



## Markham Distribution System DWQMS SYSTEM-LEVEL DOCUMENT

Title: Emergency Management		Control Number: SLD 18
Revision: 3.0	Effective Date: December 1, 2010	Section: Waterworks
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### 1.0 Purpose

This procedure documents the Waterworks processes related to emergency management.

### 2.0 Scope

Emergency management applies to all Town of Markham business practices that relate to the distribution of safe drinking water, and to all personnel involved in these processes.

### 3.0 Definitions

- An *emergency* is a potential situation or service interruption that may result in the loss of the ability to maintain a supply of safe drinking water to consumers.
- *Emergency management* means identifying events related to drinking water quality or supply that could lead to emergencies, and having procedures and processes to prepare for, respond to and recover from those emergencies.
- *Emergency response* refers to the effort to mitigate the impact of an emergency on consumers.
- BWA – Boil Water Advisory
- DWA – Drinking Water Advisory
- RMOH - Regional Medical Officer of Health
- Operational Top Management – General Manager Waterworks, Manager of Information Management System, Manager of System Engineering, Manager of Infrastructure, Manager of Operations & Maintenance, QMS Controller, Training Coordinator
- ORO – Overall Responsible Operator
- Corporate Top Management – CAO, Commissioner of Community & Fire Services, Director of Operations, General Manager Waterworks
- Sustained Adverse Water Quality – When an Adverse Water Quality Incident (AWQI) occurs, the Town is required to complete remedial action. This remedial action usually involves taking additional samples

and/or flushing and sampling of chlorine residual in the field. If the result of the corrective action taken by the Town continues to be adverse, the AWQI shall be deemed to be a Sustained AWQI.

## **4.0 Procedure**

The Operational Top Management shall be responsible for the application of the process and procedures explained in this document.

### **4.1 List of Emergency Situations**

As a result of the risk assessment, the Operational Top Management shall identify potential situations that are considered emergencies, and keep this information up to date. These situations are listed below:

- Sustained adverse water quality in the distribution system
- Vandalism or acts of terrorism
- Unplanned loss of system supply as per each level of emergency
- Watermain break (in critical location, such as single feed or trunk main, or multiple main break)
- Loss of source water supply

Waterworks shall recognize the need for a general awareness and emergency preparedness for any other unforeseen situation that could arise. The above situations shall be considered emergencies because they result in the need for resources over and above those required by the normal operation of Markham's water distribution system, or because there is a risk to Waterworks' ability to maintain a supply of safe drinking water to consumers.

In emergency response, Waterworks shall strive to identify and manage all potential consequences for drinking water emergencies. It shall not be sufficient to rectify the cause of an incident without regard to its total impact, since, in many cases, the secondary consequences of an incident can have a greater impact than the incident itself.

### **4.2 Emergency Response Training and Testing**

- 4.2.1 Emergency Response training shall be planned and recorded as per the **Competencies SOP**.
- 4.2.2 The QMS Controller and the Training Coordinator shall be responsible for planning, conducting, reviewing results, and recording the testing of all **Emergency Response SOPs**.
- 4.2.3 Emergency response testing may be in the form of desktop exercises and mock emergency situation exercises, where applicable.

#### 4.3 Emergency Response and Recovery

Emergency response SOPs shall address specific response, recovery and communication requirements, based on levels described below:

- Level 1 – Minor operational impact or interruption to service/system
  - Level 2 – Water quality affected
  - Level 3 – Immediate danger to health or property
  - Level 4 – Town-wide emergency
- 4.3.1 These levels of emergencies shall also be shown in the Waterworks Emergency Management Flow Chart.
  - 4.3.2 It shall identify the general steps that have to be followed by the first responder and the chain of command decisions, and refer to appropriate response SOPs for response and recovery information.

#### 4.4 Emergency Management Responsibilities

- 4.4.1 **Licenced Operator:** The licenced Operator shall make the first observation related to the emergency condition and shall initiate the required emergency response procedure. The timeliness of this person's actions has a significant influence on how well the emergency is addressed. It is possible that the Licenced Operator may be contacted by Contact Centre staff, Information Markham staff, Waterworks Administration staff, Fire Department Dispatch staff, or other Town staff.
- 4.4.2 **ORO:** The ORO shall act as the main point of contact and decision maker during a major incident affecting water quality or water supply. The ORO shall have the responsibility for:
  - Evaluating incoming information
  - Managing resources and staff

- Deciding appropriate response and recovery actions
- Coordinating emergency response efforts with external responders
- Follow-up and documentation of emergencies
- Communicating with other managers and/or Corporate Top Management, as per the emergency level

4.4.3 **Corporate Communications:** Communication with the media, customers and stakeholders is critical to the success of emergency response efforts, especially in the case of a Level 4 emergency. Corporate Communications staff shall assist the ORO and the Top Management of the Operating Authority in the preparation of materials such as public notices, press releases and media liaison. Corporate Communications shall be advised early during the occurrence of the emergency event, to allow sufficient time for communication materials (media releases, establishment of phone lines etc.) to be prepared. It is necessary that there is a “one window/one voice” in dealing with the media to avoid any miscommunication of information.

4.4.4 **External Responders:** External responders shall be requested as needed. External responders are defined as emergency response personnel that are not normally part of Waterworks. These may include but are not limited to Area Municipalities, fire, paramedics, spill response teams, and other groups within the Town.

4.4.5 **Public Health Department:** In all emergency situations where there may be implications to public health and well being, Regional Public Health Department (Regional Medical Officer of Health) shall be contacted. In cases where Boil Water Advisories (BWAs) or Drinking Water Advisories (DWAs) are required, the RMOH shall take the lead with support from Waterworks staff as necessary. The RMOH shall have sole authority to issue and rescind BWAs and DWAs.

#### 4.5 Municipal Emergency Planning Measures

4.5.1 The Town’s Emergency Procedures Manual shall specify an overall approach to dealing with emergencies within the Town.

4.5.2 The emergency management framework described in this system level document shall provide an overall approach to Waterworks-specific emergencies. In case of a Town-wide

emergency this framework shall work in conjunction with the Town's Emergency Procedures Manual.

#### 4.6 Emergency Communication Protocol and List of Emergency Contacts

- 4.6.1 The Emergency Management Flow Chart shall specify a general procedure for communication in case of an emergency.
- 4.6.2 Standard operating procedures shall also establish specific communication requirements. In the Waterworks Fan Callout Document, Waterworks shall maintain an up-to-date list of Emergency Contacts.
- 4.6.3 Every Manager, the ORO, the on-call Supervisor and on-call Operator shall have a copy of the Fan Callout Document, the Emergency Response SOPs and the Emergency Management Flow Chart.

#### 4.7 Emergency Documentation and Review

- 4.7.1 As described in the Emergency Response SOPs, emergencies shall be documented and reviewed.
- 4.7.2 It shall be the responsibility of the Manager of Operations and Maintenance to ensure that Corrective Action Requests are completed for all emergencies.

### 5.0 Associated SOPs

- SOPs – Emergency Response (Level 1, 2, 3 and 4)
- SOP – Competencies

### 6.0 References

- DWQMS Element 7 & 8 Risk Assessment and the Outcomes
- DWQMS Element 18 – Emergency Management
- SLD 8a – Risk Assessment Table
- Town Emergency Procedures Manual
- Waterworks Emergency Management Flow Chart
- Waterworks Fan Callout Document

## 7.0 Records

- Emergency Response Training Records
- Emergency Response Testing Records
- Records related to DWAs
- Records related to BWAs

## 8.0 History of Changes

Revision	Date	Description	By
2.0	Jul. 22, 2009	Sections 4.2.2, 4.6.3, 4.7.2, 7.0	E. Wu
3.0	Dec. 1, 2010	Sections 3.0, 4.1, 4.3, 4.4.2, 4.6.3, 6.0	E. Wu