

TORONTO TRANSIT COMMISSION REPORT NO.

MEETING DATE: April 27, 2009

SUBJECT: UPDATE #1 - LYTTON SUBWAY WORK CAR FATALITY OF
APRIL 23, 2007

INFORMATION ITEM

RECOMMENDATION

It is recommended that the Commission receive for information the updated Management Corrective Action Plan Checklist relating to the Lytton Subway Work Car Fatality of April 23, 2007 which provides a status report on the progress toward closing the TTC investigation recommendations.

FUNDING

Funding has been captured in operating and capital budgets.

BACKGROUND

On April 23, 2007, the eleven member Asbestos Abatement crew was returning to Greenwood yard on the southbound Yonge subway line in work cars RT 45 and 46 when an extended platform on the attached flatbed work car RT 57 contacted the tunnel structure. The extended modular platform was then forced into the cab of work car RT 45 resulting in fatal injuries to TTC Work Car Operator Antonio Almeida and serious injuries to TTC employees Demetre Xynis and Stuart Ryan, who were transported to Sunnybrook Health Sciences Centre. The remaining eight crew members sustained minor injuries and received trauma counselling.

Subway service was suspended between Finch and Eglinton subway stations both ways on April 23, 2007 for the entire day. Recovery operations were extensive due to vehicle and tunnel structure damage compounded with concerns surrounding the potential exposure to asbestos.

Toronto Police Service, Ministry of Labour representatives and the TTC personnel initiated an extensive investigation into the incident. Toronto Police Service determined that there was no criminal intent. The Ministry of Labour charged the TTC for failing to take every precaution reasonable in the circumstances for the protection of the worker resulting in a \$200,000 fine.

The TTC Safety Department staff led a detailed investigation identifying one causal factor with four root causes and other significant findings. Several recommendations were made and responsible department managers have developed corrective action plans.

DISCUSSION

The TTC investigation report made a number of recommendations to management and the attached Management Corrective Action Checklist provides a detailed update. The corrective actions taken to date and those to which management has committed will greatly reduce the risk of recurrence so that it can be judged to be at an acceptable level.

TTC has partnered with a leading safety industry consultant, Behavioural Science Technology (BST), to develop a strategic plan for culture transformation and to achieve sustainable safety excellence throughout the organization. The TTC is presently rolling out the “Work Safe – Home Safe” program.

JUSTIFICATION

TTC is committed to learning from all incidents and to sharing information to improve safety.

April 13, 2009
13.77

Attachments: Lytton Subway Work Car Fatality Management Correct Action Checklist, Update #1 – March, 2009

LYTTON SUBWAY WORK CAR FATALITY
Management Corrective Action Checklist

Item No.	Recommendations	Responsibility	Responses	Completion Date
1.1	Write procedures to ensure safe work methods are performed and monitored for each business activity, including Asbestos Abatement work.	General Superintendent - Track & Structure (T&S)	Written work methods are being prepared for all T&S work and will be completed by Dec. 31/08. January 2009: As of September 2008, T&S Subway/SRT Track complete list. Structure Maintenance due on December 31, 2010.	Dec. 31/08 changed to Dec 31/10.
1.2	Develop, approve and implement a procedure for the assigned E.O. to conduct a comprehensive circle check prior to any vehicle operating from a work site or when operating duties are changed.	General Superintendent - Track & Structure (T&S)	Completed	Complete
1.3	Provide a plan and timeline that details how Plant Maintenance will accomplish the implementation and use of SOPs within their department.	General Superintendent - Plant Maintenance	Job duties for the Practices & Procedures Coordinator have been revised. Duties related to Standard Operating Procedures have been increased from 10% to 100% of the workload. All other duties have been reassigned to other positions. The list of Standard Operating Procedures that require development has been prioritized. A total of 32 Standard Operating Procedures are scheduled for development to December 31, 2008. January 2009: PM - Delayed to December 31, 2009. Practices and Procedures Co-ordinator off work due to illness. Fit regular duties by February 16, 2009.	Dec. 31/08 changed to Dec. 31/09
2.1	Ensure that HIRAs (Hazard Identification & Risk Assessments), training, operating rules and supervisory methods are consistent for all Departments and personnel operating workcars and conducting maintenance activities in the subway.	Deputy General Manager (DGM) - Rail	The DGM - Rail will have all Rail Department HIRA's entered in the new Safety database by December 2008. The Chief Safety Officer will review all HIRA's to ensure consistency. January 2009: DGM - Rail - Responsibility transferred to each Department. Departments will enter HIRA's into database at next scheduled review; maximum review cycle is two years.	Dec. 31/08 changed to December 2010.

Item No.	Recommendations	Responsibility	Responses	Completion Date
2.2	Develop a formalized means to share new knowledge about risk with all affected departments.	Chief Safety Officer	A "Lessons Learned Program" to formalize the communication process will be developed to ensure consistent distribution of lessons learned from incidents and other events. Lessons learned that are applicable to other departments will be identified and communicated in order to improve safety performance and prevent recurrence. January 2009: Proposed Lessons Learned Program was presented at the September 22, 2008 Safety System Review meeting. It was referred to the October 14, 2008 Senior Safety Leadership Team meeting where it was deferred to June 2009 when it will be revisited.	Program implemented - June 30, 2009 Program Database - June 30, 2010 changed to June 2009 to revisit issue
3.1	Design and retrofit a safety device, if feasible, or a warning device as a minimum, on all workcars having extendable platforms or other equipment which extends beyond the dynamic envelope of the workcar.	General Superintendent - Rail Cars & Shops	Maintenance Engineering has developed a design for introducing interlocks on all platform workcars. When the platform cars are retrofitted the remaining fleet will be reviewed. January 2009: The prototype has been approved. The fleet retrofit has begun.	Prototype - May 16/08 User Evaluation - June 13/08 Fleet Retrofit - Sept., 2008 changed to Dec 31/09
3.2	Develop an effective approach to ensure safety considerations are systematically incorporated into the design of all new workcars and ensure modifications to the existing fleet are completed. Some of the options available are the use of vehicle specific safety certification or the development of a master specification.	General Superintendent - Rail Cars & Shops	A Project Safety Certification Requirement and acceptance procedures will be developed in accordance with procedure RAD-SP-13, Project management Replacement Projects - Rail Vehicles. January 2009: The process to evaluate each new work car from a safety certification perspective is in place.	Complete

Item No.	Recommendations	Responsibility	Responses	Completion Date
4.1	Update the job descriptions and document the training requirements of all EO Forepersons to ensure that they are competent to enforce operating rules and procedures.	General Superintendent - Track & Structure (T&S)	Training requirements are documented in Track & Structure's Procedures TS-0102-22. This procedure includes the requirement for Circle Check Training for all Forepersons and Assistant Forepersons. Job Description will be revised to ensure compliance. January 2009: As of September 2008, the T&S EO Foreperson job descriptions and training requirements were reviewed and included enforcement of operating rules and procedures. The training matrix has been updated and included the training required to achieve this.	Complete
4.2	Implement a supervisory observation program for asbestos abatement work.	General Superintendent - Track & Structure (T&S)	A Supervisory Observation Program has been implemented and is underway for all work.	Complete
4.3	Investigate the feasibility of expending the length of time to conduct maintenance activities at track level.	Deputy General Manager (DGM) - Rail	Early closure of portions of the subway to facilitate completion of tunnel liner work (including asbestos abatement) was approved at the March 26, 2008 Commission Meeting.	Complete
5.1.1	All departments which require modifications to workcars are to comply with the configuration management systems available through the Safety Department Design Review Process and the Rail Cars & Shops Maintenance Engineering Section.	Superintendent - RC&S Maintenance Engineering	Maintenance Engineering must remain the sole technical authority for any modifications to workcars. Memo to be issued re-enforcing this responsibility. January 2009: As of September 2008 direction was sent to all Departments on this matter.	Complete
5.1.2	Prepare a list of warnings identified in training documentation that pertain to safety critical items related to workcars and submit to the Rail Cars & Shops Maintenance Engineering (RC&S Mtce. Engineering) Section to ensure that safety issues/warnings/hazards are evaluated from an engineering perspective.	General Superintendent - Rail Cars & Shops / Manager - Training	Training Department will provide Maintenance Engineering with training materials developed for the Work Car Operator program for sign off. When training materials are updated or amended, they will be forwarded to Maintenance Engineering for review and sign-off. Maintenance Engineering staff will meet with Instructors annually to discuss issues/modifications as they relate to the existing fleet and new car orders.	Complete

Item No.	Recommendations	Responsibility	Responses	Completion Date
5.2.1	Develop and implement a process as required by the TTC System Safety Plan Section 1.2 Identifying Hazards and Managing Risks to ensure that the HIRA remains up-to-date, that the HIRA accurately identifies and assesses all hazards and ensure appropriate controls are in place to mitigate risk. The HIRA should be part of a process that ensures the hazards and controls are communicated to Forepersons and crew members on a continual basis.	Deputy General Manager (DGM) - Rail	<p>RC&S - The process for ensuring all RC&S employees have an accurate and up to date HIRA is found in procedure ROP-SP-17, Maintenance Protocol for Hazard Analyses.</p>	Complete
			<p>T&S - Develop a new procedure identifying the frequency at which HIRA's are to be reviewed and updated including circulation and sign-off by affected Superintendents. Similarly, work plans and job briefings require a regular review and update. This will be dealt with in the same procedure. January 2009: T&S - Complete as per operating procedures TS-0102-50.</p>	Complete
			<p>RT - All HIRA's for Rail Transportation are reviewed, updated and signed-off annually as per Transit Control Routine Procedure #R005-06-09 which includes the Safety Department.</p>	Complete
			<p>SEC - Procedure #SEC-EW-ADSA-AL-3/0, Administration of S/E/C Hazard Identification and Risk Assessment was approved on October 11, 2007 (copy attached).</p>	Complete
			<p>Plant Maint. - A procedure will be developed to ensure HIRA's remain up to date.</p>	Dec. 31/08 changed to December 2009.
5.2.2	Develop a procedure for securing the work cars in yard areas.	Deputy General Manager (DGM) - Rail changed to General Superintendent - Track & Structure	<p>T&S - A procedure will be prepared to describe unlocking all doors on the asbestos work cars as part of the initial circle check and relocking them only after the cars have returned to the yard. April 2009: It has been determined that a procedure to describe unlocking of all doors is not required. Work methods will be developed, complete with a quality control loop, to ensure unimpeded access/egress for all work car doors/facilities.</p>	Dec. 31/08 changed to Dec 31/10.

Item No.	Recommendations	Responsibility	Responses	Completion Date
5.2.3	Issue a change notice for the Subway/SRT Rulebook to state: "All track level warning devices required for the work zone must be in place prior to commencing any track level work activities".	Deputy General Manager (DGM) - Rail	A change notice for the Subway/SRT Rulebook will be issued. January 2009: A Subway/SRT Rule Book change notice #9103 was issued on August 22, 2008 informing all employees that "all track level warning devices required for the work zone must be in place prior to commencing any track level work activities".	Complete
5.2.4	Plant Maintenance is to develop a process for conducting and documenting work plans and job briefings as per the TTC System Safety Plan, Section 2.4 Work Planning.	General Superintendent - Plant Maintenance	One Job Planner position was added to the Station/Tunnel/Building Equipment Division in 2006 for development of work plans for project oriented activities and development of equipment maintenance programs. A reorganization of Plant Maintenance Department management is under development. Trades involved in construction and facility repair projects will be aligned into one division. The responsibilities of a Project Management Section within this division will include development of work plans for both Operating and Capital Budget projects. January 2009: PM - Project Management Section included in 2009 Operating Budget submission. Hiring process started in January 2009.	Sept., 2008 changed to Dec. 31/09
5.3	Develop a policy and implement a comprehensive program to manage fitness for duty issues including consideration of drug and alcohol testing as an element of the fitness for duty policy.	General Counsel / Executive Director of Human Resources	A Commission Report detailing the proposed policy and program will be submitted to the Commission for approval. January 2009: A Fitness for Work Policy was presented to the Commission and approved at the meeting on September 18, 2008. Human Resources is now moving forward to finalize the Policy and to develop a Roll-out Plan. A progress report will be communicated to the Commission at the May 2009 meeting.	July, 2008 changed to May 2009

Item No.	Recommendations	Responsibility	Responses	Completion Date
5.4.1	The Training Department has a system with the capability to advise departmental management when safety critical recertification training is due. All Departments that require recertification training must establish a system with the Training Department, to ensure that required training and recertification occurs on schedule and to maintain accurate records.	Deputy General Manager (DGM) - Rail	<p>RC&S - The process for ensuring all RC&S employees are properly trained is in procedure ROP-SP-26-3, Mandatory Training/Certification & Orientation for RC&S Employees.</p>	Complete
			<p>T&S - All training programs requiring safety critical re-certification will be identified and added to the Training Departments Pathlore notification process. Status will be tracked monthly using the DPR process. April 2009: Track & Structure has developed a departmental database to work in tandem with OTC's Pathlore system, to control all training requirements. Contrary to the above no DPR reporting will be necessary.</p>	Complete
			<p>S/E/C - The Training Department provides the GS-SEC advance notice of when certification of safety critical training (SRB, Confined Space Entry, Power cut Training, Overhead Rulebook, etc.) will expire for employees. This information is provided from the GS to the four operating Superintendents, who in turn have the responsibility to ensure the person is recertified prior to the expiration date. We will verify Training that needs to be entered in Pathlore for tracking and reporting. Commencing with the June DPR to the GS, it will be required that Superintendents confirm that all employees have the necessary certification or provide a schedule when delinquent recertification will be completed. We will ensure that employees do not perform work for which they are not certified.</p>	Complete

Item No.	Recommendations	Responsibility	Responses	Completion Date
5.4.1 cont'd			<p>Plant Maint. - Training Department issues reports through Pathlore to all Plant Maintenance Department Superintendents with advance notice of workers due for recertification and workers overdue for recertification. These reports are used to schedule the workers to training. A Standard Operating Procedure will be developed for a process to ensure that required training and recertification occurs on schedule and to ensure accurate records are maintained. January 2009: As of September 2008, a process has been in place. SOP documentation on the process scheduled for preparation in 2009 after reorganization is in place.</p>	Dec. 31/08 changed to Dec. 31/09
			<p>Rail Transpn. - Each area of Rail Transportation will coordinate through the Superintendent of Analysis and Procedures to ensure all applicable recertification requirements are reflected in the Pathlore system. We will establish a follow-up protocol based on Pathlore notification, and we will restrict performance of safety critical functions wherever certification has expired. January 2009: Rail Transportation is advised by the Training Department on a frequent basis on upcoming recertification required for all Rail Transportation employees. This list is coordinated with the Divisional Superintendents to ensure follow-up and training is completed.</p>	Complete
5.4.2	Each Department is to ensure that employees, forepersons and crew members are qualified to perform their jobs in accordance with established performance and safety standards through the development of a training matrix for each job. Ensure on-the-job training is documented.	Deputy General Manager (DGM) - Rail	<p>RC&S - The RC&S training matrix is enclosed in procedure ROP-SP-26-3, Mandatory Training/Certification & Orientation for RC&S Employees. Training Department listing outlining employees that have missed or require safety training will be reviewed and actions taken to ensure training does not expire.</p>	Complete

Item No.	Recommendations	Responsibility	Responses	Completion Date
			<p>T&S - The T&S Procedure #TS-102-22 will be updated and circulated for review annually. OJT will be documented in Forepersons field notes. April 2009: A document controlled departmental training matrix for all positions has been developed. Contrary to the above, a more formal process than Foreperson field notes will be developed to document on the job training.</p>	Dec. 31/08 changed to Dec 31/10.
			<p>S/E/C - We currently do not have training matrixes available for each position in SEC. We will have these matrixes completed and a SOP prepared by December 31, 2008, to ensure as per 5.3.1 that all employees have up to date safety critical training. January 2009: Matrices prepared. SOP not required.</p>	Complete
5.4.2 cont'd			<p>Plant Maint. - A list of required training programs has been developed by each Superintendent. The lists will be reviewed, updated and incorporated into a matrix in a Standard Operating Procedure. The Standard Operating Procedure will include documentation on the job training programs. January 2009: As of September 2008 a list of required training programs has been developed. SOP documentation scheduled for development in 2009 after reorganization is in place.</p>	Dec. 31/08 changed to Dec. 31/09

Item No.	Recommendations	Responsibility	Responses	Completion Date
			<p>Rail Transpn. - A Rail Transportation training matrix has been established, and an associated S.O.P. for the maintenance and administration of this matrix will be developed. January 2009: Rail Transportation has developed a list of minimum training requirements for each position in accordance with established performance and safety standards. An associated SOP has been developed in DRAFT format to ensure each division reviews each employee's qualifications on a regular basis. The minimum list requirements will be compared and aligned with the job description for each position through the HR Job Evaluation process.</p>	Dec. 31/08 changed to June 2009
5.5.1	Review the HIRAs to ensure that lighting is a factor that is considered for all work performed in the subway tunnel environment.	Deputy General Manager (DGM) - Rail	<p>RC&S - The HIRA for the Line Mechanics is being reviewed and any energy where lack of illumination could be an additional factor will be amended. January 2009: The Line Mechanic's HIRA was updated to include low light conditions.</p> <p>T&S - As part of the HIRA review in 5.2.1, lighting will be considered. January 2009: As of September 2008, lighting is part of the standard list of risks on the HIRA format.</p> <p>S/E/C - Departmental HIRAs are reviewed annually and new ones developed as required. We will review all existing HIRAs by December 2008 to ensure potentially poor or reduced tunnel lighting is listed as a potential hazard for subway tunnel work. January 2009: Review done as of September 2008.</p> <p>Plant Maint. - A review and revisions as required of Plant Maintenance Department HIRA's will be completed by the end of July, 2008. January 2009: Completed.</p>	<p>Complete</p> <p>Complete</p> <p>Complete</p> <p>Complete</p>

Item No.	Recommendations	Responsibility	Responses	Completion Date
			<p>Rail Transpn. - All Rail Transportation HIRAs are reviewed, updated and signed off annually, as per Routine Procedure #R005-06-09. Personal flashlights are issued and checked regularly as mandatory equipment, per existing HIRAs. Ambient lighting conditions will be considered during our next round of HIRA reviews. January 2009: HIRAs are presently under review and will be forwarded through the approval process.</p>	<p>Dec. 31/08 changed to March 31/09</p>
5.5.2	<p>Research and procure a respirator with the goal of increasing the user's peripheral vision and with built-in communication devices.</p>	<p>Superintendent - Occupational Hygiene & Environment, Safety</p>	<p>3M Canada confirmed that the 3M 6000 series, the respirators approved for use by the Asbestos Abatement crew, have the widest field of vision in the market. 3M will provide TTC with a demonstration of a product with a communication system. January 2009: Meeting held with 3M. Communication device to be tested once crew is up and running.</p>	<p>Sept, 2008 changed to June 2009</p>
5.6.1	<p>Develop and implement a multi-disciplined "unified command" structure and process whereby there is a "unified commander" appointed to control access and provide a co-ordinated approach for responding departments/trades in the event of a catastrophic incident.</p>	<p>General Superintendent - Rail Transportation</p>	<p>Command and control functions have been well documented and implemented for typical routine and emergency responses involving an Emergency Response Commander (ERC). Similar provisions are also in place for major events involving our Corporate Emergency Plan. We will now consider the role to be played by a designated Senior Manager in site specific system restoration activities that extend beyond the scope of an ERC, and may require a unified command structure. January 2009: Rail Transportation, the Safety Department and the City of Toronto have reviewed and are satisfied with the current Incident Command and Control procedures as documented. During major emergencies, such as the Sunrise Propane Fire, a unified command structure may be implemented in conjunction with the implementation of the Corporate Emergency Plan.</p>	<p>Complete</p>

Item No.	Recommendations	Responsibility	Responses	Completion Date
5.6.2	Establish a variety of exercise/drills to develop and strengthen the relationships required in a "unified command" approach under different conditions.	General Superintendent - Rail Transportation	Subject to findings of recommendation 5.5.1, Rail Transportation (RT) will participate in the establishment of applicable drills. Transit Control runs 14 table top exercises annually, and have found these exercises to be valuable in emphasizing the expectations for communication and a single point of contact. January 2009: RT has indicated to the Safety Department a willingness to participate in any planned exercise drills. Transit Control last participated in the Flu Pandemic exercise in fall 2008.	Complete
5.7.1	A process is to be developed and implemented to ensure the employee's belongings remain secure pending the commencement of any investigative process or in the absence of an investigation, pending procedural authorization for release of the items.	Deputy General Manager (DGM) - Rail, Chief Special Constable, Human Resources, Legal	A corporate policy is required to be developed in order to address this recommendation. April 2009: A tentative process is under consideration wherein Transit Control will dispatch appropriate personnel to secure personal belongings. Finalization and implementation on this process is pending a legal opinion on the Commission's rights and limitations in this respect.	Dec. 31/08 changed to Dec. 31/09.