



Railway Procurement Agency

Construction Safety Report

2009

RPA CONSTRUCTION SAFETY REPORT 2009

1.0 INTRODUCTION

This report outlines the construction safety performance on RPA projects during 2009.

The report is formatted so that it is possible to compare the resulting safety statistics with the benchmark figures provided by the HSA (Health & Safety Authority) for the Irish Construction Sector for reportable accidents involving an absence from work of more than 3 days.

2.0 OVERVIEW OF CONTRACTS

During 2009, construction continued on Luas Cherrywood (Line B1), a 7.5km extension of the existing Luas Green Line from Sandyford to Brides Glen and Luas Docklands (Line C1), a 1.5 km extension of the Luas Red Line from Busáras to The Point. The construction of both of these lines commenced in the first quarter of 2007. Work on Line B1 continues but Line C1 was completed and opened to passenger services in December 2009. Work commenced on Luas Citywest (Line A1) from Belgard to Saggart, a 4.5 km extension to the Red Line, in March 2009.

Line A1

The following contracts have been awarded for the construction of Line A1:

Contract	Works	Contractor	Start	Finish
A1_401	Connections at Belgard (Traditional Build Only Contract)	BAM	Sept. 2009	May 2011
A1_402	Main Infrastructure Works. (Design & Build Contract)	BAM	Mar. 2009	May 2011
A1_405	Systems (Design & Build Contract)	SBS/Efacec	Jan. 2010	May 2011

Line B1

The following contracts were awarded for the construction of Line B1:

Contract	Works	Contractor	Start	Finish
B1_100	Road realignment & Utility Divs. (Traditional Build Only Contract)	Siac	Mar. 2007	Finished Jun.2009
B1_160	Enabling works & tree felling. (Traditional Build Only Contract.)	CLG Ltd.	Mar. 2007	Finished Nov.2007
B1_300	Structures. (Traditional Build Only Contract)	Laing O'Rourke	Mar. 2007	Finished Aug.2008
B1_400	Main Infrastructure Works. (Design & Build Contract)	SBS JV	Jun. 2007	Continuing

Line C1

The following contracts were awarded for the construction of Line C1:

Contract	Works	Contractor	Start	Finish
C1_100	Utility Diversions. (Traditional Build Only Contract)	Siac	June 2007	Finished Sept. 2008
C1_300	Mayor Street Bridge over Georges Dock (Traditional Build Only Contract)	John Sisk	June 2007	Finished Dec.2007
C1_301	Spencer Dock Bridge (Traditional Build Only Contract)	Laing O'Rourke	Jan. 2008	Finished June 2009.
C1_400	Main Infrastructure Works. (Traditional Build Only Contract)	M-Pact, Laing OR - JV	April 2008	To finish Feb. 2010.
C1_450	Systems (Design & Build Contract)	SBS/Efacec	June 2009	Finished Dec. 2009.

3.0 ACCIDENTS AND INCIDENTS

The Health & Safety Authority (HSA) defines Lost Time Accident (LTA) as one which results in more than 3 days absence from work.

The Irish Construction Industry Accident Frequency Rate (AFR) is a statement of the number of LTA's per 100,000 hours worked and is used for comparison purposes. This calculates lost time reportable accidents normalised per 100,000 man hours worked.

The most recent Irish Construction Sector average is approximately 0.8.

The equation for calculating AFR is:
$$AFR = \frac{\text{No. of Lost Time Accidents} \times 100,000}{\text{Total Hours Worked}}$$

Line A1

The totals of all accidents and incidents which occurred on Line A1 during 2009 were as follows:

Employer	Hours worked	Total Incidents	Dangerous Occurrence	Fatal	First Aid on site or medical treatment	Lost Time Accidents (LTA)
RPA-site staff	25964	0	0	0	0	0
BAM	125840	7	4	1	2	0
TOTALS	151804	7	4	1	2	0

A fatal accident to an employee of a sub-contractor to BAM is under investigation by the HSA.

The Accident Frequency Rate (AFR) for Line A1 using the equation provided above is:

$$\text{AFR} = \frac{1 \times 100,000}{151804} = 0.66$$

This is lower than the average for the Irish Construction Sector which is 0.80.

Line B1

The totals of all accidents and incidents which occurred on Line B1 works during 2009 were as follows:

Employer	Hours worked	Total Incidents*	Dangerous Occurrence	First Aid on site or medical treatment	Lost Time Accidents (LTA)
RPA-site staff	21196	1	0	0	1
Siac (B1-100)	17,385	2	0	0	0
SBS (B1_400)	485,448	32	0	28	0
TOTALS	524029	35	0	28	1

*Total Incidents includes Incidents with material damage and First Aids and other incidents such as cable strikes and serious vandalism.

Using the Accident Frequency Rate (AFR) equation shown above, the AFR for Line B1 is:

$$\text{AFR} = \frac{1 \times 100,000}{524,029} = 0.19$$

This is significantly lower than the average for the Irish Construction Sector which is 0.8.

Line C1

The totals of all accidents and incidents which occurred on Line C1 during 2009 were as follows:

Employer	Hours worked	Total Incidents	Dangerous Occurrence	First Aid on site or medical treatment	Lost Time Accidents (LTA)
RPA-site staff	15,560	0	0	1	0
Laing O'Rourke	24,906	0	0	2	0
M-Pact	353,170	3	0	9	4
SBS/Efacec	26,813	2	0	0	0
TOTALS	420,449	5	0	12	4

Using the equation for calculation of AFR presented above, the AFR for Line C1 is:

$$\text{AFR} = \frac{4 \times 100,000}{420449} = 0.95$$

This is slightly over the average for the Irish Construction Sector which is 0.80.

Overall AFR

The overall AFR for all current RPA contracts is as follows:

$$\text{AFR} = \frac{6 \times 100000}{1,075,086} = 0.56$$

This rate which is below the national average for the Irish Construction Sector of 0.8 and is noteworthy.

3.1 DETAILS OF SIGNIFICANT ACCIDENTS FOR LINE A1

The accident information below relates to the single reportable accident which has occurred on the Line A1 work. The accident resulted in a fatality.

Employer	Date	Details
BAM	15 May 2009	A BAM subcontract employee was assisting in the unloading of concrete segments from a low loader trailer by means of a teleporter machine when he was struck by a segment and fatally injured in circumstances which are not yet clear. The HSA investigation is not yet complete.

3.2 DETAILS OF LOST TIME ACCIDENTS FOR LINE B1

The accident information below relates to the single reportable accident which occurred on Line B1. The accident resulted in the injury of an RPA employee on the B1-400 works being undertaken by SBS.

The accident was reported to the HSA. No investigation by the HSA was undertaken and no further action has been taken.

Employer	Date	Details
RPA	17 th Nov 2009	At approximately 08.30am an employee of RPA tripped and fell on uneven terrain whilst taking measurements on a site adjacent to Glencairn Estate (Murphystown Road). The employee attended the Beacon Medical Centre for X-Ray and was found to have a chipped bone in his ankle. The employee returned to work on 30 th November 2009.

3.3 DETAILS OF LOST TIME ACCIDENTS FOR LINE C1

Lost time accidents on Line C1 were as follows:

Employer	Date	Details
MPact	08 February 09	An excavator was using a breaker to move decommissioned electric cables. The cables came loose suddenly and as they came loose, hit the operative in the face. He suffered a number of broken teeth and cuts to his face.
MPact	04 March 09	A member of Volker Rail (sub contract welders) staff strained his back while lifting a generator over 500mm wide box-out section. Self certified sick and returned to site on 13 March 2009.
MPact	26-Mar-09	Contractor's operative working on shuttering at The Point compound. Fell from timber platform approx. 300mm high and sustained fractured ankle
MPact	28-Apr-09	A member of Volker Rail tripped on recessed channel in concrete slab. Sustained chip to ankle bone.

The above accidents were reported to the HSA and no further action was taken.

4.0 DETAILS OF UTILITY STRIKES

Line A1

The following utility strikes occurred on Line A1::

Employer	Date	Details	Impact
BAM	08/04/2009	Damage to 180mm PE distribution gas main. Bord Gais attended.	None
BAM	21/09/2009	Damage to a telecommunications cable. Eircom attended.	None

Line B1

No Utility strikes occurred on B1-100 during 2009. The following cables strikes occurred on the B1-400 Contract:

Employer	Date	Details	Impact
SBS (Tusker – as sub-contractor)	02/03/2009	Tusker operative struck and damaged a cable adjacent to Ballyogan compound. No injuries or damage to equipment. Cable required repair. ESB attended	None
SBS (Tusker – as sub-contractor)	23/01/2009	Eircom underground cable struck by excavator at Glencairn Substation site. Survey of cable location confirmed that no warning tape was present and excavator driver dug through cable. No injuries or damage.	None
SBS (Tusker – as sub-contractor)	23/01/2009	Dead Eircom overhead cable struck by excavator. Cable had been decommissioned prior to demolition of existing property. No injuries or damage.	None

Line C1

Employer	Date	Details	Impact
MPact	08-Jan-09	5 tonne excavator preparing ground exposed and damaged 110mm gas distribution valve. Bord Gáis attended and repaired minor leak.	No injuries NIL impact
MPact	23-Jan-09	Excavator removing lean-mix concrete from around gas pipe in Castleforbes Road. Valve pierced. Bord Gáis attended and repaired leak.	No injuries NIL impact

5.0 SAFETY AUDITS AND INSPECTIONS

With the exception of the B1_400 and A1_402 Contracts the role of Project Supervisor Construction Stage (PSCS) has been fulfilled by RPA with nominated individuals reporting on each project. On B1_400 because of the nature of the Design/Build contract the PSCS role is undertaken by the Safety Manager of Bowen Construction on behalf of the Joint Venture Company.

Likewise, for the A1_402, a Design/Build contract, the PSCS role is being undertaken by BAM. The client for this contract is Citywest Luas Limited (CLL) and although the RPA has nominated a "Client Safety Representative" for this contract and weekly safety inspections are carried out with the PSCS representative on site, RPA has no legal responsibility for safety issues on this project. Monthly safety audits of Contractors systems in line with the requirements of the RPA Safety Management System are undertaken.

On the traditional "build only" contracts the RPA as PSCS carries out regular daily and weekly safety inspections. It also conducts monthly safety audits of Contractors systems in line with the RPA safety management system. These inspections and audits are recorded in various ways and where deficiencies are noted, the PSCS ensures corrective action is taken in a defined timeframe as appropriate.

RPA Project Managers have weekly coordination meetings with each of the contractors where safety is the first topic on the Agenda and in the case of Line C1 works, safety liaison meetings were held regularly with neighbouring contractors working on "Docklands" contracts.

The PSCS carries out ongoing monitoring of the contractors to ensure that the duties under the Health and Safety at Work Act and relevant regulations are being effectively applied and reviews all contractor Health & Safety documentation.

The Safety Department also arranges or provides training for RPA staff on a regular basis to further help develop their on-site safety knowledge.

6.0 ANALYSIS

The overall Accident Frequency Rate (AFR) of all accidents and incidents on RPA construction sites for 2009 was 0.56 – this compares with the Construction Sector average of 0.8 and is satisfactory. The equivalent sectoral figure for 2008 was 0.81.

On Line A1, the death of a sub-contract worker of BAM whilst assisting the unloading of concrete segments from a trailer is subject of a formal investigation by the HSA. The outcome has not yet been published.

The Dublin County Coroner's inquest into the death convened on the 19th November 2009 in Tallaght. The HSA Inspector, Mr Frank Keirns, was granted an adjournment for six months to complete his investigation and this may be extended to twelve months.

This was the only significant accident on the Line A1 project.

On Line B1, the Lost Time Accident Rate by both main contractors (Siac and SBS) was zero – a commendable performance spoilt only by an LTA (ankle injury) to an RPA employee. The resulting AFR for this project was 0.19.

Work on Line C1 continued with four Lost time Accidents and only two utility strikes – a considerable improvement over the 2008 year but this reflected the completion of the majority of the excavation work. The resultant AFR for the project was 0.95 - an improvement over the 1.32 figure for 2008.

The RPA is very conscious of the importance of safe working and continues to give high priority to ensuring its construction sites are safe workplaces for its own and its contractors' staff. It will continue to closely monitor, as client, the construction activities being undertaken on its projects. This will be with a view to making continuous improvement towards an ultimate goal of zero lost time accidents – an AFR of 0.

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