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United States  
Department of Energy

Office of Electricity Delivery and Energy Reliability

Manitoba Hydro

OE Docket No. EA-281-A

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Order Authorizing Electricity Exports to Canada

Order No. EA-281-A

November 14, 2005

## **Manitoba Hydro**

### **Order No. EA-281-A**

Exports of electricity from the United States to a foreign country are regulated and require authorization under section 202(e) of the Federal Power Act (FPA) (16 U.S.C. §824a(e)).

On November 17, 2003, the Office of Fossil Energy<sup>1</sup> of the Department of Energy (DOE) issued Order No. EA-281 to Manitoba Hydro. That Order authorized Manitoba Hydro to export electric energy to Canada as a power marketer. That authorization will expire on November 17, 2005.

On September 2, 2005, Manitoba Hydro applied to renew the electricity export authority contained in Order No. EA-281 and requested that the renewed authorization be issued for a five-year term.

Manitoba Hydro proposes to purchase surplus electric energy from electric utilities and other suppliers within the United States and to export this energy to Canada. The energy to be exported would be delivered to Canada over the international electric transmission facilities presently owned by the following:

Basin Electric Power Cooperative  
Bonneville Power Administration  
Eastern Maine Electric Cooperative  
International Transmission Company  
Joint Owners of the Highgate Project  
Long Sault, Inc  
Maine Electric Power Company  
Maine Public Service Company

Minnesota Power, Inc.  
Minnkota Power Cooperative  
New York Power Authority  
Niagara Mohawk Power Corp.  
Northern States Power Company  
Vermont Electric Power  
Vermont Electric Transmission Co.

Notice of the Manitoba Hydro export application in Docket No. EA-281-A was placed in the *Federal Register* on September 30, 2005, (70FR57274) requesting that comments, protests, and petitions to intervene be submitted to DOE by October 30, 2005. None were received.

## **II. Discussion and Analysis**

The authority requested of DOE by Manitoba Hydro is a necessary condition for exporting under section 202(e) of the FPA. Before an electricity export authorization is granted, DOE evaluates the impact of the export on the reliability of the U.S. electric system.

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<sup>1</sup> On April 13, 2005, the Secretary of Energy transferred the authority to issue electricity export authorizations to the Office of Electricity and Energy Assurance. That office has subsequently been renamed the Office of Electricity Delivery and Energy Reliability.

Specifically, under the first criterion of section 202(e), DOE shall approve an electricity export application “unless, after opportunity for hearing, it finds that the proposed transmission would impair the sufficiency of electric supply within the United States....” DOE has interpreted this criterion to mean that sufficient generating resources must exist such that the exporter could sustain the export while still maintaining adequate generating resources to meet all native load obligations. Power marketers, or traditional utilities like Manitoba Hydro that propose to export like a power marketer, do not have franchised service areas and, consequently, have no native load obligations like the traditional local distribution utility. Marketers build a power purchase portfolio from electric power purchased from various entities inside and outside the United States. The power purchased by a power marketer is, by definition, surplus to the needs of the selling entities. With no native load obligations, the power marketer is free to sell its power portfolio on the open market domestically or as an export. Because a marketer has no native load obligations and because power purchased by a marketer would be surplus to the needs of the entities selling the power to the marketer, an export occurring under such circumstances would meet the first statutory criterion of section 202(e) of the FPA of not impairing the sufficiency of supply within the United States.

Under the second criterion of section 202(e), DOE shall approve an electricity export application “unless, after opportunity for hearing, it finds that the proposed transmission...would impede or tend to impede the coordination in the public interest of facilities subject to the jurisdiction of the Commission.” DOE has interpreted this second criterion primarily as an issue of the operational reliability of the domestic electric transmission system. Therefore, export authorizations issued by DOE have been conditioned to ensure that the export would not cause operating parameters on regional transmission systems to fall outside of established industry criteria or cause or exacerbate a transmission operating problem.

Prior to the restructuring of the electric power industry, the only entities able to export were those electric utilities that were contiguous with the U.S. international border that owned international transmission facilities. The exported energy originated from within the exporter’s system and standard transmission studies could be performed to determine the impact of the export on regional electric systems.

However, deregulation of wholesale power markets and the introduction of open-access transmission expanded the geographic scope of entities capable of exporting electric energy. Today, at the time of application, the typical exporter cannot identify the source of the exported energy or the electric systems that might be called upon to provide transmission service to the border. Consequently, traditional transmission studies cannot be used to determine the reliability impacts of the export on regional electric systems.

In evaluating reliability impacts of export proposals, DOE has always used a variety of methodologies and information, including established industry guidelines, operating procedures and/or infrastructure, as well as traditional technical studies where available and appropriate. When determining reliability impacts for exports by power marketers or other entities operating in a similar manner, it is convenient to separate the export transaction into two parts: (1) moving the export from the source to a border system that owns the international transmission connection; and, (2) moving the export through that border system and across the border.



In order to deliver the export from the source to a border system, Manitoba Hydro must make the necessary commercial arrangements and obtain sufficient transmission capacity to wheel the exported energy to the border system. In doing so, Manitoba Hydro would use domestic transmission facilities for which open-access tariffs have been approved by the Federal Energy Regulatory Commission (FERC). Manitoba Hydro also must make reservations for transmission service in accordance with the FERC Open-Access Same-Time Information System (OASIS), and must schedule delivery of the export with the appropriate Independent System Operator(s) (ISO) and/or control areas. The posting of transmission capacity on OASIS indicates that transmission capacity is available. Furthermore, it is the responsibility of the ISO and/or control area to schedule the delivery of the export consistent with established reliability criteria. During each step of the process of obtaining transmission service, the owners and/or operators of the transmission facilities will evaluate the reliability of the system and schedule the movement of the export only if it would not violate established operating reliability standards. Therefore, DOE has determined that the existing industry procedures for obtaining transmission capacity on the domestic transmission system provide adequate assurances that an export will not impair the reliability of the U.S. electric power supply system.

In determining the reliability impacts of moving the export through a border system and across the border, DOE relies on the traditional technical studies that were performed in support of electricity export authorizations issued to that border system. Allowing these technical studies to suffice in this docket is sound and, thus, DOE need not perform additional reliability assessments here, provided the maximum rate of transmission for all exports through a border system does not exceed the authorized limit of the system.

However, this approach is applicable only for exports over international transmission facilities for which export authorizations have been issued and for which reliability studies have been performed. Several of the international transmission lines over which Manitoba-Hydro seeks export authority are owned by the New York Power Authority (NYPA) and the Bonneville Power Administration (BPA).

As an instrumentally of the State of New York, NYPA is non-jurisdictional to section 202(e) of the FPA. Consequently, DOE never issued NYPA an export authorization or prepared a reliability assessment which could have been used to limit the instantaneous rate of transmission (power) for exports over NYPA's international transmission lines. Thus, in lieu of that, DOE is utilizing the information contained in the report entitled, "Load & Capacity Data, 2001 Report of the Member Electric Systems of the New York Power Pool."<sup>2</sup> This report is prepared and filed with the New York Public Service Commission pursuant to section 6-106 of the Energy Law of New York State. It will be made part of the record in this proceeding and included in the public docket. Section IX of this report lists the transmission transfer capabilities between New York State and surrounding electric systems, including Hydro-Quebec and Ontario Hydro. Since all of the major transmission interconnections between New York State and Ontario, Canada, are

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<sup>2</sup> This report increases the New York-Ontario transfer limit to 1650 MW from the 550-MW limit contained in the 1995 version of the report. On September 26, 2002, DOE authorized the New York Independent System Operator to export at this higher transfer limit in Order EA-227-A. New York Power Pool no longer exists and all of the operational responsibilities of the pool are now being performed by the New York Independent System Operator.



operated in parallel, it is appropriate to consider a single export power limit for this “electrically logical” grouping of lines. Accordingly, the transfer capability between New York State and Ontario (as identified in Section IX of the above report) has been used to limit the instantaneous transmission rate for exports by Manitoba Hydro over all international transmission lines connecting New York State with Ontario (subparagraph B(13)(a) of this Order). A separate limit (subparagraph B(12) of this Order) has been assigned for exports over NYPA’s 765-kV tie with Hydro-Quebec because of the asynchronous nature of that interconnection.

As a Federal agency, BPA also is non-jurisdictional to section 202(e) of the FPA. Consequently, BPA was never issued an export authorization which DOE could have used to set power limits for exports by Manitoba Hydro over BPA’s international transmission ties with Canada. However, DOE has obtained information from BPA on the transmission limits assigned to the two 500-kV and the two 230-kV lines connecting the BPA system with British Columbia Hydro and West Kootenay Power for operation in the export mode. This information has been made a part of this Docket. It has been used by DOE in setting limits on the power to be exported by Manitoba-Hydro over the BPA international transmission facilities (subparagraph B(14) of this Order).

An export authorization issued under section 202(e) does not impose on transmitting utilities a requirement to provide service. However, DOE expects transmitting utilities owning border facilities to provide access across the border in accordance with the principles of comparable open access and non-discrimination contained in the FPA and articulated in FERC Order No. 888 (Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities, FERC Statutes and Regulations ¶31,036 (1996)), as amended. The actual rates, terms and conditions of transmission service shall be consistent with the non-discrimination principles of the FPA and the transmitting utility’s Open-Access Transmission Tariff on file with the FERC.

All recipients of export authorizations, including owners of border facilities for which Presidential permits have been issued, are required by their export authorization to conduct operations in accordance with the principles of the FPA and pertinent rules, regulations and orders, which include the comparable open access provisions of FERC Order No. 888, as amended. Cross-border electric trade ought to be subject to the same principles of comparable open access and non-discrimination that apply to transmission in interstate commerce. (See Enron Power Marketing, Inc., 77 FERC ¶61,013 (1996)). Thus, DOE expects owners of border facilities to comply with the same principles of comparable open access and non-discrimination that apply to the domestic interstate transmission of electricity.

Manitoba Hydro requested and is being authorized to export electricity over the transmission facilities of some border utilities whose export authorizations still contain limits on the total amount of energy that can be exported by these utilities. These energy limits no longer have any direct relevance to the way DOE addresses electric reliability. DOE expects to initiate a future proceeding regarding the removal of these limits.

However, DOE recognizes the potential inequity of retaining energy limits on certain exporters while currently authorizing marketers, or other entities operating in a similar manner,

to export unlimited amounts of energy. Until the above referenced proceeding is completed, exports by power marketers or other entities operating in a similar manner will be constrained by the same energy limits, except exports by such entities will not reduce or be “charged against” those energy limits contained in the original export authorization.

In its application, Manitoba Hydro requested authorization to export electric energy using the “Rugby Line” owned by Northern States Power (NSP) and authorized by Presidential Permit No. PP-231.<sup>3</sup> This Order does not authorize Manitoba Hydro to export using those transmission facilities because export limits for the Rugby Line have not yet been established. In a separate proceeding (OE Docket EA-63-C), NSP is requesting an electricity export authorization for the Rugby Line, to include energy limits. Should DOE grant the requested export, limits would be assigned to the PP-231 facilities that DOE could then use to set limits for third-party users of the Rugby Line, such as Manitoba Hydro. This Order would then be amended to authorize Manitoba Hydro to export energy to Canada using the PP-231 facilities.

### **III. FINDING**

DOE has assessed the impact that the proposed export would have on the reliability of the U.S. electric power supply system. Based on the above, DOE has determined that the export of electric energy to Canada by Manitoba Hydro, as ordered below, would not impair the sufficiency of electric power supply within the United States and would not impede or tend to impede the coordination in the public interest of facilities within the meaning of section 202(e) of the FPA.

The circumstances described in the Manitoba Hydro application are virtually identical to those for which export authority had previously been granted in Order No. EA-281. Consequently, DOE believes that it has adequately satisfied its responsibilities under the National Environmental Policy Act of 1969 through the documentation of a categorical exclusion in the Docket EA-281 proceeding.

### **IV. ORDER**

Based on the above, it is hereby ordered that Manitoba Hydro is authorized to export electric energy to Canada under the following terms and conditions:

(A) The electric energy exported by Manitoba Hydro pursuant to this Order may be delivered to Canada only over the following existing international transmission facilities for which assessments of the transmission limits for operation in the export mode have been made:

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<sup>3</sup> On February 6, 2002, in Presidential Permit No. PP-231, NSP was authorized to construct, operate, maintain, and connect a single-circuit 230-kV transmission line at the U.S.-Canada border in the vicinity of Rugby, North Dakota.



<b><u>Present Owner</u></b>	<b><u>Location</u></b>	<b><u>Voltage</u></b>	<b><u>Presidential Permit No.</u><sup>4</sup></b>
Basin Electric Power Cooperative	Tioga, ND	230-kV	PP-64
Bonneville Power Administration	Blaine, WA	2-500-kV	PP-10
	Nelway, WA	230-kV	PP-36
	Nelway, WA	230-kV	PP-46
Eastern Maine Electric Cooperative	Calais, ME	69-kV	PP-32
International Transmission Company	Detroit, MI	230-kV	PP-230
	Marysville, MI	230-kV	PP-230
	St. Claire, MI	230-kV	PP-230
	St. Claire, MI	345-kV	PP-230
Joint Owners of the Highgate Project	Highgate, VT	120-kV	PP-82
Long Sault, Inc.	Massena, NY	2-115-kV	PP-24
Maine Electric Power Company	Houlton, ME	345-kV	PP-43
Maine Public Service Company	Limestone, ME	69-kV	PP-12
	Fort Fairfield, ME	69-kV	PP-12
Minnesota Power, Inc.	International Falls, MN	115-kV	PP-78
Minnkota Power Cooperative	Roseau County, MN	230-kV	PP-61
New York Power Authority	Massena, NY	765-kV	PP-56
	Massena, NY	2-230-kV	PP-25
	Niagara Falls, NY	2-345-kV	PP-74
	Devils Hole, NY	230-kV	PP-30
Niagara Mohawk Power Corp.	Devils Hole, NY	230-kV	PP-190
Northern States Power Company	Red River, ND	230-kV	PP-45
	Roseau County, MN	500-kV	PP-63
Vermont Electric Power Co.	Derby Line, VT	120-kV	PP-66
Vermont Electric Transmission Co.	Norton, VT	±450-kV DC	PP-76

<sup>4</sup> These Presidential permit numbers refer to the generic DOE permit number and are intended to include any subsequent amendments to the permit authorizing the facility.

(B) Exports authorized herein shall not cause a violation of the terms and conditions contained in existing electricity export authorizations associated with the international transmission facilities identified in paragraph (A) above. Specifically:

- (1) Exports by Manitoba Hydro made pursuant to this Order shall not cause the total exports on facilities authorized by Presidential Permit PP-64 (issued to Basin Electric Power Coop.) to exceed an instantaneous transmission rate of 150 megawatts (MW). The gross amount of energy which Manitoba Hydro may export over the PP-64 facilities shall not exceed 900,000 megawatt-hours (MWH) during any consecutive 12-month period.
- (2) Exports by Manitoba Hydro made pursuant to this Order shall not cause the total exports on a combination of the facilities authorized by Presidential Permit PP-230 (issued to International Transmission Company) to exceed a coincident, instantaneous transmission rate of 2.2 billion volt-amperes (2,200 MVA).
- (3) Exports by Manitoba Hydro made pursuant to this Order shall not cause the total exports on the facilities authorized by Presidential Permit PP-32 (issued to Eastern Maine Electric Coop.) to exceed an instantaneous transmission rate of 15 MW. The gross amount of energy which Manitoba-Hydro may export over the PP-32 facilities shall not exceed 7,500 MWH annually.
- (4) Exports by Manitoba Hydro made pursuant to this Order shall not cause the total exports on the facilities authorized by Presidential Permit PP-82 (issued to the Joint Owners of the Highgate Project) to exceed an instantaneous transmission rate of 200 MW nor cause a violation of the following security constrained export limits:

<u>Vermont Total Load (MW)</u>	<u>Security Constrained Maximum Export (MW)</u>
1000	0
900	40
800	90
700	125
600	150
500	170

- (5) Exports by Manitoba Hydro made pursuant to this Order shall not cause the total exports on the facilities authorized by Presidential Permit PP-43 (issued to Maine Electric Power Company) to exceed an instantaneous transmission rate of 500 MW.
- (6) Exports by Manitoba Hydro made pursuant to this Order shall not cause the total exports on the combination of facilities authorized by Presidential Permits PP-12 and PP-29 (issued to Maine Public Service Company) to exceed a coincident, instantaneous transmission rate of 40.8 MW. The gross amount of energy which Manitoba Hydro may export over a combination of the PP-12 and PP-29 facilities shall not exceed 40,000 MWH annually.
- (7) Exports by Manitoba Hydro made pursuant to this Order shall not cause total exports on



the facilities authorized by Presidential Permit PP-78 (issued to Minnesota Power) to exceed an instantaneous transmission rate of 100 MW. Exports by Manitoba Hydro may cause total exports on the PP-78 facilities to exceed 100 MW only when total exports between the Mid-Continent Area Power Pool (MAPP) and Manitoba Hydro are below maximum transfer limits and/or whenever operating conditions within the MAPP system permit exports on the PP-78 facilities above the 100 MW level without violating established MAPP reliability criteria. However, under no circumstances shall exports by Manitoba Hydro cause the total exports on the PP-78 facilities to exceed 150 MW.

- (8) Exports by Manitoba Hydro made pursuant to this Order shall not cause the total exports on the facilities authorized by Presidential Permit PP-61 (issued to Minnkota Power Cooperative, Inc.) to exceed an instantaneous transmission rate of 350 MW. The gross amount of energy which Manitoba Hydro may export over the PP-61 facilities shall not exceed 3,000,000 MWH annually.
- (9) Exports by Manitoba Hydro made pursuant to this Order shall not cause the total exports on the facilities authorized by Presidential Permit PP-63 (issued to Northern States Power) to exceed an instantaneous transmission rate of 500 MW.
- (10) Exports by Manitoba Hydro made pursuant to this Order shall not cause a violation of the following conditions as they apply to exports over the  $\pm 450$ -kV direct current transmission line authorized by Presidential Permit PP-76 as amended (issued to the Vermont Electric Transmission Company):

NEPOOL		
<u>Exports Through</u>	<u>Load Condition</u>	<u>Export Limit</u>
Comerford converter	Summer, Heavy	650 MW
Comerford converter	Winter, Heavy	660 MW
Comerford converter	Summer, Light	690 MW
Comerford converter	Winter, Light	690 MW
Comerford & Sandy Pond converters	All	2,000 MW

- (11) Exports by ManitobaHydro made pursuant to this Order shall not cause the total exports on the facilities authorized by Presidential Permit PP-56 (issued to NYPA) to exceed an instantaneous transmission rate of 1000 MW.
- (12) Exports by Manitoba Hydro made pursuant to this Order shall not cause: (a) the total exports in the facilities authorized by Presidential Permits PP-25, PP-30, PP-74 and PP-190 (issued to NYPA and Niagara Mohawk) to exceed a combined instantaneous transmission rate of 1650 MW; and (b) the total exports on the 115-kV facilities authorized by Presidential Permit PP-24 (issued to Long Sault, Inc.) to exceed an instantaneous transmission rate of 100 MW. In addition, the gross amount of energy which Manitoba Hydro may export over the PP-24 facilities shall not exceed 300,000 MWH annually.

- (13) Exports by Manitoba Hydro pursuant to this Order shall not cause total exports on the two 100-kV lines authorized by Presidential Permit PP-10, the 230-kV line authorized by Presidential Permit PP-36, and the 230-kV line authorized by Presidential Permit PP-46 (issued to BPA) to exceed the following limits:

Condition	PP-36 & PP-46 Limit	PP-10 Limit	Total Export Limit
All lines in service	400 MW	1500 MW	1900 MW
1-500 kV line out	400 MW	300 MW	700 MW
2-500 kV lines out	400 MW	0 MW	400 MW
1-230 kV line out	400 MW	1500 MW	1900 MW
2-230 kV lines out	0 MW	1500 MW	1500 MW

(C) Changes by DOE to the export limits in other orders shall result in a concomitant change to the export limits contained in paragraph (B) of this Order. Changes to the export limits contained in subparagraphs B(12), B(13), and B(14) will be made by DOE after submission of appropriate information demonstrating a change in the transmission transfer capability between the electric systems in New York State and Ontario and New York State and Quebec, and between BPA and BC Hydro, or BPA and West Kootenay Power. Notice of these changes will be provided to Manitoba Hydro.

(D) The scheduling the delivery of electricity exports to Canada shall comply with all reliability criteria, standards, and guides of the North American Electric Reliability Council, Regional Councils, and independent system operators, as appropriate, on such terms as expressed therein, and as such criteria, standards, and guides may be amended from time to time.

(E) Manitoba Hydro shall conduct all operations pursuant to the authorization hereby granted in accordance with the provisions of the Federal Power Act and pertinent rules, regulations, and orders adopted or issued there under, including the comparable open access provisions of FERC Order No. 888, as amended.

(F) The authorization herein granted may be modified from time to time or terminated by further order of the DOE. In no event shall such authorization to export over a particular transmission facility identified in paragraph (A) extend beyond the date of termination of the Presidential permit authorizing such facility.

(G) This authorization shall be without prejudice to the authority of any State or State regulatory commission for the exercise of any lawful authority vested in such State or State regulatory commission.

(H) Manitoba Hydro shall make and preserve full and complete records with respect to the electric energy exported to Canada. Manitoba-Hydro shall furnish quarterly reports to the DOE, within 30 days following each calendar quarter, detailing for each month of the previous quarter: (1) the gross amount of electricity delivered, in kilowatt hours; (2) the consideration received for such energy; and (3) the maximum hourly rate of transmission, in kilowatts. Quarterly reports must be filed regardless of current activity and whether or not deliveries of electric energy have



been made. If no transactions have been made, a one-sentence report indicating “no activity” for the previous quarter is sufficient.


Reports shall be submitted to the U.S. Department of Energy, Office of Electricity Delivery & Energy Reliability, OE-20, Forrestal Building, 1000 Independence Avenue, SW, Washington, D.C. 20585-0305. Properly identified quarterly reports will also be accepted via facsimile at (202) 586-5860 to meet time requirements, but original copies should still be filed at the above address.

(I) In accordance with 10 C.F.R. §205.305, this authorization is not transferable or assignable, except in the event of the involuntary transfer of this authority by operation of law. Provided written notice of the involuntary transfer is given DOE within 30 days, this authorization shall continue in effect temporarily. This continuance also is contingent on the filing of an application for permanent authorization within 60 days of the involuntary transfer; the authorization shall then remain effective until a decision is made on the new application. In the event of a proposed voluntary transfer of this authority to export electricity, the transferee and the transferor shall file jointly an application for a new export authorization, together with a statement of reasons for the transfer.

(J) Exports authorized herein shall be reduced or suspended, as appropriate, whenever a continuation of those exports would impair or tend to impair the reliability of the U.S. electric power supply system.

(K) This authorization shall be effective on November 17, 2005, and remain in effect for a period of five (5) years from that date. Application for renewal of this authorization may be filed within six months prior to expiration of this authorization.

Issued in Washington, D.C., on November 14, 20005.



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