

## **Independent Electricity System Operator Reliability Compliance Filing for Calendar Year 2005**

The IESO is the Control Area Operator and Reliability Authority in Ontario, a member of Northeast Power Coordinating Council (NPCC)<sup>1</sup> and signatory of the NPCC Membership Agreement, and has adopted the North American Electric Reliability Council (NERC)<sup>2</sup> and NPCC reliability standards and compliance requirements. The IESO also administers and enforces the reliability compliance program in Ontario and participates in various industry forums for the development and administration of operational policies and reliability standards. Recognizing the fundamental and broad mandate of the IESO to ensure reliability, the IESO's Board of Directors adopted a set of Corporate Performance Measures that include a direct measure of system reliability. This measure has two components; Ontario System unsupplied energy, and the company's actions undertaken over the year to meet the objective of reliable operation today and in the future.

This report summarizes the significant activities that were undertaken in 2005 in respect of the development and administration of reliability standards and initiatives, and related coordination efforts with other entities outside Ontario pursuant to Section 6.2(f) of the IESO's license. The report is organized as follows:

- i. Legislative, Regulatory and Corporate Activities
- ii. Market and System Operation Activities
- iii. Reliability Standards

### **I. Legislative, Regulatory and Corporate Activities**

Legislative, regulatory and corporate activities are an important element of the reliability framework. Activities in this domain include those intended to fashion fundamental aspects of the industry both within Ontario and outside the province. In addition, several IESO legislative and license obligations that contribute to reliability are discussed here.

#### **Advocacy and Influence**

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<sup>1</sup> The IESO is a member of the Northeast Power Coordinating Council (NPCC) and complies with Reliability Standards administered by the NPCC. These standards are particular to the region that includes Ontario.

<sup>2</sup> The North American Electric Reliability Council (NERC) is the not-for-profit corporation currently charged with promoting standards for the reliable operation and planning of the bulk electric systems in North America. Recent legislation passed in the U.S. has transfer these obligations and responsibilities to a new Electricity Reliability Organization (ERO). It is expected that NERC will morph into the ERO.

In accordance with the *Electricity Act, 1998*, Board License and the Ontario Market Rules, the IESO continues to be actively involved in reliability-related matters both within and outside of the province. The IESO has been very influential in helping to shape the changing environment. Within Ontario, our advocacy is primarily focused on provincial and federal governments, the market regulator, market participants, and industry stakeholder groups. Outside of Ontario, our focus includes other system and market operators, reliability authorities such as NERC and NPCC, as well as regulatory and government agencies. Our key objectives in these areas are to forward and preserve the IESO's interest to ensure that the IESO is able to effectively fulfill its legislative and license obligations with respect to maintaining the reliability of the IESO-controlled grid and efficient operation of the IESO-administered markets. Advocacy is considered a central and critical part of the IESO reliability management activities and is vigorously supported by all management and staff. The IESO's regulatory submissions are available on our public website at <http://www.ieso.ca/imoweb/corp/regulatory.asp>

The IESO continues to be a strong supporter of reliability organizations such as NERC and NPCC and maintains a focused involvement in many aspects of these industry forums, including participation through senior positions within the organizations. See Appendix A for a summary of the IESO's reliability committee participation.

The IESO is a founding member of the ISO/RTO Council (the "IRC" or "Council") and participates to ensure effective coordination between North American Energy Standards Board (NAESB)<sup>3</sup>, NERC and the Council. The IESO participates on the IRC subcommittees of the panel including the Legal and Regulatory Affairs committee, the Standards Review Committee, the IT Committee, and on the Inter-ISO Planning Working Group.

The IESO has been advancing its positions and efficiently participating in selected industry forums including Federal Energy Regulatory Commission (FERC), IRC, NERC & NAESB, NPCC & East Central Area Reliability Agreement (ECAR)<sup>4</sup> and Canadian Electric Association (CEA). In general terms, the IESO's coordination has been directed to ensuring alignment of IESO policy, market and standards development perspectives in all external involvements. In view of the evolving changes in the North American Industry, the IESO remained diligent in addressing challenges and providing timely response to various industry forums.

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<sup>3</sup> The North American Energy Standards Board (NAESB) serves as an industry forum for the development and promotion of business standards for wholesale and retail natural gas and electricity marketplace.

<sup>4</sup> The East Central Area Reliability Agreement (ECAR) was established in 1967 as the forum to address matters related to the reliability of interconnected bulk electric systems in the east central part of the United States. ECAR members work cooperatively to maintain reliability through the coordinated planning and operation of member generation and transmission facilities. ECAR members serve 43 million people over an area of 254,000 square miles.

The IESO's Regulatory Affairs' group has remained actively involved in a number of activities including:

- The IESO's is an active participant in the affairs of the Bilateral ERO Oversight Group which is composed of regulatory and governmental staff from the US Department of Energy (DOE) and FERC and National Resources Canada (NRCan), Ontario Ministry of Energy, and other provincial agencies).
- On August 8, 2005, the Electricity Modernization Act of 2005 was signed into law in the U.S. after several years of deliberation. The IESO was a strong advocate for the legislation, in particular making compliance with reliability standards mandatory and subject to FERC oversight in the U.S. The IESO worked actively with Canadian and U.S. entities to address the international provisions in the bill (Canada-U.S. implications). The legislation established provisions for the creation of an Electricity Reliability Organization (ERO) that will develop standards and adoption in both countries. NERC is expected to apply to become the ERO and the current regional reliability councils, including NPCC of which the IESO is a member, are likely to be transformed into Regional Entities. FERC issued its Notice of Proposed Rule Making (NOPR) for the ERO in August, 2005. The IESO submitted individual and joint comments on the NOPR with a number of industry stakeholders including the IRC and CEA.
- The IESO is the sole entity responsible to NERC/NPCC for compliance of reliability standards within Ontario. Accordingly, the IESO's submissions on the NOPR advanced the merits of the Ontario model as possible approach for adoption in other jurisdictions.
- NERC launched an extensive process that will culminate in its application to FERC and Canadian regulators to be certified as the ERO. To this end, IESO's President and CEO chaired one of the four main task groups dealing with NERC's transition from having the regional councils as its only members to having a broad industry membership.
- FERC held a Technical Conference in Washington on November 18, 2005 to seek industry guidance with respect to the issuance the ERO "Rules. The IESO's Manager of Regulatory Affairs was the sole Canadian representative at the workshop. In his presentation he reinforced the key features and benefits of the Ontario standards management process, provisions that are essential for the ERO to function effectively as an international organization, and cautioning the Commission against taking measures that could lead to ineffective standards or standard development processes. A second Technical Conference was held on December 9, 2005.
- IESO representatives are working with OEB and the Ministry of Energy staff to establish their prospective role and responsibilities in the ERO. OEB staff is talking the lead role drafting a Memorandum of Understanding with NERC.
- The ERO development activities are expected to continue during 2006.

Recent amendments to the *Ontario Energy Board Act, 1998* have increased the Board's regulatory oversight and authority over electricity matters. On August 26, 2005, the OEB issued a notice of intent to establish a Technical Advisory Group of industry experts to develop filing requirements for the review and approval of transmission expansion proposals, and investment proposals that may be the subject of a Board rate proceeding. The filing guidelines will set out the minimum information and data requirements and clarify the role and responsibilities of applicable entities with respect to assessment and review and approval of transmission expansion proposals and their respective rate treatment. The IESO expects that its role and responsibilities will increase significantly regarding assessment and valuation of reliability and market impacts for new or modified connection proposals. The IESO has two representatives on the Technical Advisory Group. This work will continue into 2006.

As part of its regulatory mandate, the National Energy Board (the "NEB") is required to carry out a market assessment to monitor the supply of energy commodities in Canada, including electricity, and the demand for Canadian energy commodities in both domestic and export markets. The IESO assisted the NEB in developing its "Outlook for Electricity Markets 2005-2006", which provides an analysis and discussion of Canadian electricity markets, with an emphasis on the main drivers influencing near-term trends in generation, demand, transmission expansion, and inter-regional and international trade and pricing. The report also included an update of electric industry restructuring activities in Canada, focusing on the short-term and discussing current issues that may have longer term effects, as well as linkages between Canadian and U.S. electricity markets resulting from transmission interconnections.

In addition, the IESO staff is the sole Canadian representative on the NERC Functional Model Reliability Standard Coordination Task Force that is charged with evolving the current NERC standards.

### **Agreements**

New Interconnection Agreements were implemented with TransÉnergie (Hydro-Québec) and Manitoba Hydro. An Emergency Energy Transaction Agreement was completed between Detroit Edison (DECO) and the IESO, to allow for emergency energy transactions between Ontario and the Midwest Independent System Operator (MISO). This agreement will remain in place until such time as MISO modifies its FERC tariff to allow the purchase and sale of Emergency Energy by MISO. The agreements contain the necessary mechanisms to ensure coordinated and secure operation within Ontario and to manage inter-system concerns.

In 2005, the IESO implemented subsidiary joint instructions with each of the interconnected entities as follows:

- IESO and MISO completed a joint instruction to coordinate outages and testing between Minnesota Power, Manitoba Hydro, the Michigan transmitters and Hydro One. IESO, MISO, International Transmission Company and Hydro One also completed a joint instruction for Emergency Operation of the Michigan-Ontario Phase Angle Regulating (PAR) transformers as an interim step prior to completing a final instruction allowing the regular use of the PARs to control parallel path power flows through Ontario;
- The existing Hydro-Quebec – Hydro One/OPG/IESO Standard Operating Practices relevant to the IESO were replaced with new joint IESO-TE Operating Instructions. Also, a new joint instruction to coordinate outages and testing and a new joint instruction for emergency energy transactions between TransEnergie and the IESO were completed;
- The existing Manitoba Hydro – Hydro One/OPG/IESO Standard Operating Practices relevant to the IESO have, for the most part, been replaced with new joint IESO-Manitoba Hydro Operating Instructions;
- Several new joint Operating Instructions between Minnesota Power and the IESO replaced Standard Operating Practices that had remained since unbundling of the previous Minnesota Power – Ontario Hydro Interconnection Agreement;
- The review and updating of existing joint Operating Instructions with the New York ISO (NY ISO) was completed. A new operating Instruction covering the exchange of information for outages and testing between NYISO and IESO was finished; and
- Arrangements have been made to provide a back-up source of supply via circuit BSH106 to Niagara Mohawk 25 Hz customers when the normal supply via circuit BSC105 is not available (this need arises as a result of retirement of Beck G7).

## **Audits**

Several audits of IESO systems and processes were performed in 2005. In particular, NPCC audit of the IESO's compliance of reliability standards was conducted in May 2005. This review was performed in accordance with the *Review Process for NPCC Reliability Compliance and Enforcement Program (RCEP)*, Document C-32, in support of NPCC's compliance program objectives and to ensure that NPCC is meeting its obligations in the following areas:

- Compliance assessment of criteria and standards where the Area has the reporting obligation,
- Verification of compliance self-certification,
- Oversight of the Area's compliance assessment and compliance programs.

The Review Team found the IESO to have all documentation that supports and demonstrates full compliance of the Ontario Area with respect to all eight of the RCEP requirements. All documentation was well maintained and well organized. The Team encouraged the IESO to continue to take an active role in identifying the need for transmission reinforcements. For example, in the Toronto area, with the recent retirement of Lakeview GS there is an absence of committed replacement supply options.

Notable commendations from the audit team report include:

- The IESO has a comprehensive Reliability Compliance Program and is proactive in informing market participants of compliance standards and reporting schedules. This is backed up by a dedicated website that shows all compliance reporting schedules, templates and standards. This practice is commendable and should be considered by other Areas.
- All documentation is well maintained and easily accessible on a public website. All correspondence with market participants is electronically filed in a logical and accessible way to IESO staff. This practice is commendable and should be considered by other Areas.
- The IESO has the authority to verify, in real time, the Operating Reserve (OR) participants' response to make sure that they meet their obligations.

In all cases suggestions by the auditor for further improvements are being acted upon.

## **II. Market and System Operation Activities**

### **Training of Restoration Plan Participants**

In order to sustain and enhance Ontario's collective capability to respond to and manage an electricity system emergency, the IESO staged two power system restoration workshops and ran a comprehensive large-scale exercise.

The workshops featured one day of interactive power system reliability training followed by a tabletop restoration drill on the second day. One hundred and ninety-two individuals, representing thirty-seven companies, attended the two workshops.

**Exercise 2005** – “Southern Exposure” was conducted successfully on October 25, 2005 involving over 60 market participants as well as representatives from New York, Manitoba and our provincial and federal governments. It was Ontario's largest such exercise conducted to date. The scope of Exercise 2005 was all of southern Ontario and a portion of western New York State.

The exercise scenario was aggressive, yet realistic, and provided an excellent learning opportunity for all participants. It involved a number of very challenging simulated events such as:

- the Canadian government advising the IESO of a “believed credible” terrorist threat against grid facilities in Ontario,
- multiple unrelated contingencies affecting the reliable operation of our neighbours, causes unknown,
- Ontario splitting into two major islands, cause unknown,
- the collapse, and re-build of one of the islands,
- suspension, and eventual resumption, of the market,
- the full suite of emergency control actions including voltage reduction, emergency block load shedding to recover system frequency and rotational load shedding,
- restoration of the IESO-controlled grid by synchronizing within Ontario and with our neighbours,

Participants were requested to provide feedback on this exercise. It was considered both a success and an excellent learning opportunity by all participants. For instance, Hydro One found the exercise to be realistic and an excellent opportunity to verify the restoration plan and have their staff practice it. The NYISO and the four transmission owners operating in western New York considered the exercise scenario to be realistic.

### **III. Reliability Standards**

The market rules define the structure of the marketplace, conditions for participation, obligations of participants, and consequences of not abiding by the rules.

#### **New or Revised Standards and Measures**

The power system collapse of August 14, 2003, identified the need for enhanced NERC Operating Policies and the requirement for NERC Reliability Standards directing the actions of, and coordination among, the Reliability Coordinators of North America. Accordingly, the NERC version “0”<sup>5</sup> Reliability Standards were approved and implemented as of April 1, 2005. The IESO remained actively involved and played a leading role during various phases of these standards development (from initial development to its implementation).

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<sup>5</sup> Version “0” represents a translation of existing NERC operating policies and planning standards into a new set of specific and more measurable NERC standards.

Moreover, an increasingly large number of reliability standards are at various stages of development under the American National Standards Institute (ANSI)<sup>6</sup> certified NERC standard development process (Version “1”). The IESO is actively involved in the development of its reliability standards as well as in the reviews, drafting and development of revisions and new standards for NERC and NPCC<sup>7</sup> (especially those of greater relevance to Ontario and the IESO).

While moving toward implementation of reliability standards, NERC initiated a process for the registration of functional model entities. The initial process required reviews of entities eligibility for registration as Reliability Coordinator, Transmission Operator, Balancing Authority, Planning Authority and Transmission Planner. The NPCC was charged to conduct a review of the operational impact of the NERC functional model registration. The IESO took a lead in the review process to ascertain whether the IESO as a Control Area meets all the requirements of version 0 reliability standards as well as meeting the objectives of registration. The IESO closely interacted with five transmitters in Ontario to evaluate the delineation of specific requirements associated with the Planning Authority, Transmission Planner and Transmission Operator entities. It was determined that the IESO is either directly meeting all of the requirements or has the necessary authority to ensure that the requirements are met. This authority comes from specific market rules, market manuals and operating agreements. The IESO’s review process and registration matrix was followed as a “model” within other Control Areas of the NPCC region.

The IESO took a lead in the revisions and updates of the 2005 NPCC Regional Reliability Plan (RRP). The RRP describes the procedures, practices, and requirements and implementation process to ensure the reliable operation of the Bulk Electric System within the NPCC Region. The NPCC Reliability Plan also ensures compliance with the requirements of these newly revised NERC Reliability Standards.

The IESO played a leading role in the reliability-related operational reviews and activities. The IESO representative has been selected as the Chair of the NPCC Working Group CO-7 “Operational Review, Coordination and Assessment.” The CO-7 objective is to assess, coordinate and evaluate regional operational issues and reliability concerns to achieve conformance with the criteria, and procedures of NPCC and NERC Standards. Moreover, the IESO representative was selected as an “audit review team member” and participated in the NPCC’s triennial audit review of NYISO.

Of significant importance, IESO developed positions and provided comments on more than 100 (one hundred) set/revisions of NERC Version 1 Reliability

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<sup>6</sup> The American National Standards Institute (ANSI) is a private, non-profit organization (501(c)3) that administers and coordinates the U.S. voluntary standardization and conformity assessment system.

Standards. The IESO provided consistent inclusion of applicable Canadian and IESO perspectives in IRC submissions to NERC and other forums. The IESO has ensured timely reviews and submission of comments for each of these individual activities.

The IESO actively participated in the NPCC TFCP (Task Force on Coordination of Planning). The TFCP was established for the purposes of promoting reliability through the coordination of NPCC Area planning processes and activities. Active participation was also made through the attendance of meetings in the NPCC Transmission and Resource Adequacy Working Group, CP-8. The IESO made contributions by providing input, data support and engineering reviews of all NPCC resource assessments. These were produced by this working group and coordinated with the NPCC Operations Planning Working Group, CO-12.

The IESO supported the NERC RAS Reliability Assessment Subcommittee activities through active membership on the subcommittee until mid year. The IESO also provided data for EIA-411 submissions and NERC seasonal and 10 year assessments. See Appendix 2 for specific details and activities.

The IESO has been providing updates to market participants on these evolving industry changes. The IESO's specific external "reliability web page" has been periodically updated to bring together information on reliability. This page includes information on IESO activities including compliance, blackout-related activities and IESO's standards and submissions to various industry forums. The site encourages market participants to participate and provide comments through the standards development process.

A summary of specific IESO-standard related activities and submissions is listed in Appendix B and through the public link:

[http://www.ieso.ca/imoweb/ircp/Emerging\\_Reliability\\_Standards.asp](http://www.ieso.ca/imoweb/ircp/Emerging_Reliability_Standards.asp).

January 18, 2005

## APPENDIX A

### **Participation and Membership of the IESO in NERC, NPCC and ECAR Committees, Task Forces, Subcommittees and Working Groups**

#### **NERC Critical Infrastructure Protection Committee (CIPC)**

CIPC coordinates NERC's security initiatives. The group is comprised of industry experts in the areas of cyber security, physical security, and operational security. CIPC reports to NERC's Board of Trustees.

#### **NERC Operating Committee**

The Operating Committee supports the NERC reliability mission by executing the policies, directives, and assignments of the Board of Trustees, and advising the Board on operating reliability matters. The Operating Committee also maintains a work plan that prioritizes the existing and future work of the committee and its subgroups consistent with the business and strategic plans of NERC.

#### **NERC Operating Limits Definition Task Force (OLDTF)**

This is an adhoc Task Force struck by the NERC OC (Operating Committee) charged with reviewing the definition of operating security limits to ensure a consistent understanding and implementation throughout the NERC regions.

#### **NERC Standards Drafting Team (Coordinate Operations)**

This team is responsible for development of version 1 standards for the coordination of operations between reliability authorities.

#### **NERC Standards Drafting Team (Coordinate Interchange)**

This team is responsible for development of version 1 standards for the coordination of interchange between balancing authorities.

#### **NERC Operating Reliability Subcommittee (ORS)**

The ORS develops, maintain, and oversees the implementation of polices and Standards related to Reliability Coordinator operations in support of market and interconnection operating reliability objectives. Reporting to the NERC Operating Committee the ORS is responsible for NERC standards related to interconnected reliability.

#### **NERC Personnel Subcommittee (PS)**

This group is responsible for NERC based System Operator training and certifications. In carry out these tasks the PS recommends and facilities training materials, promotes information sharing, reviews relevant policy and serves as the interim governance body for the certification program.

### **NERC Reliability Coordinating Working Group (RCWG)**

Provides a forum for coordinating system operating procedures in the interconnections including: coordinating policy implementation, preparations for the upcoming peak season, reviewing system disturbances and transaction curtailments for "lessons learned" and compliance with policy and providing advice to the ORS.

### **NERC Interchange Distribution Calculator (IDCWG)**

This group, reporting to the ORS, is responsible for implementing NERC's Interchange Distribution Calculator (which is used to equably manage transmission congestion) and other tools used by the NERC Reliability Coordinators.

### **NERC Functional Model Working Group**

This group developed and maintains the NERC Reliability Functional Model

### **NPCC Executive Committee**

This Board level committee provides board level policy direction and development consistent with the roles and responsibilities contained in the NPCC Membership Agreement.

### **NPCC Reliability Coordinating Committee**

This lead committee provides the technical forum and direction for the various Task forces regarding bulk power system reliability.

### **NPCC Task Force on Coordination of Operation (TFCO)**

This task force promotes, and provides a forum for, the active coordination of security and operation among the NPCC control areas and Regions to enhance the reliability of the interconnected bulk power system.

### **NPCC Task Force on Coordination of Planning**

This task force coordinates reliability through the coordination of regional planning processes and activities.

### **NPCC Task Force on System Studies**

This task force coordinates system studies of the reliability of the interconnected bulk power system.

### **NPCC Task Force on Infrastructure Security and Technology**

This task force promotes and enhances the reliability of the Interconnected Power System in Northeastern North America by focusing attention on the performance of Electric System Monitoring and Control Computers and the Telecommunications Systems that serve and interconnect them.

### **NPCC Compliance Monitoring and Assessment Subcommittee**

This subcommittee performs independent monitoring and assessment of compliance with reliability criteria.

### **NPCC Summer Assessment Working Group**

This working group reports to TFCO and performs pre summer assessment work.

### **NPCC Working Group on Control Performance (CO1)**

This working group monitors, evaluates the performance of automatic controls and procedures for controlling interchange between NPCC control areas, time errors, system frequency and operating reserve response.

### **NPCC Working Group on Dispatcher Training (CO2)**

This working group is responsible for System Operator Training relating to inter-area matters, established criteria, terminology, policies and operating instructions by preparing and presenting material at the bi-annual training seminars. These staff also exchange information on internal training methods, and evaluates and propose new techniques and training aids as they become available.

### **NPCC Working Group on Operational Review, Coordination and Assessment (CO7)**

The objective of CO-7 working group is to assess, coordinate and evaluate regional operational issues and reliability concerns to achieve conformance with the criteria, and procedures of the Northeast Power Coordinating Council (NPCC) and the North American Electric Reliability Council (NERC) Standards.

### **NPCC CO8**

This working group is responsible for providing a forum for the System Operations managers of the regions control centres to identify and discuss reliability concerns in the operation of the interconnection (with specific reference to inter regional operations).

### **NPCC CP8**

The objective of this working group is to review resource and transmission adequacy by considering interconnections with neighbouring systems in reliability evaluations.

### **NPCC CP9**

This working group provides consensus in NPCC on emerging standards.

### **NPCC CP11**

This working group performs comprehensive reviews of the NPCC Basic Criteria.

### **NPCC System Operational Tools Working Group (CO10)**

This working group is responsible for taking a lead role in the development of NPCC and NERC operational tools, including hardware, software and integrated systems. The group will define the need for operational tools, evaluate the cost benefits of operational tools, coordinate their implementation within NPCC and coordinate common training in the use of the tools.

### **NPCC Inter-Control Area Restoration Coordination Working Group (CO11)**

The objective of the Inter-Control Area Restoration Coordination Working Group (IRCWG) is to achieve effective and coordinated power system restoration among the NPCC Control Areas and with adjacent jurisdictions.

### **NPCC Operations Planning Working Group (CO12)**

The objective of this working group is to ensure sufficient resources in the event of extreme operating conditions, the Operations Planning Working Group will conduct overall assessments of the reliability of the generation and transmission system in the NPCC Region.

### **NPCC CO13**

This working group reviews and monitors procedures for determining Available Transfer Capability.

### **ECAR Coordination Review committee (CRC)**

This committee performs studies and investigations concerning reliability of ECAR bulk power supply. It establishes liaison arrangements with authorized groups in coordinated areas contiguous with ECAR to further augment reliability of bulk power supply.

### **ECAR TSPP**

ECAR Transmission System Performance Panel performs assessments of the transmission system performance of the ECAR system from a regional perspective. IESO has liaison status and comments on reports and participates as and when needed.

## APPENDIX B

### Summary of IESO's 2005 Reliability-Related Activities in Various Industry Forums

The IESO has developed and coordinated IESO positions in a number of industry forums and initiatives. In general terms, this coordination has been directed to ensuring alignment of the IESO's policy, market and standards development perspectives in all external involvement. The IESO established an Industry Coordinated Committee (ICC) to facilitate coordination and ensure resources are best deployed where needed.

Specific activities include the following:

- Developed IESO positions and provided related comments on:
  - NERC Functional Model and associated Technical Paper.
  - 3<sup>rd</sup> posting of NERC Coordinate Operation Standards.
  - 3<sup>rd</sup> and 4<sup>th</sup> postings of NERC Determine Facility Ratings, Operating Limits, and Transfer Capability Standards.
  - 2<sup>nd</sup> and 3<sup>rd</sup> postings of NERC Cyber Security Standards.
  - 1<sup>st</sup> and 2<sup>nd</sup> postings of NERC Transmission Vegetation Management Program Standard.
  - 1<sup>st</sup> posting of NERC Frequency Response Standard.
  - 1<sup>st</sup> posting of NERC Resources Adequacy Standard.
  - 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> postings of NERC Phase III/IV Planning Standards.
  - 1<sup>st</sup> posting of NERC System Personnel Training Standard.
  - 1<sup>st</sup> posting of NERC Provide Missing Measure and Compliance Elements in Existing Standards.
  - 1<sup>st</sup> posting of NERC Reliability Coordination - TLR Standard.
  - 1<sup>st</sup> posting of NERC ATC/TTC/CBM/TRM Standard.
  - 3<sup>rd</sup> and 4<sup>th</sup> postings of NERC Certification of the Balancing Authority Function.
  - 1<sup>st</sup> and 2<sup>nd</sup> postings of NERC Certification of the Reliability Coordinator Function.
  - 2<sup>nd</sup> and 3<sup>rd</sup> postings of NERC Certification of the Transmission Operator Function.
  - Proposed revisions to NERC Reliability Standards Process Manual.
- Provided consistent inclusion of applicable Canadian and IESO perspectives in IRC submissions to NERC and other forums.
- Provided comments to NPCC on NPCC Documents including A-04 and A-05.
- Provided leadership to the development of positions on the functions and oversight of an Electric Reliability Organization (ERO) being created under US legislation.

- Provided technical and strategic support and advice to the Federal-Provincial-Territorial Working Group on Electricity in its deliberations on the appropriate functions and oversight of the ERO.

The IESO actively participated in the NPCC TFCP (Task Force on Coordination of Planning) established for the purposes of promoting reliability through the coordination of NPCC Area planning processes and activities. Active participation was also made through meetings in the NPCC Resource Adequacy Working Group, CP-8. Accordingly, contributions were made through providing input, data support and engineering review of summer 2005 assessments produced by this working group and coordinated with the NPCC Operations Planning Working Group, CO-12.

The IESO supported NERC RAS (Reliability Assessment Subcommittee) activities through active membership on the subcommittee, and through provision of IESO data for E1A-411 submissions and NERC seasonal assessments.

The subjective assessment is that the IESO has met its objective. The above list shows there has been a large number of IESO and ICC involvements during 2005. The associated IESO positions have been well received. In several cases, including the RA/RC issue and the role of Regions study, IESO positions, as developed through ICC coordination, have shaped industry opinion and been adopted. All responses were submitted on time (and posted on the IESO external website).

### **Training-Related Activities**

- Planning meetings and operator training seminar was attended
- Training staff fully supported in conducting the widescale emergency preparedness drill in October
- Two trainers and one shift crew attended the NPCC CO2 sponsored Operator Training Seminar in November
- Presentations were made at the NERC PS sponsored Train the Trainer workshop – July 2005
- Attendance at the RTO/ISO Trainers Working Group Symposium - July 2005
- Successfully renewed the IESO with the NERC CEP as an Approved Provider of NERC Continuing Education Hours in September 2005

IESO positions were coordinated so that all IESO participants in industry forums were informed thereby avoiding inefficiencies associated with working with previously rejected positions.

### **Specific External Forums**

The following describes the key industry forums that the IESO actively participated in 2005:

- **ISO/RTO Standards Review Committee (SRC)**
  - The SRC develops and communicates consensus positions of its members. As such it has become a forum for reaching (or attempting to reach) consensus positions on wide range of initiatives.
  - In particular, it has become a mechanism for the IESO to influence other ISOs/RTOs as part of the process to achieve consensus. Examples where such IESO influence has been successful include the RC/RA issue and the role of Regions.
- **Seams Working Group (IRC/SRC)**
  - The SWG is a sub-committee of the SRC. The IESO participates in this group and the ICC reviews its activities and provides input to its participants.
- **RLC (IRC)**
  - The Regulatory and Legislative Committee of the IRC develops consensus positions and communicates them to FERC, DOE, NERC, as appropriate.
- **Markets Information Systems Working Group (IRC)**
  - The MISWG is a sub-committee of the SRC that provides a forum for developing consensus positions on market information systems, including OASIS I and II. Within the IESO, IT&I has assigned a rep to be involved on both OASIS II [within NAESB] and the SRC MISWG. This IESO representative will keep MOF & MS informed of activities affecting them, as well as to report to the SRC.

The IESO also actively participates and has representatives on the following committees of the IRC:

- Information Technology Committee (IRC)
- Markets Committee (IRC)
- Planning Committee (IRC)
- CFO Committee (IRC)
- General Counsels' Committee (IRC)
  
- JIC Coordination Group (IRC)
  - This group coordinates IRC input to the Joint Industry Committee, the tripartite committee (IRC, NERC, and NAESB) that routes standards proposed for development to one of the three organizations. The ICC advises the IESO's rep on this committee.
  
- NPCC CP 9
  - The IESO works with CP9 to achieve the same objectives as with the SRC, but on a Regional level. There are similar benefits from the process of attempting to reach consensus.
  
- NPCC CO 7
  - The IESO worked with this working group and took a lead in revisions and development of 2005 Regional Reliability Plan. The IESO was also actively involved with this group on registration of functional model entities.
  
- FERC & DOE
  - Provided comments on FERC Staff Report on Reactive Power Supply and Consumption.
  - Provided comments on FERC NOPR on NAESB WEQ Standards.
  - Provided comments on FERC NOPR on the ERO. The IESO recommended that FERC considers for application in the US the standards management framework in place in Ontario, which has long proven effective in meeting the objectives of the ERO regime. Also, the matter of the need for the ERO to function on an international basis, ensuring that the independent regulatory authority of each Canadian province is accommodated and respected by FERC, was emphasized.
  - The IESO extensively participated in the Bilateral ERO Oversight Group (BEOG) in finalizing BEOG's principles to be used when ERO will be established.
  - The IESO actively participated in DOE/NRCan Workshops with regards to the relationship between reliability of the North American grid and the introduction of markets, a white paper written by the IESO's CEO.

- NERC Committees and Drafting Teams
  - The IESO has provided the sole Canadian representation on the NERC Functional Model Working Group that is assigned with the development of the Reliability Functional Model. The IESO has also provided the sole Canadian representation on the NERC Functional Model Reliability Standard Coordination Task Force (FMRSCF) that deal with the task of evolving the current NERC standards in a manner that will result in compatibility between the standards and the model.
  - The IESO's CEO is a member of the NERC PLSC committee, that is coordinating the development of NERC's application to be recognized as the ERO, and the Chair of one of its four sub-groups, the Members Task Group that deals with the establishment of a broadly based membership of the ERO.
  
- NEB Outlook for Electricity Markets
  - The IESO assisted the NEB in developing its "Outlook for Electricity Markets 2005-2006", which provides an analysis and discussion of Canadian electricity markets, and also an update of electric industry restructuring activities in Canada.
  
- NAESB
  - Provided comments on NAESB Energy Day Standard.
  - Provided comments on NAESB Operational Communications between Pipelines and Power Plants. As a result of this standard, IESO along with Ontario's natural gas players formed Natural Gas/Electricity Interdependencies Working Group.
  - Provided comments on NAESB Transmission Loading Relief Standard.