



Ontario Pandemic Influenza Plan for Continuity of Electricity Operations

Planning Guideline

Issue 5.0

March 18, 2020

Emergency Preparedness Task Force

This planning guide provides a common planning, mitigation and response framework to assure the continued reliability of Ontario's electricity system through an influenza (or other infectious disease) pandemic.

Emergency Preparedness Task Force

Ontario Pandemic Influenza Plan for Continuity of Electricity Operations

Planning Guideline

Disclaimer

This document has been prepared for use by Ontario market participants and has been developed in collaboration with certain market participants through the Emergency Preparedness Task Force. Users of this document are reminded that they remain responsible for complying with all of their obligations under the market rules and associated policies, standards and procedures relating to the subject-matter of this document, even if such obligations are not specifically referred to in this document. While every effort has been made to ensure the provisions of this document are accurate and up to date, the user of the document must be aware that the specific provisions of the market rules or particular document shall govern and override the provisions of this document to the extent of any discrepancy.

Independent Electricity System Operator
1600-120 Adelaide Street West
Toronto, Ontario
M5H 1T1

Customer Relations:

Tel: (905) 403-6900

Toll Free: 1-888-448-7777

Email: customer.relations@ieso.ca

www.ieso.ca

Table of Contents

Table of Contents	i
List of Figures	ii
List of Tables	ii
Table of Changes	iii
1. Executive Summary	1
1.1 Purpose of this Document	1
1.2 Supplements Existing Plans	1
1.3 Acknowledgements.....	1
1.4 Linkage with Health Authorities.....	2
1.5 What Market Participants Need to Do.....	2
2. Planning Assumptions	3
2.1 Government Coordination of Pandemic Plans	3
2.1.1 Health Authorities	3
2.1.2 Ontario Pandemic Planning	3
2.1.3 Coordination across North America	3
2.2 Electricity Industry Planning Assumptions.....	4
2.2.1 Duration	6
2.2.2 Unavailability of Staff.....	6
2.2.3 Mortality	6
2.3 Phased Response	6
3. Continuity of Operations	10
3.1 Functions Essential to the Reliable Operation of the Electricity System	10
3.2 Assess the Impact on Critical Functions.....	10
3.2.1 For Generators:	10
3.2.2 For Transmitters:	11
3.2.3 For Distributors:.....	11
3.2.4 For Connected Wholesale Customers:	11
3.2.5 For the System Operator.....	11
3.3 Take Actions to Support Essential Functions	11
3.4 Pandemic Plan Management	12
3.5 Emergency Preparedness Plan	12
3.6 Reporting Equipment or Facility Outages to the IESO.....	12
3.7 Impact on Ontario Consumer Demand for Electricity	12
4. Communications during an Influenza Pandemic	14
4.1 Communication with Government and Health Authorities	14
4.2 Operational Communication.....	14
4.3 Communication during Large Scale Emergencies	14
4.4 Communication with the Public	15
4.5 Crisis Management Support Team (CMST) Pandemic Response	15
5. Training and Exercises	16
5.1 Exercising a Pandemic Scenario	16

List of Figures

Figure 1: OHPIP Severity Scenarios	4
Figure 2: Basic Structure of Electrical System	10

List of Tables

Table 1: Examples and Impact of OHPIP Severity Scenarios.....	5
Table 2: Pandemic Influenza Response Triggers	8
Table 3: Typical Response Actions	9

Table of Changes

Date	Version	Reference Section & Paragraph	Description of Change
March 18, 2020	5.0	Throughout	Updated links and external references.

1. Executive Summary

1.1 Purpose of this Document

The purpose of this document is to provide Ontario electricity market participants with a common planning and response framework to assure the continued reliability of Ontario's electricity system through an influenza pandemic.

While this document focuses on the reliability of the IESO-controlled grid, it provides guidance relevant to the continued operation of all market participants. While specific guidance is towards pandemic influenza, aspects may also be applied to all infectious diseases. This document is available on the IESO public website, and is intended for use by the IESO and all market participants to enhance existing emergency plans.

1.2 Supplements Existing Plans

This is not a stand-alone guide. It is intended to support existing operational and emergency preparedness requirements as described in [Chapter 5 of the Market Rules](#), Section 11.

Ontario's electricity emergency planning framework is described in [Market Manual 7.10: Ontario Electricity Emergency Plan](#).

The threat of high absenteeism due to a human health incident poses unique challenges that may not be fully addressed in existing emergency or business continuity plans. These challenges include:

- Recognizing and planning for higher levels of absenteeism in staff or in critical suppliers
- Recognizing the awareness of distraction in available staff
- Ensuring effective communications with staff and external stakeholders
- Addressing uncertainty regarding the nature, timing, and impact of the causing factors including the severity of the illness, the impact on staffing, as well as political or social distancing actions such as school closures, travel restrictions etc.
- Reconciling changing and varying impact assessments provided by health agencies globally, and at the local, provincial and federal levels
- Recognizing that the Human Health Incident may be local to a site or region (e.g. SARs), wide spread (e.g. an influenza pandemic); or that it may coincide with one or more other incidents or emergencies (e.g. a disease outbreak during a major security incident)
- Planning for recovery.

1.3 Acknowledgements

Ontario's Emergency Preparedness Task Force (EPTF) collaborates on emergency planning matters among electricity market participants and monitors the pandemic threats, in consultation with health authorities. This planning guideline compiles these efforts, and will be

reviewed annually by the EPTF and updated as required. The IESO acknowledges the substantial contribution of EPTF member companies.

1.4 Linkage with Health Authorities

While the electricity industry in Ontario has robust contingency plans in place for dealing with electricity-related emergencies, we do not have the expertise to assess the likelihood or impact of threats to public health. Therefore, all disease-related planning assumptions in this document are based on information provided by the Ontario Ministry of Health and Long Term Care, which is consistent with the Public Health Agency of Canada and the World Health Organization. Your internal health or medical services department plays an important role in this planning by staying abreast of developments, and providing advice.

1.5 What Market Participants Need to Do

It is recommended that all Ontario market participants read this document, and understand the actions necessary to enhance your existing operations and emergency plans. See the guidelines in section 3.

We welcome your questions, comments or suggestions as these will help us further develop this document as better information becomes available.

For further information, contact the IESO at emergency.preparedness@ieso.ca

-- End of Section --

2. Planning Assumptions

2.1 Government Coordination of Pandemic Plans

2.1.1 Health Authorities

The Minister of Health and Long-Term Care (MOHLTC) is responsible for developing an Ontario-wide approach to influenza pandemic planning in the health care sector. This Ontario Electricity Continuity of Operations Planning Guide is based on the planning assumptions detailed in MOHLTC's Ontario Health Plan for an Influenza Pandemic which is available at:

http://www.health.gov.on.ca/en/pro/programs/emb/pan_flu/pan_flu_plan.aspx

MOHLTC coordinates efforts with other health authorities, including:

- Public Health Agency of Canada <https://www.canada.ca/en/public-health/services/diseases/flu-influenza/pandemic-flu.html>
- World Health Organization <http://www.who.int/topics/influenza/en/>

This plan addresses a broad range of public policy and health sector operational matters, including the role of “critical infrastructures”. It is emphasized that while the various health agencies provide planning assumptions that are broadly consistent, each of them acknowledge a high degree of uncertainty regarding key planning assumptions such as illness rate (called “attack rate” by health authorities), mortality and duration.

Market participants are urged to contact their regional or local public health authorities to ensure that local authorities understand their critical role in supporting electricity reliability. This will help ensure coordinated action and will facilitate actions such as anti-viral and vaccine prioritization and distribution.

2.1.2 Ontario Pandemic Planning

A pandemic can spread rapidly to many communities in Ontario. A pandemic will trigger implementation of the [Canadian Pandemic Influenza Preparedness](#) plan, the [Ontario Health Plan for an Influenza Pandemic \(OHPiP\)](#), and local pandemic contingency plans developed during the pre-pandemic and pandemic alert phases.

Response measures will be determined by the epidemiology of the pandemic, the age distribution and severity of the illness, and the efficiency of transmission from human to human. Ontario's response plan for the health care system is based on the best planning assumptions and estimates currently available, and may have to be modified if the epidemiology of the outbreak is significantly different than anticipated.

2.1.3 Coordination across North America

The North American Plan for Animal and Pandemic Influenza (NANAPI)¹, was released in 2012 and describes the collaboration occurring between Mexico, the United States and Canada in

¹ <http://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/nml-pndmc-nflnz/index-eng.aspx>

planning for a pandemic. The NANAPI commits to support critical infrastructure and increase resiliency and provides a policy framework to enhance trilateral collaboration to:

- Detect, monitor, and control influenza outbreaks and attempt to limit transmission between animals and humans as well as human to human transmission,
- Facilitate communication among relevant authorities of the three countries in order to react and cooperate expediently in the case of an outbreak or a pandemic,
- Prevent or slow the entry of a novel strain of human influenza into North America and the propagation of the virus whether it emerges within or outside North America,
- Minimize illness and deaths, and
- Sustain infrastructure and mitigate social and economic impact

2.2 Electricity Industry Planning Assumptions

The severity of a pandemic cannot be fully known until the virus has been detected or analyzed; even then, the characteristics may change over time, and affect different segments of the population in very different ways. Severity may be partially determined by the effectiveness of interventions such as a prophylactic or vaccine.

The Ontario Health Plan for an Influenza Pandemic (OHPIP) offers the following assumptions regarding the extent and severity of illness. In general, it is expected that more severe illness than the usual seasonal influenza is likely in all population groups.

Figure 1 outlines the four severity scenarios used in the OHPIP.

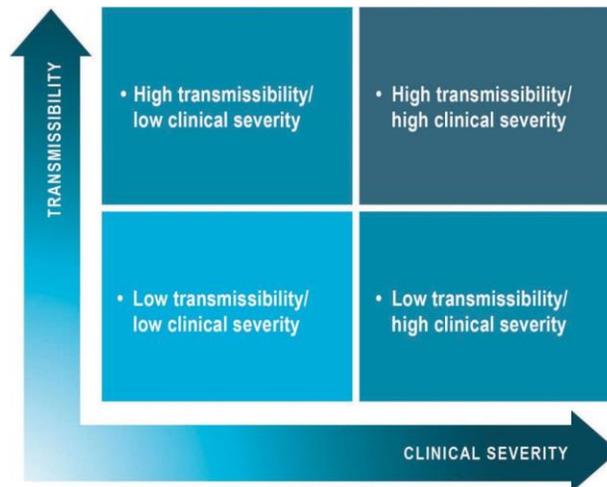


Figure 1: OHPIP Severity Scenarios

Table 1 outlines how various influenza pandemics and seasonal epidemics are categorized in the OHPIP severity model, and the major health system impacts.

Table 1: Examples and Impact of OHPIP Severity Scenarios

Overall Severity	Characteristics	Examples	Health System Impact
Before severity is known	Limited surveillance data available	Either in the inter-pandemic phase, or early in the pandemic, before there is enough information available to determine severity	Unknown
Low Transmissibility & Low Clinical Severity	Cumulative Attack Rate (CAR) ² : < 21% R ₀ (basic reproduction number) ³ : <1.6 Case Fatality Rate (CFR) ⁴ : <0.25%	Typical seasonal influenza epidemics 2009 influenza pandemic 1968 influenza pandemic	Comparable to seasonal influenza
High Transmissibility & Low Clinical Severity	CAR: ≥ 21% R ₀ : ≥1.6 CFR: <0.25%	1927-28 seasonal influenza epidemic	Significant workplace absenteeism High burden on outpatient and acute services
Low Transmissibility & High Clinical Severity	CAR: < 21% R ₀ : <1.6 CFR: ≥ 0.25%	1957 influenza pandemic	High burden on critical health care services
High Transmissibility & High Clinical Severity	CAR: ≥ 21% R ₀ : ≥1.6 CFR: ≥ 0.25%	1918 influenza pandemic	Significant need for public health measures High burden on critical health care services

In addition to the characteristics of the virus, other factors (e.g., the effectiveness of interventions, the behavioural response of Ontarians, the capacity of Ontario's health system, and the social determinants of health) determine the impact of the pandemic.

² The cumulative attack rate is the percentage of people who (are expected to) become symptomatic at some point during the influenza pandemic.

³ The basic reproductive number is the number of secondary cases one case should produce in a completely susceptible population.

⁴ The case fatality rate is the ratio of deaths within a designated population of cases over the course of a pandemic.

Appendix 3 of the North American Electric Reliability Corporation (NERC) [High-Impact, Low-Frequency Event Risk to the North American Bulk Power System document](#) contains lists of planning assumptions, pandemic phases, and response actions that can be taken by the industry to prepare for a possible influenza pandemic.

When the World Health Organization Global Alert has been declared, it may take a few days or a few months until local outbreaks occur. The 2009 H1N1 outbreak originated in Mexico and within a few days had reached parts of the U.S. and Canada, including Ontario.

In order to prepare in a timely manner, market participants should develop their own plans with the following assumptions regarding pandemic severity, duration, mortality, and staff unavailability in mind.

2.2.1 Duration

Health authorities advise that an influenza pandemic consists of two or more waves (or intense periods) of viral transmission. The novel influenza virus displaces other circulating seasonal strains during a pandemic.

2.2.2 Unavailability of Staff

There is currently a great deal of uncertainty by public health authorities and governments regarding the expected illness rates that might occur during a pandemic. At present, authorities are not defining the rate of absenteeism that may occur as a result of people being either too ill to attend work, or staying away for other reasons such as taking care of family members.

Therefore, it is recommended that when planning, use a range of assumptions that would recognize peak absenteeism as follows. Each of these ranges correspond to the attack rates of 15%, 25% and 35% respectively described in the Provincial Pandemic Plan.

- 20% absenteeism for one week, 10% for the remainder of the wave
- 30% absenteeism for one week, 15% for the remainder of the wave
- 40% absenteeism for one week, 20% for the remainder of the wave

For each of these ranges, market participants need to consider the possible impact on their essential operations and identify the means to eliminate or reduce the impact of reduced staffing levels. While a pandemic may occur in multiple waves, this range of assumptions is expected to be appropriate for any one of the waves.

2.2.3 Mortality

According to the Public Health Agency's Canadian Pandemic Influenza Plan, mortality rates are expected to be in the order of less than 1% of the general population. While some deaths may occur, they are not expected to be at a level to require additional planning above and beyond the levels described above.

2.3 Phased Response

The World Health Organization uses four phases to describe how rapidly a virus spreads (i.e., transmission rate). However, even at the highest, Pandemic Phase global pandemic, the 2009 H1N1 outbreak was found to have a relatively moderate degree of severity in the vast majority of cases, and did not require that response plans be implemented at the highest levels. It has

become apparent that a measure of severity, in addition to transmission rate, is needed to help ensure response plans are triggered at the appropriate times.

The following tables provide a framework for implementing plans under mild, moderate, and severe conditions. Detailed response actions as they relate to the reliability of Ontario's electricity system are outlined in Section 3: Continuity of Operations.

The tables are intended to help guide decisions to take the right action at the right time with the appropriate flexibility to consider other contributing factors. For example, implementing response actions early may seem like an appropriately conservative action, but may consume scarce resources needed later. Additionally, overall capability may be impacted as time elapses.

Implementing response actions too late may also have negative consequences. Employees may be placed at greater risk or may feel neglected, particularly if they become aware of other participants taking different actions.

While Table 2 has been developed with a pandemic scenario in mind, entities may find it a useful framework for managing any emergency that could affect the availability of staff needed to maintain continuity of operations.

Table 2 illustrates how the severity scenarios correspond to increasing levels of worker absenteeism, recognizing that absenteeism is influenced by a number of complex factors, such as:

- The likelihood of worker contact with the virus, either in the community or at work (e.g. rate at which the virus is spreading, contagion period)
- Severity of the illness (intensity, duration, extent to which hospitalization is required)
- Worry and fear
- Social distancing measures (e.g., limiting visitors and non-essential staff in the workplace, school closures, travel restrictions)

The absentee rates are grouped into three scenarios. Health authorities may soon develop a science-based quantitative severity index to measure these scenarios represented by the horizontal axis of Table 2. While this will be helpful, emergencies are managed locally and entities need to decide appropriate response actions by considering local circumstances affecting their community and the potential impact on workers and their families. In this table we have determined severity to be in the following three broad categories:

- **MILD:** Absentee rates of up to 20% for a week of the pandemic wave, 10% for the rest of the wave.
- **MODERATE:** Absentee rates of up to 30% for a week of the pandemic wave, 15% for the rest of the wave.
- **SEVERE:** Absentee rates of up to 40% or greater for a week of the pandemic wave, 20% for the rest of the wave.

Table 2: Pandemic Influenza Response Triggers

DC Case Fatalities	SEVERE ≥ 2.0%	5	Full Activation				
		4	Advanced	Advanced	Advanced	Advanced	Full Activation
	3		Advanced	Advanced	Advanced	Advanced	Full Activation
	MILD < 0.5%	2	Enhanced	Enhanced	Enhanced	Advanced	Full Activation
		1	Routine	Routine	Enhanced	Advanced	Full Activation
				MILD		MODERATE	SEVERE

----- Severity Scenarios -----

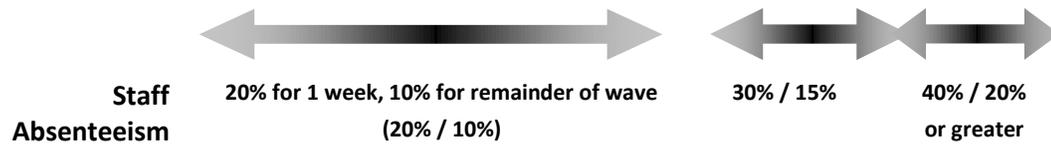


Table 3: Typical Response Actions

	Monitor Situation	Communicate	Control Infection	Support Employees	Maintain Essential Operations
Routine	Normal	Normal	Normal	Normal	Normal
Enhanced	Periodic updates from health authorities	Periodic updates to all staff Limited sector-wide notifications from NERC	Consider enhanced procedures	Consider enhanced support for managers to make decisions	Normal
Advanced	Frequent updates from health authorities Monitor employee absentee rates	Frequent updates to all staff Periodic sector-wide notifications from NERC	Confirm anti-viral priorities and consider distribution in consultation with health authorities Confirm vaccine priorities to support essential business	Enhanced support for managers to make decisions re: staff and their families, close contact situations	Essential business plus regulatory requirements only
Full Activation	Daily updates from health authorities Monitor employee absentee rates	Daily updates to all staff Frequent sector-wide notifications from NERC Notify the IESO of any potential reliability impacts due to site-specific pandemic conditions	Decide anti-viral distribution in consultation with health authorities <u>Prepare to</u> support requirements by state, provincial and local agencies / governments to identify critical workers for prioritized distribution of vaccine when available	Enhanced support for managers to make decisions re: staff prioritization	Essential business only

-- End of Section --

3. Continuity of Operations

3.1 Functions Essential to the Reliable Operation of the Electricity System

Market participants need to identify the business functions that are essential to their operation, and assess the impact of reduced staffing levels on those functions. Figure 2 shows the basic structure of the electrical system.

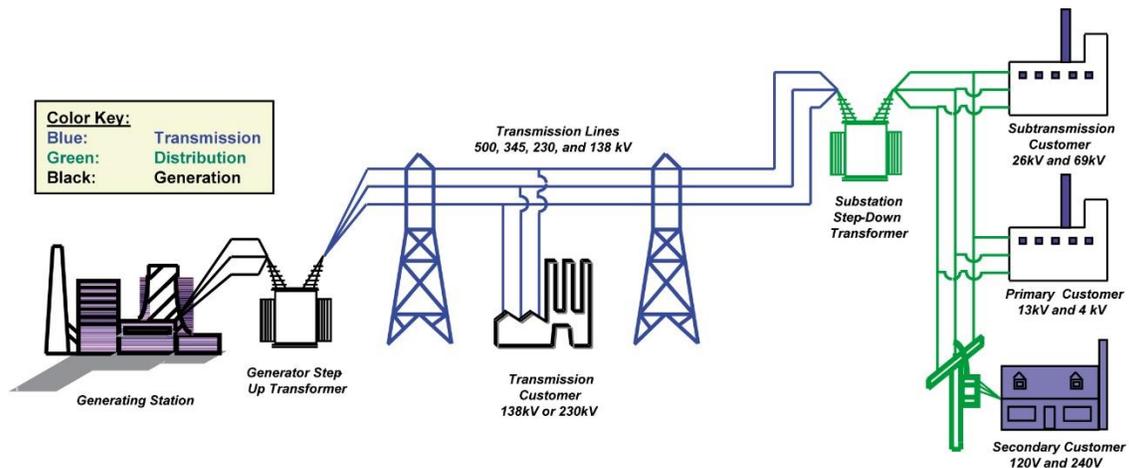


Figure 2: Basic Structure of Electrical System

3.2 Assess the Impact on Critical Functions

Market participants should assess the impact of staff unavailability on each of their essential functions using the following three ranges:

- 20% absenteeism for one week, 10% for the remainder of the wave
- 30% absenteeism for one week, 15% for the remainder of the wave
- 40% absenteeism for one week, 20% for the remainder of the wave

To help you assess each range, consider the following questions:

3.2.1 For Generators:

1. Will equipment and facilities be maintained? If not, can maintenance be deferred and for how long?
2. Will equipment and facilities be repaired? If not, can repairs be deferred and for how long?
3. Will equipment and facilities be operable, including the ability to shut down and subsequently resume operations?
4. Can suppliers support essential functions?
5. Will the generator be able to support reliable system and market operations?

3.2.2 For Transmitters:

1. Will equipment and facilities be maintained? If not, can maintenance be deferred and if so, for how long?
2. Will equipment and facilities be repaired? If not, can repairs be deferred and if so, for how long?
3. Will equipment and facilities be operable, including the ability to shut down and subsequently resume operations?
4. Can suppliers or mutual assistance arrangements support essential functions?
5. Will the transmitter be able to support reliable system and market operations?

3.2.3 For Distributors:

1. Will equipment and facilities be maintained? If not, can maintenance be deferred and if so, for how long?
2. Will equipment and facilities be repaired? If not, can repairs be deferred and if so, for how long?
3. Will equipment and facilities be operable, including the ability to shut down and subsequently resume operations?
4. Can customer demand for your services be met?
5. Can suppliers or mutual assistance arrangements support essential functions?
6. Will the Distributor be able to support reliable system and market operations?

3.2.4 For Connected Wholesale Customers:

1. How will any changes to production schedules impact load patterns?
2. Will the Connected Wholesale Customer be able to support reliable system and market operations?

3.2.5 For the System Operator

1. Will equipment and facilities be maintained? If not, can maintenance be deferred and if so, for how long?
2. Will equipment and facilities be repaired? If not, can repairs be deferred and if so, for how long?
3. Can suppliers or mutual assistance arrangements support essential functions?
4. Will the system operator be able to support reliable system and market operations?

3.3 Take Actions to Support Essential Functions

Depending on the impact of each range of staff unavailability, actions should be taken to eliminate or reduce any adverse impact on essential functions. Actions may include:

- Train additional staff to support essential functions
- Redeploy or acquire additional staff from non-essential functions

3.4 Pandemic Plan Management

Market participants should monitor the occurrence of pandemics and be ready to implement or revise their plans according to circumstances. Consider the following:

- Stockpile health-related supplies for multiple waves (e.g., anti-virals, cleaning supplies)
- Monitor employee absenteeism, and anticipate when critical functions may become at-risk
- Review human resources policies related to absenteeism and recognize that doctors will likely not provide notes to confirm illness or suitability to return to work
- Evaluate the impact of local school closures and employees who would need to stay home
- Communicate vaccine availability to staff

3.5 Emergency Preparedness Plan

It is recommended that market participants review their Emergency Preparedness Plan and, if necessary, revise and submit it to the IESO consistent with Chapter 5, Section 11.4 of the Market Rules. The Market Rules also provide for independent audits of market participant plans, if requested by the IESO.

Specifically, market participants should:

- Review emergency plans considering the ranges of staff unavailability described in section 2.2.2 of this guide.
- If the assessment indicates that the market participant is not able to meet their obligations under the Market Rules through the ranges of staff unavailability, identify the actions that are being taken, revise the Emergency Preparedness Plan, and submit to the IESO.

3.6 Reporting Equipment or Facility Outages to the IESO

It is possible that these ranges of staff unavailability could lead to a change or anticipated change in the capability or the status of participant facilities, and that this could have a material effect on the reliability of the IESO-controlled grid or the operation of the IESO-administered markets (reference: Market Rule Chapter 5, Sections 3 and 6). If this is the case, participants are required to report this to the IESO using the outage request process. Please refer to [Market Manual 7.3: Outage Management](#).

3.7 Impact on Ontario Consumer Demand for Electricity

It is expected that the pandemic period will affect consumer load profiles and result in some reduction in primary demand as a result of a decrease in some industrial and commercial activity. Demand and energy consumption might decrease as much as 10% under a severe pandemic. This reduction may be partially offset by increased residential demand, as many people will be home because they are ill.

-- End of Section --

4. Communications during an Influenza Pandemic

4.1 Communication with Government and Health Authorities

From a planning perspective, the EPTF will continue to monitor situations and collaborate with government and health authorities to obtain the best available information. The IESO will advise market participants of any significant changes by email and postings on the IESO public website.

Market participant plans should include who, how and under what conditions they will contact local government or health authorities.

A pandemic will trigger implementation of the [Canadian Pandemic Influenza Preparedness](#) plan, the [Ontario Health Plan for an Influenza Pandemic \(OHPIP\)](#), and local pandemic contingency plans developed during the pre-pandemic and pandemic alert phases. The Ontario Ministry of Health and Long-Term Care plays the role of the lead ministry and provides periodic updates to other ministries. The Ministry of Energy provides these updates to key energy sector representatives, including the Crisis Management Support Team as described below.

4.2 Operational Communication

All communications regarding your operation and any impact on the reliability of the electricity system should follow your normal procedures.

4.3 Communication during Large Scale Emergencies

In the event of a large scale emergency, the IESO activates the Crisis Management Support Team (CMST). The purpose of the CMST is to provide a forum for Ontario's electricity industry participants and stakeholders to co-ordinate emergency management initiatives, information and response during a major electricity emergency.

The CMST provides information and advice regarding the scope and duration of a major electricity emergency to Emergency Management Ontario's Emergency Operations Centre via the Ministry of Energy, these agencies provide information and advice to the CMST to mitigate the impact of an emergency.

The CMST takes no operational decision-making accountabilities away from market participants (including real time power system operations).

It is anticipated that CMST participants would be activated when a pandemic reaches the Pandemic Phase, as defined by the World Health Organization [Guidance for Surveillance during an Influenza Pandemic – 2017](#), and would participate with government and health authorities in daily conference calls to monitor the situation and share information. The IESO would advise market participants of any significant changes by email and postings on the IESO public website.

Additional information is available in [Market Manual 7.10: Ontario Electricity Emergency Plan](#).

4.4 Communication with the Public

Market participants should be prepared to communicate to the public according to their own plans. The IESO will address any real or potential impacts affecting the reliability of the IESO-controlled grid.

4.5 Crisis Management Support Team (CMST) Pandemic Response

CMST conducts its communication with CMST members by conference call, and it is anticipated that the extent of CMST activity will be adjusted according to need. During the early stages, the IESO may post updates to the CMST members. The IESO may follow-up with a CMST conference call to discuss a situation and seek CMST input regarding the extent to which market participants are taking action.

-- End of Section --

5. Training and Exercises

5.1 Exercising a Pandemic Scenario

The successful implementation of a pandemic plan is dependent on the preparedness of market participant staff. Preparedness is enhanced through regular testing and periodic practice through drills and exercises. Market participants should regularly test their pandemic plans to ensure their ability to effectively implement their plans during a real event.

Scenario-based drills and exercises allow restoration participants to practice their response to a pandemic outbreak. In addition, these sessions can be used to identify procedure and operating gaps that could impact a real event.

-- End of Document --