



**Railway Safety
Commission**

Safety Audit of
Veolia Transport Dublin Light
Rail Ltd
Report

November 2007



Contents

1.	Executive Summary	1
2.	Scope of report	2
3.	Methodology	3
4.	Findings	4
4.1	Crowding	4
4.2	Personal security of Veolia's staff	4
4.3	Safety performance reporting	4
4.4	Recovery of defective trams	5
4.5	Standards	5
4.6	Investigation of accidents	5
4.7	Safety meetings	6
4.8	Drugs and alcohol policy	6
4.9	Road traffic management	7
4.10	Competence management as applied to drivers and driver team leaders	7
4.11	Infrastructure	9
4.12	Rolling stock	10
4.13	Rail Procurement Agency	13
5.	Summary of Observations and Recommendations	14
5.1	Observations Summary	14
5.2	Recommendations Summary	14

Appendices

- A Interviews



1. Executive Summary

- 1.1.0.1 The partial audit of Veolia Transport Dublin Light Rail Ltd (Veolia) has shown the company to have invested time and effort to develop an effective safety management system focused on addressing matters proportionate to risk.
- 1.1.0.2 Where observations and recommendations have been made they are of a minor nature highlighting opportunities to further improve the company's safety management arrangements.
- 1.1.0.3 It is evident that Veolia has successfully transitioned from start-up to sustained operation and that the contractual framework within which they operate is generally effective. However as the system matures the work necessary to maintain the condition of assets will increase. With this in mind it has been identified that on occasions such work requires to be funded by the Rail Procurement Agency. Given this, it is appropriate that Veolia and the Rail Procurement Agency should together establish and document their agreed process to secure safety on the tramway in regards to significant system modification
- 1.1.0.4 It is important to place on record the very open and constructive way in which Veolia approached this audit.



2. Scope of report

- 2.1.0.1 This report, submitted to the Railway Safety Commission, details the findings of the partial audit of Veolia Transport Dublin Light Rail Ltd's (Veolia) compliance with their accepted Railway Safety Case. The report is derived from the output of interviews with employees of Veolia detailed in Appendix A of this report and examination of standards, records and other documented evidence provided as verification that the stated position is underpinned.
- 2.1.0.2 This report reflects the position as verified during the period October 23rd 2007 – November 2nd, 2007 and is limited to the specific areas addressed in this report. If this report is silent on any matter it should neither be construed as indicating that the matter was covered within this partial audit or that the audit team has formed a view on the adequacy or otherwise of the arrangements Veolia had in place at the time of the audit.



3. Methodology

- 3.1.0.1 The Railway Safety Commission's project manager for this audit (Mary Molloy, Principal Inspector) briefed the lead auditors (David Marsden and Aidan Nelson) on the expected scope of the audit of Veolia. Additionally, the lead auditors were encouraged to identify issues to be addressed in the audit. This briefing took place on October 23rd 2007.
- 3.1.0.2 Following this briefing the lead auditors met with members of Veolia's management team for initial discussions of the nature of the Veolia operation and approach to safety management within the company. These initial discussions enabled the lead auditors to identify in more detail the areas they wished to probe during the formal audit interviews and confirm the basis on which they would address the interface with Alstom in their capacity as infrastructure and rolling stock maintainer. This initial discussion took place on October 26th, 2007.
- 3.1.0.3 Next, the principal auditors working with the other members of the audit team refined the scope of the audit and developed the areas of questioning around which each of the audit interviews would be conducted. These were reviewed to verify that collectively they would enable sufficient evidence to be gathered to address the agreed scope of the audit. The format of specimen questions and a summary of issues to be covered was provided to the Railway Safety Commission's project manager for review.
- 3.1.0.4 The audit interviews followed as detailed in Appendix A. Verification by document and computerised records reflects those provided to the audit team on or before November 8th, 2007. Observations and recommendations are derived from the verified evidence as available at this date.
- 3.1.0.5 A draft copy of this report was provided to the Railway Safety Commission on November 12th 2007. Comments raised have been incorporated in this the final report. Additionally Veolia was, on November 13th, 2007, briefed on the findings of the audit and their comments have been considered in developing this final report.



4. Findings

4.1 Crowding

- 4.1.0.1 Particular issues have been identified at Heuston and Connolly given the interface with Iarnród Éireann. These locations are mostly of concern in relation to major events generating peak traffic flows on the rail services into Dublin. Also at Connolly there are established arrangements for dealing with Croke Park events, which appear to be effective.
- 4.1.0.2 Veolia's method of working at Connolly was explained to cover both system configuration and staffing. For major events Veolia customer services staff organise queues with support from additional security staff contracted in event by event.
- 4.1.0.3 Under normal traffic conditions, crowding is an issue that needs managing at the Abbey Street and Jervis stops on the red line – issues are associated with work and leisure related journeys.
- 4.1.0.4 The specification for a major event is originated by the commercial department using template documentation (verified), which feeds into the weekly management meeting as a standing item on the agenda. Veolia demonstrated significant engagement with the police particularly in relation to special events and major perturbation.

4.2 Personal security of Veolia's staff

- 4.2.0.1 Veolia's arrangements properly define assault to include verbal assault. Staff assault is recognised as an issue where monitoring the time, location, nature of the event and staff member involved is of value. Veolia has in place mechanisms, which identify if any staff members are highlighting themselves as "part of the problem". Veolia has arrangements in place to discuss with staff members involved and identify if remedial actions – coaching / training are needed in relation to defusing conflict or over-reporting (which has found to be an issue in a few cases).
- 4.2.0.2 Routine controls are in place to open all doors to let the problem leave and to limit Veolia staff interventions pending police response. Evidence of regular monitoring and the production of a detailed annual report produced by the company's Safety Manager were evidenced. For each event it is Veolia practice to review the CCTV record from the tram and / or stop in question.

4.3 Safety performance reporting

- 4.3.0.1 Veolia's standardised monthly reporting arrangements are focussed on three key performance indicators – contact with person, road traffic accidents and emergency brake applications (verified). These are underpinned by the Traffic Event Database (TED) in which control room staff (Traffic Supervisor) input all events impacting on Veolia and categorise them (270 options available to them) – this has been verified. The Safety Manager leads on analysis to identify trends and emerging issues forward for discussion at the weekly management meeting / for action by responsible manager.



4.4 Recovery of defective trams

- 4.4.0.1 When an event relating to a tram is reported into the TED database, there is a check whether the vehicle complies with the minimum operating requirements set out in Veolia operating procedure #4. If the tram satisfies the OP4 requirement it can remain in service and be recovered to the depot in the normal way. If this is not the case there are two options depending on the condition of the tram; firstly running empty direct to depot and if in turn the requirements for this cannot be achieved by assistance from another tram. It has been verified that these arrangements are in place and that the staff concerned have appropriate documentation issued.

4.5 Standards

- 4.5.0.1 The audit has reviewed the control of standards in the context of OP4 (see above). Clarity as to master documentation and the controlled distribution to staff has been verified.
- 4.5.0.2 It has been established that for the safety critical roles of driver and control room Traffic Supervisor that all requirements are being consolidated in tramway safety instruction manuals. That for drivers has been issued in a controlled manner, the other remains under development
- 4.5.0.3 A copy of the drivers' manual has been reviewed and appears to constitute good practice. Underpinning operating procedures made redundant by issue of these manuals are to be retained in management for the time being to provide the audit trail as to the basis from which the manuals have been derived.

4.6 Investigation of accidents

- 4.6.0.1 Arrangements for the investigation of accidents are contained within Veolia emergency management procedure #5, within which the General Manager defines the form of investigation. To date there have been no events justifying the convening of an independently led Formal Inquiry. Initial investigation is by the designated incident officer on duty at the time supported by management team for the data collection and data analysis. Evidence gathering is standardised and includes downloads from the vehicles event recorder, CCTV records and drugs and alcohol screening if relevant. Standardised reporting is into an accident database maintained by the Safety Manager.
- 4.6.0.2 If there is a tram derailment and / or injury arising from the event, the initial standardised report is supplemented by further evidence gathering prior to generation of a report.
- 4.6.0.3 The audit has, on a random sample basis, reviewed the accident database and in each case the records appeared complete with recommendations tracked to conclusion. Where events remain open it has been evidenced that they are tracked by the Safety Manager. It is of note that the recommendations are disproportionately open when Alstom are involved as tram and infrastructure maintenance contractor

Recommendation 1 Veolia should at senior level raise the issue of open recommendations with Alstom and require them to provide a time-bound plan for the close out of open recommendations.

- 4.6.0.4 The audit has verified that physical verification that recommendations have been actioned and closed out is obtained. In the case of Alstom this is usually via their regular meetings with them as rolling stock / infrastructure maintainers. Likewise if the Rail Procurement Agency is involved progress is tracked via the joint monthly meetings.
- 4.6.0.5 The audit verification process demonstrated that the Safety Manager looks for patterns in the events recorded in TED / accident investigation reports. For example, nature, circumstances and time / location appear to be the subject of regular analysis.

4.7 Safety meetings

- 4.7.0.1 It has been stated that safety is a standing item at weekly and monthly minuted management meetings, although, the audit has not verified whether robust notes are kept. The Safety Manager has, in addition, regular meetings with the General Manager to discuss safety issues – records of these discussions are kept.
- 4.7.0.2 There are also regular meetings with Alstom as maintenance contractor for both infrastructure and rolling stock at which safety issues are discussed. It has been established that records of these meetings and actions required are kept. Similarly, it has been established that safety is a regular item on the agenda for regular meetings with the Rail Procurement Agency.

4.8 Drugs and alcohol policy

- 4.8.0.1 Veolia's arrangements make clear that when employees book on for duty, it is their responsibility to "self declare" themselves as fit. There appears to be a clear understanding that the competent person booking staff on duty also looks to see that staff members are fit. Veolia evidenced an example of a competent person who, when faced with a staff member with a streaming cold, asked what medication a person might be taking as a means of determining fitness to take duty.
- 4.8.0.2 However, the audit has identified that the current issue of the Veolia drugs and alcohol policy does not reference over the counter medication. Veolia have in place for pre-employment, ongoing random and for cause testing. Veolia have established a contract, which enables the company to access advice around the clock concerning the possible impact of prescription and over the counter medication and thus the fitness to take duty of those performing safety critical work.

Recommendation 2 Veolia should revise their alcohol and drugs policy to make explicit that over the counter medication is within the scope of the policy. All staff members should then be re-briefed accordingly.



- 4.8.0.3 It has been verified that Veolia make random checks on the application / implementation of Alstom's drugs and alcohol policy in respect of staff involved in the maintenance of infrastructure and rolling stock are concerned.

4.9 Road traffic management

- 4.9.0.1 It is evident that there is agreement that all highway lights and related tram signal control logic is the responsibility of the city council and that Veolia are responsible for the tram signal inputs itself. These are managed by Veolia via the Alstom maintenance project or, if there is a configuration change, via the Rail Procurement Agency who in turn would engage Alstom through Veolia.
- 4.9.0.2 It is evident that regular meetings with the city council take place to discuss planned highways work, which could impact on the priority, accorded to trams. This meetings structure also takes in priority changes on the junction to reflect changing traffic patterns and volumes on both a day-to-day and longer-term basis. In the case of the current work at the Red Cow roundabout, it is clear that the Rail Procurement Agency is in the lead for tramway configuration changes.
- 4.9.0.3 Where there is perturbation due to the failure of the traffic control signals there is clarity as to the arrangements which apply to secure the continued safe operation of the tram system including where it is essential for their to be a police presence (Red Cow roundabout).
- 4.9.0.4 Veolia evidenced that they have produced materials to educate the drivers of road vehicles regarding the tramway and the risks they pose when not obeying road traffic signals.

4.10 Competence management as applied to drivers and driver team leaders

- 4.10.0.1 Initially all documented systems were based on those used on Croydon Tramlink. Since 2004 these have evolved to meet the specific needs of the Veolia system in Dublin.
- 4.10.0.2 Selection of staff is managed by the human resources department to meet needs of the Operations department with joint interviewing involving Driver Team Leader (DTL). Medical and pre-employment screening for drugs and alcohol is systematic. Likewise, a systematic approach is taken to the induction of new staff members
- 4.10.0.3 Detailed consideration of the initial training of drivers demonstrates that the system is robust and capable of generating drivers with the competence to operate trams on both routes over which Veolia operates.
- 4.10.0.4 An aspect of the training regime is that a trainee will drive trams in service under the supervision of a minder driver all of whom have two years or more seniority as a driver and who demonstrably have a good driving record, the correct attitude towards their role as a driver, the ability to impart knowledge and a good attendance record. Trainee drivers are asked to provide feedback on their experience of driving with a minder driver present. Although these arrangements have, to date, appeared effective it is



appropriate that Veolia consider formalising the requirements for a minder driver.

Recommendation 3 Veolia should formalise their requirements for minder drivers, systematically assess candidates against these requirements and certificate minder drivers as competent

4.10.0.5 The audit has verified that Veolia has in place appropriate arrangements to monitor drivers in the first two years after their qualification as a driver. The arrangements are structured in a way, which ensures that the DTL with responsibility for the driver in question sees all of the evidence concerning the performance of drivers subject to post qualification monitoring. It has also been evidenced that the company has in place to provide further training should this be identified as necessary.

4.10.0.6 The arrangements in place for the re-certification of drivers after two years since first qualifying and two yearly thereafter are effective with no evidence reviewed in this audit that the two-year requirement is not met in a timely manner.

4.10.0.7 The routine in respect of drivers beyond their first re-certification is based on random monitoring in which a DTL travels a complete round trip with a driver, discusses any issues arising with the driver concerned and provides a completed record of monitoring to the DTL having particular responsibility for the driver in question. In addition any safety related issues identified during daily monitoring are reported to the TED system.

4.10.0.8 Although it is clear that DTL monitoring of drivers with two years or more experience is diligently undertaken the audit has identified that the current approach to this monitoring may allow a driver to go fifteen months or longer without a single round trip being monitored by a DTL.

Recommendation 4 Veolia should revise their arrangements for the monitoring of drivers with more than two years service and define the frequency and maximum interval between a round-trip being systematically monitored by a DTL.

4.10.0.9 In addition to the monitoring of a round-trip by a DTL, Veolia have evidenced that they routinely analyse the content of the TED database to identify if there are drivers who are disproportionately featuring in any event category; for example, emergency brake operations. This constitutes good practice, as do the arrangements for reviewing the totality of the records in TED pertaining to each driver in order that any propensity to over or under report safety related events into the control centre can be identified and remedial action initiated as appropriate.

4.10.0.10 The audit has verified that each of Veolia's DTLs are externally trained and certificated as competence assessors.



4.11 Infrastructure

- 4.11.0.1 The nature of Veolia's business operations, the contractual arrangements in place and the partial nature of this audit dictated that the main areas of interest were those relating to the management of their infrastructure contractor, Alstom.
- 4.11.0.2 The Alstom contract to maintain the infrastructure along with Veolia's overarching franchise contract expire in 2009 after an initial five year period. The Rail Procurement Agency will at this point award new contracts. Should Veolia be reappointed as LUAS concessionaire they will, in order to deliver the commitments contained within their current safety case, need to satisfy themselves that the maintenance contract to be let by the Rail Procurement Agency will not undermine the integrity of their operation. This can be accomplished within the Rail Procurement Agency led process to novate the maintenance contract to Veolia. The same issues will in due course need to be addressed in respect of the rolling stock maintenance contract which runs until 2019.
- 4.11.0.3 The Veolia contract is a very prescriptive document, which details a ten-year maintenance plan, in most cases, to line replacement level. The ten-year maintenance plan was part of the new works submission to the Railway Safety Commission and was an integral part of the approval to operate and maintain the system. Alstom have translated this plan into a series of annual plans to the satisfaction of Veolia. It has been verified at high level that the planned maintenance is executed against the schedule set out in the annual plan.
- 4.11.0.4 Alstom are said to have developed a safety statement although this was not evidenced as it was decided to limit the scope of the audit to Veolia and as a result the audit team did not request that arrangements be made to enable the audit to be extended into Alstom's undertaking.
- 4.11.0.5 It has been verified that Veolia undertake a range of safety briefings of interfacing organisations. Veolia have evidenced the basis on which they have trained the fire service's trainers. The documentation in turn produced by the fire service is of good quality and appears comprehensive. The basis on which on-going competence of fire service personnel are determined has not been verified within this audit.
- 4.11.0.6 Veolia have evidenced that they have arrangements in place to cause interfacing property owners to agree with Veolia the timing of work potentially impacting the tramway and the arrangements to be made to cover, for example, electrical safety and the need for isolations of the traction current.
- 4.11.0.7 The actions of 3rd parties, which may impart a risk to the operation of LUAS, are governed by by-laws, which require the third party to inform and consult with Veolia, and ultimately work in a safe manner.
- 4.11.0.8 Veolia have a good relationship with Local Authority in particular their planning department who inform them of any 3rd party activity, which may affect the tramway. In addition to the Local Authority the Rail Procurement Agency is understood to review all significant planning applications.
- 4.11.0.9 Permits to work are required for any work within the swept envelope of the system. This applies to Alstom and third parties and is a "statutory" responsibility. The



Infrastructure Maintenance Co-ordinator is the sole party authorised to issue a permit to work. All requests for isolations for planned work are made through the works planning meeting

4.11.0.10 In so far as infrastructure maintenance, fault identification, reporting and rectification are concerned, four weekly reports are produced by Alstom of all maintenance items both preventative and remedial. Faults are reported by drivers or through routine inspections. All faults are recorded the TED database. Veolia generates daily reports from the TED system, which they also use to perform trend analysis.

4.11.0.11 It is confirmed that Veolia operate a control system that defines maintenance scheduled and issues work orders to Alstom. Outstanding works are tracked via the system and chased down via the four weekly reporting and review process.

4.11.0.12 The annual audit plan used in respect of the Alstom contract for infrastructure maintenance is comprehensive. Two audits are undertaken each year and which run through the maintenance process from end to end. Most recently Veolia audited Alstom in August 07. (IMC0002, 26/10/05 – 15/11/05 was verified as a sample.) Non-compliances are raised through the Veolia safety and quality management system. It is of note that the audit covers a review of the competency systems of the contractor in addition to adherence to safety procedures.

4.11.0.13 Competence of Alstom as infrastructure maintenance contractor is considered by virtue of them demonstrating acceptable delivery of the contract requirements.

4.12 Rolling stock

4.12.0.1 As with infrastructure, this partial audit has concentrated solely on Veolia's management of Alstom, who are contracted to maintain the trams.

4.12.0.2 As Veolia contract their rolling stock maintenance to a third party, Veolia's arrangements for competence management are covered under auditing later in this section of the report

4.12.0.3 However it is also important to consider the competence of Veolia's in-house rolling stock specialist. Currently, the post holder is a time served mechanical engineer and qualified industrial engineer. This background is appropriate to the role. If the present post holder were to either leave or be absent for an extended period, it would be desirable for the replacement to have similar experience and this should be captured within the job requirements if this has not already been done

Observation 1	Veolia should capture the job requirement for the rolling stock specialist's position in order that they can plan for a smooth succession whenever this might occur
----------------------	--

4.12.0.4 The plan against which Alstom deliver the maintenance was originally independently validated by CERTIFER (document TRA D 450 419 000) when the trams were bought by the Railway Procurement Agency (RPA). This included validation of the content and frequency of maintenance.



4.12.0.5 Working originally from document TRA D 450 419 000, Alstom produce an Annual Maintenance Plan (AMP) which documents what exams are done, on what vehicles and when. It is updated every three months and sent to Veolia for review, as well as the Rail Procurement Agency who have an option to review. Veolia reviews it against the previous plan and if there is a change to the plan it goes to the Veolia Safety Working Group (VSWG) for discussion. As evidence of this, Veolia tabled the most recent AMP covering the period March 2007 to June 2007 issue 15, and issues 8 to 14 of the plan were seen on the LAN. Veolia also tabled evidence of his original comparison, which was conducted in 2005, which provides a baseline against which he checks for further changes. The most recent plan covering the current period has been held up because Veolia has requested clarification on door maintenance (following the audit referred to later in this section) and the content of the 300,000km exam, which is coming up. Veolia advised that there were no other changes in this plan.

Observation 2	Veolia should expedite agreement of the maintenance plan for the current period.
----------------------	---

4.12.0.6 Alstom submits details of engineering changes to Veolia's rolling stock specialist, who submits them to their Safety Manager for safety validation and approval by VSWG. More minor modifications such as improving hoses, fitting sanders or CCTV are simply brought to the attention of the VSWG. Veolia tabled document PR23 (dated March 1st, 2007) which is cited in section 2.8 of their accepted safety case and documents the constitution and remit of the VSWG. This confirms that change management of vehicles, procurement, procedures and the safety case lies within VSWG's scope.

4.12.0.7 Veolia tabled minutes of the VSWG dated August 28th, 2007, which demonstrate oversight of the change management process. Actions are clearly minuted and actions allocated with review dates. Document approval is also evidenced. A list of changes that had been approved by the VSWG was reviewed and change 06/002 picked at random. This change relates to the introduction of a Kelsan lubricating device on the infrastructure at the Charlemont ramp to reduce noise. The relevant VSWG approval certificate, which was authorised on January 25th, 2007, was evidenced.

4.12.0.8 One of the most significant changes that have been effected on the trams to date is the extension of the 301 series by adding a 10m central section. The Rail Procurement Agency contracted Alstom to implement this change and, as established since this audit took place, formally involved Veolia from as early as May 9th, 2005. However, these initial discussions took place before the Veolia Safety Working Group was established. Given this and as holder of the accepted Railway Safety Case, Veolia still required assurance that the modified trams would, when returned to service, be fit for purpose. Given this, Veolia defined a test process to confirm this and this was used as evidence to demonstrate to the Railway Safety Commission that the change was validated. As evidence of this process, Veolia risk evaluation reference VTI LUAS RA 021 Issue 1 "Testing newly formed 401 prior to passenger service, Risk Assessment RA 021" was tabled. The outcome of this risk evaluation was to implement the tests on each of the modified trams, and Veolia tabled evidence of these tests for tram 3001.



Veolia further tabled RSC letters of acceptance for this change: concept dated March 14th, 2007, testing and commissioning March 14th, 2007, passenger service May 21st, 2007.

4.12.0.9 It was noted that the Rail Procurement Agency is buying more trams for the Green Line.

4.12.0.10 The only supplier used for the maintenance of the trams is Alstom. However, Alstom may from time to time sub-contract work although they retain responsibility for it. For instance Alstom sub-contract cleaning and they have sub-contracted particular aspects of crash repairs to be conducted under Alstom supervision. Veolia confirmed that Alstom have a process for approving suppliers however this has not been formally audited by Veolia.

Observation 3	Veolia should give consideration to auditing Alstom's supplier approval system and monitoring process to confirm that it is robust.
----------------------	--

4.12.0.11 Assurance that Alstom are working to the annual maintenance plan for the rolling stock is managed by way of audit. Contractually Veolia is allowed to undertake three audits per year on Alstom's tram maintenance, which can include a review of training and competence. However, additionally they can do undertake a safety audit whenever they wish. Veolia conduct these audits themselves and similarly manages the audit findings through discussion with Alstom to the point of closure. Evidenced examples were provided as follows:

4.12.0.12 Veolia conducted an audit on doors following a number of spurious emergency brake applications. Veolia found that there was no preventative maintenance; the only work being done was corrective, i.e. it was being done in response to in-service problems. Veolia tabled their audit report on this (VMC-0011 dated August 22nd, 2007). Veolia is currently agreeing with Alstom the required preventative maintenance as part of the AMP review.

4.12.0.13 Another example where auditing picked up a problem was where trams were running beyond their exam tolerances, and they tabled their safety audit report (VMC-0001 dated August 31st, 2005) as evidence. In response to this problem Veolia now receives an exam-planning sheet at least once a week. A card has also been put in each cab for the driver to check whether the tram has run beyond its exam mileage, in which case they would take up any concerns with the controller.

4.12.0.14 Veolia tabled their audit plan for 2007 and investigation concluded that most of the audits have been done as planned. Audits, which had been deferred, were deferred so that higher priorities could be addressed; for instance the balanced exam audit scheduled for July had been deferred so that the audit on doors could be conducted. This shows proactive management of the audit programme.

4.12.0.15 There are a number of checks in place to ensure that the trams are fit for service, for instance the Alstom pre-service check and the checks performed by the Veolia drivers. In addition to this, Veolia receives daily reports and many soft copy examples of this



were seen by the auditor. Veolia tabled their audit report (VMC-0008 dated August 14th, 2006), which evidences an audit on the control pre-service checks by Alstom.

4.12.0.16 Veolia also advised that Alstom audit themselves and consequently they audit the efficacy of their audits. Veolia tabled their audit report (VMC-0008 dated August 14th, 2006) as evidence of this. It should be noted that the scope of this audit also includes staff qualification and training.

4.12.0.17 In short, Veolia's rigorous and pro-active management of Alstom's maintenance regime is to be highly commended.

4.13 Rail Procurement Agency

4.13.0.1 Throughout the audit there were many references to the role of the Rail Procurement Agency, in particular in relation to the infrastructure and rolling stock, which are owned by the agency. In many ways it has been evidenced that Veolia have established arrangements for their interaction with the Rail Procurement Agency. However, although much information has been relayed to the audit team, documented procedures governing the relationships involving the Rail Procurement Agency were not produced by Veolia as evidence where verification was requested.

4.13.0.2 Thus, it is clear that Veolia and the Rail Procurement Agency should build upon the established meetings structure within which both parties are represented. Where terms of reference have not been formally agreed Veolia and the Rail Procurement Agency should engage with each other to document the arrangements for their continued interaction on matters with the potential to affect the safety of the tramway system. Specifically, terms of reference need to be developed and promulgated for Veolia's already minuted monthly safety meeting evidenced during the audit.

4.13.0.3 As renewals due to other than "fair wear and tear" are required and introduction of new equipment impacts on the system to the requirements set by the Rail Procurement Agency, the number of transactions with the potential to impact on safety will increase. Although there appears to be a significant meetings structure which includes attendance from the Rail Procurement Agency and thus effective liaison between Veolia and the Agency, and likewise between the Agency and their usual principal contractor – generally Alstom, the terms of reference for these meetings may need to be developed and additional supporting process procedures put in place. This is also the case where there are tri-partite meetings and engagement in delivering the work required. It is also appropriate that these arrangements are visible to the Railway Safety Commission

Recommendation 5 Veolia and the Rail Procurement Agency should together complete the process of documenting their agreed process to secure safety on the tramway in regards to significant system modification.



5. Summary of Observations and Recommendations

5.1 Observations Summary

Observation 1

Veolia should capture the job requirement for the rolling stock specialist's position in order that they can plan for a smooth succession whenever this might occur.

Observation 2

Veolia should expedite agreement of the maintenance plan for the current period.

Observation 3

Veolia should give consideration to auditing Alstom's supplier approval system and monitoring process to confirm that it is robust.

5.2 Recommendations Summary

Recommendation 1

Veolia should at senior level raise the issue of open recommendations with Alstom and require them to provide a time-bound plan for the close out of open recommendations.

Recommendation 2

Veolia should revise their alcohol and drugs policy to make explicit that over the counter medication is within the scope of the policy. All staff members should then be re-briefed accordingly.

Recommendation 3

Veolia should formalise their requirements for minder drivers, systematically assess candidates against these requirements and certificate minder drivers as competent.

Recommendation 4

Veolia should revise their arrangements for the monitoring of drivers with more than two years service and define the frequency and maximum interval between a round-trip being systematically monitored by a DTL.

Recommendation 5

Veolia and the Rail Procurement Agency should together complete the process of documenting their agreed process to secure safety on the tramway in regards to significant system modification.



Appendix A Interviews

List of interviewees



List of interviewees

Brian Brennan, General Manager
Paul Scully, Operations Manager
David Joyce, Driver Team Leader
Eamonn O'Modhrain, Infrastructure Maintenance Co-ordinator
Chris Earl, Vehicle Maintenance Contracts Coordinator
Bruno Fualdes, Safety Manager




Gutteridge Haskins & Davey Limited Company No 439873

Pod 27, Castleyard,
20/21 St Patricks Road
Dalkey, Co. Dublin
T: 01 235 0817
E: scott.campbell@ghd.com.au

© **Gutteridge Haskins & Davey Limited 2008**

This document is and shall remain the property of Gutteridge Haskins & Davey Limited. The document may only be used for the purpose of assessing our offer of services and for inclusion in documentation for the engagement of Gutteridge Haskins & Davey Limited. Unauthorised use of this document in any form whatsoever is prohibited.

Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
1.0	Aidan Nelson	Jeremy Blake	Draft Issue	Scott Campbell	Draft Issue	
2.0	Aidan Nelson	Jeremy Blake		Scott Campbell		
3.0	Aidan Nelson	Jeremy Blake		Scott Campbell		25/2/08