ELECTRICITY EMERGENCIES AND PUBLIC APPEALS

The IESO is responsible for co-ordinating emergency planning for Ontario's power system.

The IESO and its market participants are required to plan for all types of potential emergencies and test these plans in annual drills. This planning process also includes working with Emergency Management Ontario to address public health and safety issues.

A power emergency can be caused by a variety of factors. An outage may take place as a result of problems with distribution or transmission systems, such as lightning or trees hitting the lines. If your lights do go out, contact your local utility. Most utilities have 24-hour outage information telephone lines that provide updates on the status of an outage and when power is expected to be restored.

In the event of a major outage or disruption in the power supply, the IESO can take a number of actions. These include:

- Issuing a public appeal asking Ontarians to reduce their electricity use.
- Directing certain large volume users to cut consumption.
- Reducing the voltage of electricity on the transmission lines by 3-5 per cent. This stretches the available electricity to meet higher demand. A voltage reduction of this amount would not be noticeable by most consumers.

In extreme situations, the IESO would implement rotating blackouts. This involves cutting power to parts of the province for a short period of time on a rotating basis. These actions preserve the overall integrity of the power system, avoiding a system-wide outage.

The U.S.-Canadian Task Force that investigated the causes of the August 14, 2003 blackout confirmed that its cause did not originate in Ontario. The blackout resulted from rapidly cascading outages that began in Ohio as a result of a number of deficiencies in specific practices, equipment and human decisions. The IESO has been advocating mandatory reliability standards throughout the North American power system, similar to the ones already in place in Ontario.

The August 2003 blackout was a clear example, however, of the importance of maintaining that balance between supply and demand. Surges in power along the system caused the transmission lines to automatically disconnect so that equipment wouldn't be damaged. Then, IESO staff, working with generators, transmitters and local utilities, co-ordinated the restoration of the power grid, bringing the power back to communities as it became available. Throughout this process, demand for electricity had to be carefully balanced against the available supplies, to maintain the integrity of the system.

In the event of a power emergency, the IESO works closely with provincial authorities to ensure that the latest information is available to the public. This information is made available on this Web site and through the news media.

Public Appeals

There may be times when extreme weather or unexpected transmission or generation outages stretch the system's ability to provide enough electricity to meet demand and required reserves. Ontario's IESO has a number of options available to maintain reliability of the system. For example, we can arrange emergency imports of electricity and call on specific companies who have agreed to cut back on their electricity use on short notice. We may also choose to issue a public appeal to all businesses and consumers to reduce their consumption. The appeals help to smooth out spikes in demand during high-peak periods.

Weather conditions affect the demand for electricity considerably, which is why Public Appeals are often issued during extreme cold spells and heat waves. For example, each degree above 16°C creates an additional 380 MW of demand. And that's not counting the impact of humidity, which can also have a significant impact on demand.

Appeals to reduce consumption are issued to the news media. These appeals and tips on how to conserve energy are also posted on the IESO website.

RELATED INFORMATION

Voltage Reductions

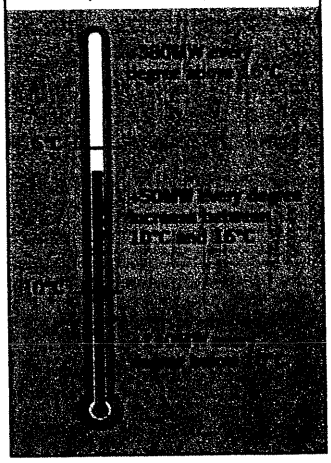
Public Appeal Archive

Energy Saving Tips

If a power outage does occur, your local utility will be able to provide you with up-to-date information about the affected areas and expected restoration times.

The Effect of Weather on Demand

This chart shows the impact that weather can have on the amount of power we use. Each time the temperature rises a degree above 16°C, it's like adding a city the size of Brampton to the system.



PUBLIC APPEAL ARCHIVE

All public appeals issued by the IESO since May 1, 2002 are listed here. In these appeals, the IESO asks consumers to reduce their electricity consumption for a specific period of time.

- IESO Appeals for Reduced Electricity Consumption (August 2, 2007)
- IESO Appeals for Reduced Electricity Consumption in the GTA (June 26, 2007)
- IESO Extends Power Warning (August 2, 2006)
- IESO Declares Power Warning As Hot Weather Strains System (August 1, 2006)
- Voltage Levels Restored in the Greater Toronto Area (September 12, 2005)
- IESO Extends Power Warning (August 10, 2005 7:00 a.m. EST)
- IESO Issues Power Warning for Tuesday, August 9th (August 8, 2005)
- IESO Ends Power Warning (August 5, 2005)
- IESO Extends Power Warning (August 4, 2005 7:00 a.m. EST)
- IESO Declares Power Warning as Hot Weather Strains System (August 3, 2005 1:00 p.m. EST)
- IESO Appeals for Reduced Electricity Consumption as Hot Weather Continues to Strain System (August 2, 2005 7:00 a.m. EST)
- IESO Lifts Power Advisory as Situation Improves (July 21, 2005)
- IESO Appeals for Reduced Electricity Consumption as Hot Weather Strains System (July 18, 2005)
- IESO Ends Power Warning (June 29, 2005)
- IESO Extends Power Warning (June 28, 2005)
- IESO Looks for Public Assistance to Help Meet Expected Record Electricity Demands (June 27, 2005)
- IESO Declares Power Warning with Expected Loss of Nanticoke Generation (June 24, 2005 5:00 p.m. EST)
- IMO says Ontario Residents Deserve Special Thanks (August 22, 2003 5:00 p.m. EST)
- Conservation Efforts Need to Continue Throughout the Day (August 18, 2003 10:00 a.m. EST)
- IMO Asks Ontario To Continue Conservation Efforts (August 17, 2003 8:00 a.m. EST)
- Conservation Efforts Helped Stabilize the Ontario Power System (August 16, 2003 7:00 p.m. EST)
- Conservation Efforts Still Needed To Reduce the Impact of Further Power Outages (August 16, 2003 7:00 a.m. EST)
- Power Restoration Continues - Conservation Still Required (August 15, 2003 6:00 p.m. EST)
- Restoration of the Power Grid Continues (August 14, 2003 9:00 p.m. EST)
- Major Power Failure Across Northeast US and Most of Ontario (August 14, 2003 7:00 p.m. EST)
- IMO Declares Power Warning as Record Cold Weather Strains System (March 3, 2003)
- Power Advisory - IMO Asks Public to Reduce Electricity Consumption as Unseasonable Weather Strains System (September 20, 2002)
- Power Warning - IMO Requests Immediate Public Assistance (September 10, 2002)
- Power Advisory - IMO Asks Public To Reduce Electricity Consumption As Unseasonable Weather Strains System (September 9, 2002)
- Power Advisory Extended As Hot Weather Continues To Strain System (August 14, 2002)
- Power Advisory - IMO Asks Public to Reduce Electricity Consumption (August 12, 2002)
- IMO Thanks Public for Conservation Efforts (August 2, 2002)
- IMO Asks Public to Reduce Electricity Consumption As Hot Weather Strains System (July 29, 2002)
- IMO Suggests Ways to Keep Your Cool (July 21, 2002)
- IMO Declares Power Warning As Hot Weather Strains System (July 2, 2002)
- IMO Asks Public to Reduce Electricity Consumption As Hot Weather Strains System (July 2, 2002)
- IMO Suggests Ways to Keep Your Cool - As Air Conditioning Adds Another Toronto to Ontario's Electricity Load (July 1, 2002)
- Consumer Actions Can Reduce Wholesale Price of Electricity During This Week's Hotter Weather (June 9, 2002)

RELATED INFORMATION

Public Appeals

Electricity Emergencies

VOLTAGE REDUCTION QUESTIONS & ANSWERS

What is a voltage reduction and why does the IESO implement voltage reductions?

A voltage reduction is one tool used by the Independent Electricity System Operator (IESO) to manage the reliability of Ontario's power system when demand for electricity exceeds available supply. This action is among the final steps taken before having to implement rotating blackouts. The IESO performs voltage reduction tests every 18 months to simulate emergency actions and to measure the load reduction resulting from voltage reductions of three and five per cent.

What is the impact of a voltage reduction on consumers?

Most consumers will not notice voltage reductions as supplied voltages are still expected to be within established industry standards for electrical equipment used by residential and commercial consumers. However, sensitive equipment may be affected by a wide variety of causes such as local distribution conditions and consumer equipment configurations.

Voltage reductions have been performed in the past as part of the IESO's routine testing protocols and, under extreme circumstances, to prevent blackouts. If you have not noticed any impact on your equipment in the past, you should not notice it during this test.

Can I request an exclusion from a voltage reduction?

Consumers may request a temporary exclusion from voltage reductions through their LDC to address public health and safety concerns or prevent equipment damage. Many LDCs need to coordinate exclusion requests with Hydro One, which controls most high-voltage transformers in Ontario. Any exclusion would be temporary, until LDCs or consumers resolve the problem locally.

Voltage reductions are implemented at certain high-voltage transformers that serve large numbers of consumers. Excluding one consumer on a shared transformer can severely reduce the effectiveness of voltage reductions as an emergency control action. Under the Ontario Energy Board (OEB)'s Distribution System Code[1], local distribution companies (LDCs) must ensure their systems can supply adequate voltage to consumers, even when a province-wide five per cent voltage reduction is required. Similarly, consumers are expected to manage their equipment and operations to withstand a five per cent voltage reduction[2]. For example, equipment nominally rated at 120 volts should be able to operate within voltage ranges of 108-125 volts under normal conditions, and 104-127 volts under extreme conditions.

Province-wide implementation of a five per cent voltage reduction reduces demand for electricity by about 500 MW, and any decline in this amount through exclusions increases the possibility of rotating blackouts during emergencies.

If you wish to request a temporary exclusion, please contact your LDC. Your LDC is responsible for identifying any temporary exclusion requests and communicating them to Hydro One and the IESO through the Outage Management Process. The IESO will continue to monitor any impact on the effectiveness of voltage reductions as an emergency control action.

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[1] Ref. OEB Distribution System Code, Section 4.1.2 and CSA Standard CAN-3-C235-83 Preferred Voltage Levels for AC Systems, Sections 4 and 5.

[2] Ref. OEB Distribution System Code, Section 4.1.3.

NEWS RELEASE

IESO Releases Earth Hour Conservation Results

March 26, 2011

The Independent Electricity System Operator (IESO) tonight reported lower demand for electricity in Ontario of 2.1 per cent or 360 megawatts (MW) as a result of Earth Hour. This drop is equivalent to the average peak energy needs of a city the size of Windsor.

"Earth Hour gives people a chance to think about their energy use and the choices they make," said Terry Young, Vice President of Corporate Relations at the IESO. "Energy conservation has become a year-round commitment for many Ontarians, and we're starting to see reductions in the demand for electricity."

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CONTACT US

IESO Media Desk:
416-506-2823 or media@ieso.ca
Alexandra Campbell:
416-506-2806

PUBLIC APPEALS

In periods of tight electricity supplies, the IESO may issue a public appeal urging consumers to reduce electricity consumption. Typically, public appeals are issued when extreme weather or unexpected generator outages stretch the system's ability to provide enough electricity to meet demand and required levels of reserve.

- Full list of public appeals since May 1, 2002.