



STAFF REPORT INFORMATION ONLY

Yorkdale Fatality of September 14, 2012 – Update to Management Action Plan

Date:	January 21, 2016
To:	TTC Board
From:	Chief Executive Officer

Summary

The purpose of this report is to document the actions taken by management in response to both the Corporate investigation and the Joint Health and Safety Committee investigation into the employee fatality near Yorkdale Station on September 14, 2012. The action plan is now complete.

Financial Summary

Most of the financial implications resulting from the adoption of this report have occurred in the past. The one remaining significant cost will be to implement a program of deploying a dedicated watchperson for all walking inspections. This program will require 20 additional positions in two departments. Sufficient funds in the amount of \$1.8 million, was included in the 2016 operating budget which was approved by the Board at its November 23, 2015 meeting.

The Chief Financial & Administration Officer has reviewed this report and agrees with the financial impact information.

Accessibility/Equity Matters

There are no accessibility or equity issues related to this report.

Decision History

Following the employee fatality on September 14, 2012 the TTC Safety and Environment Department led a thorough investigation of the root causes of the incident. In addition, the Joint Health and Safety Committee also conducted an investigation. The actions taken by management to address the issues in the Corporate report was presented to the Board for information on October 23, 2013.

http://www.ttc.ca/About_the_TTC/Commission_reports_and_information/Commission_meetings/2013/October_23/Supplementary_Agenda/index.jsp

The report was updated on June 24, 2014.

http://www.ttc.ca/About_the_TTC/Commission_reports_and_information/Commission_meetings/2014/June_24/Reports/Yorkdale_Fatality_of_September_14_2012_Update_to_Management_.pdf

The management actions from both reports were updated again on January 21, 2015

http://www.ttc.ca/About_the_TTC/Commission_reports_and_information/Commission_meetings/2015/January_21/Reports/Yorkdale_Fatality_Reports_Update_2015_01_13.pdf

The current report is the final update since the management actions are now complete.

Issue Background

TTC investigates serious incidents in order to determine root causes and to develop measures to prevent a recurrence. The issues in the Yorkdale investigation centred around the management of nightly maintenance of track, structures and systems in the subway during non-revenue hours. The success of the comprehensive and systematic improvement program is reflected in the declining injury ratio in Subway Infrastructure Department which fell from 2.22 lost time injuries per 100 employees in 2013, to 1.72 in 2014 and is currently .82 in 2015 year to date. Ongoing continuous improvement programs have been instituted for track level safety and for updating the Subway Rule Book. Management expects these programs will continue to drive improvements in safety performance.

Comments

There is significant overlap in the actions arising from the two separate investigations, indicating a measure of consensus on what actions were needed to improve track level safety. Examples include improved headlights, automatic warning to train operators and updating of the Subway Rule Book (SRB). The attachment provides the details on each of the 27 recommendations. As a means of continuous improvement, the governance of the SRB has been formalized and documented as a draft Policy Instruction. This will ensure that the focus on track level safety continues and the legacy of the investigation is a more engaged workforce applying much more rigorous controls.

Contact

John O'Grady, Chief Safety Officer, phone 416-393-4220, fax 416-338-0118
John.ogrady@ttc.ca is responsible for the accident investigation and Mike Palmer, Deputy Chief Operating Officer, phone 416-339-4356, mike.palmer@ttc.ca is responsible for the management action plan.

Attachments

[Yorkdale Fatality Final Update, January 21, 2016](#)



YORKDALE FATALITY FINAL UPDATE

January 21, 2016





Corporate Report Recommendations Update



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
5.1 Improve the interface between Transit Control Centre & Rail Infrastructure practices to ensure safe maintenance activities.	Establish a permanent Track Level Safety Team; a first priority assignment will be made to implement this recommendation.	Complete. The team is in place, led by a full time Staff position (Jose Pereira). Committee membership includes Track Level workers & forepersons from both revenue and non-revenue timeframes as well as Training & Development, Transit Control and Subway Operators.



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
5.1 Implement a uniform process for reporting, investigating & communicating safety incidents.	Action by Corporate Safety.	Complete. The Incident Reporting & Investigation Corporate Program has been implemented.



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>5.1 TTC line calls to advise workcar operators of walking inspections.</p>	<p>a) Workcar operators are required to seek permission from Transit Control prior to moving once work zone has been cancelled/ended. If there are crew in their path, they will be advised by Transit Control.</p>	<p>a) Complete. SOP finalized and approved Q2 2015.</p>



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
5.2 Implement the recommendations in Rail Cars & Shops Headlight Study.	Install LED headlights on all workcars with the ability to dim the light when they are stationary.	Complete. LED Headlight installation complete. Low Beam Modification complete 1/19/15.

YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>5.2 Dedicated watchperson during walking inspection as an interim measure pending further analysis.</p>	<p>a) Assess work force impact, feasibility & improvement vs. cost of a dedicated watchperson during maintenance activities.</p>	<p>Closed. Funds for this initiative are included in the 2016 operating budget subject to approval by City Council.</p>

YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>5.2 Apply new technologies in track level warning devices for maintenance work.</p>	<p>WAW (Work Area Warning) System to be implemented during revenue hours.</p>	<p>Closed.</p> <p>The Work Area Warning system was fully implemented on Line 2 & Line 4 during revenue service June 8th, 2014 and on Line 1, on December 1st, 2014. Workcars upgraded with WAW Q4 2015. Further technology improvements will be reviewed as they become available.</p>



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>5.3 Review workcar operator duties to identify, understand & correct distraction issue.</p>	<p>A consultant, Human Factors North, was retained to conduct an evaluation of workcar operator duties.</p>	<p>Complete.</p> <p>Subway Infrastructure has developed action plans to manage Workcar operator distraction.</p> <p>Implementation of action plans is ongoing.</p>



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>5.3 Evaluate rules & procedures of the blue light system, including its use during non-revenue hours.</p>	<p>Establish a permanent Operating Rules Committee to review this recommendation inline with a first principles review of the Subway Rule Book.</p>	<p>Closed.</p> <p>The Operating Rules Committee is in place, led by a full time Staff position (Sandra Sutherland). Committee membership includes Track Level workers & forepersons from both revenue and non-revenue timeframes as well as Training & Development, Transit Control and Subway Operators.</p>



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
		<p>The committee is conducting an ongoing review of the Subway Rule Book and a detailed review of Blue Light Rules. This group is in close consultation with the Track Level Safety Team regarding expanding Blue Lights to the Non-Revenue window.</p>



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>5.4 Conduct first principles review of the Subway Rule Book & related documents to reflect the specific needs of non-revenue night maintenance.</p>	<p>Establish a permanent Operating Rules Committee, led by a full time staff position, to commence a first principles review of the Subway Rule Book.</p>	<p>Closed.</p> <p>The Operating Rules Committee review of the Subway Rule book is an ongoing, continuous improvement process.</p> <p>A review of Subway Rulebook structure and wording continues and will result in further modification to ensure the non-revenue window is fully reflected with detailed examples, similar to the revenue window.</p>



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>5.4 Establish a governance process for the SRB to include all stakeholders, foster improvement, provide authoritative interpretations on rules & effectively enforce the rules.</p>	<p>Establish a permanent Operating Rules Committee, led by a full time staff position, to commence a first principles review of the Subway Rule Book.</p>	<p>Complete.</p> <p>The Committee formalized all Rulebook updates previously published in Red-Top form. Insert Package of updated SRB pages were delivered February 5, 2015 for distribution by departmental management. A new “Blue Top” notification process was introduced in Q4 2015 to highlight future changes to the Rule Book.</p> <p>The Committee’s review of the Rule Book is an ongoing, continuous improvement process; their purpose is governance of ongoing development and change to the Subway Rule Book. ¹³</p>



Track and Structure JHSC Recommendations Update



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>1) Install seat interlock in workcars such that the vehicle cannot move if the seat is not in the forward-facing position.</p>	<p>Conduct ergonomic & feasibility studies.</p>	<p>a) Complete.</p> <p>Human Factors North conducted ergonomic studies of the Workcar fleet. Their conclusions and recommendations were accepted.</p> <p>b) An interlock prototype implemented on RT28 deemed acceptable. Upgrades to be implemented in parallel with other Workcar upgrade projects.</p>



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
2) Develop a standard & an implementation plan for workcar headlights in regards to illumination strength & alignment.	RC&S to develop standard & retrofit workcars with new headlights. Mod's required for low beam when vehicle is parked.	Complete. See 5.2 above.



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>3) Study lighting level throughout the system & upgrade to meet standard where found deficient.</p>	<p>Feasibility study to change operating standard from replace-upon-failure to timed replacement of lights.</p>	<p>Closed.</p> <p>New timelines for LED replacement lamps for subway tunnel is: All BD line tunnel areas by end of Dec 2016. All YUS & Sheppard tunnel areas by end of Dec 2017.</p> <p>ECE Open cut lighting project to be tracked by TTC's Capital Project "blue book" WO 6617 2.2 Lighting in Open Cut".</p>



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
4) Dedicated watchperson during walking inspection as an interim measure pending further analysis.	a) Assess work force impact, feasibility & improvement vs. cost of a dedicated watchperson during maintenance activities. b) Assess risk assessment improvement vs. the increased risk of having more people at track level	Complete. See 5.2 above.



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
4) continued... Dedicated Watchperson...	...continued c) Review feasibility of incorporating Watchperson duties through changes to existing work practices. d) Introduce “Train Time is Any Time in Any Direction” slogan.	
5) Automated system to give indication to operator if someone is at track level.	a) Hardwired blue light at the ends of every station.	Closed. See 5.2 above on Work Area Warning system capital project.



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
6) Announcement by Transit Control before & after a work zone or walking inspection.	a) Blue Light System expanded to Work Area Warning system.	a) Closed. See 5.2 above on Work Area Warning system capital project.



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
7) Give operators of workcar/train a complete update of what is ahead of them prior to leaving the work zone or yard.	Improve communication prior to vehicle movement by RI & TCC.	Complete. Transit Control provides instruction and look ahead information regarding track level activities ahead of workcars in smaller route segments to work car operators travelling to and from Non-Revenue work locations to ensure they are aware of all potential exposures. SOP complete Q2 2015.



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>8) Develop effective safety inspections & auditing.</p> <p>continued...</p>	<p>a) Conduct gap analysis for QA checks (SI vs. Safety & Environment).</p> <p>b) Develop KPI & draft Corrective Action Review Report for SI (Subway Infrastructure)</p> <p>continued...</p>	<p>Complete.</p> <p>A suite of QA checks have been developed for use by Forepersons.</p> <p>Subway Infrastructure has engaged Safety Department to develop an audit plan for 3rd party audits on QA checks conducted by forepersons.</p>



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>8) ...continued</p> <p>Develop effective safety inspections & auditing.</p>	<p>...continued</p> <p>c) Develop more detailed Safety QA checks.</p>	



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>9) Check Subway & SRT for sharp curves for having suitable signs in case of a blue light/flag.</p> <p>continued...</p>	<p>a) Blue Light Task Force to identify gaps of areas on curves.</p> <p>b) Develop means of communications between IRS/JHSC & Track Level Safety Team.</p> <p>continued...</p>	<p>a) Complete Q2 2014.</p>



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>9) ...continued</p> <p>Check Subway & SRT for sharp curves for having suitable signs in case of a blue light/flag.</p>	<p>...continued</p> <p>c) Engineering to develop a plan to conduct extent of condition for where blue speed signs can be placed.</p>	



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
10) Clarify SRB to reduce potential for unsafe actions in a complex situation. continued...	Establish Operating Rules Committee to identify changes required in SRB to specifically address non-revenue maintenance. continued...	a) Complete. See 5.4 above.



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>10) continued...</p> <p>Clarify SRB to reduce potential for unsafe actions in a complex situation.</p>	<p>continued...</p> <p>Establish Operating Rules Committee to identify changes required in SRB to specifically address non-revenue maintenance.</p>	



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
11) Develop the annual review of SRB by a committee including all stakeholders & issue the revision with acknowledgement by the receiving employees.	To be addressed by the Operating Rules Committee.	Complete See 5.4 above.



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>12) Check with other transportation authorities on their track level practices.</p>	<p>To be looked at by Operating Rules Committee.</p>	<p>Complete Jan 2015</p> <p>The Operating Rules Committee and Track Level Safety Team are fully functional groups, each led by a dedicated staff person.</p> <p>Their Project Plan's include a BOB/wow (Best of Best/Worst of Worst) joint assessment of industry best practices using APTA, Comet, NOVA, NTSB as resources.</p> <p>This assessment is an ongoing process.</p>



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>13) Review & revise all work methods & SOP's working with the front line supervisory staff.</p>	<p>SOP owners to review documents on a regular basis & communicate revisions to those that require/use the document.</p>	<p>Complete Apr 2014</p> <p>As part of its 5 year plan, Subway Infrastructure's Procedures section has created a continuous improvement plan, which includes review and re-write (If required) of all current Departmental Standard Operating Procedures over a revolving 5 year period.</p> <p>Subway Infrastructure Procedure section is publishing a 'live' document outlining all SOP changes.</p> <p>This plan is an ongoing, continuous improvement process.</p>



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
14) Provide additional training for workers who have supervisory responsibilities.	Section managers to identify workers who required additional training. SI & T&D to develop a training program to be implemented by T&D.	Closed. Identification of workers who lead crews was completed June, 2014. Training outline complete Jan 2015. Program currently being edited. Pilot Training rollout by end of Q2 2016 to T&S JHSC



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>15) Make use of extended maintenance windows such as early/weekend closure.</p>	<p>All major projects to be considered for extended work windows. Maximize use of closure by including regular maintenance work.</p>	<p>Complete.</p> <p>Over the past 2 years, Subway Operations has increased use of extended work windows (Early closures, Late starts, Weekend Closures) for maintenance work.</p> <p>Wherever possible, additional work in closed sections is considered.</p> <p>Currently there is work being done to ensure use of shared work time/space is both efficient and safe.</p>



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
<p>16) Annual Safety Week to promote safety culture</p>	<p>Enable employee discussion & participation during the Track Level Safety Roundtable & through Track Level Safety Team & Operating Rules Committee.</p>	<p>Closed.</p> <p>A second set of 'track level' 'Roundtables' was completed in February 2014.</p> <p>The Operating Rules Committee and Track Level Safety Team are both in place, led by 2 dedicated staff positions.</p> <p>Both teams also include a number of Track Level workers and meet with work groups at monthly 'Safety Talks'.</p>



YORKDALE FATALITY FINAL UPDATE



Recommendation	Response/Action	Status
17) Finalize & implement the new Incident Management Program	Corporate-wide process for reporting, investigating & communicating all safety-related incidents.	Complete Q2 2015. See 5.1 above.

