

Water and Wastewater Sector Pandemic Influenza Planning Guidelines, Alberta

Purpose: These guidelines are intended to assist water and wastewater utilities in planning for an influenza pandemic. Utilities that prepare will ensure they have the staff, equipment, and supplies necessary to continue providing safe drinking water or treating wastewater for their community during a prolonged or severe event.

How to Use Guidelines: The guideline serves as a non-prescriptive reference for owner-operators and a practical tool that planners can use to augment and tailor existing emergency response plans given the unique challenges an influenza pandemic presents. **It is important to integrate your pandemic influenza planning with your existing business continuity plans, emergency response plans, and Municipal Emergency Plan.**

These guidelines address the major challenges the water and wastewater sector may face and should assess in pandemic influenza planning within the seven key areas of vulnerability highlighted in blue boxes in this document.

While not necessarily applicable to all entities in a given sector, each relevant *action*, *supporting action*, and *question to consider* can be integrated as a separate checklist item during the planning process.

- **Actions:** These are primary checklist items with numerous related supporting actions and questions to consider.
- **Supporting actions:** Expanding on the overarching action, these supporting actions offer suggestions for further study.
- **Questions to consider:** The questions are not comprehensive; they are designed simply as a starting point to stimulate thinking about further actions and options. All sectors have similar primary/supporting actions; it is the questions asked and the unique attributes of each sector that discriminates the plans of one sector from another.

Planning Assumptions: Planning assumptions have been developed at the international, national, and provincial level to guide H1N1 planning. These assumptions will be revised as further data is available.

Characteristics of the H1N1 Virus

- H1N1 virus is thought to be spread from person to person in the same way as seasonal influenza, mainly through droplets produced from coughing or sneezing (direct contact within two meters). Transmission can also occur when a person touches their mouth, nose or eyes after contact with surfaces or objects contaminated with the virus from infected persons.

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- More efficient transmission occurs when symptoms such as coughing are present and viral shedding is high (i.e. early in symptomatic period).
- People can spread the H1N1 virus 24 hours before and up to seven days after symptoms start. This may be longer (up to ten days) in children and individuals with severe illness or compromised immune systems.
- The incubation period (the time between infection and symptoms) for the H1N1 virus is up to four days.
- The course of illness (without complications) is approximately seven days. Assume that people who are ill will be unable to work or go to school for this time period.

Extent and Severity of Illness

- Because most of the population has limited, if any, prior exposure, most people (regardless of age) will be susceptible to the H1N1 virus.
- Infection with the H1N1 virus results in illness similar to seasonal influenza: sudden onset of fever and cough and one or more of fatigue, muscle aches, sore throat, headache, loss of appetite, runny nose. Children under five years may have nausea, vomiting and/or diarrhea. In people under five years or 65 years and older, fever may not be prominent.
- Individuals who recover from illness caused from the pandemic influenza strain will be immune to further infection by that strain.
- H1N1 can cause slightly more severe illness in comparison to seasonal influenza as studies have shown that it attacks tissues found deeper in the lungs.
- As with seasonal influenza, H1N1 can vary in severity from mild to severe.
- Most individuals with H1N1 virus infection will not require hospitalization; disease will be mild and recovery will occur in the community.
- Seniors over 65 are believed to have some immunity from previous exposures to similar influenza.
- In contrast to seasonal influenza, the burden of disease will be greatest in younger persons (those less than age 55 years).
- The most severe disease occurs mainly in individuals with risk factors for complications from influenza such as:
 - children under five years;

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- pregnant women;
 - individuals with chronic illness (heart disease, asthma and lung disease, liver and kidney disease, blood disorders - especially sickle cell disease, diabetes and other metabolic disorders, neurologic and neurodevelopmental disorders; and
 - severe obesity.
- There may be other high risk groups including Aboriginal peoples.

Expected Course of Pandemic Influenza

- An influenza pandemic caused by the H1N1 virus is present and its impact is unpredictable.
- Pandemic influenza may last between 12 and 18 months.
- Pandemic influenza will generally occur in two or more waves. The first wave of H1N1 was in the spring/summer 2009, the second wave began in the September 2009 and a third wave is expected in early 2010.
- In a local community, a pandemic influenza wave of illness will generally last eight to 10 weeks, but this time period may vary.
- The pattern of circulation of the H1N1 virus is unknown. Outbreaks will occur simultaneously in multiple locations although different areas of the country may experience peak activity at different times. This may limit the ability of one community/jurisdiction to help others.

Effect on the Health System in a Moderate Scenario

- The majority of the Alberta population (over 70 per cent) may be infected over the course of the pandemic influenza; 15 per cent to 35 per cent of the population may become clinically ill. (i.e. asymptomatic and sub-clinical infection can occur.)
- It is estimated that up to 5 per cent of Alberta's population may have been infected during the spring of 2009.
- The second wave of illness could be more severe than the first.
- Although the rates of severe illness and complications from H1N1 influenza are anticipated to be low overall, the number of people infected may be so large that the extent of the disease may place a heavy burden on the health care system, including acute care hospitals.

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Absenteeism

- Pandemic influenza will lead to increased absenteeism from school, the workplace, etc. as a result of personal illness, care-giving requirements and possibly the fear of exposure. Public health measures may reduce absenteeism.
- Absenteeism rates are likely to be no higher than 30 per cent to 35 per cent.
- During the peak two weeks of illness in the community, an absenteeism rate of 20 per cent can be expected for many reasons, including: illness, caring for others, pandemic influenza related public health measures (e.g. school closures), and normal baseline absenteeism (an eight per cent average in a normal winter). For business continuity planning purposes it may be prudent for organizations to assume up to one-third of the workforce will be absent (for all reasons) in this peak period.
- The effect will vary depending on setting, i.e. high versus low population density in the workplace. The health-care system could expect to experience peak absenteeism at the top of this range – the highest of all industries. Illness in health care workers will reduce capacity to provide service.

For detailed information on the complete set of planning assumptions and the influenza pandemic context, see <http://www.health.alberta.ca/health-info/influenza-H1N1.html> or <http://www.aema.alberta.ca/Pandemic%20plan.cfm>

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ESSENTIAL SERVICES, FUNCTIONS, AND PROCESSES

Industries in every sector of the Alberta economy will experience influenza pandemic impacts. The water and wastewater sector will play a key role in keeping one of Alberta’s most crucial and life-saving services operational. Shortages and disruptions to basic services, functions, and national infrastructure may cause localized challenges for communities. Effective coordination with public safety officials and community leaders will facilitate the integration of water and wastewater utilities into community emergency operations planning. This sector’s essential services include potable water distribution, wastewater services, and water for firefighting and hospitals. The sector’s essential functions include producing potable water and treating wastewater. The sector’s essential processes include water treatment, storage and distribution, wastewater collection and treatment.

ACTION: Identify and assess your system’s essential services, functions, and processes.

√	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Maintain all essential services, functions, and processes necessary to keep systems running.</p> <p>Identify key customers (i.e., first responders and hospitals) with specific needs.</p> <p>Prioritize your critical customers based on their value to the community.</p> <p>Prioritize essential services and functions given their value to essential customers and the community.</p> <p>Identify and prioritize potential non-essential functions you can suspend, and prioritize essential functions for possible authorized reduction/suspension.</p>	<ul style="list-style-type: none"> • Assume your treatment facility is offline. Have you engaged local and provincial stakeholders in contingency planning (e.g., will bottled water substitute for lack of treatment, and is this even possible)? For wastewater, what will be the effect of reduced or no treatment? • If normal water source availability has been disrupted how will your utility obtain alternate water sources or supply (e.g., other raw water sources; interconnections with other treatment systems; bottled water; potable water shipment from outside the community)? • What essential business functions (such as billing, payroll, treatment and transmission) and processes must you sustain to produce, distribute, and maintain essential services, function and processes? • Have you communicated with your critical customers and suppliers the need to jointly plan for an influenza pandemic? • If an influenza pandemic worsens and drastic measures must be taken to sustain at least minimal essential operations, have you prioritized all functions, essential and non-essential, to potentially reduce or suspend in an authorized/approved manner (e.g., prioritize availability of firefighting water versus potable water)?

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ESSENTIAL EQUIPMENT

Unlike other disasters, an influenza pandemic will not directly physically damage infrastructure. However, planners need to assess the indirect impact that worker absenteeism due to the influenza pandemic will have on reduced or delayed normal maintenance on essential equipment and may have on emergency repair or equipment replacement. In addition, an influenza pandemic’s impact on the supply chain (i.e. “just-in-time” delivery, warehousing, and logistics) could have a significant impact on the ability to get replacement equipment as well as essential parts and supplies such as valves, pipes, motor starter centers and hydrants to repair and maintain equipment. Contingency plans should address the potential lack of equipment replacements and parts and supplies for an extended period for all primary and supporting essential equipment.

ACTION: Review equipment critical to support each essential function.

√	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Identify equipment that must operate continuously and/or at key periods to sustain essential functions and processes.</p> <p>Plan to rely on in-house or available local resources for up to 12 weeks.</p> <p>Consider using an asset management tool or other similar tools to inventory your critical equipment.</p> <p>Review the utility’s primary and supporting components to identify potential single-point failures and cascading consequences.</p> <p>Consider how each action relates to those developed to address other emergencies in your existing business contingency plans.</p>	<ul style="list-style-type: none"> • How can you modify equipment and processes temporarily to maintain essential functions? • How will influenza pandemic-induced changes in customer demand (e.g., decreased demand from industrial customers, increased demand from residential customers) affect operations and demand on essential equipment • How will you maintain and repair essential equipment given potential supply chain issues? • Is similar substitute equipment available locally to sustain utility operations temporarily (e.g., portable pumps and generators)? • Do you have physical interconnections with other water systems and have you tested these connections and systems? • Is your equipment clearly mapped and marked for mutual aid and assistance teams to locate in the case of emergency repair or replacement by others? • Have you developed standard operating procedures for your processes and equipment, and, if so, have you distributed them broadly to managers and staff? • Do you have pre-established contracts with multiple equipment vendors for emergency replacement and repair during an influenza pandemic?

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ACTION: Prepare to sustain essential equipment for a wave lasting up to 12 weeks.		
√	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Prioritize the options available to you to reduce demands on your resources.</p> <p>Assess recurring and preventative maintenance requirements.</p> <p>Assess implications if your essential equipment fails early on during the influenza pandemic outbreak.</p> <p>Join with a mutual aid and assistance program to assist you with essential equipment, noting that traditional mutual aid and assistance networks may not function as usual during a pandemic influenza.</p>	<ul style="list-style-type: none"> • Is there excess operational capacity in your utility’s essential equipment to sustain functions while alternating and reducing demands on specific equipment and workers? • Do you have replacements available for all essential equipment either on-site or locally? • Is your regular routine maintenance on your essential equipment up-to-date, and how much routine maintenance is required for this equipment? • Do you have updated standard operating procedures for this equipment, and have you changed them to address influenza pandemic conditions (e.g., social distancing strategies)? • Can you defer or accelerate scheduled maintenance on short notice? • Can suppliers ensure priority delivery of replacement parts for assets during an extended influenza pandemic wave; how will this be accomplished? • Can you maximize use of equipment/processes that can function via remote access?

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ESSENTIAL RAW MATERIALS AND SUPPLIES

A pandemic influenza “wave” may linger in a community for six to eight weeks, and nationally for approximately 12 weeks. The negative impacts on individuals, businesses, and the nation from the illness and disease mitigation strategies will have an effect over a much greater duration than other typical disaster scenarios. A severe influenza pandemic may disrupt access to your essential materials and supplies necessary to function for up to 12 weeks. Utilities should explore their supply chains, beginning with internal storage capacity and tracking along the network to the source of the materials. Given an increased reliance on “just-in-time” delivery and the potential impacts that could affect your supply chain, you may need to stockpile chemicals (e.g., coagulants, pH adjustors, and disinfectants), fuels, lubricants, filters, repair parts, and Personal Protective Equipment (PPE) (e.g., masks, gloves, hand sanitizer) on site or locally or ensure availability by making other contingency plans.

ACTION: Identify materials and supplies to sustain essential functions and equipment for up to 12 weeks.

√	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/>	Identify critical inputs (i.e., disinfectants, coagulants and other treatment chemicals) necessary to maintain safe water.	<ul style="list-style-type: none"> • How much of which materials/supplies (e.g., pounds of disinfectants, gallons of diesel, coagulants, and lab supplies) are required to sustain the most essential operations for up to 12 weeks in case supply chain production and/or delivery challenges develop during an influenza pandemic wave? • What materials might you be able to substitute as backups temporarily for preferred critical ones (e.g., a more readily available but less efficient disinfectant; dyed diesel for backup generators; synthetic lubricants)? • Are there operations and maintenance/repair processes that may be temporarily modified to reduce demand on stocking supplies (e.g., extend period between changing fluids)? • How will you know if your supply chain businesses may be experiencing or are anticipating difficulty in providing goods/services? • What happens if your supply chain cannot provide critical materials or supplies? • Have you researched the possibility and feasibility of using alternative technologies/equipment requiring different, more easily accessible supplies?
<input type="checkbox"/>	Prioritize essential material and supplies necessary to operate equipment and sustain essential functions.	
<input type="checkbox"/>	Identify options to reduce demand for essential supplies and materials.	
<input type="checkbox"/>	Explore options (e.g., a regional stockpile for treatment chemicals) that might reduce the need to stockpile high-cost or hazardous materials on-site.	
<input type="checkbox"/>	Assess all internal and external supply-chain support operations and contracts.	

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ACTION: Determine the most effective ways to ensure an adequate supply of essential materials.		
√	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Assess costs to procure, stock, and/or ensure delivery of essential materials.</p> <p>Identify physical or safety limitations in stocking sufficient critical supplies locally.</p> <p>Identify a formal chain of command to ensure someone is available to authorize major emergency procurements.</p> <p>Identify additional security needs for increased high-value material stockpiles.</p> <p>Coordinate with all supply-chain vendors.</p>	<ul style="list-style-type: none"> • What can you afford to stockpile and what must you stockpile, and how do you fund these extraordinary costs (e.g., retained earnings, special disaster fund, municipal bond)? • How many days supply are typically on-site for all critical chemicals, fuels, and others? • If supply chains are disrupted how will you obtain the necessary materials to continue operations for the duration of an influenza pandemic wave? • Is there adequate space on-site to safely expand storage of chemicals and supplies temporarily if necessary? • Are warehouses or storage containers available locally on short notice? • Are critical workers authorized to independently make purchases via credit card or open vulnerabilities or unintended effects to supply chain (i.e., who supplies your suppliers?) • If you cannot stockpile critical materials or your “just-in-time” supply chain fails, do you have effective backup plans (e.g., pre-negotiated contracts with multiple other chemical and fuel suppliers for priority/emergency deliveries)? • Have you integrated your planning with your local/regional suppliers to ensure receiving priority support e.g. if fuel rationing occurs that staff are identified as “essential workers”? • How can you provide incentives for your support contractors to become better prepared (e.g., collaborate on planning, integrate preparedness training, and stipulate influenza pandemic planning and certification in all supply contracts)?

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ESSENTIAL WORKERS

A severe influenza pandemic may generate extended absences for essential workers that might affect you and your supply chain. During an influenza pandemic the actual level of workforce absenteeism could approach 40 per cent. To complicate matters, the disease will strike randomly among employees from operation managers to front-line workers as well as employee families. Implementing rigorous personal hygiene and social distancing strategies along with the strategic use of Personal Protective Equipment in the workplace may alleviate potential worker-related crises. A list of your most essential workers will likely include, but will not be limited to: provincially certified water and wastewater treatment utility operators; distribution system operators; collection system operators; maintenance/repair specialists; laboratory technicians; electrical and Supervisory Control and Data Acquisition (SCADA) technicians; business support; and supervisors.

ACTION: Identify the types and numbers of workers critical to sustain essential functions.

√	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Identify essential workers based on ability to sustain essential equipment and functions.</p> <p>Define the roles and responsibilities of employees, labor organizations, staff, supervisors, managers, and staff medical personnel during an influenza pandemic.</p> <p>Assess requirements based on operational demands for essential workers (e.g., 24-hour manual intensive vs. SCADA managed systems).</p> <p>Assess impacts from an extended absence by essential workers.</p> <p>Assess your options to obtain contractor backup support on essential operations and determine how quickly that can be started.</p>	<ul style="list-style-type: none"> • Have you identified the workers who are essential to sustain the essential functions and equipment necessary to produce your most essential goods and services? • Are there constraints in employing union contract workers and/or for specific local worker contracts in non-standard ways during an emergency temporarily (e.g., can a skilled maintenance technician temporarily serve as an operator)? • What different challenges do you face with modifying standard tasks and/or supporting or replacing full-time versus part-time or seasonal employees? • Are there differences in your workforce by age and/or family status (e.g., employees with younger children may be affected more by school closures and self-quarantine)? • What are the different workforce challenges for on-site vs. off-site and full vs. part-time contractors to perform essential functions? • What essential operations might you support temporarily through external contract support (e.g., laboratory water testing and hazardous waste disposal), and how prepared are these support contractors for a pandemic influenza?

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ACTION: Identify policies and procedures to protect and sustain workers during an influenza pandemic.		
√	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/>	Reduce demands on essential workers who are on the front lines of defense in maintaining and restoring a community's utilities.	<ul style="list-style-type: none"> • Are there practical temporary changes you can take to increase essential worker availability (e.g., extending shifts to 12 hours, adding overtime, and using other non-essential workers)?
<input type="checkbox"/>	Temporarily augment essential worker ranks.	<ul style="list-style-type: none"> • Have you considered the possibility of sending home non-essential staff to reduce the chance for disease introduction and transmission?
<input type="checkbox"/>	Coordinate with provincial officials on using noncertified workers during a pandemic influenza.	<ul style="list-style-type: none"> • Have you considered the need and conditions for more extreme measures, such as sequestering on-site the most essential staff?
<input type="checkbox"/>	Emphasize worker and workplace disease control and protection. For more information see: Alberta Pandemic Plan	<ul style="list-style-type: none"> • Will the province allow certification waivers to perform essential jobs temporarily?
<input type="checkbox"/>	Determine which types of Personal Protective Equipment are best for your various worker types. For information on suggested Personal Protective Equipment use, see: Alberta Pandemic Plan	<ul style="list-style-type: none"> • In a crisis, will your province recognize an operator's certification from another province?
<input type="checkbox"/>	Consider plans to increase number of employees who work from home. Ensure IT system can support this action.	<ul style="list-style-type: none"> • Have you cross-trained non-essential workers to perform essential jobs temporarily in an emergency?
<input type="checkbox"/>	Develop a protocol (seek medical attention, stay away from work, notify supervisor) for employees to follow if they contract the virus, show symptoms, or have ill family members.	<ul style="list-style-type: none"> • Could you employ off-site work options for part of your staff (e.g., business office staff)?
<input type="checkbox"/>	Consider implementing a process to screen employees and visitors at the entrances to your critical facilities.	<ul style="list-style-type: none"> • Should you enhance your worksite's cleaning procedures, especially in wastewater utilities, see Alberta Pandemic Plan? • How do you fund the costs associated with stocking worker protection items such as Personal Protective Equipment? • What impacts will Personal Protective Equipment use have on worker productivity (e.g., can you use Personal Protective Equipment when performing your utility's heavy physical labor)? • Have you established a process for your occupational health nurse to follow up on sick employees? • Have you considered closing or restricting use of non-critical common areas, such as exercise rooms and cafeterias? • Have you considered the need or the ability to completely separate staff and customers/visitors while performing all functions?

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ACTION: Identify Human Resources and protective actions to sustain essential workforce.	
<p>√ SUPPORTING ACTIONS</p> <ul style="list-style-type: none"> <input type="checkbox"/> Assess standard water and wastewater utility Human Resources policies and procedures. <input type="checkbox"/> Develop additional Human Resources policies specific to pandemic influenza response. <input type="checkbox"/> Identify likely legal considerations that may arise from these new Human Resources actions. <input type="checkbox"/> Develop plans and procedures that provide support and assistance to employees' families. <input type="checkbox"/> Provide regular communication to all staff on the latest health advisories and pandemic influenza-related recommendations. 	<p>QUESTIONS TO CONSIDER</p> <ul style="list-style-type: none"> • Have you adapted existing and/or developed new sick leave policies to support ill workers and workers with ill family members (Alberta Pandemic Plan)? • Have you met with unions and other Human Resources groups on implementing new policies temporarily? • Have you communicated with workers and their families about potential Human Resources policy changes? • Have you identified possible actions to help reduce potential abuse of the leave policies you have adapted to account for the possible extended absences by employees? • Have you identified legal and business effects from employing emergency Human Resources policies (e.g., costs associated with leave policies)? • Have you considered prescreening essential staff to gauge their willingness to receive antiviral medications and/or vaccines given the potential side effects? • Have you considered relevant laws that govern extended leave for employees?

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ESSENTIAL INTERDEPENDENCIES

When a pandemic influenza strikes, it will affect nearly every sector of our society, including health care, energy, transportation systems, workplaces, schools, public safety, and more. Successful preparedness and response will require a coordinated nation-wide effort, including federal, provincial, local governments and the private sector. To facilitate a swift response and recovery to a pandemic influenza outbreak, the water and wastewater sector must identify and be able to sustain its essential interdependencies within and across sectors. Interdependencies requiring advanced coordination include support from other utilities, businesses, government agencies, as well as essential goods and services, including, but not limited to, electricity, fuel, telecommunications and transportation.

ACTION Identify the interdependent relationships and take actions to sustain this essential support.

√	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/>	Assess your external cross-sector essential service support requirements.	<ul style="list-style-type: none"> • What other sectors (e.g., Communications, Energy, Food & Agriculture, and Transportation) are you most reliant on to sustain your critical operations, and what have you done to assess and enhance those relationships for pandemic influenza response? • What customers are most dependent on your water and wastewater operations, and what should you do to support them? • Do all water systems in your region have adequate stockpiles of materials and cross-trained personnel on hand to reduce potential demands for emergency interdependent support? • Can you reduce your utility's vulnerability and reliance on municipal and cross-sector support (e.g., installing multiple electrical feeds and generation sources to backup your electrical supply)? • Are you part of your community's pandemic influenza planning and preparedness process? • Have you integrated your pandemic influenza plans with government and cross-sector plans? • Do you participate in public and private pandemic influenza planning and response training exercises?
<input type="checkbox"/>	Assess capability of Water and Wastewater Agency Response Networks (e.g. AbWARN – see below), as well as other informal mutual aid and assistance networks in order to reduce vulnerabilities.	
<input type="checkbox"/>	Collaborate with public/private partners, such as provincial/Alberta Health Services and first responders, who support and rely on you.	
<input type="checkbox"/>	Consider developing joint operational plans with service providers, suppliers, and customers.	
<input type="checkbox"/>	Assess capability for ensuring microbiological samples will be transported to ProvLab within time requirements	
<input type="checkbox"/>		

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REGULATORY ISSUES

In response to an influenza pandemic, the government may provide direct support in the form of vaccines, antiviral medications, and personal protection supplies for essential workers; priority and clearances for a business' supply deliveries; on-site public safety and physical security augmentation. Indirect support may come from governmental relief such as waivers for key regulatory issues specific to a sector. It is important to clearly understand that currently utilities should not consider possible relief and/or waivers from regulatory requirements in their pandemic influenza planning. However, early discussions with your regulatory officials can best identify issues that may need to be addressed during a pandemic influenza.

ACTION Identify Federal, Provincial and local regulatory requirements that may affect utility operations.

√	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Identify regulations that, if temporarily modified, would reduce impacts on your critical functions, resources, and workers.</p> <p>Coordinate possible regulatory constraints and relief options with provincial regulators.</p> <p>Communicate potential relief actions in advance to workers, supporting businesses, and customers.</p>	<ul style="list-style-type: none"> • Are there direct or indirect impacts on utilities from quality and safety requirements (e.g., maximum quantity of hazardous chemicals on-site) or other government actions (e.g., government imposed travel restrictions) that may be detrimental in a pandemic influenza? • What are the available legal options regarding temporary waivers on water quality (e.g., increased turbidity and/or “boil water” orders)? • What temporary waivers may help with water quantity options affecting customer usage (e.g., limited hours, reduced holding tank volume)? • Do you have permission from a province wide/federal-level authority to adjust water/wastewater standards? • What other issues may arise from temporarily modifying safety procedures?

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IMPACTS FROM COMMUNITY MITIGATION STRATEGIES		
To reduce impacts from a pandemic influenza outbreak, federal, provincial, First Nations and local government authorities, in addition to private entities, may implement a variety of strategies, including: voluntary isolation, voluntary home quarantine, school closures, and social distancing of adults in the community and workplace. The public health and social distancing strategies may ultimately contain the disease and may reduce the risk of infection and loss of life, but they also will have significant consequences for utilities and private sector businesses that must be managed carefully. For more information on possible community mitigation strategies, see Alberta Pandemic Plan .		
ACTION Identify effects from mitigation strategies; take actions to reduce negative impacts.		
√	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Estimate effects of mitigation strategies on your utility.</p> <p>Consider the need to separate the workforce, establish independent locations, and/or preserve a clean work site.</p> <p>Determine the strategies that your community may/can employ.</p> <p>Discuss with workers the potential impacts of strategies.</p> <p>Familiarize yourself with your community's pandemic planning trigger points and the Alberta Pandemic Plan that to determine the timing and use of mitigation interventions.</p> <p>Ensure that all access to sites requiring third-party participation will remain viable</p> <p>Ensure that access to facilities by third parties is agreed and appropriately controlled.</p>	<ul style="list-style-type: none"> • What impacts may the strategies have on increasing your worker absentee rates due indirectly to the disease (e.g., how will it affect your workers if schools/daycare facilities close for weeks at a time)? • What are the costs associated with expanding your sick leave policies to support home isolation and quarantine? • What workplace social distancing measures can you implement (e.g., work-at-home options, split working/meal shifts, reduced travel, and increased use videoconferencing and teleconferencing)? • How can you survey your employees to identify who may need to stay home, telework, or work an alternate schedule to care for children because they are dismissed from school or childcare? • Have you met with your local leaders on the timing of measures, alerts, and implementation they are considering for the community at-large as well as potentially for your business, and on the complementary triggers for your operational response? • What are the water and wastewater treatment demand changes when all schools and specific non-essential, places of assembly businesses close? • Have you integrated in your pandemic influenza business continuity plans adequate processes to monitor and support your workers' families in order to decrease worker absentee rates?

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Alberta Water/Wastewater Agency Response Network (AbWARN)

Mission

The mission of the Alberta Water/Wastewater Agency Response Network (AbWARN) is to support and promote a province-wide emergency preparedness, disaster response, and mutual assistance program for public and private water and wastewater utilities.

Organization

AbWARN Leadership team members from public and private water and wastewater utilities met in September 2007. In the future each member of AbWARN who chooses to sign the Mutual Aid Agreement will be provided with an updated list of emergency contacts and a list relevant to the size and operation of their utility that references resources available in the event of crisis or disaster.

Purpose

AbWARN provides member utilities with:

- A mutual assistance agreement and process for sharing emergency resources among members.
- The resources to respond and recover more quickly from a disaster.
- A network for developing and maintaining emergency contacts and relationships.
- A forum to share new ideas and lessons learned from disasters.

There is no cost to join AbWARN. The costs of maintaining the website and administrative expenses are currently covered by The City of Calgary Water Services and Water Resources Business Units.

AbWARN history

In 2003, The City of Calgary, Water Services division, the Alberta Emergency Management Agency and Public Safety Canada joined forces because they saw a need for improving emergency preparedness/response in the water sector. The result of this collaboration

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was the development of a provincial communications network: the Alberta Water/Wastewater Agency Response Network (AbWARN).

In September 2007, AbWARN became the first website and communications network in Canada dedicated to ensuring emergency access to water and wastewater resources in the event of a disaster. Similar groups in the United States and Australia agree that events such as 9/11, the 1994 Northridge earthquake, the 1997 Red River flood, the 2005 southern Alberta floods and hurricane Katrina proved the need for mutual aid and assistance programs in water and wastewater utilities because:

- Utilities require specialized resources to sustain operations;
- Government response agencies and other critical infrastructures rely on water and wastewater facilities;
- Utilities must provide their own support until provincial and federal resources are available; and
- Agreements and contacts must be established **before** the event.

Benefits of becoming an AbWARN member

AbWARN provides member utilities with:

- A Mutual Aid Agreement (MAA) and a process for sharing emergency resources among members.
- 24/7 access to resources in order to respond and recover more quickly from a disaster.
- A forum for developing and maintaining emergency contacts and relationships.
- A forum for sharing new ideas and lessons learned from disasters.

AbWARN members

There is no cost to join AbWARN. Members who sign the Mutual Aid Agreement are given an updated list of emergency contacts, plus a list relevant to the size and operation of their utility that references available resources. The agreement is available to all Canadian public and private water and wastewater utilities and related government agencies.

For more information about membership or the AbWARN program, contact:

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Application for Conditional Certification (Operator Certification Program)

This is a separate document if you are viewing this as hard copy. The pdf version of the application form is embedded below.



Conditional
downloadable.pdf (..

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