

1 **INTERNATIONAL NIAGARA BOARD OF CONTROL**

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3 Minutes of the September 21, 2017 Meeting  
4 Niagara Falls, ON  
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6 Mr. Thompson called the meeting to order at 1:00 pm at the Ontario Power Generation  
7 Office, Sir Adam Beck Power Plant, 14000 Niagara Parkway, Niagara Falls, ON,  
8 Canada. Those in attendance were:  
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**UNITED STATES**

**CANADA**

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**BOARD MEMBERS**

Mr. Stephen Durrett, Alt Co-Chair

Mr. A. Thompson, Chair

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**SECRETARIES**

Mr. B. Carmichael

Mr. D. Beach

**WORKING COMMITTEE AND ASSOCIATES**

Mr. K. Koralewski

Dr. F. Seglenieks

Mr. J. Allis

Ms. J. Frain

Mr. M. Asklar

Ms. J. Fooks

**OTHERS**

Mr. D. Hermann, IJC

Mr. G. Walker, IJC

Ms. C. Fisher, USACE (WebEx)

Mr. D. Fay, IJC

Mr. K. McCune, USACE

Mr. M. McNiven (OPG)

Mr. A. Heer, USACE

Dr. S. Rodrigues, ECCC (WebEx)

Ms. M. Kropfreiter (USACE)

Ms. W. Leger, GLAM

Mr. A. Armstrong (USACE)

24 **Item 1. Opening Remarks, Introductions, Approval of Agenda and Past Meeting**  
25 **Minutes**

26 Mr. Thompson welcomed all to the meeting and introductions were made for those  
27 present and attending by WebEx. The Board approved the agenda as distributed  
28 (Enclosure 1).

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30 Past meeting minutes have been distributed and Board members and Associates are to  
31 provide comment.

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33 **Item 2. Membership Changes, Roles, and Responsibilities**

34 No changes to the Working Committee or Board occurred since the March 2, 2017  
35 meeting. It was noted that the US member position remained vacant, however it was  
36 expected that it would be filled soon.

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38 **Item 3. Review of Previous Meeting Minutes**

39 Meeting minutes for the March 2, 2017 meeting were distributed for review prior to the  
40 meeting. Action: All to provide final comment on the minutes to the US Secretary by  
41 September 28.

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43 **Item 4. Update on Lake Erie/Niagara River Conditions**

44 The Board was provided an update of levels, precipitation and net basin supplies for  
45 Lake Erie and the Niagara River. Lake Erie began the reporting period with a March  
46 mean level 41 cm (16.1 inches) above its 1918–2016 period-of-record, long-term average  
47 level for the month. Between March and June the monthly average lake level rose 35 cm  
48 (13.8 inches), which is about 1.3 times greater than the average 26 cm (10.2 inches) rise  
49 for that period. However for the remainder of the reporting period, the lake received  
50 average water supplies, resulting in the lake level declining through July and August,  
51 where it ended the reporting period 45 cm (17.7 inches) above the monthly average.  
52 Throughout the reporting period, Niagara River outflows were well above average with  
53 average monthly flows ranging from 6,605 m<sup>3</sup>/s to almost 7,359 m<sup>3</sup>/s due to above  
54 average levels on Lake Erie. The six-month water level forecast prepared at the beginning  
55 of September by the U.S. Army Corps of Engineers (USACE) and Environment and  
56 Climate Change Canada (ECCC) indicates that if average water supply conditions are  
57 experienced, the level of Lake Erie would remain above average throughout the fall and  
58 early winter.

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60 **Item 5. Lake Erie – Niagara River Ice Boom**

61 **a) Review of 2016-17 Ice season**

62 The Board was provided a review of the 2016-17 season ice boom activities. The  
63 installation of the boom began on December 17, 2016 and was completed by  
64 December 22, 2016. However, due to warm temperatures, a solid ice cover did not  
65 form on Lake Erie for the ice season and ice peaked at only 37% in mid-January. Due  
66 to lack of ice and forecasted continued warm temperatures, a media advisory was  
67 issued that boom removal was planned on March 6, 2017 and NYPA began removal of  
68 the boom the same day.

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70 **b) Status of 2016-17 Ice Boom Report**

71 The Board was provided an update on the status of the INWC 2016-17 Operation of the  
72 Lake Erie-Niagara River Ice Boom report. A draft report had been written and reviewed  
73 by the INWC, and circulated to the Board prior to the meeting. The Board was asked to  
74 provide final comment on the report. Comments are to be provided to Buffalo USACE  
75 by September 28, 2017 to finalize the report before the IJC Appearance.

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77 **c) Media Advisories for the Ice Boom**

78 Communicating installation and removal operations of the Ice Boom had been important  
79 to public communication by the Board. Media advisories are issued by the Board, based  
80 on information provided by NYPA, to inform the public of installation and removal  
81 operations for each ice season. It was also noted that when the boom was first installed  
82 pre-1984 there was significant public interest and the boom operations were done on a  
83 trial basis subject to study and determination of acceptable impacts, so it was important  
84 for the Board to ensure that the public was informed. However, since 1984 there is  
85 greater understanding of the impacts and the operations of the boom have become  
86 more standard. In order to better communicate the status of the Ice Boom operations it  
87 was proposed to the Board, after discussion by the INWC, that, in addition to the US  
88 Chair of the INWC and Canadian Secretary as contacts on media advisories, that a  
89 NYPA contact be added to the media advisories. The Board accepted this proposal and  
90 a NYPA contact is be added to the media advisories. Information on Ice Boom  
91 operations will also continue to be posted on the INBC web site.

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93 **Item 6. Chippawa-Grass Island Pool update**

94 The Board was provided a summary of the operation and maintenance of the  
95 Chippawa-Grass Island Pool (CGIP) and International Niagara Control Works (INCW).

96 **a) Compliance to directive**

97 The water level in the CGIP is regulated in accordance with the Board's 1993 Directive.  
98 During the reporting period the CGIP was operated within the criteria indicated in the  
99 1993 Directive except in relation to the following occasions during the reporting period.  
100 The Power Entities were able to comply with the Board's Directive at all times during the  
101 reporting period.

102 **b) Operations and maintenance**

103 The Board was provided an update on operations and maintenance of the INCW.  
104 There were no significant gauge outages. Gates 3 and 15 were out for overhaul at  
105 separate periods e.g. March 29 to July 25 and August 11 to December 15 respectively.  
106 No issues occurred due to gate overhaul. Operations of the CGIP and INCW were  
107 satisfactory for this reporting period.

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109 **Item 7. Falls Flow Violations**

110 Falls flow met or exceeded minimum Treaty requirements at all times during the reporting  
111 period.

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113 **Item 8. Plant Upgrades and Unit Testing**

114 a) OPG – SAB1 rehabilitation program continued with upgrades to units G3, G7 and  
115 G9 completed. A new rating table was put into place for unit G3 on March 8, 2017.  
116 Maintenance on unit G10 (new runner/generator rewind) was completed and it was  
117 returned to service on June 9, 2017. DeCew Falls 2 maintenance continued on G2  
118 with return to service planned for 2018.

119 b) NYPA – Did not undertake significant upgrades to their power plant during this  
120 reporting period

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122 **Item 9. Review discharge measurement programs**

123 **a) Overall Schedule**

124 In order to ensure that accurate flow measurements are maintained a schedule for  
125 verification flow measurement has been used by the INWC. The following flow  
126 measurement schedule was provided to the Board.

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<b>Schedule</b>	<b>Regularly Scheduled Interval</b>	<b>Last Measurement</b>	<b>Scheduled Measurement</b>
International Railway Bridge	3 years	April 2015	April 2018
Ashland Ave Rating Section	3 years	May 23-27 2016	May 2019
Welland Canal	3 years	May 2015	April 2018
American Falls	5 years	May 2017	May 2022

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**b) International Railway Bridge (Buffalo and Fort Erie)**

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The Board was provided an update on the analysis of measured flow data to update the Fort Erie rating equation. A draft rating equation for the Fort Erie gauge has been completed. Several alternatives were assessed for the updated equation, all of which showed improved accuracy compared to the existing equation. One alternative was found to have less uncertainty than the others. The report detailing the analysis is being written and will be provided to the INWC upon completion.

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**c) Welland Canal**

The report on the last set of measurements taken in May 2015 is currently in progress. The next scheduled measurement for the Welland Canal are April 2018.

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**d) Ashland Avenue Rating Section**

The Board was provided an update on the methods and preliminary results of the flow measurements taken May 23-27, 2016. The ECCC boat (Paul E) was used with ECCC and USACE crews, instead of two separate boats that have been used in the past. Use of one boat was found to be successful and will be considered for future measurements. Measurements have been found to be within 5% of the 2009 Ashland Avenue equation. Next measurements are scheduled in May 2019.

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**e) American Falls**

An update was provided on the American Falls rating equation verification measurements performed May 10, 2017. Flow measurements were collected with a remote control Z-Boat allowing for flow measurements safely from the side of the channel. Forty transects were made to combine for six discharge measurements by USACE and ECCC crew. All of the transect measurements were within five percent of the flow provided by Niagara River Control. The operations were coordinated with the Niagara Parks Police and Engineering Departments. Due to above average water

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154 levels and river flows it was not possible to obtain flow measurements at the lower end  
155 of the rating curve (i.e. a Falls flow of 1,416 cubic metres per second). Analysis of the  
156 measurements is ongoing.

157 **Item 10. 2017 Public Outreach Event**

158 In an attempt to increase participation in the Board's public information events, an  
159 information booth was set up on Board activities at the Erie County Fair in Hamburg,  
160 New York (near Buffalo). Information posters for the booth were prepared and available  
161 for viewing at all times during the fair. Representatives for the Board were at the booth  
162 for approximately 52% of the time to answer questions and there was also a question  
163 box available to the public at all times. It was estimated that 432 members of the public  
164 visited the booth while Board representatives staffed the booth. It was also estimated  
165 that many members of the public visited the booth when it was not staffed based on  
166 feedback from the staff from adjacent exhibits. The booth at the fair was seen as a  
167 success, with many more members of the public engaged than the public meeting  
168 format that has been used in the past. It was also noted that the Board booth won the  
169 Erie County Fair Award of Distinction, thanks in great part to the coordination efforts of  
170 the Buffalo USACE public relations staff. Due to the success of the Erie County Fair  
171 outreach event, it was proposed that public outreach event for 2018 be coordinated with  
172 the Canadian Geophysical Union conference June 10-14, 2018 in Niagara Falls,  
173 Ontario.

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175 **Item 11. Review 129<sup>th</sup> Semi-Annual Progress Report**

176 A final draft report was circulated to Board members prior to the meeting. Comments  
177 on the report from the INWC have been incorporated into the report. Board members  
178 should submit any comments that they may have by October 3. Any comments will be  
179 incorporated into the report for submission to the Commission prior to the fall  
180 Appearance.

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182 **Item 12. Other Business**

183 **a. Adaptive Management Update**

184 Board was updated with activities of the Adaptive Management Committee (AMC). The  
185 AMC would like the Board to review the AMC work plan that was completed on  
186 September 26, 2017. The Board secretaries will respond to the AMC with comments on  
187 the work plan.

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189           **b. Falls Recession**

190           The Board was updated on monitoring the Falls crest for rock movement. No significant  
191           changes in the crestline of the Falls were noted over the last reporting period. It was  
192           noted that a pictures of the nape of the Falls from a reference point (e.g. Skylon Tower)  
193           over time would be helpful to compare how it looks over time.

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195           **c. Ashland Avenue Gauge Intake**

196           An update on the progress of maintenance repair to the Ashland Avenue gauge was  
197           presented to the Board. NYPA provided plans prepared by consulting engineers for  
198           works to reduce the potential for blockage of the water intake of the gauge by natural  
199           river bed material. NYPA is in the process of securing necessary permits for  
200           construction and expects to tender the plans for bid with construction planned for the fall  
201           of 2017.

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203           **d. Ashland Avenue Back-up Gauge Options**

204           An analysis of flows from the Niagara River at Fort Erie and river diversions was  
205           completed to determine if this could be used as a backup to Falls flow. On analysis,  
206           there was a  $\pm 2000$  cms difference between the Ashland Avenue gauge and the  
207           measured flow at Fort Erie with the measured diversions. Without further analysis, this  
208           difference did not have the desired accuracy as a backup to flow measurement over the  
209           Falls. The INWC will continue to examine potential methods for obtaining an accurate  
210           backup flow.

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212           **e. Gauge Maintenance Program**

213           It was discussed that the gauges used for measurement of the Falls flows should be  
214           compared to existing protocols in ECCC and USACE. The Power Entities agreed to  
215           provide their protocols for review and comment to ensure consistency.

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217           **f. Adaptive Management Climate Change**

218           The IJC Adaptive Management Committee on Climate Change has requested a time for  
219           informative presentation to interested Board members and associates. A poll for a date  
220           will be sent out by the US Secretary.

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222           **Item 13. Next IJC Appearance, Board & INC meetings and Closing Remarks**

223           The next IJC Appearance is scheduled for October 25, 2017 in Ottawa, Ontario,  
224           Canada. The next Board meeting is scheduled for March 2018 in Buffalo, New York,  
225           USA. The Co-Chairs thanked all for participating and the meeting adjourned at  
226           3:30 pm.

**International Niagara Board of Control**  
**September 21, 2017**  
**1:00 p.m. – 3:30 p.m.**  
**Ontario Power Generation Office – Sir Adam Beck Power Plant**  
**14000 Niagara Parkway**  
**Niagara Falls, ON, Canada**

**Agenda**

1. Opening Remarks, Introductions, Approval of Agenda ..... 1:00-1:05
2. Membership Changes, Roles and Responsibilities ..... 1:05-1:10
3. Review of previous meeting minutes ..... 1:10-1:15
4. Update on Lake Erie/Niagara River conditions ..... 1:10-1:15
5. Lake Erie – Niagara River Ice Boom ..... 1:15-1:25
  - a) Review of 2016-17 Ice Boom Season
  - b) Status of 2016-17 Ice Boom Report
  - c) Media Advisories for Boom
6. Chippawa-Grass Island Pool ..... 1:25-1:35
  - a. Compliance to Directive
  - b. Operations and maintenance
7. Falls flow violations ..... 1:35-1:40
8. Plant Upgrades and Unit Testing ..... 1:40-1:50
  - a) OPG
  - b) NYPA
9. Review discharge measurements program ..... 1:50-2:05
  - a) Overall schedule
  - b) International Railway Bridge (Buffalo and Fort Erie)
  - c) Welland Canal
  - d) Ashland Avenue Rating Section
  - e) American Falls
10. 2017/2018 Public Outreach Events ..... 2:05-2:25
11. Review of 129<sup>th</sup> Semi-Annual Progress Report ..... 2:25-2:35
12. Other Business
  - a) Adaptive Management Update ..... 2:35-2:45
  - b) Falls Recession ..... 2:45-2:45
  - c) Ashland Avenue Gauge Intake ..... 2:45-2:55
  - d) Ashland Avenue Back-up Gauge Options ..... 2:55-3:05
  - e) Gauge Maintenance Program ..... 3:05-3:15
  - f) Adaptive Management Climate Change .....
13. IJC Appearance – Date, topics for presentation ..... 3:15-3:25
14. Next Board & INC Meeting, Closing Remarks and Adjourn ..... 3:25-3:30