,500 cfs (some respondents indicated “optimal” for more than one image). This suggests that those respondents who are most familiar with the Falls have a clear preference for flows far in excess of those at the lower end of the range, with 68 percent of frequent visitor choosing 2,000 cfs or 1,500 cfs as the optimal flow scenario.

The MPRB highlights this example of the need to correlate data across responses. More important, however, this example is clear in its demonstration of the need to consider higher flows as the minimum threshold for aesthetics based not only on the consistently presented position of the MPRB but on the desire indicated by park users in the report. From the perspective of the MPRB, this is a strong indication that future surveys should reflect flows greater than 2,000 cfs in the choices offered interviewees.

As a result of what it considers to be serious deficiencies in the process of collecting and analyzing data, the MPRB cannot agree to any conclusions presented in the St. Anthony

Falls Aesthetic Flow Survey. The MPRB requests that Xcel Energy, under the direction of the Minnesota Department of Natural Resources, Division of Ecological Resources, prepares and provides to the MPRB and other interested parties the following:

- A specific plan of work for the conduct of a statistically valid survey, including survey questions and the methods of correlating key data among and across responses;
- The qualifications of an entity qualified in the conduct of statistically valid surveys;
- A new survey, conducted according to the specific plan of work requested above; and
- A correlation of data across collected responses that offers more insightful and robust conclusions.

Questions regarding this letter or the positions of the MPRB relative to aesthetic flows at St. Anthony Falls may be directed to MPRB Superintendent Jayne Miller at jmiller@minneapolisparcs.org.

Sincerely,

Anita Tabb
President
Minneapolis Park & Recreation Board

Cc Charlotte Cohn, Minnesota Department of Natural Resources, Division of Ecological Resources
Jayne Miller, Superintendent, Minneapolis Park & Recreation Board
Nan Bischoff, Army Corp of Engineers
Whitney Clark, Friends of the Mississippi
Susan Overson, National Park Service