

# PANDEMIC INFLUENZA

## Preparedness, Response, and Recovery

### GUIDE FOR CRITICAL INFRASTRUCTURE AND KEY RESOURCES



Homeland  
Security

Annex:  
Water and Wastewater  
Sector Pandemic  
Guideline



## ANNEX: Water and Wastewater Sector Pandemic Influenza Planning Guidelines

**Purpose:** This Sector-specific guideline is an annex to the *Pandemic Influenza Preparedness, Response, and Recovery Guide for Critical Infrastructure and Key Resources* (CI/KR Pandemic Influenza Guide) and intends to assist water and wastewater utilities in planning for a catastrophic influenza pandemic. Utilities that fail to prepare for such a prolonged catastrophic event may find themselves without the staff, equipment, or supplies necessary to continue providing safe drinking water or treating wastewater for their community. For a copy of the complete guide, see [www.pandemicflu.gov/plan/pdf/cikrpandemicinfluenzaguide.pdf](http://www.pandemicflu.gov/plan/pdf/cikrpandemicinfluenzaguide.pdf).

**How to Use Guidelines:** The guideline serves as a non-prescriptive reference for owner-operators and a practical tool 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 and emergency response plans and/or the CI/KR Pandemic Influenza Guide's comprehensive framework for pandemic catastrophic planning.** This annex addresses the major challenges the Water and Wastewater Sector may face and should assess in its pandemic influenza planning within the seven key areas of vulnerability highlighted in blue boxes in the Guideline. In addition, there are other valuable influenza pandemic planning resources available for the Water and Wastewater Sector that should be considered, including the Association of Metropolitan Water Agencies' "*Business Continuity Planning in the Event of an Influenza Pandemic: A Reference Guide*" ([www.amwa.net/cs/pandemicreference](http://www.amwa.net/cs/pandemicreference)) and the National Rural Water Association's "*Small System Pandemic Influenza Checklist*" ([www.nrwa.org](http://www.nrwa.org)). 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:** Influenza pandemics are unpredictable events; it is impossible to forecast their characteristics or severity accurately. The Centers for Disease Control and Prevention define a severe pandemic influenza as a Category 4 or 5 with case fatality ratio of 1 percent or higher. Given today's highly mobile population, if a severe pandemic influenza emerges, outbreaks may occur nearly simultaneously across the country making reallocation of resources more difficult than in other emergencies. Therefore, each sector must rely primarily on its own internal resources and workers, for protection (including security) and response. While an influenza pandemic will likely affect a given community for six to eight weeks, nationally a wave may linger for up to 12 weeks. Thus, even though a community outbreak may have subsided, businesses in those communities that depend on a national supply chain may find themselves without the necessary materials, supplies, and workforce because other communities across the country may still be affected by an outbreak. The guidance, which is based on disease impact assumptions ([pandemicflu.gov/plan/pandplan.html](http://pandemicflu.gov/plan/pandplan.html)) from the CDC, includes the following:

- *Susceptibility to the pandemic influenza virus will be universal.*
- *Once sustained person-to-person transmission begins, the disease will spread rapidly around the globe.*
- *The clinical disease attack rate will likely be 30 percent or higher in the overall population during the pandemic.*
- *Rates of absenteeism will depend on the severity of the influenza pandemic. In a severe influenza pandemic, absenteeism attributable to illness, the need to care for ill family members and fear of infection may reach 40 percent during the peak weeks of a community outbreak.*
- *Epidemics will last 6-8 weeks in affected communities.*
- *Multiple waves (periods where community outbreaks strike across the country) will likely occur with each lasting 2-3 months..*

For detailed information on the complete set of planning assumptions and the influenza pandemic context, see Section 3 of the CI/KR Pandemic Influenza Guide and the other Federal guidance at [www.pandemicflu.gov](http://www.pandemicflu.gov).



## ESSENTIAL SERVICES, FUNCTIONS, AND PROCESSES

Industries in every sector of the American economy will experience influenza pandemic impacts. The Water and Wastewater sector will play a key role in keeping one of America'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.

<b>ACTION</b>	<b>Identify and assess your system's essential services, functions, and processes.</b>	
✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/>	Maintain all essential services, functions, and processes necessary to keep systems running.	<ul style="list-style-type: none"> <li>• Assume your treatment facility is off-line. Have you engaged local and state 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?</li> <li>• 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)?</li> <li>• What essential business functions (such as billing, payroll, treatment and transmission) and processes must you sustain to produce, distribute, and maintain essential services, functions, and processes?</li> <li>• Have you communicated with your critical customers and suppliers the need to jointly plan for an influenza pandemic?</li> <li>• 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)?</li> </ul>
<input type="checkbox"/>	Identify key customers (i.e., first responders and hospitals) with specific needs.	
<input type="checkbox"/>	Prioritize your critical customers based on their value to the community.	
<input type="checkbox"/>	Prioritize essential services and functions given their value to essential customers and the community.	
<input type="checkbox"/>	Identify and prioritize potential non-essential functions you can suspend, and prioritize essential functions for possible authorized reduction/suspension.	

## 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.

<b>ACTION</b>	<b>Review equipment critical to support each essential function.</b>	
✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/>	Identify equipment that must operate continuously and/or at key periods to sustain essential functions and processes.	<ul style="list-style-type: none"> <li>• How can you modify equipment and processes temporarily to maintain essential functions?</li> <li>• 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?</li> </ul>



<input type="checkbox"/> Plan to rely on in-house or available local resources for up to 12 weeks. <input type="checkbox"/> Consider using an Asset Management tool or other similar tools to inventory your critical equipment. <input type="checkbox"/> Review the utility's primary and supporting components to identify potential single-point failures and cascading consequences. <input type="checkbox"/> Consider how each action relates to those developed to address other emergencies in your existing business contingency plans. <a href="http://www.epa.gov/safewater/watersecurity/pubs/small_medium_ERP_guidance040704.pdf">www.epa.gov/safewater/watersecurity/pubs/small_medium_ERP_guidance040704.pdf</a>	<ul style="list-style-type: none"> <li>• How will you maintain and repair essential equipment given potential supply chain issues?</li> <li>• Is similar substitute equipment available locally to sustain utility operations temporarily (e.g., portable pumps and generators)?</li> <li>• Do you have physical interconnections with other water systems and have you tested these connections and systems?</li> <li>• 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?</li> <li>• Have you developed standard operating procedures for your processes and equipment, and, if so, have you distributed them broadly to managers and staff?</li> <li>• Do you have pre-established contracts with multiple equipment vendors for emergency replacement and repair during an influenza pandemic?</li> </ul>
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<b>ACTION</b> Prepare to sustain essential equipment for a wave lasting up to 12 weeks.		
	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
✓	<input type="checkbox"/> Prioritize the options available to you to reduce demands on your resources. <input type="checkbox"/> Assess recurring and preventative maintenance requirements. <input type="checkbox"/> Assess implications if your essential equipment fails early on during the influenza pandemic outbreak. <input type="checkbox"/> 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.	<ul style="list-style-type: none"> <li>• Is there excess operational capacity in your utility's essential equipment to sustain functions while alternating and reducing demands on specific equipment and workers?</li> <li>• Do you have replacements available for all essential equipment either on-site or locally?</li> <li>• Is your regular routine maintenance on your essential equipment up-to-date, and how much routine maintenance is required for this equipment?</li> <li>• 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)?</li> <li>• Can you defer or accelerate scheduled maintenance on short notice?</li> <li>• Can suppliers ensure priority delivery of replacement parts for assets during an extended influenza pandemic wave; how will this be accomplished?</li> <li>• Can you maximize use of equipment/processes that can function via remote access?</li> </ul>



## 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 adjusters, 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"> <li>• 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?</li> <li>• 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)?</li> <li>• 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)?</li> <li>• What happens if your supply chain cannot provide critical materials or supplies?</li> <li>• How will you know if your supply chain businesses may be experiencing or are anticipating difficulty in providing goods/services?</li> <li>• Have you researched the possibility and feasibility of using alternative technologies/equipment requiring different, more easily accessible supplies?</li> </ul>
<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.	

**ACTION Determine the most effective ways to ensure an adequate supply of essential materials.**

✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/>	Assess costs to procure, stock, and/or ensure delivery of essential materials.	<ul style="list-style-type: none"> <li>• 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)?</li> <li>• How many days supply are typically on-site for all critical chemicals, fuels, and others?</li> <li>• If supply chains are disrupted how will you obtain the necessary materials to continue operations for the duration of an influenza pandemic wave?</li> <li>• Is there adequate space on-site to safely expand storage of chemicals and supplies temporarily if necessary?</li> <li>• Are warehouses or storage containers available locally on short notice?</li> <li>• Are critical workers authorized to independently make purchases via credit card or open</li> </ul>
<input type="checkbox"/>	Identify physical or safety limitations in stocking sufficient critical supplies locally.	
<input type="checkbox"/>	Identify a formal chain of command to ensure someone is available to authorize major emergency procurements.	
<input type="checkbox"/>	Identify additional security needs for increased high-value material stockpiles.	



<input type="checkbox"/> Identify potential 1st/2nd/3rd-order vulnerabilities or unintended effects to supply chain (i.e., who supplies your suppliers?). <input type="checkbox"/> Coordinate with all supply-chain vendors.	<p>purchase order?</p> <ul style="list-style-type: none"> <li>• 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)?</li> <li>• Have you integrated your planning with your local/regional suppliers to ensure receiving priority support?</li> <li>• 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)?</li> </ul>
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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 percent. 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 PPE 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: state certified water and wastewater treatment utility operators; distribution system operators; collection system operators; maintenance/repair specialists; laboratory technicians; electrical and SCADA technicians; business support; and supervisors.

<b>ACTION Identify the types and numbers of workers critical to sustain essential functions.</b>		
✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
	<input type="checkbox"/> Identify essential workers based on ability to sustain essential equipment and functions. <input type="checkbox"/> Define the roles and responsibilities of employees, labor organizations, staff, supervisors, managers, and staff medical personnel during an influenza pandemic. <input type="checkbox"/> Assess requirements based on operational demands for essential workers (e.g., 24-hour manual intensive vs. SCADA managed systems). <input type="checkbox"/> Assess impacts from an extended absence by essential workers. <input type="checkbox"/> Assess your options to obtain contractor backup support on essential operations and determine how quickly that can be started.	<ul style="list-style-type: none"> <li>• Have you identified the workers who are essential to sustain the essential functions and equipment necessary to produce your most essential goods and services?</li> <li>• 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)?</li> <li>• What different challenges do you face with modifying standard tasks and/or supporting or replacing full-time versus part-time or seasonal employees?</li> <li>• 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)?</li> <li>• What are the different workforce challenges for on-site vs. off-site and full vs. part-time contractors to perform essential functions?</li> <li>• 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?</li> </ul>



**ACTION Identify policies and procedures to protect and sustain workers during an influenza pandemic.**

✓	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"/> <input type="checkbox"/>	<p>Reduce demands on essential workers who are on the front lines of defense in maintaining and restoring a community's utilities.</p> <p>Temporarily augment essential worker ranks.</p> <p>Coordinate with State officials on using non-certified workers during a pandemic influenza.</p> <p>Emphasize worker and workplace disease control and protection. For more information, see: <a href="http://www.pandemicflu.gov/plan/workplaceplanning/index.html">www.pandemicflu.gov/plan/workplaceplanning/index.html</a>.</p> <p>Determine which types of PPE are best for your various worker types. For information on suggested PPE use, see: <a href="http://www.osha.gov/Publications/influenza_pandemic.html">www.osha.gov/Publications/influenza_pandemic.html</a>.</p> <p>Consider plans to increase number of employees who work from home. Ensure IT system can support this action.</p> <p>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.</p> <p>Consider implementing a process to screen employees and visitors at the entrances to your critical facilities.</p>	<ul style="list-style-type: none"> <li>• 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)?</li> <li>• Have you considered the possibility of sending home non-essential staff to reduce the chance for disease introduction and transmission?</li> <li>• Have you considered the need and conditions for more extreme measures, such as sequestering on-site the most essential staff?</li> <li>• Will your State allow certification waivers to perform essential jobs temporarily?</li> <li>• In a crisis, will your State recognize an operator's certification from another State?</li> <li>• Have you cross-trained non-essential workers to perform essential jobs temporarily in an emergency?</li> <li>• Could you employ off-site work options for part of your staff (e.g., business office staff)?</li> <li>• Should you enhance your worksite's cleaning procedures, especially in wastewater utilities (<a href="http://www.osha.gov/Publications/influenza_pandemic.html">www.osha.gov/Publications/influenza_pandemic.html</a>)?</li> <li>• How do you fund the costs associated with stocking worker protection items such as PPE?</li> <li>• What impacts will PPE use have on worker productivity (e.g., can you use PPE when performing your utility's heavy physical labor)?</li> <li>• Have you established a process for your occupational health nurse to follow up on sick employees?</li> <li>• Have you considered closing or restricting use of non-critical common areas, such as exercise rooms and cafeterias?</li> <li>• Have you considered the need or the ability to completely separate staff and customers/visitors while performing all functions?</li> </ul>

**ACTION Identify Human Resource (HR) and protective actions to sustain essential workforce.**

✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Assess standard water and wastewater utility HR policies and procedures.</p> <p>Develop additional HR policies specific to pandemic influenza response.</p> <p>Identify likely legal considerations that may arise from these new HR actions.</p>	<ul style="list-style-type: none"> <li>• Have you adapted existing and/or developed new sick leave policies to support ill workers and workers with ill family members (<a href="http://www.pandemicflu.gov/plan/community/commitigation.html">www.pandemicflu.gov/plan/community/commitigation.html</a>)?</li> <li>• Have you met with unions and other HR groups on implementing new policies temporarily?</li> <li>• Have you communicated with workers and their families about potential HR policy changes?</li> <li>• 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?</li> </ul>



<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.	<ul style="list-style-type: none"> <li>• Have you identified legal and business effects from employing emergency HR policies (e.g., costs associated with leave policies)?</li> <li>• Have you considered prescreening essential staff to gauge their willingness to receive antiviral medications and/or vaccines given the potential side effects?</li> <li>• Have you considered relevant Federal, State, or local laws (e.g., FMLA <a href="http://www.dol.gov/esa/whd/fmla/">www.dol.gov/esa/whd/fmla/</a>) that govern extended leave for employees?</li> </ul>
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### ESSENTIAL INTERDEPENDENCIES

When a pandemic influenza strikes, it will affect nearly every sector of our society, not just health care, but energy, transportation systems, workplaces, schools, public safety, and more. Successful preparedness and response will require a coordinated nation-wide effort, including Federal, State, local governments and most importantly 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.

<b>ACTION</b>	<b>Identify the interdependent relationships and take actions to sustain this essential support.</b>	
✓	<b>SUPPORTING ACTIONS</b>	<b>QUESTIONS TO CONSIDER</b>
<input type="checkbox"/> Assess your external cross-sector essential service support requirements. <input type="checkbox"/> Assess capability of Water and Wastewater Agency Response Networks (WARNs), 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 State/local health authorities and first responders, who support and rely on you. <input type="checkbox"/> Consider developing joint operational plans with service providers, suppliers, and customers.	<ul style="list-style-type: none"> <li>• What other sectors (e.g., Communications, Energy, Food &amp; 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?</li> <li>• What customers are most dependent on your water and wastewater operations, and what should you do to support them?</li> <li>• 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?</li> <li>• 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)?</li> <li>• Are you part of your community's pandemic influenza planning and preparedness process?</li> <li>• Have you integrated your pandemic influenza plans with government and cross-sector plans?</li> <li>• Do you participate in public and private pandemic influenza planning and response training exercises?</li> </ul>	





## 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	<b>Identify Federal, State, and local regulatory requirements that may affect utility operations.</b>	
✓	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 Sector Coordinating Council (SCC) officials.</p> <p>Communicate potential relief actions in advance to workers, supporting businesses, and customers.</p>	<ul style="list-style-type: none"> <li>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?</li> <li>What are the available legal options regarding temporary waivers on water quality (e.g., increased turbidity and/or "boil water" orders)?</li> <li>What temporary waivers may help with water quantity options affecting customer usage (e.g., limited hours, reduced holding tank volume)?</li> <li>Do you have permission from a statewide/federal-level authority to adjust water/wastewater standards?</li> <li>What other issues may arise from temporarily modifying safety procedures?</li> </ul>

## IMPACTS FROM COMMUNITY MITIGATION STRATEGIES

To reduce impacts from a pandemic influenza outbreak, Federal, State, tribal, 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 [www.pandemicflu.gov/plan/community/commitigation.html](http://www.pandemicflu.gov/plan/community/commitigation.html), particularly Appendix 4, and Section 3 of the *CI/KR Pandemic Influenza Guide*.

ACTION	<b>Identify effects from mitigation strategies; take actions to reduce negative impacts.</b>	
✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/>  <input type="checkbox"/>	<p>Calculate effects of Community Mitigation Strategies (<a href="http://www.pandemicflu.gov/plan/community/commitigation.html">www.pandemicflu.gov/plan/community/commitigation.html</a>) on your utility.</p> <p>Consider the need to separate the workforce, establish independent locations, and/or preserve a clean work site.</p>	<ul style="list-style-type: none"> <li>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)?</li> <li>What are the costs associated with expanding your sick leave policies to support home isolation and quarantine?</li> <li>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)?</li> </ul>



<ul style="list-style-type: none"><li><input type="checkbox"/> Determine the strategies that your State/community may/can employ.</li><li><input type="checkbox"/> Discuss with workers the potential impacts from strategies.</li><li><input type="checkbox"/> Familiarize yourself with your community's pandemic planning trigger points and the CDC's Pandemic Severity Index that to determine the timing and use of mitigation interventions. For more, see: <a href="http://www.pandemicflu.gov/plan/community/commitigation.html#IV">www.pandemicflu.gov/plan/community/commitigation.html#IV</a>.</li></ul>	<ul style="list-style-type: none"><li>• 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?</li><li>• 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?</li><li>• What are the water and wastewater treatment demand changes when all schools and specific non-essential, places of assembly businesses close?</li><li>• 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?</li></ul>
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For more useful pandemic preparedness information, including a PDF copy of the complete ***Pandemic Influenza Preparedness, Response, and Recovery Guide for Critical Infrastructure and Key Resources***, visit [www.pandemicflu.gov](http://www.pandemicflu.gov) or email your questions to [dhspandemic@dhs.gov](mailto:dhspandemic@dhs.gov).