NEW YORK STATE DEPARTMENT OF HEALTH
Bureau of Water Supply Protection

Environmental Assessment of Water Systems in Healthcare Settings

1. Type of Assessment (check as appropriate)

☐ On-site assessment ☐ Telephone assessment ☐ Mailed/emailed prior to telephone conference

2. Information about the person doing the assessment

Name _____

Job title _____

Facility name _____

PFI (Permanent Facility Identifier) _____

Facility address _____

_____

_____

Date of assessment _____

3. Contact information

Telephone number (work and/or cell) _____

FAX number _____

Email _____

Instructions and Notes to the User (*please read*)

Please complete this form and keep it with your records. You do not need to submit it to NYSDOH. You will need to produce this form at the request of NYSDOH as part of a routine inspection or during the investigation of an outbreak.

This information collection tool may be used where a thorough understanding of the potable water system of a healthcare facility is needed during a public health investigation. It can be used by a hospital multi-disciplinary group that includes: a hospital epidemiologist, infection control practitioner, engineer, facility manager or other individual(s) engaged in efforts to reduce the risk of legionellosis associated with the facility. It may also be used to assist the facility in efforts to minimize the risk of legionellosis in the absence of evidence of human disease or when a facility is reviewing/implementing the NYSDOH guidance document on hospital-associated legionellosis. It should be completed in as much detail as possible. Some information requested by the tool may not be applicable for every healthcare facility.

For very large, complex healthcare facilities, completing the form may take several hours. Please keep in mind that this initial investment of time is quite important and will be a time-saving device during periodic re-assessments. If follow-up with the facility is needed in subsequent months or years, the information contained in this form will be very valuable. ***Please do not leave sections blank. If a question doesn't apply, write N/A. If a question can't be answered please explain why.*** Where applicable, please specify the unit of measurement being used (e.g., ppm). It is recommended that if you are completing the form electronically, you use a different font and/or italics for your answers. This will make the form much easier to read if additional information is added in the future to an existing form.

A. Facility Characteristics

1. Number of buildings (including the main facility) that share:
   a. water systems with the facility _____
   b. air systems with the facility _____
2. Number of Intensive Care Unit beds (including surgery, coronary care, etc.) _____
3. Does the facility have a solid organ transplant program? ☐ Yes ☐ No
4. Does the facility have a bone marrow transplant program? ☐ Yes ☐ No
5. Type of healthcare setting (check all that apply): ☐ Acute care hospital ☐ Long-term care facility ☐ Outpatient surgical center ☐ Assisted living facility
6. Organization that owns this facility is: ☐ Public ☐ Private ☐ Veterans Administration ☐ Other (explain) _____
7. Description of **each** building that shares water or air systems with the facility (and including the main facility):

Building Name	Original Construction	Later Construction	Stories	Sq. feet	Beds	Census	Use
List main facility first	Year completed	(renovation, expansion)				(yr. avg.)	List all types of care and/or specify other use
		From/To or N/A	#	Ft^2	# or NA	#/day or NA	I = Inpatient=I O = Outpatient B = Both ICU = Intensive Care Tx = Transplant

8. Can windows in patient rooms be opened? ☐ Yes ☐ No

   Are any cooling towers visible from the rooms where patient windows can be opened? Please describe:

9. Are there decorative fountains, water features, room humidifiers, centralized humidification (e.g. on air-handling units) or any other aerosol-generating devices anywhere on the facility premises? ☐ Yes ☐ No

   If **yes,** please describe and indicate their location and operation:.

10. Are there therapeutic whirlpools/spas on-site? ☐ Yes ☐ No

    If **yes,** is there a written protocol for cleaning and regular service? Please describe:

11. Has this facility experienced previous Legionnaires' disease cases that were 'possibly' or 'definitely' facility acquired? ☐ Yes ☐ No

    If **yes,** please describe (e.g., number of cases, dates):

12. Does the facility have a surveillance program for Legionnaires' disease? ☐ Yes ☐ No

    If **yes,** please describe:

13. Does the facility have an environmental program for Legionella prevention? ☐ Yes ☐ No

    If **yes,** please describe (prevention/surveillance, etc.):

14. Does the facility regularly test the fire protection system (i.e. sprinkler head flow tests)? ☐ Yes ☐ No

    If **yes,** how often?

    What precautions are taken to protect staff and patrons from aerosols during testing of sprinkler heads?

B. Outside water supply

1. What is the source of the water used by the facility? *(Check all that apply)*

   ☐ Public water supply ☐ Well ☐ Other _____

If the facility is served by a public water supply, please answer the remaining questions (2 through 4 below), otherwise skip to section C.

2. Name of supplier
3. How is municipal water disinfected?

   ☐ Chlorine ☐ Monochloramine ☐ Other_____ ☐ Don't Know
4. Has treatment of the public water supply changed in the last six months? _____ ☐ Yes ☐ No

   If **yes,** specify _____

   _____

   _____

C. Design of the existing potable water system(s) [Note: A simplified schematic on a separate page and/or facility blueprints are useful for demonstrating the design including number or supply laterals from the public water supply, number and location of risers, whether a water system is fed from the "bottom- up" or "top down", etc.]

1. What type of heating system is used for the potable hot water system? *(Check all that apply)*

   ☐ Instantaneous heaters without storage of hot water ☐ Heaters with hot water storage tanks

   ☐ Other *(Please describe)* _____
2. How is the hot water system configured to deliver water to each building?

Building name	Type of system I = Instant H = Heater/boiler	Name of system (e.g., Boiler #1, Loop #1)	Date of installation	Total capacity (gallons)	Usual temperature setting (°F/°C)

3. Is there a recirculation system for the hot water? ☐ Yes ☐ No

If **yes,** please describe (including delivery and return temperatures) _____

_____

_____

4. If you use storage tanks for heated water how and when are the tanks serviced? _____

_____

_____

5a. What is the lowest documented HOT water temperature measured at any point within the facility? _____

_____ °F or _____ °C

When were these measurements made (Month/Date/Year)? _____ /_____ /_____

5b. What is the highest documented COLD water temperature measured at any point within the facility? _____

☐ None taken

_____ °F or _____ °C

When were these measurements made (Month/Date/Year)? _____ /_____ /_____

6. Are mixing valves used at a point after the water heater so that you can maintain higher heating/storage temperatures but deliver at a safe temperature? ☐ Yes ☐ No

If **yes,** describe the heating/storage temperature and the delivered mixed hot water temperature. _____

_____

_____

7. Are thermostatic mixing valves used anywhere in patient care areas? ☐ Yes ☐ No

If **yes,** where? *(Please describe)* _____

_____

_____

8. Does the facility have a water softener on site? ☐ Yes ☐ No

If **yes,** please describe *(Include routine service)* _____

_____

_____

9. Are the potable hot and cold water free chlorine levels measured? ☐ Yes ☐ No

If **yes,** how often? _____

If yes, what is the range of residuals (ppm or mg/l) in each system? _____

_____

_____

10. Does staff monitor the main inlet (cold water) free chlorine levels? ☐ Yes ☐ No

If **yes,** how often? _____

Concentration? (ppm or mg/l) _____

11. Ice Machines

Ice Machine Manufacturer	Model and/or Name	Location	Does this machine have a stainless steel filter*?	Does this machine use a pleated or wound-fiber cartridge filter*?	Other pre-filters or filters?*	Is this machine also a water dispenser?	Is this machine cleaned or disinfected regularly?	What is the normal period between cleanings?
		(floor, wing, unit)			(carbon, ceramic, etc.)**			

* When known please provide micron cut-off (that is, nominal or absolute pore size) for filters.

** Please specify if the filter is considered microbiological barrier of any kind (< 0.45 micron pore size cut-off).

12. During the past 12 months has the facility had supplemental potable water treatment aimed specifically at prevention of microbial contamination of water delivered to patient rooms? ☐ Yes ☐ No

If **yes,** what was done? *(Please describe):*

13. In the next 12 months, does the facility plan to install a supplemental potable water treatment aimed specifically at prevention of microbial contamination of water delivered to patient rooms? ☐ Yes ☐ No

If **yes,** what? *(Please describe):*

14. If **yes** to either question 12 or 13, please complete the following table:

Buildings where supplemental disinfection is installed or planned	Type of disinfection	Date installed or planned
	(Cl, Cu-Ag, ClO2, UV, O3, other)	

D. Cooling towers and evaporative condensers

1. Use the following table to list all cooling towers and evaporative condensers operated by the facility:

Name of device	Manufacturer	Water capacity	Tonnage	Drift eliminators used	Location of device	Distance to nearest air intake*/location of the air intake	Are cooling towers turned off at any time
(e.g., CT1, EC2)		(gallons)		(Y/N)	(rooftop, adjacent bldg., ground, etc.)		(Y/N) If yes, please include schedule

* intakes to air handling units (AHUs);

2. Recent (last 6 months) **special treatments, special maintenance** or repairs to cooling devices or air-handling units (for **routine** chemical treatments see #5 below):

Location	Name of device	Action taken	Date	Comments
	(e.g., CT1, EC2, AHU-1, etc.)			

3. What is the source of water for the cooling towers and evaporative condensers? *(Please specify)*: _____

4. List any routine chemical treatments used for your cooling towers, evaporative condensers or air-handling units (i.e. AHU pans, trays, fins or coils):

Location	Name of device	Chemical Treatments	Frequency*	Vendor/Consultant
	(e.g., CT1, EC2, AHU-1, etc.)			

* continuous, daily, weekly, irregular/intermittent

E. Construction and Water Service Events

1. **For recent (last 6 months) new construction (new building or new wing, rehabilitation or remodeling of existing structure).**
(Summarize the construction activities in the following table or attach a separate document):

New building/ wing name or remodeled area	Date construction began	Estimated date of completion	Date water service began or re-started*	Relationship to existing potable water system	Stories involved	Sq. feet	Used for patient care?	Type of patient care	Date patients began occupying new or rehabilitated building	Floors currently occupied by patients
Name or description; new or remodeled	Date	Date	Date	I = Independent E = Extension of existing system	#	Ft^2	Y/N	I = Inpatient=I O = Outpatient B = Both ICU = Intensive Care TX = Transplant	Date	#

*If remodeling or rehabilitation of existing structure please include water shut-down date and re-start date.

2. Was temporary water service provided to the construction area (e.g., separate meter used for new construction or remodeled/rehabilitated area)? ☐ Yes ☐ No ☐ N/A

   If **yes,** describe: _____

3. Has jackhammering or pile driving been used during any recent construction/remodeling/rehabilitation process? ☐ Yes ☐ No ☐ N/A

   If **yes,** describe (dates, location): _____

4. Do you have a Standard Operating Procedure (SOP) for shutting down, isolating, and refilling/flushing for water service areas that have been subjected to repair and/or construction interruptions? ☐ Yes ☐ No ☐ N/A

   If **yes,** please briefly describe the steps used in the SOP (attach copy if possible): _____

5. Has the potable water changed in terms of taste or color during any recent construction processes? ☐ Yes ☐ No ☐ N/A

   If **yes,** describe: _____

6. In the past 6 months have there been any interruptions of service, potable water malfunctions or nearby water main breaks or repairs? ☐ Yes ☐ No

   If **yes,** please describe including buildings that were affected, beginning and end dates of the event, etc.): _____

7. If **yes,** was any soil material introduced into the pipe(s) during these times? ☐ Yes ☐ No ☐ N/A

8. If **yes,** please describe any steps taken to remediate the water during and after the upset condition (water main break, loss of pressure): _____

9. Before occupying any new building space or new wing/ rehabilitated or remodeled area, was a commissioning/walk through process undertaken? ☐ Yes ☐ No

10. If yes, describe (that is, who performed the commissioning/walk through, when was it completed, etc.): _____

11. Is a commissioning/walk through report available for review? ☐ Yes ☐ No

F. Additional Comments

G. Supplemental information

- Please include a premise water system process flow diagram (piping, floor plan, building plan).
- If available, please provide a diagram showing the locations of cooling towers, water fountains and decorative water displays.
- List any additional information requested by NYSDOH (**Note:** During a conference call or telephone consultation, list the information that was requested from the facility manager, consultant or vendor. **For example:** Water quality data such as temperature, pH and chlorine residual; service records for cooling towers, water softeners, hot water heaters or similar devices; SOPs for system service; etc.).