



Report to: General Committee

Date Report Authored: November 10, 2011

SUBJECT: QMS Document Revision Endorsement and Management Review Outcomes
PREPARED BY: Dupé Odesanya, P. Eng., ext. 2737
Waterworks QMS Controller

RECOMMENDATION:

- 1) That the report “QMS Document Revision Endorsement and Management Review Outcomes” be received;
- 2) That Council, as the Owner of the Town’s Drinking Water System acknowledges and endorses the revisions made to the Town’s Quality Management System Operational Plan and System Level Documents.
- 3) That the Quality Management System (QMS) Management Review Outcomes be received;
- 4) That Council, as the Owner of the Town’s drinking water system, acknowledge and support the outcomes and action items identified from the 2011 Management Review; and,
- 5) That Staff be authorized and directed to do all things necessary to give effect to this resolution.

EXECUTIVE SUMMARY:

Not applicable

PURPOSE:

The purpose of this report is:

- 1) To advise Council about the QMS Management Review Outcomes and the revisions made to the Operational Plan and System Level Documents.
- 2) To provide information outlining the results of the Management Review process.
- 3) To request Council, as the Owner of the Town’s Drinking Water System to endorse these revised controlled documents.

BACKGROUND:

As processes and activities change within the drinking water system, the Operational Plan, the System Level Documents and other controlled documents need to be updated. The Drinking Water Quality Management Standard (DWQMS) stipulate all Quality Management System documents be reviewed, updated, kept current and controlled.

The DWQMS requires that all Operational Plan and System Level Document revisions (Attachment “A”) be endorsed by the Owner to become official controlled documents.

As required by the DWQMS, an Annual QMS Management Review meeting was conducted on October 24, 2011 by the Corporate and Operational Top Management. The outcome of the meeting is included in Attachment "B".

OPTIONS/ DISCUSSION:

Document Review

The Review process is a continuous improvement activity that engages the process owners and/or Top Management and in some cases, the staff responsible for the task is identified in the specific controlled document.

The last revision of the QMS Operational Plan and associated System Level Documents were endorsed by Council and dated July 3, 2009. Updated revisions are now being presented for endorsement as a result of the following:

- Waterworks organizational restructuring in August 2011 necessitate that the appropriate sections of the controlled documents be updated to reflect those changes.
- On June 10th 2010, Canadian General Standards Board (CGSB) conducted an Annual Surveillance Audit on Markham's Quality Management System. As a result, minor corrective actions were cited on July 14th 2011 which require changes to the Operational Plan as well as selected System Level Documents.
- Continuous improvement in Operational Processes, Internal & External Audits and annual Document Review Program have generated updates.

The changes reflected in these documents for submission are as a result of the review and approval of the Operational Top Management and the Process Owners.

Waterworks QMS Controller has tracked all cosmetic and structural changes electronically for each controlled document, and these revised documents can be made available upon request. The controlled document changes are summarized as shown below:

QMS Operational Plan Revisions 3.0

Sections revised: Elements 3, 4, 6, 7, 9, 10, 15, 16, 17, 18, 19 & 20

- Removed all references to the Waterworks General Manager and replaced them with The Director, Environmental Services.
- Added the Business Compliance Manager role to the Operational Top Management.
- Updated reference to Section Managers with "or designated Section Leads"
- Clarified the statement in relation to Operational Plan and System Level Documents endorsement. The frequency of updates is as required and each time, Owner endorsement is requested.
- Updated the document name Regulation Tracking to Legal Awareness.
- Replaced the name Town of Markham Emergency Management Plan with Corporate Emergency Management Plan.

- Revised the statement for the authority of the Drinking Water System: The Corporation of the Town of Markham is identified as the Owner and the Operating Authority of the Town of Markham's Drinking Water System. Authority for the Waterworks Division's Quality Management System is defined corporate-wide.
- Added the Turbidity and Fluoride Meter to complete the equipment table list and omitted all calibration frequencies.
- Revised the Markham Water Supply System Diagram to include supply to the Town of Stouffville and updated the Water System Description.

The Operational Plan will be updated on the Markham Intranet subsequent to Council endorsement, and all Service Level Documents can be made available by the QMS Controller upon request.

QMS Service Level Documents Revisions

System Level Documents

System Level Documents (SLDs) are documents which explain the who, what, when and where of the DWQMS elements in more detail. Changes were made to reflect the new organizational structure, the recommendations from CGSB, the risk assessment workshop and the staff recommendations. The SLD changes are as outlined in Attachment "A".

Risk Assessment

The first Tri-Annual Risk Assessment Workshop took place on April 27, 2011 in collaboration with two consultants, Urban & Environmental Management Consulting and a representative from the University of Toronto. The overall assessment confirmed that the Operational Plan met the requirements of the DWQMS.

The review of the existing 31 identified risks and critical control points by the Risk Assessment review team generated significant changes and updates to the associated System Level Documents SLD7, SLD8, SLD 8a & SLD 8b as follows:

- Hazardous events have been sorted by location/Activity from Source to User
- Added 2 new hazardous events – General biological contamination (Biofilms) and Insufficient Supply of water from Region of York/Toronto Water
- Removed the hazard event – Bi-directional flushing at the hydrant
- Revised the risk scores of 9 hazardous events based on likelihood and detectability.

2011 QMS Management Review Outcomes

An annual management review is required by DWQMS and includes corporate top management (CAO and Commissioner of Community and Fire Services). The management review is the process where Top Management considers various indicators within the QMS by being provided sufficient data to make decisions about QMS, and to record decisions or action items to prompt changes and improvements in the QMS. The 2011 annual review was held on October 24, 2011 and the action items which came out of the review are listed in the minutes in Attachment "B".

FINANCIAL CONSIDERATIONS AND TEMPLATE: (external link)

Not applicable

HUMAN RESOURCES CONSIDERATIONS

Not applicable

ALIGNMENT WITH STRATEGIC PRIORITIES:

Municipal Services – QMS is to improve the municipal services levels provided to Town residents.

NQI - The continuous review and improvement to the controlled document in place is to ensure procedures are relevant and current. Each controlled document is reviewed continuously in order to ensure current practices are reflected in each procedure.

BUSINESS UNITS CONSULTED AND AFFECTED:

Not applicable

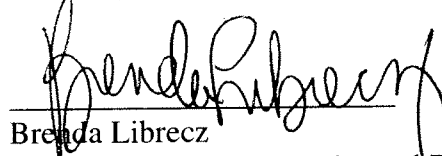
The undersigned represent the Corporate Top Management of Town of Markham's Drinking Water Distribution System and by signing below the Corporate Top Management of the Operating Authority has reviewed and approved the revisions made to the Operational Plan and the System Level Documents.

RECOMMENDED

BY:



Peter Loukes, P.Eng.
Director, Environmental Services



Brenda Librecz
Commissioner, Community and Fire Services



Andy Taylor
Chief Administrative Officer

ATTACHMENTS:

Attachment "A" – QMS System Level Document Revisions

Attachment "B" - 2011 QMS Management Review Minutes

QMS System Level Document Revisions

The following System Level Documents will be updated with the following revision numbers once endorsed by council. Revised documents can be made available by the QMS Controller upon request.

- SLD 5a Control of Documents – Revision 4.0
- SLD 7 Risk Assessments – Revision 2.0
- SLD 8 Risk Assessment Outcomes – Revision 2.0
- SLD 8a Markham Distribution System Risk Assessment Table – Revision 4.0
- SLD 8b Markham Critical Control Point Table – Revision 3.0
- SLD 9 Organizational Structure, Roles, Responsibilities and Authorities – Revision 3.0
- SLD 10 Competencies – Revision 3.0
- SLD 13 Essential Supplies Services – Revision 2.0
- SLD 14 Review & Provision of Infrastructure – Revision 3.0
- SLD 16a Sampling – Revision 3.0
- SLD 16b Testing – Revision 3.0
- SLD 16c Monitoring – Revision 3.0
- SLD 17 Calibration and Maintenance of Measurement and Recording Equipment – Revision 3.0
- SLD 18 Emergency Management – Revision 4.0
- SLD 19 Internal Audits – Revision 3.0

Below are the detailed changes to the various System level Documents:

1. Removed reference to the Waterworks General Manager and replaced it with the Director, Environmental Services. (SLD 5a, SLD 9, SLD 10, SLD 14, (SLD 16a, b & c), SLD 18, SLD 19)
2. Removed all references to the Waterworks General Manager in the Operational Top Management group. (SLD 5a, SLD 18)
3. Added Manager, Business Compliance to the Operational Top Management group_(SLD 5a, SLD 9, SLD 18)
4. With the installation of the electronic QMS Program Intelex, duplicate records and processes have now been eliminated. (SLD 5a)
5. Removed reference to the hand-written Document Change Request Process and replaced it with the electronic Document Change Request Program. (SLD 5a)
6. Removed reference to the Master list of controlled Document and replaced it with electronic registration on the QMS Program. (SLD 5a)
7. Revised the minimum retention of controlled documents to the previous revision level. (SLD 5a)
8. Updated the position table to reflect responsibilities and authorities of the Corporate and Operational Top Management not including the Waterworks General Manager (SLD 9, SLD10)

9. The Supplies, Equipment, Services and Sub-Contractor contact information require more frequent updates than can be accommodated with Council endorsements. This table has been removed to a lower level controlled document SOP 13a to be approved by Operational Top Management. (SLD 13)
10. Revised the responsibility for the review and approval of capital budgets to the Director, Environmental Services. (SLD 14)
11. Replaced the responsibility for Waterworks capital budget consolidation with the Manager of Business Compliance (SLD 14)
12. Defined, revised and updated process information (SLD 16a, b & c)
13. Corrected error in referring to the Water Quality Supervisor, replacing it with IMS and updated test kits standardized frequency from weekly to monthly (SLD 17)
14. Revised the document name for the Emergency Contact – Waterworks Emergency Fan Callout document and added reference to the electronic copy. (SLD 18)
15. Replaced SNC (System Nonconformance) with NCR (Nonconformance Requests) and specified the audit of the entire QMS at least once per calendar year. (SLD 9)
16. Added qualified auditor from an external agency on the auditor team. (SLD 19)



**Waterworks
MANAGEMENT REVIEW MEETING
MINUTES**

Attachment ‘B’

October 24, 2011, 1:00 pm – 3:00 pm

In attendance:

Andy Taylor, Brenda Librecz, Peter Loukes, Eddy Wu, Ernie Ting, Anna Distefano, Karen Dennison, Noris Dela Cruz, Daphne Ross, Dupé Odesanya

Item No.	Description/Discussion	Action Items
1.	Review Status of Action Items	November 2010 Action Items outstanding (2 items): 1. Service Level Agreements <ul style="list-style-type: none">▪ Asset Mgmt and ITS completed▪ Balance of Departments deferred to Q1 in 2012▪ Champions are Brenda and Peter 2. Fire fighting activities and impact on water distribution <ul style="list-style-type: none">▪ Agreement in place to contact Waterworks staff when multiple hydrants used (to check for any backflow)▪ Next step is to roll out training program to Fire staff by end of 2011▪ Champions are Eddy and Dupe
2.	System Performance Summary	Incidents of Adverse Drinking Water Tests <ul style="list-style-type: none">▪ Jennings Gate has had some incidents▪ Need to re-visit area to ensure no cross-connection has been implemented▪ Ensure no contamination
3.	Results of Infrastructure Review	Physical condition assessment will provide a better estimate on remaining life of infrastructure <ul style="list-style-type: none">▪ Cast iron being assessed first▪ Next step will be to assess ductile iron Cast iron pipes life span has been reduced and has been aligned with service connection lifecycle <ul style="list-style-type: none">▪ Cathodic protection done only in ductile iron pipes as they were more susceptible to corrosion

Item No.	Description/Discussion	Action Items
		<p>Watermain Breaks</p> <ul style="list-style-type: none"> ▪ Need to implement a review process <ul style="list-style-type: none"> ○ look for trends ○ determine known causes (discussion held on unknown impacts to infrastructure i.e. earth tremors) ○ lessons learned ○ determine liability if applicable ○ Standard Operating Procedure needs to be developed and implemented
4.	Risk Management & Emergency Response	<p>Not all Waterworks staff have completed DWQMS Emergency Management Training</p> <ul style="list-style-type: none"> ▪ Advise CAO once 100% is reached <p>Mock exercise completed on October 14th.</p> <ul style="list-style-type: none"> ▪ After Action Review to be completed by end of October
5.	Overview of Operational Plan	<p>Some major changes being made to system level documents</p> <ul style="list-style-type: none"> ▪ Re-organization of Department has to be updated ▪ Markham has more controlled reports and documents in comparison to other municipalities. ▪ Risk Assessment documents need to be approved by Operational Top Management (Managers) and then endorsed by Owner (Council). <p>Work Instructions</p> <ul style="list-style-type: none"> ▪ Ensure Work Instructions are effective by reviewing regularly. ▪ As part of continuous improvement through Service Planning review, Operators should have more involvement in viewing work instructions – opportunity to link to new tablets Operators are now using. <p>Audits</p> <ul style="list-style-type: none"> ▪ Internal audits are all on-schedule. ▪ Peer audit was completed by Whitchurch-Stouffville staff member last month and found 2 opportunities for improvement.

Item No.	Description/Discussion	Action Items
		<p>Staff Suggestions</p> <ul style="list-style-type: none"> ▪ Suggestions for improvement received through Service Planning and also through Health & Safety Committee. No formal staff suggestions that relate to DWQMS were received in the last year. Wording to be updated for future presentations/meetings (include ‘formal’).. ▪ Need to investigate other methods of collecting suggestions
6.	<p>Review the Resources Needed to Maintain the QMS</p>	<p>Backflow Prevention</p> <ul style="list-style-type: none"> ▪ New buildings must meet Building Code ▪ Existing Buildings are subject to By-Law ▪ 8 year program in place – high risk being done now ▪ Moving from a reactive model to a pro-active model ▪ Need to ensure By-Laws are right and in place ▪ Backflow report going to Council this year. <p>Sewer Use By-Law</p> <ul style="list-style-type: none"> ▪ Region to pass their new by-law this year ▪ Markham will follow with submitting our by-law in 2012 ▪ Need to ensure it is enforced (testing is done) <p>Leakage/Water Loss</p> <ul style="list-style-type: none"> ▪ Working on identifying water loss as part of business plan. <p>Technology</p> <ul style="list-style-type: none"> ▪ Staff to ensure systems are non-proprietary in the future <p>Resources</p> <ul style="list-style-type: none"> ▪ Waterworks is meeting all DWQMS requirements. ▪ The Town has provided the resources needed to meet the requirements.



Waterworks

Attachment "B"

Item No.	Description/Discussion	Action Items
7.	Recap of Action Items	<p>November 2010 – Outstanding Action Items (2 items):</p> <ol style="list-style-type: none">Service Level Agreements<ul style="list-style-type: none">Asset Mgmt and ITS completedBalance of Departments deferred to Q1 in 2012Champions are Brenda and PeterFire fighting activities and impact on water distribution<ul style="list-style-type: none">Agreement in place to contact Waterworks staff when multiple hydrants used (to check for any backflow)Next step is to roll out training program to Fire staff by end of 2011Champions are Eddy and Dupe <p>October 2011 – New Actions Items:</p> <ol style="list-style-type: none">Watermain Breaks<ul style="list-style-type: none">Need to implement a review process to look for trends and determine causeA Standard Operating Procedure needs to be developed and implementedAdd to 2012 business planChampions are Eddy & DupeIncidents of Adverse Drinking Water Tests<ul style="list-style-type: none">Jennings Gate has had some incidentsNeed to re-visit area to ensure no cross-connection has been implementedWork orders to be issued in 2011 and work to be completed by January 2012Champion is KarenDWQMS Emergency Management Training<ul style="list-style-type: none">Advise CAO once 100% of Waterworks staff are trainedTraining to be completed in 2011Champion is Anna



Waterworks Attachment 'B'

Item No.	Description/Discussion	Action Items
		<p>6. Mock exercise completed in October.</p> <ul style="list-style-type: none">▪ After Action Review to be completed by end of October▪ Champion is Anna <p>7. Staff Suggestions</p> <ul style="list-style-type: none">▪ Look at new approaches to solicit staff suggestions▪ Review and implement in 2011▪ Champion is Norris
8.	Next Meeting	<p>2 meetings to be held in 2012</p> <ul style="list-style-type: none">▪ 1st will be scheduled for April/May 2012 (July 1 to Dec 31/2011 data will be used)▪ 2nd will be held in the fall

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