Minutes of Meeting
of the Board of Directors
of the Independent Electricity System Operator

August 30, 2017, 8:30 a.m.
16th Floor Boardroom, 120 Adelaide Street West, Toronto, Ontario

Attendees:

Tim O'Neill, Chair
Cynthia Chaplin
Murray Elston
Christopher Henderson
Susanna Han
Margaret Kelch
Glenn Rainbird
Ersilia Serafini
Deborah Whale
Carole Workman
Peter Gregg

Regrets:

None

Members of Staff in Attendance:

John Rattray
Michael Lyle *(portion of meeting)*
Kim Marshall *(portion of meeting)*
JoAnne Butler *(portion of meeting)*
Leonard Kula *(portion of meeting)*
Doug Thomas *(portion of meeting)*
Terry Young *(portion of meeting)*
Glenn McDonald *(portion of meeting)*
Alexander DeAngelis *(portion of meeting)*
Bashir Bhana *(portion of meeting)*
Anthy Lovachis *(portion of meeting)*
Nicola Presutti *(portion of meeting)*
Jordan Penic *(portion of meeting)*
Shawn Cronkwright *(portion of meeting)*
Barbara Ellard *(portion of meeting)*
George Pessione *(portion of meeting)*
Susan Harrison*(portion of meeting)*
Derek Roldan *(portion of meeting)*

By Invitation
Brian Bentz and James Scongack, Stakeholder Advisory Committee *(portion of meeting)*

Minutes

Mr. Tim O'Neill chaired the meeting and Mr. John Rattray acted as Secretary.

Constitution of the Meeting

The Chair noted that due notice of the meeting had been given; a quorum of members of the Board of Directors were present; and that, accordingly, the meeting was duly and properly constituted.

Approval of the Proposed Agenda

The Chair reviewed the Agenda with the Board and noted the potential need to adjust the timing of Agenda Item 8 to accommodate a scheduling conflict. Subject to the potential adjustment of the timing, the Agenda was found to be satisfactory and, on motion duly made and seconded, the following resolution was unanimously carried,

BE IT RESOLVED THAT the Agenda of items for consideration at this meeting of the Board of Directors is hereby approved.

Conflicts

The Chair enquired whether any Committee member had a conflict of interest to report. None were reported.

CONSENT AGENDA ITEMS:

On motion duly made and seconded, the Board unanimously approved the Consent Agenda as amended and in so doing the following resolutions were unanimously carried,

Approval of Minutes

BE IT RESOLVED THAT the Minutes of the Meetings of the Board of Directors of the Independent Electricity System Operator held on June 14,, 2017, and the Special Meetings of the Board of Directors held on June 28, 2017; July 25, 2017; and August 15, 2017 are hereby approved.

<u>Whitesands First Nation Power Purchase Agreement</u>

BE IT RESOLVED THAT,

1. the Board of Directors authorize the Independent Electricity System Operator (the "Corporation") to negotiate and enter into a contract (the "Contract") with Whitesand First Nation or its affiliate, for the development of a 4 MW biomass cogeneration facility substantially as presented in the August 30, 2017 presentation (the "Presentation") to the Board of Directors;

2. any one officer of the Corporation is hereby authorized and directed, for and in the name of and on behalf of the Corporation, to execute and deliver the Contract, substantially in the form and on the terms and subject to the conditions set out in the Presentation with such non-material changes thereto as that officer may approve, such approval to be evidenced conclusively by the execution and delivery of the Contract; and

3. any one officer of the Corporation or person with authority in accordance with the Organizational Authorities Register is hereby authorized and directed, for and in the name of and on behalf of the Corporation, to execute and deliver all agreements, instruments, certificates and other documents and to do all such further acts, including making amendments and granting waivers and consents, as may be necessary or desirable to implement the Contract, to perform its obligations thereunder and to obtain the benefits thereof, the execution of any such document or the doing of any such other act or thing being conclusive evidence of such determination.

<u>Shekak-Nagagami Hydrology Adjustment Agreement</u>

BE IT RESOLVED THAT,

1. the Board of Directors authorize the Independent Electricity System Operator (the "Corporation") to negotiate and enter into a Funding Agreement (the "Agreement")with Constance Lake First Nation or its affiliate, for the provisioning of payments for the actual annual production from the Shekak-Nagagami Hydroelectric Generation Station substantially as presented in the August 31, 2017 presentation (the "Presentation") to the Board of Directors;

2. any one officer of the Corporation is hereby authorized and directed, for and in the name of and on behalf of the Corporation, to execute and deliver the Agreement, substantially in the form and on the terms and subject to the conditions set out in the Presentation with such non-material changes thereto as that officer may approve, such approval to be evidenced conclusively by the execution and delivery of the Agreement; and

3. any one officer of the Corporation is hereby authorized and directed, for and in the name of and on behalf of the Corporation, to execute and deliver all agreements, instruments, certificates and other documents and to do all such further acts, including making amendments and granting waivers and consents, as may be necessary or desirable to implement the Agreement, to perform its obligations thereunder and to obtain the benefits thereof, provided that any such action is subject to the terms of the Presentation, the execution of any such document or the doing of any such other act or thing being conclusive evidence of such determination.

REPORTS

Report of the Chair

The Chair updated the Board on his discussions with the Chief of Staff regarding the proposed approach to the Executive Compensation Framework, and the role of the corporation as a trusted advisor. The Board discussed the upcoming Minister's meeting with the Board; the status of the development of the Long Term Energy Plan ("LTEP"); the status of the Hydro Quebec negotiations; and the potential impact of any future agreement on market renewal, key stakeholders and the corporation.

Report of the CEO

In addition to Mr. Peter Gregg's written report, which had been provided to each Director for review prior to the meeting, Mr. Gregg discussed the status of negotiations with the Power Workers' Union ("PWU"); the corporation's reassessment of the need for the East-West Tie and the status of potential competition to construct the line; and LTEP. He responded to questions regarding regional forums; the role of the corporation in Distributed Energy Resources; the relationship with the Environmental Commissioner; and the assessment of the value of conservation initiatives.

Report of the Audit Committee

Ms. Carole Workman, on behalf of the Audit Committee, reported on the agenda items considered by the Audit Committee. She advised that the Consent Agenda had been amended to remove to the regular agenda, consideration of the appointment of the external auditor and the proposed amendment of the Finance Policy. Ms. Workman reported on the Audit Committee's consideration of risks and corporate performance measures; the IT audit reports; and updates on cyber security including the request made of management to report on an ongoing basis, the status of action plans to mitigate cyber risks; the cyber security update received; financial statements; projected year end results; and the status of the business plan. She advised that the Committee deferred to a later date, consideration of SERP and OPEB funding and the desire for more education on this issue. The Committee Chair summarized the updates received on conservation and compliance; the Community Energy Partnership Program; the focus of the audits by the Auditor General on cyber and market enforcement; the upcoming NERC/NPCC reliability audits; and the CSAE 3416 settlements audit.

External Auditor

The Committee Chair advised that the Committee was recommending to the Board for approval, the reappointment of the corporation's external auditor. Following discussion, the Board indicated that it was satisfied with the recommendations before it and, on motion duly made and seconded, the following resolution was unanimously carried,

BE IT RESOLVED THAT KPMG be appointed as the auditors for the Corporation and the Corporation's Pension Plan for the fiscal 2017 year at a remuneration to be determined at a subsequent date by the Audit Committee.

IESO Business Plan Submission

Ms. Workman advised that an Agenda Item Summary titled "2018 – 2020 Business Plan – Update", dated August 30th, 2017; and a letter to the Minister of Energy dated August 31, 2017; were provided to the Committee for review prior to the meeting.

Following discussion, the Board indicated that it was satisfied with the recommendation before it and, on motion duly made and seconded, the following resolution was unanimously carried,

BE IT RESOLVED THAT the 2018 – 2020 Business Plan for the Corporation as presented and discussed at this meeting of the Board be approved for submission to the Minister on September 1, 2017.

Report of the Human Resources and Governance Committee (HRGC)

The Chair, Mr. Tim O'Neill, discussed the Board's use of consent agendas; the need to become more comfortable with their use; and the value of signaling to the respective Chairs and Secretary when a Director will request that the item be moved off of the consent agenda.

Ms. Margaret Kelch, on behalf of the HRGC, reported on the agenda items considered by the HRGC including the in-camera meeting with the Chief Executive Officer, Mr. Gregg, regarding his evaluation of the executive team; the status of the HR strategy; and engagement. Ms. Kelch also reported on the approved PWU bargaining mandate and the subsequent process to be followed to obtain Board approval of any agreement reached, and related contingency plans in the event negotiations fail. Ms. Kelch then reported on the HRGC's consideration of the proposed Executive Compensation Framework; the feedback obtained from the Ministry; the details of the proposed envelope; the additional data and narrative required to support the proposed framework; and the process whereby management will seek the approval of the HRGC prior to submission of the framework to the Minister.

Pension Adjustment Ratio

Ms. Kelch advised that an Agenda Item Summary titled "Pension Amendment # 32 – Pension Adjustment Ratios – former IESO", dated August 29, 2017; a Memorandum titled "Pension Amendment – Elimination of Pension Adjustment Ratios for Non Represented Employees Excluding Vice Presidents"; and a document titled" Thirty-Second Amendment to the Independent Electricity System Operator Pension Plan", had been provided to the HRGC for review prior to its meeting. She reported on the HRGC's consideration of the issue and the rationale for the HRGC's recommendation to the Board for approval of the proposed amendment. Following discussion, the Board indicated that it was satisfied with the recommendation before it and, on motion duly made and seconded, the following resolution was unanimously carried,

BE IT RESOLVED THAT the Corporation adopt the Thirty-Second Amendment (the "Amendment") to the text of the Independent Electricity System Operator Pension Plan (the "Pension Plan") in the form presented to this meeting, pursuant to the authority granted to the Corporation under rule 14b of the Pension Plan.

BE IT FURTHER RESOLVED THAT the Corporation authorizes the President and Chief Executive Officer to:

(a) approve the final text of the Amendment, including any changes required by regulators or otherwise deemed appropriate by the President and Chief Executive Officer; and

(b) approve and execute on behalf of the Corporation, or direct the Secretary of the Corporation to execute on behalf of the Corporation, all such documents and to take such action and retain the assistance of such persons as may be required in order to effect registration of the Amendment with the applicable regulatory authorities.

Pension Adjustment Amendments

a) Amendment 30

Ms. Kelch advised that an Agenda Item Summary titled 'Pension Amendment # 30 – Legislative Change and minor corrections"; a Memorandum titled "Pension Amendment#30– Legislative and Housekeeping Changes", both dated August 29, 2017; and a document titled "Thirtieth Amendment to the Independent Electricity System Operator Pension Plan", had been provided to the Committee for review prior to the meeting. Ms. Kelch described the HRGC's consideration of the proposed amendment and its recommendation to the Board to approve the proposed amendment.

Following discussion, the Board indicated that it was satisfied with the recommendation before it and, on motion duly made and seconded, the following resolution was unanimously carried,

In Respect of the Thirtieth Amendment to the Registered Pension Plan

BE IT RESOLVED THAT the Corporation adopt the Thirtieth Amendment (the "Amendment") to the text of the Independent Electricity System Operator Pension Plan (the "Pension Plan") in the form presented to this meeting, pursuant to the authority granted to the Corporation under rule 14b of the Pension Plan.

BE IT FURTHER RESOLVED THAT the Corporation authorizes the President and Chief Executive Officer to:

(a) approve the final text of the Amendment, including any changes required by regulators or otherwise deemed appropriate by the President and Chief Executive Officer; and

(b) approve and execute on behalf of the Corporation, or direct the Secretary of the Corporation to execute on behalf of the Corporation, all such documents and to take such action and retain the assistance of such persons as may be required in order to effect registration of the Amendment with the applicable regulatory authorities.

b) Amendment 31

Ms. Kelch advised that an Agenda Item Summary and a Memorandum, both titled "Pension Amendment # 31 – Transition to Retirement", dated August 29, 2017; and a document titled "Thirty-First Amendment to the Independent Electricity System Operator Pension Plan", had been provided to the Committee for review prior to the meeting. Ms. Kelch described the HRGC's consideration of the proposed amendment and its recommendation to the Board to approve the proposed amendment.

Following discussion, the Board indicated that it was satisfied with the recommendation before it and, on motion duly made and seconded, the following resolution was unanimously carried,

In Respect of the Thirty-First Amendment to the Registered Pension Plan

BE IT RESOLVED THAT the Corporation adopt the Thirty-First Amendment (the "Amendment") to the text of the Independent Electricity System Operator Pension Plan (the "Pension Plan") in the form presented to this meeting, pursuant to the authority granted to the Corporation under rule 14b of the Pension Plan.

BE IT FURTHER RESOLVED THAT the Corporation authorizes the President and Chief Executive Officer to:

(a) approve the final text of the Amendment, including any changes required by regulators or otherwise deemed appropriate by the President and Chief Executive Officer; and

(b) approve and execute on behalf of the Corporation, or direct the Secretary of the Corporation to execute on behalf of the Corporation, all such documents and to take such action and retain the assistance of such persons as may be required in order to effect registration of the Amendment with the applicable regulatory authorities.

Mr. Mike Lyle; Mr. Doug Thomas; Ms. Kim Marshall; Mr. Leonard Kula; Ms. JoAnne Butler; Mr. Glenn McDonald; and Mr. Alexander DeAngelis joined the meeting.

Stakeholder Advisory Committee ("SAC")

Ms. Susan Harrison joined the meeting.
Mr. Brian Bentz and Mr. James Scongack joined by teleconference.

The Chair welcomed Mr. Brian Bentz and Mr. James Scongack to the meeting.

Mr. Bentz advised that there was value in an advance half-hour in-camera meeting of the SAC to socialize pending issues such as the East-West Tie Directive or RFP for Regulation Service which were not on the agenda. He commented on the value of Mr. Gregg's outreach and interest in engagement. Mr. Bentz summarized the discussion at SAC regarding Conservation targets; the desirability of carefully coordinating from an end-use customer perspective, the conservation activities of the Ministry of Environment and Climate Change; the IESO and LDCs. Mr. Bentz discussed the Market Renewal Working Group noting that the translation into an executable plan will be challenging, the needs of the Class B consumer, broader governance issues, and the principles of transparency, fairness, openness, and customer communication. Mr. Scongack commented on the transparency of government policy initiatives which will influence the existing market as well as future market renewal, such as a potential further Hydro Quebec agreement, noting the different approaches of the government and the IESO. The Board questioned Mr. Bentz regarding LDC integration into market renewal; the level of review of conservation initiatives; the need for coordination with Green On; and the rapid pace of change in the sector.

Mr. Brian Bentz, Mr. James Scongack and Ms. Susan Harrison left the meeting.

Risk

Mr. Shawn Cronkwright joined the meeting

a) Updated Risk Assessment

An Agenda Item Summary titled "Enterprise Risk Management (ERM) Update"; a Memorandum titled " Enterprise Risk Update" dated August 30, 2017; a document titled "Q2 Risk Update to the Audit Committee"; a document titled "Table 1 - Enterprise Risk Heat Map (87 Risks)"; a document titled " IESO's Risk Register, based on May 2017 Risk Assessment"; and a document titled "IESO Key Risk Trend Analysis" had been provided to the Directors for review prior to the meeting. Mr. Alexander DeAngelis summarized the risk process employed by the corporation; described the additional work underway for a more detailed discussion about the risks at the October meeting; and solicited feedback. The Board expressed interest in further discussion of the categorization of risks and responses: what is under control; what risks are not adequately mitigated; what are the time and resource requirements to mitigate risks;

what is the balance between mitigation costs and risk; and what are potential black swan events, impacts and mitigation measures;

b) <u>Cybersecurity Update</u>

An Agenda Item Summary and a Memorandum, both titled Cybersecurity Update – August 2017, dated August 29th and 30th, 2017; and a Presentation titled " Cybersecurity Update - Presentation to the Audit Committee of the IESO Board of Directors and the IESO Board of Directors", dated August 29, 2017, were provided to the Committee for review prior to the meeting. Mr. Doug Thomas reviewed highlights of the materials and the proposed steps to be taken to address cyber security risks including the establishment of a Security Operations Centre. He discussed the residual vulnerabilities notwithstanding the actions taken, and responded to questions regarding the initiatives of the Ontario Energy Board to enhance LDC cyber security and the leadership role of the IESO. The Board questioned Mr. Thomas about malware; nation to nation threats; cyber security information sharing between industry and government agencies; the impact of LDC cyber security on IESO grid operations both today and in the future with increased use of distributed energy resources and enhanced data sharing.

Mr. Glenn Rainbird provided a detailed report on recent briefings regarding cyber security issues with military and government officials, and presentations at the IRC conference in Washington. He described the nature and extent of the threats; their rapid evolution; the importance of collaboration; and ongoing questions as to how best to assess the degree and extent of the risks and appropriate mitigation. It is an area requiring continued attention and diligence.

<u>Market Renewal Update</u>

Mr. Shawn Cronkwright and Ms. Barbara Ellard joined the meeting.

An Agenda Item Summary titled "Market Renewal Program", and a Presentation titled "Market Renewal Program Update", both dated August 30, 2017, were provided to the Board for review prior to the meeting. Management reviewed highlights including the status of engagement at the SAC and the Market Renewal Working Group; the importance of managing scope; and the distinction between the market renewal project ("MRP") vs. a renewed market. Management described the approach to design as "co-design", working jointly with the working group to develop a work product, recording the rationale for different perspectives where consensus cannot be reached, without assigning the IESO's decision making authority. The Board enquired how flexibility will be built into the platform to allow for the adoption of evolving technologies and how environmental attributes, including GHG and cap and trade, will be addressed in the initiative.

Mr. Terry Young joined the meeting.

The Board questioned management as to how the IESO will implement MRP initiative faster than other ISOs; the change management process; and the impact on other elements of the organization outside of the MRP such as IT. Communications about the MRP to the broader market and public will be through speeches of the CEO as well as integrated into communications regarding the LTEP program given the anticipated prominence of MRP in the LTEP. The Board encouraged the development of a plain-language description of the MRP to build general public understanding of this complex imitative.

Mr. Shawn Cronkwright and Ms. Barbara Ellard left the meeting.

Fair Hydro Plan Implementation & Communications Update

Mr. Jordan Penic joined the meeting.

Management reviewed the key messages in the draft communications plan which had been updated to incorporate prior feedback from the Board. The communications will be clear that the corporation disagrees with the conclusion of the Auditor General regarding the applicable accounting principles; that the corporation worked – as one would expect – with the government on the implementation of its Fair Hydro Plan policy initiative; and that the Board exercised appropriate due diligence. While the Fair Hydro Plan was the catalyst for the corporation's consideration of amending the accounting principles, the decision to amend the accounting principles was made by the Board on the basis that it was appropriate to do so independent of the Fair Hydro Plan – which had not yet been adopted – as the amended accounting principles increase the transparency of the financial statements. The Board offered further feedback to management regarding the communications approach.

Mr. Jordan Penic left the meeting.

Quebec Update

Mr. George Pessione; Mr. Bashir Bhana and Ms. Anthy Lovachis joined the meeting.

An Agenda Item Summary titled "Market Renewal Program Update"; and a Presentation titled "Electricity Imports from Québec: Summary of Analysis of Recent Québec Proposal and Update on Ontario Counter-Offer", both dated August 30, 2017 were provided to the Board for review prior to the meeting. The Chair summarized prior discussions with Mr. Gregg in relation to the HQ counteroffer; a pending meeting with representatives of HQ; and the joint Ontario Quebec meeting of cabinet ministers on September 22nd.

LTEP Update

An Agenda Item Summary titled "#11 – 2017 2017 Long-Term Energy Plan Update" and a presentation titled "2017 Long-Term Energy Plan Update" both dated August 30, 2017 were provided to the Board for review prior to the meeting. Mr. Mike Lyle reviewed highlights of the presentation describing the input provided, including analysis of GHG emissions, and the perspective of the Ministry of Environment and Climate Change.

Mr. George Pessione; Mr. Bashir Bhana and Ms. Anthy Lovachis left the meeting.

Market & System Operations Report

Mr. Nicola Presutti joined the meeting.

An Agenda Item Summary titled "Report on Market & System Operations: Review of Summer 2017 Power System Events ; Value of the Operations' Training Simulator; and a Report titled "Report on Market & System Operations Summer 2017", both dated August 30, 2017, were provided to Directors for review prior to the meeting. Mr. Nicola Presutti reviewed highlights of the summer 2017 power system events and described the use and value of the Operations Training Simulator to better develop control room operator skills. The Board enquired about the use made of the simulator, system restoration training exercises, and maintenance costs. Management also described an event which resulted in the loss of IT systems supporting control room operations including an assessment of the cause, and the effective steps taken to maintain reliable operations. Management is examining the event further and will report in October regarding the root cause, the response, and lessons learned.

Mr. Nicola Presutti left the meeting.

Conservation Advertisement Update

Mr. Derek Roldan joined the meeting.

Mr. Terry Young reviewed the upcoming advertisement campaign including TV spots, digital and social media, the various case studies and targets. He further described the relationship of the advertisements to prior campaigns, current campaigns by Ontario Power Generation, Bruce Power and GreenOn. The Board questioned management regarding the impact of the implementation of the Fair Hydro Plan on conservation uptake; coordination with the GreenOn program; and the perspectives of different Ministries. Conservation TV Advertisements were shown to the Directors.

Mr. Derek Roldan left the meeting.

Other Business

Ms. Kim Marshall reported that there is no mandatory requirement to change the audit partner and that management will report to the Audit Committee when planning for the succession of the audit partner.

The Board provided feedback to management regarding the use of consent agendas, and the need to assess whether an information update should be a stand-alone Board update or included in the consent agenda.

There was no other business brought before the Board.

In-Camera Session

The Directors then met privately.

Mr. Rattray was subsequently advised that there was nothing to be minuted from the in-camera session.

There being no further business, the meeting was concluded.

Approved by the Board of Directors on the 25th day of October, 2017.

Tim O'Neill
Chair

John Rattray
Secretary