

MEMORANDUM

To: Full Board

From: Jayne Miller, Superintendent

Date: May 18, 2011

RE: Crown Hydro, LLC ("Crown") Letter of Intent

For a number of years Crown has been interested in securing site control of land owned by the PARK BOARD for the use of a hydroelectric facility. The PARK BOARD property Crown is requesting to use is adjacent to the Falls of St. Anthony, the "birth place of Minneapolis", and contains several national historic sites, e.g. the James J. Hill Stone Arch Bridge, the Washburn Crosby Mills and the Pillsbury "A" Mill. The Park Board has created "Mill Ruins Park", an area which contains numerous historic building sites and building foundations. Mill Ruins Park is immediately adjacent to the historic sites and the James I. Rice and West River Road Parkways.

Crown has a license issued by the Federal Energy Regulatory Commission ("FERC") to construct and operate a hydroelectric facility. If Crown is to use Park Board land, the FERC license would need to be amended identifying the Park Board land as the site for the facility. Crown may only amend its license if it enters into a land use agreement with the Park Board for the site.

Over the last several years a number of Crown proposals for land use agreement with the Park Board have been put forth in an effort to secure the site for a hydroelectric facility. Recently, Crown has approached the Park Board to renew discussions that may lead to a land use agreement. At the April 20, 2011 Planning Committee meeting, Crown Hydro presented their new proposal. Upon completion of the presentation and discussion, the Planning Committee directed the President and Superintendent to begin negotiations with Crown Hydro and present a proposal on the project to the full Board at the upcoming Board meeting on May 4, 2011. The Committee also directed Crown to submit a full proposal to the Superintendent and President Erwin by April 25. Despite not meeting this deadline, Crown did submit a proposal for review. The Superintendent immediately began negotiating the terms and conditions important to the Park Board that had been communicated to her. The negotiated terms and conditions resulting from the discussion with Crown were organized into a Letter of Intent for Park Board consideration. This was optimal because the Letter of Intent does not bind the Board to the Crown project, allows for modification of the terms and conditions after Board review or other input, and also provides a reasonably detailed form for Park Board consideration.

At the May 4th 2011 Board meeting the Park Commissioners decided to move consideration of the Letter of Intent to the Board's May 18th meeting to allow for more thorough review of the terms. Since then, ongoing discussions have led to modifying the approach to the Letter of Intent. The Letter of Intent now contemplates a joint venture agreement with an entity other than Crown. As a joint venture partner, the Park Board would hold a minority interest in the hydro electric facility and retain more control over its operations. The Letter of Intent with Crown is to provide any entity considering purchasing Crown's interests confidence that a joint venture arrangement is workable with the Park Board. Consequently, the considerations that existed previously with the Letter of Intent have now evolved into new considerations based on the new character of a potential joint venture agreement.

If the Board approves the Letter of Intent for a joint venture, and if an entity decides to purchase Crown's interest including its FERC license, the Park Board may then negotiate ownership arrangements with that potential joint venture partner that secures valuable credits and funding for the joint venture that were available to Crown if it were the owner. These arrangements will require the Park Board to hold interests in at least two corporate entities to meet the criteria necessary to maintain funding for the project. As a partner, the project becomes a Park Board development, and as such, would be part of a Citizens Advisory Committee (CAC) process, and the Park Board would also be closely involved with all other agency approvals. The Letter of Intent for a joint venture follows the same structure and form as the prior Letter of Intent that was before the Board.

Attachments:

- Letter of Intent
- Map of Proposed Location for hydroelectric facility
- Legal Description of location for hydroelectric facility
- Memo re: Commissioner Questions
- 1998 Programmatic Agreement

Prepared by: Michael Salchert, Legal Counsel, Rice, Michels & Walters, LLP
Approved by: Jayne Miller, Superintendent

RESOLUTION

Resolution Approving the Execution of Letter of Intent, attached hereto as Attachment 1, in anticipation of a joint venture of Minneapolis Park and Recreation Board (“MPRB”) and the purchaser of Crown Hydro, LLC’s interests for the construction and operation of a Hydroelectric Facility, Approving holding Public Hearings Regarding the potential Hydroelectric Facility on June 1 and June 15, 2011; and Authorizing and Directing Superintendent Miller to negotiate with Crown Hydro, LLC in an effort to bring to the MPRB a proposal in the form of a joint venture agreement with the purchaser of Crown’s interests for MPRB review, consideration and approval

WHEREAS, the City of Minneapolis acting by and through its Park and Recreation Board (Park Board) is the fee owner of parcels of land adjacent to the Mississippi River suitably located for the construction and operation of a Hydroelectric facility;

WHEREAS, Crown Hydro, LLC has a Federal Energy Regulatory Commission license to build and operate a Hydroelectric facility;

WHEREAS, Crown Hydro, LLC and the MPRB have entered into negotiations to arrive at an agreement for Crown Hydro, LLC in anticipation of a joint venture agreement with the purchaser of Crown Hydro LLC’s interests;

WHEREAS, Attachment 1 to this resolution is the Letter of Intent representing the non-binding material terms and conditions Crown Hydro, LLC and the MPRB are contemplating in anticipation of a joint venture the MPRB may enter into with a purchaser of Crown’s interests; and

WHEREAS, the MPRB desires to direct its Superintendent with appropriate legal counsel and necessary consultants to negotiate with Crown Hydro, LLC and any potential purchaser of Crown’s interests to, if possible, prepare a proposal in the form of a joint venture agreement for MPRB review and consideration for approval;

NOW, THEREFORE, BE IT RESOLVED THAT THE MINNEAPOLIS PARK AND RECREATION BOARD hereby authorizes the execution of the attached letter of Intent by the Secretary and President;

BE IT FURTHER RESOLVED that the Minneapolis Park and Recreation Board will hold Public Hearings Regarding the potential Hydroelectric Facility on June 1, 2011 and June 15, 2011; and

BE IT FURTHER RESOLVED that the Minneapolis Park and Recreation Board hereby authorizes and directs Superintendent Miller to negotiate with Crown Hydro, LLC and with the purchaser of Crown Hydro, LLC's interests in an effort to bring to the MPRB a proposal in the form of a joint venture agreement for MPRB review, consideration, and approval.

Adopted by the Park and Recreation Board
In formal meeting assembled May 18, 2011.

John Erwin, President

Karen Robinson, Secretary

Approved:

R.T. Rybak, Mayor

May __, 2011

Ms. Jayne Miller
Superintendent
Minneapolis Park & Recreation Board
2117 West River Road
Minneapolis, MN 55411

Re: Letter of Intent – Crown Hydro Project

Dear Superintendent Miller:

This Letter of Intent sets forth certain (i) non-binding understandings by and between the Minneapolis Park & Recreation Board and Crown Hydro, LLC for the purpose of developing a hydroelectric power production facility with a maximum capacity of 3.2 megawatts on the Mississippi River in the City of Minneapolis and which facility will use property owned and/or controlled by the Park Board, and (ii) binding agreements regarding the rights and obligations of the parties upon execution of this Letter of Intent.

The parties acknowledge and agree that, although this Letter of Intent describes their current intent, nothing contained in this Letter of Intent constitutes a legally binding agreement other than the provisions contained in paragraphs numbered 1 through 6 below under the heading “Binding Agreements,” which will be binding on the parties. Except for the Binding Agreements, there are no other legally binding obligations of any party relating to the subject matter of this Letter of Intent.

Non-Binding Intentions

1. Form of joint venture agreement. The parties will endeavor to prepare the organizational documents for, and form and enter into a joint venture limited liability company, which will develop and operate the hydroelectric power production facility. As a condition to closing the joint venture, Crown Hydro would sell its equity interest in the project to a third-party, who would be required to contribute the project to the joint venture. The Park Board would prefer that the third-party be a public (governmental) entity. The Park Board, likely through a wholly-owned “blocker” corporation, would contribute [_____] to the joint venture in exchange for its equity interest in the joint venture. The joint venture would then use property as outlined in Exhibit A, and including the First Street Tunnel for a spillway, for the project, and which property would be limited to the use of the hydroelectric facility. Following execution of this Letter of Intent, it is the parties’ expectations that the Park Board would need to participate in discussions/negotiations with the third party(ies) as necessary and reasonable.

2. Term of joint venture. The term of the joint venture would be coterminous with the project's license from the Federal Energy Regulatory Commission, or other term as agreed on by the joint venture.

3. Equity Interests. Final equity (ownership) interest percentages of the joint venture are subject to Park Board approval.

4. Financial Rights. Final financial rights percentages of the Park Board is subject to Park Board approval.

5. Minimum flows over St. Anthony Spillway. Crown Hydro recognizes the Park Board's interest in maintaining a minimum of 2000 cfs over the St. Anthony Spillway, particularly during the prime viewing periods. The Park Board recognizes the project's interest in maximizing energy production. In that regard, the Park Board will be entitled to exercise certain control over the operation of the facility to ensure that the flow of the river as measured at the St. Anthony Spillway is less than 2,000 cfs during the prime viewing periods, such best viewing periods, considered for purposes of this Letter of Intent as June 21 – September 21. The intent of the parties is that the Park Board will close its existing aesthetic diversion in order to maximize energy production and aesthetics over the spillway. The increased energy production from the diversion will be factored into the final equity interest percentages and profits in the joint venture. The minimum flow plan will be set forth in an annual schedule and will be set forth in the definitive agreement(s) and is subject to final approval or by amendment by the Park Board.

6. Operation and Maintenance Plan. Definitive agreement(s) will be conditioned upon final approval by the Park Board of a Crown Hydro operation and maintenance plan.

7. Tunnel Integrity/Facility Engineering. Definitive agreement(s) will be conditioned upon final approval by the Park Board and other agencies with jurisdiction of (1) all appropriate First Street tunnel structural modifications and engineering and public protection; (2) site plan; and (3) facility design and engineering plans and/or drawings.

8. Noise and Vibration. Definitive agreement(s) will be conditioned upon final approval by the Park Board of a noise and vibration plan, with the intent that if the facility exceeds certain pre-determined levels, the facility will shut down until it can be brought into compliance with the noise and vibration plan.

9. Historical/Cultural Resources. Definitive agreement(s) will be conditioned upon the project's compliance with the 1998 Programmatic Agreement that governs cultural and historic resources and such agreement (or its terms) will be included in the definitive agreement(s).

10. Insurance. The joint venture will acquire general public liability insurance, and insurance necessary to address any potential claim, liability, property damage, casualty or personal injury associated with the facility, in commercially reasonable amounts and to be approved by the Park Board. To the extent practicable, the joint venture will also supplement its

insurance coverage, in amounts approved by the Park Board, to insure the protection of any historic property assets and adjacent property interests.

11. Regulatory Permits/Legal Compliance. The joint venture will be responsible for obtaining all remaining environmental and regulatory assessments and/or permits, at its cost, with the support and reasonable assistance of the Park Board, including but not limited to any environmental assessment worksheets (and any environmental impact statement), water appropriation, NHPA Section 106 requirements, and any FERC amendment. Estimated schedules for completion of such remaining permitting will be included as part of the definitive agreement(s).

12. Grid Interconnection Underground. The joint venture will be responsible for interconnecting the facility to the Xcel Energy grid, and also commits to making sure that all major facility components, including any grid interconnection, are below ground, and not visible or accessible by the public.

13. Utility Obligations. The joint venture has the burden to comply with all obligations imposed on it by Xcel Energy, including those imposed by the power purchase agreement and renewable development fund. Crown Hydro has the burden to comply with all utility obligations imposed on it by the Park Board.

14. Park Board Public Hearings. The Park Board will hold two public hearings with respect to the project (June 1, 2011 and June 15, 2011), according to the Park Board's public hearing requirements.

15. Liens/Liabilities. The joint venture agrees not to encumber, or cause to be encumbered, any Park Board property, and agrees to indemnify the Park Board in the event the Park Board is required to remove any such encumbrances. The joint venture will assume all liabilities for construction and operation of the facility, and agrees to indemnify the Park Board for liabilities not caused by the Park Board.

16. Disclosure of Information. The parties recognize the requirements that the Data Practices Act, Minn. Statutes Chapter 13, imposes on the Park Board to make information available to the public. The parties agree that during the negotiations of any definitive agreement, the parties intend to keep all non-public data (as recognized in the DPA) as non-public, and any public data (as recognized in the DPA) as public. Within 30 days of any request by the Park Board, Crown Hydro and the joint venture will provide to the Park Board any non-public information related to the project, including financial information, engineering plans and/or drawings, or information related to operation and maintenance, regulatory compliance, and contracts.

17. Pending Legislation. Provided the parties are able to execute the definitive agreement(s), Crown Hydro agrees to suspend all efforts to have the Legislature enact HF 1440 and SF 1191 and will undertake its best efforts to have the bills removed from legislative consideration.

18. Miscellaneous.

(a) Car Charging Stations. The joint venture will provide one or more (depending on costs) metered vehicle electric charging stations for patrons of the Mill City Ruins parking lot, with revenue to be shared equally by the parties.

(b) Lighting of the Spillway. The joint venture will prepare at its expense a feasibility study for the purposes of lighting enhancements at the spillway.

(c) Education. The joint venture will provide appropriate educational/historical signage or interpretive exhibit(s), subject to Park Board approval.

Binding Agreements

1. Agreement Not to Sue on the LOI. Provided the Park Board acts in good faith, and without waiving any other rights in law or equity outside the scope of this Letter of Intent, Crown Hydro agrees not to sue the Park Board on the sole basis that the parties are unable to execute definitive agreement(s) as contemplated by this Letter of Intent.

2. Park Board Consultant and Staff Costs. Following execution of the Letter of Intent through the closing of the joint venture, Crown Hydro will pay for the costs of Park Board staff and consultants, including reasonable attorneys' fees, up to a total cap of \$50,000.

3. Termination. This Letter of Intent will terminate on July 6, 2011, subject to any mutually agreed extension.

4. Expenses. The parties will bear their respective expenses and costs related to this Letter of Intent and up to execution of any definitive agreements contemplated, including, without limitation, attorneys' fees, accounting fees and disbursements, whether or not definitive agreements are ultimately consummated.

5. Confidentiality. Except as required by applicable law, the parties agree not to disclose the existence or terms of this Letter of Intent or information about the project considered confidential by Crown Hydro to any third party (other than its representatives on a need to know basis).

6. Governing Law. This Letter of Intent shall be governed by and construed in accordance with the laws of the State of Minnesota applicable to agreements made and to be performed therein without giving effect to conflict of law principles.

7. Counterparts. This Letter of Intent may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

Very truly yours,

CROWN HYDRO, LLC

By:_____

Its:

If the foregoing accurately sets forth your understanding, please execute where indicated below and return a fully executed copy of this Letter of Intent to my attention.

Minneapolis Park & Recreation Board

By: _____

Name:

Title:

By: _____

Name:

Title:

- c: Jayne Miller, Superintendent
- John Erwin, Chair, Minneapolis Park & Recreation Board
- Don Siggelkow, Minneapolis Park & Recreation Board
- Michael Salchert, Esq.
- Brian Rice, Esq.
- Tim Keane, Esq.
- Todd Guerrero, Esq.
- Joel Toso, Wenck Associates, Inc.

GIS Property Map with Crown Hydro Overlay - 5-13-2011

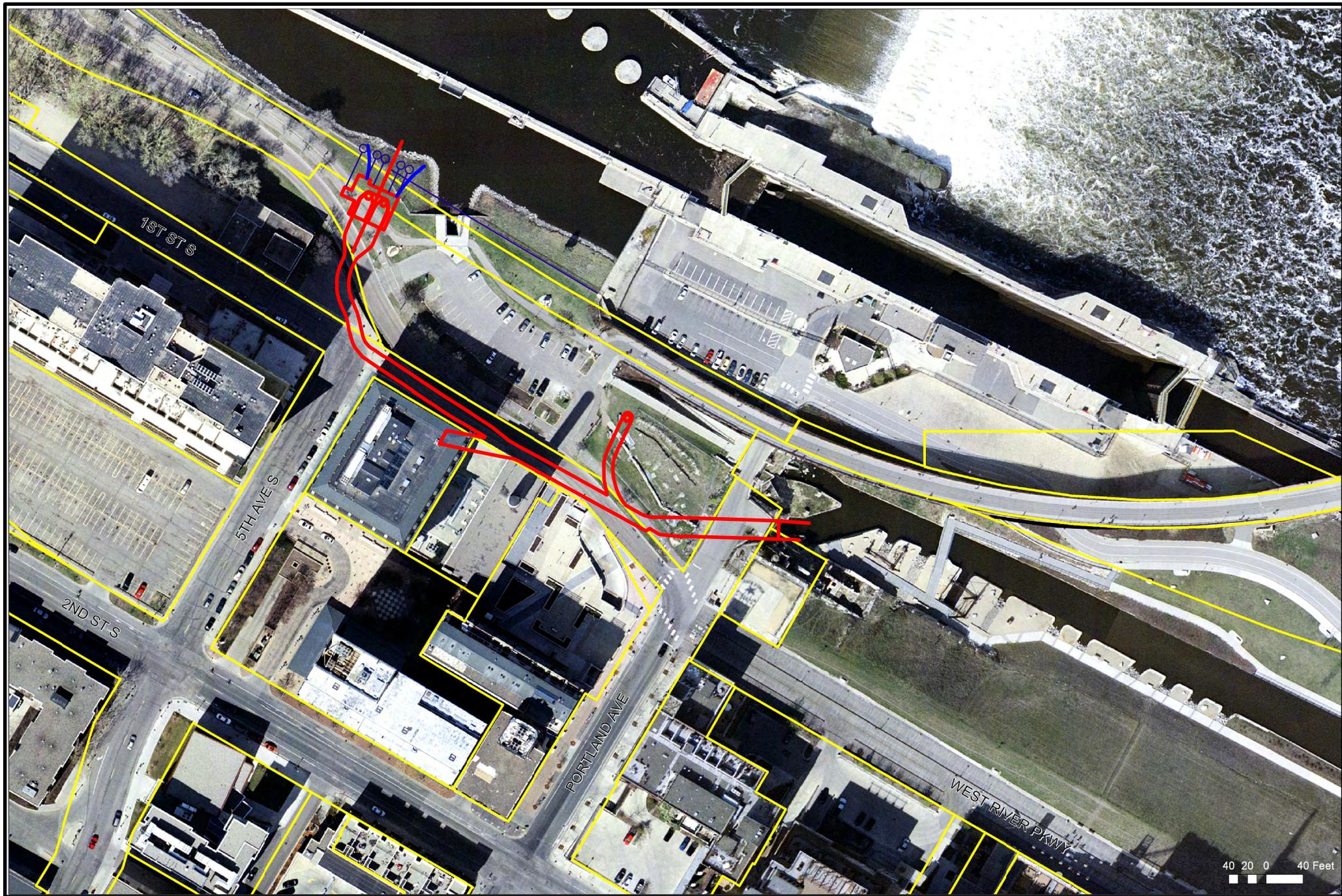


EXHIBIT A

(This property description is not complete and is subject to change based on a comprehensive title search and/or land survey as necessary for the proposed Hydro electric project).

PID # 23-029-24-31-0031

Unplatted

That part of government lot 10 in Section 23 Township 29 Range 24 lying Northwesterly of the northerly extension of the centerline of Portland Ave South and lying southeasterly of 3rd Ave South.... (Partial Description)

PID # 23-029-24-31-0036

Auditor's Subdivision No. 039

Beginning at the most southerly corner of Lot 64 Auditor's Subdivision No. 039 then northwesterly along the northerly line of 1st St. South to the most southerly corner of Lot 6 Auditor's Subdivision No. 32 then on a assumed bearing...(Partial Description)

PID # 23-029-24-31-0037

Auditor's Subdivision No. 32

Beginning at the most southerly corner of Lot 6 Auditor's Subdivision No. 32 then northwesterly to the most southerly corner of Lot 2 then on a assumed bearing of north 29 degrees 23 minutes 40 seconds east along southeasterly...(Partial Description)

MEMORANDUM

To: Full Board
From: Jayne Miller, Superintendent
Date: May 18, 2011
Subject: Commissioner Questions Regarding Crown Hydro, LLC LOI

Question: Is the agreement a land use or lease agreement?

Response: The revised Letter of Intent now contemplates a joint venture agreement with an entity other than Crown, so it is neither a land use or lease agreement.

Question: Can the Park Board limit the scope of the agreement to a hydro-electric facility power generation?

Response: Yes, and that is articulated in the Letter of Intent.

Question: What is the lease term?

Response: The revised Letter of Intent is neither a land use or lease agreement. It is a joint venture agreement with an entity other than Crown, so the term is ongoing. The FERC license anticipates a 99 year term.

Question: How come the new terms provide less compensation?

Response: We have not been given a clear answer to this question, but the joint venture agreement will not be structured in a way that is comparable to previous offers. Any final compensation that is negotiated is subject to Park Board approval.

Question: Please provide a copy of the 1998 Programmatic Agreement.

Response: The 1998 Programmatic Agreement is attached.

Question: Are we able to calculate compensation/profits from the proposal?

Response: The revenue stream from this project depends on a number of factors including but not limited to how much water is available to generate power. From a joint agreement perspective, the calculation is very straight forward. Whatever percentage ownership the Park Board has is multiplied by the net profits of the operation. Again, any final compensation that is negotiated is subject to Park Board approval.

Question: Can compensation/profit payments start immediately?

Response: Under a joint venture arrangement, the payments will start when the revenue stream begins unless some other arrangement is made with the joint venture partner. Any arrangements will be subject to Park Board approval.

Question: Is the project feasible with a minimum requirement of 2000 cfs over the falls at all times of day and night throughout the year?

Response: Crown has indicated that this requirement limits the operation to such an extent that the project loses viability. If the LOI is approved, the Superintendent, with flow experts, will review flow data during negotiations to determine if this requirement can be met.

Question: Does the FERC license or other governmental authority preempt any agreement the Park Board enters into?

Response: If the LOI is approved, the Superintendent, with legal counsel, will review the legal authorities and requirements of a FERC license and communicate those authorities and requirements to the Park Board. In addition, those authorities and requirements will be considered during negotiations to best protect the Park Board's interests before proposing a joint agreement to the Board for their approval.

Question: Is Crown financially viable enough to proceed with the project?

Response: Crown's finances are not a concern under the joint venture agreement because Crown will not be funding the project. Whoever buys Crown's assets assumes the risk of Crown's insolvency. The Park Board's interest is with the financial viability of the buyers of Crown's assets.

Question: Are the costs of evaluating the project more than the amount Crown is offering to reimburse the Park Board?

Response: Under a joint venture scenario, Crown will be responsible for the cost incurred by the Park Board from the signing of the Letter of Intent to the closing with the buyer of Crown's assets up to a limit of \$50,000.00. In addition, the costs will be paid at the closing by Crown as part of their sale proceeds. Crown is only willing to agree to a \$50,000.00 maximum limit for reimbursable costs to the Park Board, which we believe will be sufficient to cover the applicable Park Board costs. Most of the evaluative costs will be incurred within the joint venture, subsequent to the sale of Crown's assets, which does not include Crown.

Question: Can we include SHPO in the tunnel integrity provision of the Letter of Intent?

Response: The reference to other agencies in this provision includes SHPO and any other agency that may be a stakeholder in the tunnel integrity. In addition, the regulatory provision reference section 106 requirements that will include tunnel integrity within its scope.

Question: Can we include language that prohibits anything being done that will jeopardize the site's listing as a national landmark?

Response: Yes. However, it may be difficult or impossible to identify everything that may potentially jeopardize the listing of the site as a national landmark.

Question: What does to the extent practicable mean relative to insurance?

Response: From a monetary coverage perspective, insuring historical assets against damage is limited. In other words, money may not remedy damages, but to the extent it can, insurance coverage will be provided.

Question: Is the Park Board obligated to pay back money to the state or federal government if it enters into a lease with Crown?

Response: The land in question was part of the Fuji Ya purchase that used state bonds. That purchase was prior to 1994 and predates the state statute requiring reimbursement. Of course, as stated above, the current proposal does not contemplate a lease.

Question: Can we be more specific about what is and what is not confidential?

Response: Yes. However, the Letter of Intent draws the line according to Minnesota Law. The evaluation of whether certain facts are non-public data is well established and clear in the statutes. At this time, we cannot anticipate all of the data that will arise to be able to determine which data must remain confidential. We will rely on the statute to determine whether data is public or non-public.

Question: What do we do about potential contamination?

Response: The Letter of Intent requires an environmental review and potentially an Environmental Impact Statement. The results of those evaluations will determine the course of action that needs to be taken regarding contamination issues at the site.

Question: Can the Park Board adequately protect its financial interests moving forward with the project?

Response: If the LOI is approved, the Superintendent with legal counsel will work to fully protect the Board's interests, including protecting the Board's financial interests.

Question: Should the CAC and EAW process precede signing the agreement?

Response: The CAC and EAW processes will be required if the Park Board moves forward with the LOI and a joint venture agreement. Both processes will not begin unless the LOI and joint venture agreement are executed.

Question: May the Park Board demand the restoration of the historic gatehouse?

Response: The Park Board may require this condition. Some assessment will be required to determine the cost of the restoration and then deem whether to proceed with the restoration.

Question: Is Crown liable for remediation of environmental contamination?

Response: Crown will not be responsible for remediation of environmental contamination under the new LOI. If the Park Board approves the LOI, negotiations with a joint venture partner would include laying out

responsibilities for assessment and remediation of any environmental contamination subject to Park Board approval.

Question: Can the provision prohibiting Crown from suing of the Park Board be made more protective?

Response: The language has been moved to the binding section of the LOI to better protect the Board's interests.

PROGRAMMATIC AGREEMENT

AMONG

THE FEDERAL ENERGY REGULATORY COMMISSION,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION,
AND THE MINNESOTA STATE HISTORIC PRESERVATION OFFICER,
FOR MANAGING HISTORIC PROPERTIES

THAT MAY BE AFFECTED BY A LICENSE ISSUING TO
CROWN HYDRO COMPANY

FOR THE CONSTRUCTION AND OPERATION OF THE
CROWN MILL HYDROELECTRIC POWER PROJECT
IN MINNEAPOLIS, MINNESOTA

WHEREAS, the Federal Energy Regulatory Commission or its staff (hereinafter, "Commission"), proposes to issue an original license to Crown Hydro Company (hereinafter, "Licensee") to construct and operate the Crown Mill Hydroelectric Project, Project No. 11175 (hereinafter, "Project"), as authorized by Part I of the Federal Power Act, 16 U.S.C. Sections 791(a) through 825(r), as amended; and,

WHEREAS, the Commission has determined that issuing such a license may affect properties included in or eligible for inclusion in the National Register of Historic Places (hereinafter, "Historic Properties"); and

WHEREAS, Appendix A of this Programmatic Agreement provides a description of the Project, Historic Properties identified as of the date of this Programmatic Agreement, and anticipated effects; and

WHEREAS, the Commission has consulted with the Advisory Council on Historic Preservation (hereinafter, "Advisory Council") and the Minnesota State Historic Preservation Office (hereinafter, "SHPO") pursuant to 36 C.F.R. Section 800.13, of the Advisory Council's regulations (36 C.F.R. Part 800) implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470F; hereinafter, "Section 106"); and

WHEREAS, the Licensee, the City of Minneapolis, the Minneapolis Park and Recreation Board (MPRB), the Minneapolis Heritage Preservation Commission (MHPC), the Canal Street Limited

Partnership (CSLP), the St. Anthony Falls Heritage Board (SAFHB), the St. Paul District of the U.S. Army Corps of Engineers (COE), and the Mississippi National River and Recreation Area (MNRRA) of the National Park Service (NPS) have participated in the consultation and have been invited to concur in this Programmatic Agreement; and

WHEREAS, the Commission will require the Licensee to implement the provisions of this Programmatic Agreement as a condition of issuing the license for the Project; and

NOW THEREFORE, the Commission, the Advisory Council, and the SHPO agree that the Project will be administered in accordance with the following stipulations in order to satisfy the Commission's Section 106 responsibilities during the term of the Project's license.

S t i p u l a t i o n s .

The Commission will ensure that, upon a license issuing for this Project, the Licensee implements the following stipulations. All stipulations that apply to the Licensee will similarly apply to any and all of the Licensee's successors. Compliance with any of the following stipulations does not relieve the Licensee of any other obligations it has under the Federal Power Act, the Commission's regulations, or its license.

I. PROJECT DESIGN AND CONSTRUCTION

A. The Licensee will ensure that all historic preservation work to be carried out pursuant to Stipulation I of this Programmatic Agreement is carried out by or under the direct supervision of a person or persons meeting at a minimum the *Secretary of the Interior's Professional Qualifications Standards* (48 FR 44738-39) in architectural history. The Licensee will ensure that the person (or persons) charged with carrying out the historic preservation work provided for by Stipulation I.B. directly participates with Project design development and construction as well as in the preparation and implementation of the Construction Phase Cultural Resources Management Plan.

B. Project Design

1. At least 60 days prior to the start of Project construction, the Licensee will file with the Commission's Secretary for approval, and with the Commission's Regional Director and the Director,

Division of Dam Safety, along with the final Project contract drawings and specifications required by the License, a Construction Phase Cultural Resources Management Plan (ConCRMP) specifying how historic Project facilities, including, but not necessarily limited to, the Crown Roller Mill Building, the turbine pits, the headrace, the canal gates, the First Street canal, and the tailrace(s), will be managed during Project construction and how they will be rehabilitated and incorporated as functional features in the Project design. During development of the ConCRMP, the Licensee will consult with the SHPO, the MPRB, the MHPC, the CSLP, the SAFHB, the COE, and the NPS. and other interested persons, as defined in 36 C.F.R. Section 800.1(c)(2).

2. "Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines" (Federal Register, September 29, 1983, Vol. 48, No. 190, Part IV, pp. 44716-44740; hereinafter, "Secretary's Standards") will be taken into account in developing the ConCRMP.
3. The ConCRMP will include an assessment of the condition of the historic Project facilities that will:
 - a. describe and, to the extent possible, evaluate the current condition and integrity of the historic Project facilities prior to Project construction;
 - b. recommend and, where possible, adopt an appropriate plan for the rehabilitation of the historic Project facilities to enable their adaptive reuse; and
 - c. incorporate on-site observations, wherever practicable prior to construction, and information from existing written reports or studies of these historic Project facilities properties including, if available, the MNRRA Historic Resources Study.
4. The ConCRMP will, at a minimum, also include procedures that establish how the following activities/actions will be carried out during Project construction:

- a. Excavation of historic Project facilities to ensure minimal harm to these Historic Properties;
 - b. re-evaluation of the condition and integrity of the historic Project facilities, as needed, and in accordance with Stipulation I.A., so that rehabilitation plans may be revised, as needed, in consultation with the SHPO, the MHPC, the CSLP, and the MPRB and implemented by the Licensee;
 - c. monitoring of Project construction, in accordance with Stipulation I.A., in order to avoid, minimize or mitigate construction-related effects to the historic Project facilities;
 - d. mitigation of unanticipated construction-related effects;
 - e. review by the SHPO and the MPRB of any Project design revision proposed by the Licensee during Project construction, and development and implementation of appropriate action(s) so that any adverse effect which may result from the changed design will be avoided, minimized or mitigated;
 - f. interim treatment of the canal gates, so that, if the SHPO determines it necessary, this property will be secured, stabilized and protected against damage by the Licensee until final plans for its public interpretation are developed and implemented, pursuant to Stipulation IV.;
 - g. photographic documentation that records the condition of the historic Project facilities, before and after rehabilitation, and chronicles the progress of Project construction; and
 - h. public interpretation of historic Project facilities.
5. The ConCRMP will be developed by the Licensee in consultation with the SHPO, the MPRB, the CSLP, and the MHPC, and will provide for the continued

coordination and consultation among these parties during Project construction.

6. The Licensee will ensure that the ConCRMP is developed and implemented in accordance with Stipulation I.A.
7. Prior to filing the ConCRMP with the Commission, the Licensee will submit the completed ConCRMP to the SHPO, the MPRB, the CSLP, the MHPC, and the Council for review and comment. The SHPO, the Council, the MHPC, the CSLP, and the MPRB will have thirty (30) days from receipt of the ConCRMP to review and provide written comments and/or recommendations on the document. The Licensee will include with the ConCRMP filed with Commission, documentation of consultation, copies of comments and recommendations received, and specific descriptions of how the comments and recommendations are addressed by the ConCRMP. If the Licensee does not adopt a recommendation, the filing will include an explanation of the Licensee's reasons.
8. After the final Project contract drawings and specifications, and the ConCRMP have been filed with the Commission, the Commission may direct the Licensee to revise the project design to ensure a safe and adequate Project. If the Commission directs the Licensee to revise the Project design, the Licensee will consult with the SHPO, the MPRB, the CSLP, and the MHPC and take appropriate action so that any adverse effect(s) which may result from the changed design will be avoided, minimized or mitigated.

II.. INTERIM TREATMENT OF HISTORIC PROPERTIES

- A. Pending review and implementation of the Cultural Resources Management Plan - Operation and Maintenance (OMCRMP) pursuant to Stipulation V., the Licensee will consult with the SHPO the MPRB, the MHPC, the CSLP, the SAFHB, the COE, and the NPS and any other interested persons, regarding the effect of any activities, including ground- disturbance, new construction, demolition, or rehabilitation of project facilities, not covered under the ConCRMP or under Stipulation I of this Programmatic Agreement.

- B. Consultation will be in accordance with 36 C.F.R. Sections 800.4 and 800.5(a) through (c), with the Licensee acting as the Agency Official. If the Licensee, the MPRB, and the SHPO agree that the activity will not adversely affect Historic Properties, the Licensee may proceed in accordance with any agreed-upon treatment measures or conditions.
- C. If the Licensee, the MPRB, or the SHPO determines that the activity will have an adverse effect, and the affected property is a National Historic Landmark, the Licensee will submit the matter to the Commission, which will initiate the process set forth at 36 C.F.R. Section 800.5(e). Otherwise, the Licensee, the MPRB, and the SHPO will consult to develop a strategy for avoiding or mitigating such adverse effects. If the Licensee, the MPRB, and the SHPO can reach agreement, the Licensee will implement the agreed-upon strategy. If they disagree, the Licensee will submit the matter to the Commission, which will initiate the process set forth at 36 C.F.R. Section 800.5(e).

III. DISCOVERY

- A. In the event that during Project construction an unanticipated Historic Property is discovered, the Licensee will immediately notify the SHPO and the Commission to determine if the project design needs to be modified to avoid this property. In consultation with the SHPO, the MHPC, and the MPRB, the Commission may direct the Licensee to revise the Project construction plans accordingly or the Licensee in consultation with the Commission, the SHPO, the MPRB, and the MHPC may revise the Project construction plans so as to avoid the Historic Property.
- B. If the Project construction plans cannot be revised so as to avoid this property, the Licensee, acting as the Agency Official, will comply with 36 C.F.R. Section 800.11.

IV. LONG-TERM CULTURAL RESOURCES MANAGEMENT AND PROTECTION

- A. Within one year after the start of Project operation, the Licensee will file for the Commission's approval a Cultural Resources Management Plan - Operation and Maintenance (hereinafter, "OMCRMP") as an amendment to the ConCRMP specifying how Historic Properties will be

managed in the Project's area of potential effect, as defined in 36 C.F.R. Section 800.2(c), during the term of the license. During development of the OMCRRMP, the Licensee will consult with the SHPO, the MPRB, the MHPC, the CSLP, the SAFHB, the COE, and the NPS. and other interested persons, as defined in 36 C.F.R. Section 800.1(c)(2). The Licensee will seek concurrence of the SHPO, the MPRB, and the CSLP in the OMCRRMP.

- B. "Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines" (Federal Register, September 29, 1983, Vol. 48, No. 190, Part IV, pp. 44716-44740; hereinafter, "Secretary's Standards") will be taken into account in developing the OMCRRMP. The OMCRRMP will be developed by or developed under the direct supervision of a person or persons who meet, at a minimum, the professional qualifications standards for architectural history and archeology in the Secretary's Standards (48 FR 44738-39).
- C. The OMCRRMP will, at a minimum, include principles and procedures to address the following:
1. completion, if necessary, of identification of Historic Properties within the Project's area of potential effect;
 2. continued use and maintenance of Historic Properties during the term of the license;
 3. protection of Historic Properties threatened by shoreline erosion, other project-related ground-disturbing activities, and vandalism;
 4. mitigation of unavoidable adverse effects on Historic Properties;
 5. treatment and disposition of any human remains that may be discovered, taking into account any applicable state laws and the Advisory Council's "Policy Statement Regarding Treatment of Human Remains and Grave Goods" (September 27, 1988, Gallup, NM);
 6. discovery of previously unidentified properties during project operations;

7. public interpretation of the historic and archeological values of the Project;
8. coordination with the SHPO, the MPRB, the MHPC, the CSLP, the SAFHB, the COE, and the NPS and other interested persons during implementation of the OMCRMP.
9. coordination of the OMCRMP with other plans for the operation and maintenance of the Project as well as any other plans for the protection and management of Historic Properties within the St. Anthony's Falls Historic District and the Mill Ruins Park; and
10. establishment of procedures for the periodic review and revision of the OMCRMP.

V. OMCRMP REVIEW AND IMPLEMENTATION

- A. The Licensee will submit the OMCRMP, along with documentation of the views of the SHPO, the MPRB, the MHPC, the CSLP, the SAFHB, the COE, and the NPS and other interested persons, to the Commission for review and approval.
- B. If the SHPO has concurred in the OMCRMP, and the Commission determines that the OMCRMP is adequate, the Commission will forward a copy of the OMCRMP along with the views of the SHPO to the Advisory Council, which will have 30 days to review the OMCRMP.
 1. If the Advisory Council does not object to the OMCRMP, the Commission will proceed to ensure that the Licensee implements the OMCRMP.
 2. If the Advisory Council objects to the OMCRMP, the Commission will consult with the Advisory Council in an effort to reach agreement on the OMCRMP. If agreement cannot be reached, the Commission will request that the Advisory Council comment pursuant to Stipulation VII.B., of this Programmatic Agreement.
- C. If the SHPO has not concurred in the OMCRMP, or the Commission finds the OMCRMP inadequate, the Commission will consult with the Licensee, the MPRB, and the SHPO to seek agreement on the OMCRMP. If concurrence is not reached within 30 days, the Commission will request

that the Advisory Council enter into consultation to seek agreement on the OMCRRMP.

1. If agreement is reached on the OMCRRMP, the Commission will forward a copy of the revised OMCRRMP to the Advisory Council for review pursuant to Stipulation V.B.
 2. If agreement on the OMCRRMP cannot be reached among the Commission, the SHPO, the MPRB, the Licensee, and the Advisory Council, the Commission, the MPRB, or the SHPO will request that the Advisory Council comment pursuant to Stipulation VII.B., of this Programmatic Agreement; or the Advisory Council may terminate consultation and comment sua sponte.
- D. The Licensee will, on every anniversary of the license issuing, file a report with the Commission and the SHPO of activities conducted under the implemented OMCRRMP.

VI. SECTION 106 COMPLIANCE FOR OTHER FEDERAL ACTIVITIES

- A. In the event that the Licensee requires assistance, a permit or license, or approval from another Federal agency for the operation and maintenance of the Project, the respective Federal agency may fulfill its Section 106 responsibilities by accepting the terms of this Programmatic Agreement and specifying that satisfactory fulfillment of the terms of this Programmatic Agreement is a condition of any license, permit, loan or grant agreement, or approval between the Federal agency and the Licensee.
- B. The Licensee will advise the Federal agency of the existence of this Programmatic Agreement and will notify the SHPO, the MPRB, the Commission, and the Council upon application for any Federal assistance, licenses, permits and approvals.
- C. If the Federal agency determines that it will fulfill its Section 106 responsibilities by accepting the terms of this Programmatic Agreement, the Federal agency must notify the Commission, the MPRB, the Council, and the SHPO in writing of said acceptance at least thirty (30) days prior to the release of funds or issuance of licenses, permits or approvals.

- D. If the Federal agency declines to accept the terms of this Programmatic Agreement, the Federal agency would need to comply with 36 C.F.R. Part 800 for the undertaking.

VII. DISPUTE RESOLUTION

- A. If at any time during implementation of this Programmatic Agreement and the resulting ConCRMP and OMCAMP, the SHPO, the Licensee, the Advisory Council, the MPRB, the MHPC, the CSLP, the SAFHB, the COE, or the NPS or an interested person objects to any action or any failure to act pursuant to this Programmatic Agreement, the ConCRMP, or the OMCAMP, they may file written objections with the Commission.
1. The Commission will consult with the objecting party, with other parties, and with interested persons, as appropriate, to resolve the objection.
 2. The Commission may initiate sua sponte such consultation to remove any of its objections.
- B. If the Commission determines that the objection cannot be resolved, the Commission will forward all documentation relevant to the dispute to the Advisory Council and request that the Advisory Council comment. Within 30 days after receiving all pertinent documentation, the Advisory Council will either:
1. provide the Commission with recommendations, which the Commission will take into account in reaching a final decision regarding the dispute; or
 2. notify the Commission that it will comment pursuant to 36 C.F.R. Section 800.6(b) and Section 110(1) of the National Historic Preservation Act, and proceed to comment.
- C. The Commission will take into account any Advisory Council comment, provided in response to such a request, with reference to the subject of the dispute, and will issue a decision on the matter. The Commission's responsibility to carry out all actions under this Programmatic Agreement that are not the subject of dispute will remain unchanged.

VIII. AMENDMENT AND TERMINATION OF THIS PROGRAMMATIC AGREEMENT

- A. The Commission, the SHPO, the Licensee, or the Advisory Council may request that this Programmatic Agreement be amended, whereupon these parties will consult in accordance with 36 C.F.R. Section 800.13, to consider such amendment.
- B. The Commission, the SHPO, or the Advisory Council may terminate this Programmatic Agreement by providing 30 days written notice to the other parties, provided that the Commission, the SHPO, the Licensee, and the Advisory Council consult during the 30-day notice period in order to seek agreement on amendments or other actions that would avoid termination. In the event of termination, the Commission will comply with 36 C.F.R. Sections 800.4 through 800.6, with regard to individual actions covered by this Programmatic Agreement.

Execution of this Programmatic Agreement and its subsequent implementation of this Programmatic Agreement evidence that the Commission has satisfied its responsibilities pursuant to Section 106 of the National Historic Preservation Act, as amended, for all individual actions carried out under the license. Provided, however, that unless and until the Commission issues a license for the project and this Programmatic Agreement is incorporated by reference therein, this Programmatic Agreement has no independent legal effect for any specific license applicant or project.

Programmatic Agreement
Project No. 11175

Page 12

FEDERAL ENERGY REGULATORY COMMISSION

By: 
J. Mark Robinson, Director
Division of Licensing and Compliance

Date: 6/9/98

Programmatic Agreement
Project No. 11175

Page 13

MINNESOTA STATE HISTORIC PRESERVATION OFFICE

By: _____ Date: _____
Nina Archabal, State Historic Preservation Officer

Programmatic Agreement
Project No. 11175

Page 14

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By: _____ Date: _____
John M. Fowler, Executive Director

Programmatic Agreement
Project No. 11175

Page 15

CONCUR: CROWN HYDRO COMPANY

By: _____

Date: _____

Programmatic Agreement
Project No. 11175

Page 16

CONCUR: CITY OF MINNEAPOLIS

By: _____
Sharon Sayles Belton, Mayor

Date: _____

CONCUR: MINNEAPOLIS PARK AND RECREATION BOARD

By: _____
Scott L. Neiman, President

Date: _____

By: _____
Mary Merrill Anderson, Secretary

Date: _____

Programmatic Agreement
Project No. 11175

Page 18

CONCUR: MINNEAPOLIS HERITAGE PRESERVATION COMMISSION

By: _____
Robert F. Copeland, Chair

Date: _____

Programmatic Agreement
Project No. 11175

Page 19

CONCUR: CANAL STREET LIMITED PARTNERSHIP

By: _____
Robert Goldkamp, President

Date: _____

Programmatic Agreement
Project No. 11175

Page 20

CONCUR: ST. ANTHONY FALLS HERITAGE BOARD

By: _____ Date: _____

Programmatic Agreement
Project No. 11175

Page 21

CONCUR: ST. PAUL DISTRICT, CORPS OF ENGINEERS

By: _____ Date: _____
Robert F. Post, Chief, Engineering and Planning Division

Programmatic Agreement
Project No. 11175

Page 22

CONCUR: MISSISSIPPI NATIONAL RIVER AND RECREATION AREA

By: _____
JoAnn Kyril, Superintendent.

Date: _____

Appendix A To

PROGRAMMATIC AGREEMENT AMONG THE FEDERAL ENERGY REGULATORY COMMISSION, THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND THE MINNESOTA STATE HISTORIC PRESERVATION OFFICER, FOR MANAGING HISTORIC PROPERTIES THAT MAY BE AFFECTED BY A LICENSE ISSUING TO CROWN HYDRO COMPANY FOR THE CONSTRUCTION AND OPERATION OF THE CROWN MILL HYDROELECTRIC POWER PROJECT IN MINNEAPOLIS, MINNESOTA

PROJECT, HISTORIC PROPERTIES, AND ANTICIPATED EFFECTS

The purpose of this appendix is to specify the factual basis of the Programmatic Agreement. Here, relevant facts concerning the Project and modifications to the Project proposed by the Licensee under the Commission's relicensing procedures are reviewed; Historic Properties subject to the Programmatic Agreement's stipulations are, in part, identified; and the anticipated effects of the new license issuing are disclosed.

The Licensee proposes to construct and operate the 3.4-megawatt Crown Mill Hydroelectric Project on the Mississippi River in the City of Minneapolis in Hennepin County, Minnesota. The Commission, the SHPO, and the Council have jointly determined and agree that the Project would affect Historic Properties and that certain aspects of the anticipated effect could be adverse, but that adverse effects can be taken into account through mitigation.

IX. THE PROJECT

The Licensee applied to the Commission for its license on January 3, 1995, proposing to rehabilitate and operate an existing, partially abandoned, nonoperational hydropower facility according to an established operating regime, and to improve recreational facilities.

The Crown Roller Mill was constructed in 1875, and used water power until 1933. Other facilities on the west bank of the river produced power until 1960, when the headrace and tailrace were filled in with sand in connection the construction of the U.S. Army Corps of Engineers' navigation lock at the Upper Falls of St. Anthony. The Licensee proposes to remove the fill from the headrace, intake, and tailrace, and rehabilitate the existing structures and install new generating and control equipment.

The Licensee is a private entrepreneur, and in this case, has no need for end-use electrical customers. The Licensee would

sell the electricity to Northern States Power Company (Northern States) for distribution to its consumers.

A. Project Facilities: The existing project features consist of a headrace canal, an intake structure, an intake tunnel, two turbine shafts, a tailrace tunnel, and a tailrace canal. Crown Hydro proposes to:

1. excavate and restore the headrace canal, intake tunnel, and tailrace canal, which were filled with sand in 1960 when the U.S. Army Corps of Engineers constructed the lock at the Upper Falls of St. Anthony;
2. install a trash rack, headgate, and stoplogs in the intake structure;
3. construct a powerhouse facility within and beneath the existing Crown Mill Building;
4. install two turbine/generators in the existing turbine shafts;
5. install an underground transmission line; and
6. install appurtenant facilities.

B. Operating Regime: The Licensee proposes to operate the project in a modified run-of-river mode. The project would use instantaneously available stream flow with limited pool fluctuations. Minimum and maximum discharges would be 200 cubic feet per second (cfs) and 1,000 cfs, respectively. The Corps of Engineers maintains the impoundment above the Upper Lock and Dam at 799.2 feet mean sea level (M.S.L.).

C. Crown Hydro's Proposed Mitigative Measures: Except for the reopened headrace canal and the tailrace canal, Crown Hydro would develop the proposed facility within existing underground structures. To protect and mitigate adverse impacts on, and enhance existing project-related environmental resources, the Licensee proposes to:

1. install trashracks to prevent fish entrainment and impingement;
2. work with the Minnesota Historical Society (SHPO's office) on an agreement to establish procedures and standards for completing the project construction as it relates to historical features; and

3. build a pedestrian walkway and bridge in the tailrace area and excavate an historic turbine and move it to a public area.

X. AREA OF POTENTIAL EFFECT

The Project's area of potential effect (APE) includes (a) the project facilities as delineated in the application for original minor license filed January 3, 1995, and (b) lands or properties outside the project facilities where project operation, recreational development, or other project-related development or use may cause changes in the character or use of Historic Properties, if any Historic Properties exist.

XI. HISTORIC PROPERTIES IDENTIFIED

A. Historic Project Features: All of the existing features that Crown Hydro proposes to renovate and use for the Project are Historic Properties: headrace canal, intake structure, intake tunnel, two turbine shafts, tailrace tunnel, and tailrace canal. The only "new" project feature would be the powerhouse, which would be constructed in a lower level of the reconstructed Crown Mill building, which is also an Historic Property.

The Crown Roller Mill was built in 1875. The hydroelectric equipment was abandoned in 1933, and the building was gutted by fire in 1983. The building was reconstructed during the mid-1980s. Although the exterior walls were partially collapsed, the walls were shored up, and the building's exterior was restored. The headrace canal, intake tunnel, and tailrace canal were filled with sand in 1960 when the U.S. Army Corps of Engineers constructed the lock at the Upper Falls of St. Anthony.

Crown Hydro conducted a visual reconnaissance inspection of the Crown Mill turbine drop shaft, the Crown Mill tailrace tunnel, and the First Street tunnel into which the tailrace tunnel feeds ("Historic and Archaeological Report of the West Bank Mill District Tailrace Tunnel," dated October 27, 1994, and included in section 7.0 of the exhibit E of the application for license filed January 3, 1995). Although the drop shafts and the ceilings and walls of the tunnels appeared in good condition, this was only preliminary and did not determine their historic or engineering integrity. Access to the penstocks and forebay were blocked, and because of their burial under fill, other primary features, such as the headrace canal, intake structure, intake tunnel, and the gatehouse have not been adequately evaluated and documented regarding condition and integrity, either.

Further necessary actions concerning these and other Historic Properties specific to the development and operation of

the proposed Project are discussed in Section IV of this appendix.

B. St. Anthony Falls Historic District: The Project would be located on the west bank of the Mississippi River in Minneapolis, Minnesota. The proposed project site is entirely within the St. Anthony Falls Historic District (Historic District) which is listed in the National Register of Historic Places (National Register). The Historic District includes areas on both banks of the Mississippi River and St. Anthony Falls between Plymouth and South Tenth Avenues in Minneapolis. The Project would use Historic Properties in the west bank mill district which were components of an existing, partially abandoned water power system dating back to the mid- to late-1800s. The SHPO (letter to Crown Hydro from Dennis A. Gimmetad, Government Programs and Compliance Officer, Minnesota Historical Society, St. Paul, Minnesota, dated December 12, 1991) emphasizes that the historic resources of the Historic District are located both above and below ground, and that the system of canals, headraces, and tailraces in the area is an extremely important component of the Historic District.

The Falls of St. Anthony were discovered in 1680 by Father Louis Hennepin who estimated them to be fifty or sixty feet high. In 1766, an adventurer from Connecticut named Jonathan Carver estimated them to be thirty feet high. Lt. Zebulon Pike was ordered into the northern Louisiana Purchase by the government in 1805 to gather data about the country. Instructed to record precise information about the country he explored, Pike recorded the height of the cataract as sixteen and a half feet.

The falls were primarily one of the best known tourist attractions in North America during the early 1800s. In 1821-23, when the falls and much of the surrounding lands were part of the Ft. Snelling military reservation, the U.S. Army built a saw mill and grist mill on the west bank of the falls. In September 1848, the first dam at the falls was completed with a saw mill at the east end, and 3 more were added by 1852. In 1851, a small grist and flour mill was built at the end of sawmill row, and in 1852, a small custom mill was constructed which could produce corn meal, feed, or flour. The first merchant flour milling began at the falls in 1854 with the construction of the "Minnesota", or "Island" mill, which purchased grain, ground it, and sold the flour.

In a joint effort by the Minneapolis Mill Company (Minnesota Mill) and the St. Anthony Falls Water Power Company (St. Anthony), the dam was reshaped and reconstructed in 1856-1858. The main structure was now 2,206 feet long, with a total length

of 3,574 feet with connecting dikes, gates, and other shoreline installations.

Beginning in 1857, Minneapolis Mill constructed a 215-foot-long power canal on the west side of the river. The canal angled inland, then paralleled the shore so that it reached numerous sites and offered facilities for carrying water to other nearby locations. Firms using the canal built their own related installations such as headraces to conduct water from the canal to the mills, pits in which wheels were set deep in the mill subbasements, and tailraces carrying water from the wheels through underground tunnels or open canals to the river below the falls. The manufacturing district was eventually honeycombed with 2.9 miles of tunnels and open canals. St. Anthony, which controlled the east side of the river, used a makeshift system of shafts and ropes to transmit power from water wheels at the dam to manufacturing establishments scattered along the east bank and on Hennepin Island. St. Anthony also sold, leased, and rented water, mill sites, and mills in various ways. St. Anthony rented out sawmills it owned; when it couldn't find renters, it operated the mills itself.

By 1889, flour milling was the primary industry in value of product at the falls with 8 mills along the west side canal, and 4 mills on the east side of the river. Saw milling was next, followed by foundries and machine shops, planing mills and other wood-using plants, woolen mills, and paper mills.

Before industrialization of the falls, the falls were slowly retreating upstream. The cascading water would erode away the soft sandstone formation (St. Peter sandstone) river that lies under the hard, resistant, protective limestone rock that comprises the riverbed above the cataract. The falls retreated as undermined blocks of limestone collapsed from the edge of the cataract. The heavy industrial water withdrawals from the river above the falls left the riverbed exposed during low water periods. As a result, the falls' upstream natural retreat was drastically accelerated when the limestone riverbed was exposed to destructive freeze and thaw forces during low flow periods. This posed a serious threat to the existence of the falls and to the use of the water for powering the industries themselves because the 12-foot-thick limestone thinned to nothing only 1,200 feet upstream.

Minnesota Mill attempted to slow the falls' retreat in 1866 by constructing a wooden timbered water slide (or "apron") in the west channel. In 1867, the apron was shattered beyond repair by floods and thousands of logs, and in 1869, the river broke through the limestone into a 2,000-foot tunnel which had been started in 1867. The federal government stepped in after a new

chasm formed in 1871 as water flowed into the tunnel near the 1869 break and it became obvious that the falls couldn't be saved merely by patching holes as they appeared. Between 1876 and 1880 the government constructed a new apron and a 40-foot-deep by 1,850-foot-long underground dike (or curtain) located upstream of the apron. The curtain penetrated the riverbed deeper than any cavities below the protective limestone sheath to prevent water from undercutting the sheath. The construction also included two low dams above the falls to maintain a safe water level over the limestone sheath, and a sluiceway to carry logs over the falls.

With the rise of steam power, many of the industries moved away from the falls area during the 1870's and 1880's. By 1889, flour milling dominated; at one time, there were as many as 29 flour mills.

In response to water shortages, the west side canal was deepened and lengthened in 1885. Tailraces were also lowered to increase the available head, a new tailrace was constructed along the western shore to receive discharges from the mills, and millers lowered their water wheel pits, tailraces, and headraces to obtain maximum power from the water. Flour mills on the east side of the river responded by adding added steam power, but the sawmills didn't. All the east side sawmills burned in 1887. Between 1886-1889, St. Anthony renovated the dam which extended into the western channel, and cleared and deepened its east side channel.

On September 5, 1882, the first hydroelectric central station in the United States was completed at the falls by the Minnesota Brush Electric Company using water leased from Minnesota Mill. Electricity was first used for lighting and small motors for operating equipment requiring only small amounts of power. Small electric generating plants were installed in some of the flour mills, saw mills, and other businesses. By 1889, Crown Roller Mill, built in 1875, also added auxiliary power so that it wouldn't be solely dependent on hydroelectric.

In 1889, the Pillsbury-Washburn Flour Mills Company, Limited (Pillsbury-Washburn), purchased both Minnesota Mills and St. Anthony and unified the falls by centralizing the management of the two companies. By 1899, Pillsbury-Washburn twice repaired the flood-damaged apron, built two emergency flood spillways, built a log sluice through Hennepin Island, and redesigned the 1879 sluice. A leaking, abandoned west side dam was also replaced and the tailrace completed. The Lower Dam was constructed in 1895-97 with a powerhouse on the east end of the dam to take advantage of the 20-foot drop on water power company property below the falls. A third hydroelectric facility was constructed on Hennepin Island in 1906-1908.

As flour-milling in Minneapolis declined, waterpower was converted to producing electricity. When General Mills, Incorporated, abandoned its hydromechanical water wheels in 1960, the falls were used solely to produce electricity. Other than the Hennepin, Consolidated, and Lower Dam powerhouses, the only other site using water power was the St. Anthony Falls Hydraulic Laboratory, an experimental station of the University of Minnesota which was established on Hennepin Island in 1936-39.

The lock and canal around the falls on the west side of the river were begun in 1959, and completed in 1963. Their construction destroyed the Minnesota Mill canal; all that remained of the west side district were the apertures of races leading to vanished or abandoned mills, and the Washburn A mill which closed 2-years later.

C. Mississippi National River and Recreation Area: The Project would be located entirely within the Mississippi National River and Recreation Area (MNRRA), which was established in 1988 as a unit of the National Park System and administered by the National Park Service (NPS). The MNRRA's threefold purpose is to: (1) protect, preserve, and enhance the significant values of the Mississippi River corridor through the Twin cities metropolitan area, (2) coordinate government programs in the corridor, and (3) provide a management framework to assist the State of Minnesota and units of local government in development and implementation of integrated resource management programs to ensure orderly public and private development in the area.

The many historic attributes of the Mississippi River through the Twin Cities metropolitan area were important to the area's designation as a unit of the National Park System. Of the many historic features within MNRRA, the St. Anthony's Falls area is among the most significant. The falls and activities that took place in this area were central to the development of the City of Minneapolis; structures that remains are important representations of the history of not just the city, but the larger state and region as well. An Historic Resources Study is currently underway for the MNRRA corridor. The study is assembling different source information on existing cultural resources within the corridor including the St. Anthony's Falls area.

D. Mill Ruins Park: Since the 1970's, the City of Minneapolis and public agencies have undertaken the redevelopment of the Minneapolis central riverfront. The Park Board owns land around the proposed project where it intends to develop a "mill ruins" park. This area includes all of the proposed project features except those within or immediately beneath the Crown Roller Mill building. The Mill Ruins Park would be part of a

larger West River Parkway system, and would display and interpret the archeological ruins of the historic mill district.

XII. ANTICIPATED EFFECTS AND MITIGATIVE NEEDS:

The proposed issue of an original license to the Licensee for the Project could have effects both beneficial and adverse.

A. Historic Structures:

Beneficial effects

Inasmuch as the existing project headrace canal, intake structure, intake tunnel, two turbine shafts, tailrace tunnel, and tailrace canal are Historic Properties, issuing the Licensee a license to renovate and operate those Project works under the protection afforded by Section 106, might generally to be considered a beneficial effect. Project rehabilitation in accordance with the Programmatic Agreement would help preserve the overall historic value and benefit the future protection of the historic project features and other related historic resources in the Historic District.

In the 1994 reconnaissance report, Crown Hydro noted that buried Historic Properties in the area had not necessarily been safe, and that some had been damaged or destroyed: the intake tunnel was damaged by sewer construction; the tailrace tunnel system has been partially filled with silt from storm sewer work, the bridge structure over the headrace canal was destroyed by parkway construction, and the tailrace canal was partially destroyed by storm sewer construction.

Adverse effects

Constructing, operating, and maintaining the Project under the protections afforded by Section 106 would not in itself ensure that no adverse effects would ensue. In addition to site investigation and construction activities that would be necessary for the project, there could also be modifications, rehabilitations, and additions to historic project features and other Historic in order to design and develop a sound, operable hydroelectric facility. Many of these may not be known until after excavation of the existing features and completion of any necessary geotechnical investigations.

Adaptation of historic resources to new uses, such as Crown Hydro proposes doing with the historic project features, needs to be done in a fashion that does not destroy important elements of the historic fabric of the resource (letter to Crown Hydro from Dennis A. Gimmestad, Government Programs and Compliance Officer,

Minnesota Historical Society, St. Paul, Minnesota, dated December 12, 1991). The SHPO states that if the historic races (and other historic project features) can be reused by repairing the in-place historic materials and following the Secretary of the Interior's Standards for Rehabilitation, Crown Hydro's proposal may be acceptable. However, even "acceptable" repairs may require modifications or use of materials which could adversely affect the Historic Properties' historic integrity. In the extreme, if, in order to use the races (and other historic project features), all of the historic material needs to be removed and new races (or other project features) built with new materials in the approximate same locations, the historic resource would be lost.

Various aspects of project development -- excavations, testing, design, etc. -- may take place concurrently; their timing is not predictable. The ConCRMP, developed by the Licensee in consultation with the SHPO, the Park Board, the MHPC, the SAFHB, the COE, and the NPS, would establish how these will tie-in with each other in regards to taking into account Historic Properties and any effects which might occur to them.

Adverse effects could also inadvertently occur during routine daily activities in the absence of an operation and maintenance plan designed to hold intact the properties' historic integrity. Issuing the Licensee an original license to construct, operate, and maintain the Project without such a plan, we would have to conclude, would overall adversely affect the Historic Properties.

In the period before an OMCRRMP is developed and approved for the Project, several activities may need to commence that require ground-disturbance, including interpretive-recreational developments, project-related site investigations, project design, and possibly some aspects of project-related construction, such as demolition or rehabilitation of project facilities. The Programmatic Agreement contains procedures for determining whether any such interim activities would adversely affect Historic Properties, and if so, for developing appropriate strategies to avoid or mitigate adverse effects.

B. Archeological Sites:

1. Other than the existing historic project features, construction of the Project as proposed would not affect any archeological resources. Ground-disturbing activities would be confined to the existing features, and to the lower levels of the reconstructed Crown Mill building.

However, National Register and eligible properties, including previously unidentified properties, could be affected by future project-related ground-disturbing activities not covered by the licensing action.

2. Although no studies designed to identify archeological sites have been conducted along the impoundment shoreline, there is also a possibility that there could be significant undiscovered properties along the shoreline that could be adversely affected by project operation.

3. In developing the required OMCRRMP, the Licensee should address the possibility of adverse effects along the impoundment shoreline by consulting with the SHPO, and either include a plan for conducting impoundment shoreline studies designed to identify archeological sites, or explain why such studies should not be conducted.