Railway Safety Commission



Annual Report





Annual Report 2008

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Foreword



Railway Safety Commission Annual Report

Railway Safety Commission Team

As required under section 28(3) of the Railway Safety Act 2005 (Railway Safety Act) we present this, our third annual report, to the Minister for Transport. Like previous reports it gives an overview of our functional work, administration and governance, and of the safety performance of the railways that we regulate.

I am pleased to again be able say that in 2008 the Railway Safety Commission (RSC) met all its customer demands, and that with the strengthening of our team in 2009 we will be in a position to do so more cost effectively. Particularly, we made significant progress in further developing the processes and procedures to help railway undertakings and ourselves meet our respective responsibilities.

The European Communities (Railway Safety) Regulations 2008 brought the RSC's mandate fully into line with European Union (EU) requirements and, as a National Safety Authority and a National Investigation Body, we continue to be actively involved in the ongoing development of the European regulatory framework. In November, the Government announced its intention to bring aviation, marine and railway accident investigation together in one body and in doing to fully separate the regulatory and causal investigation functions of the RSC. We fully endorse this decision which we see achieving business synergies and reflecting good industry practice.

The good safety performance of railways continued through 2008.

larnród Éireann data indicates a significant reduction in incidents in two high risk areas: road vehicles striking underline bridges, and signals passed at danger where sufficient warning was given. In contrast, after falling to a ten year low in 2007, there was an increase in trespasser fatalities, including those occurring in suspicious circumstances.

Regrettably, 2008 saw the first LUAS fatality. This was not, however, reflective of any system or operational shortcoming and indeed the ongoing commitment of Veolia and the Railway Procurement Agency to safety is to be commended. Generally, the occurrence of all light rail incident types has levelled off. Particularly, it is encouraging that the number of emergency brake applications by drivers, an important accident precursor indicator, has fallen.

The last decade has seen a significant growth in rail transport in Ireland with the advent of light rail in Dublin and a substantial increase in capacity on the national heavy rail network. The accompanying business driven investment in infrastructure and rolling stock coupled with the safety based improvements under the first two phases of the Railway Safety Programme have left railways well placed going forward to meet their responsibility to operate safely. The current economic climate will, none the less, present significant challenges. The safety performance of our national heavy rail network is now subject to European scrutiny and the expectation is that current safety levels shall at least be maintained.

As in previous years, I must again thank the rest of the RSC team for their continuing commitment and support which underpin our success in delivering services to our customers.

John Deley

John Welsby Commissioner for Railway Safety

2.1. Mission statement

Our mission statement, as presented in our Statement of Strategy 2006-2008, is that: "The Commission will assure, through education, guidance and balanced regulation, the safety of railway services and affected persons."

2.2. Background

The RSC was established on 1st January 2006 under provision of the Railway Safety Act, with responsibility for railway safety regulation and investigation. In the context of the European Railway Safety Directive (2004/49/EC) (Railway Safety Directive) the Railway Safety Commission (RSC) is both the National Safety Authority and National Investigation Body. The Directive requires that these functions are independent of each other. This is was achieved by setting up an the Railway Accident Investigation Unit (RAIU) within the RSC with shared administration but independent staffing and reporting arrangements.

In the course of 2008, the European Communities (Railway Safety) Regulations (S.I. No 61 of 2008) came into effect, which further defined the position and role of the commission in Irish law and amended some provisions of the 2005 Act to correlate better with EU directives.

2.3. Structure

We are a small, professional organisation with a flat reporting structure which encourages and facilitates free-flow of information and ideas and promotes consultation and creative thinking. This complements our purpose of promoting excellence in railway safety. It also provides us with the flexibility we need to respond effectively to immediate and unpredictable work demands, and to accomplish the structured tasks within our business plan.

Based on medium-term workload projections, we have approval for eleven full-time staff in the RSC, of which seven are technical and two administrative, while the RAIU has approval for five technical posts. Over 2008, substantial progress has been made in recruiting and appointing the remaining staff to achieve a full complement. These totals include the Commissioner and the Chief Investigator, who are appointed by the Minister for Transport. Our organisational structure, staffing, and task assignment at January 2009 are as shown in figure 1 to the right.



Iarnród Éireann class 22000 carriage under construction in Korea



Figure 1: Organisational Chart for the Railway Safety Commission



3. Functional Performance

3.1. Introduction

Figure 2: RSC work flow diagram

There are four main functional strands to the RSC's task, as embodied in our mission statement, of assuring the safety of railway services and affected persons.

They are:

- safety approval
- safety auditing and monitoring
- safety enforcement
- investigation

The relationship between these functions, and that of causal investigation by the RAIU, is illustrated in figure 2,





New Iarnród Éireann station, Adamstown



3.2. Safety Approval

3.2.1. Safety case

The primary role of approval is to ensure that the collective rules, standards, procedures etc, that in aggregate comprise a railway undertakings safety management system, provide a robust and coherent framework for the safe delivery of railway services.

The Railway Safety Act requires a railway undertaking to prepare a safety case describing its operations and how,

through implementation of its safety management system, these are provided safely. Within a period of three months of receipt of a safety case, or of receipt of any additional information or clarification sought during its review of that safety case, the RSC must issue an undertaking with a safety certificate.

larnród Éireann, Veolia and Bord na Móna Industrial Railways all have current safety certificates. The majority of the heritage railways have also obtained safety certificates. The table below indicates the status of safety certificates at the end of 2008. The Tralee and Dingle heritage railway did not operate in 2008, and the Clonmacnoise and West Offaly railway terminated operations for passengers at the end of the 2008 season.

| Railway | Safety Certificate status |
|-----------------------------------------|---------------------------|
| Difflin Railway | Current certificate |
| Cavan and Leitrim Railway | Current certificate |
| Clonmacnoise and West Offaly | Current certificate |
| Fintown Glenties | Current certificate |
| Irish Steam Preservation Society | Current certificate |
| Lartigue Monorail | Current certificate |
| Railway Preservation Society of Ireland | Current certificate |
| Tralee and Dingle | Not Operating |
| Waterford and Suir | Current certificate |
| West Clare | Current certificate |

Figure 3: Status of Heritage railway safety certificates by end of 2008

3.2.2. Intoxicants

Section 88 of the Railway Safety Act requires railway undertaking to report annually to the RSC on their implementation of measures provided for in parts 9 and 10 of the Act which deal with intoxicants and offences by persons working on railway infrastructure. (Intoxicants include alcohol, prescription drugs and nonprescription drugs.) The RSC in turn is required to publish details of those reports. We have chosen to do so in our Annual Report because ensuring that staff, particularly those engaged in safety critical work, are fit to carry out their duties is an integral part of a railway undertakings wider safety management system.

larnród Éireann's code of conduct in relation to intoxicants, its Drugs and Alcohol Policy, was introduced in May 2007. LUAS operator, Veolia, has been implementing a similarly policy since commencement of services in 2004. Both deal comprehensively with the management of associated risk and provide for education, counselling and testing.

Testing may be 'for cause', that is where circumstances such as the occurrence of an incident or accident indicate the need, or random. In relation to the latter both undertakings have adopted the industry practice of testing five percent of safety critical workers annually.

Available larnród Éireann figures are for the twenty month period from introduction of the policy to the end of 2008. In that time 156 random tests were conducted, two of which resulted in positive outcomes for drug detection. In the same period 26 post-incident tests were undertaken, with similarly two proving positive for drug detection, and in two other situations where 'for cause' testing was deemed necessary both proved positive, one for alcohol and one for drugs. Figures for Veolia reflect the much smaller size of its operations. In 2008 six random tests were conducted and five employees were tested 'for cause'. None of these tests proved positive.

During the year larnród Éireann reviewed the first twelve months of implementation of it's policy. As part of that review the RSC asked larnród Éireann to consider how provision for unannounced testing might be introduced.

3.2.3. New works

The Railway Safety Act obliges railway undertakings to submit a 'Safety assessment of new works (NWA)' or a 'Safety assessment of new rolling stock (NRSA)' to the RSC before the bringing into use of same (sections 42 and 43).

Guideline RSC-G-009 outlines the general process for submission of NWAs and NRSAs. During 2008 more detailed guidelines were published for NRSA submissions (section 5.3 of this report).

With completion of the transposition of the Railway Safety Directive in March 2008 the RSC now authorises the acceptance of new infrastructure and rolling stock sub-systems in the wider context of the European railway safety regulatory framework. The RSC is also responsible for authorising the placing into use of these sub-systems under the Railway Interoperability Directive. This combined process extends to the lines and equipment that form part of the trans-European High Speed and Conventional railway networks. The latter encompasses the majority of the larnród Éireann network.

Demand for new works approvals is driven by the continuation of railway development under the Transport 21 programme. To ensure a smooth process we carry out approvals on a phased basis facilitated by regular meetings with railway undertakings. A full list of projects approved in 2008 can be found in Appendix 4.

3.2.4. Safety Auditing and Monitoring

Our auditing and monitoring activities derive from four principal sources:

- Complaints and representations by, or on behalf of, passengers;
- Industry safety concerns, typically arising from accidents and incidents;
- The need to ensure that railway undertakings are implementing their approved safety cases;
- The need for ongoing assessment of the performance of all industry safety duty holders, through inspections and accident tracking.

3.2.5. Complaints and Representations

The public, passengers or otherwise, are our principal customers and we encourage them to bring railway safety concerns to our attention. Where these relate to service rather than safety, we direct the representation to the appropriate authority. Where the matter involves railway safety, we try, wherever possible, to deal with the matter directly. If we are unable to do so, we seek the necessary information from the duty holder that enables us to provide a full response.

In 2008, we received 22 direct or indirect public representations relating to a range of heavy and light rail infrastructural and operational matters, a decrease on the number received in 2007. None gave immediate or specific cause for safety concern but all were investigated and responded to. The RSC continues to track representation topics on an ongoing basis to identify any recurrence or trends that might indicate a need for further attention.

As in 2007, crowding prompted the greatest number of representations and as in previous years, the concerns related primarily to service and comfort issues. There was an increase in the number of complaints or

representations received by the RSC regarding user-worked level crossings, following which a number of inspections were conducted. During the year, preliminary research was conducted into the use of these crossings, and similar types of crossings on other railways. It is the RSC's intention to conduct a more thorough review of user-worked crossings in 2009.

3.2.6. Industry Concerns

In 2008 the RSC received a confidential representation from an employee of a Railway Undertaking, which prompted further investigation including a review of standards and conducting interviews of relevant personnel.

The RSC maintains formal and informal contact with our peer regulatory and investigatory bodies in Europe. A number of accident reports and safety advisory notices that were deemed relevant to railway undertakings were circulated by the RSC. None of these was found to have safety implications in the context of operations in Ireland.

3.2.7. Compliance Auditing

Again in 2008, the number of railway projects that required RSC approval meant that we were able to commit less time to performance auditing and monitoring than we would have wished. However, the RSC conducted an audit of the use of on-track –machines and road-rail-vehicles, paying particular attention to driver competence.

In addition in-service inspections of all heritage railways, currently operating, were conducted. A number of inspections of larnród Éireann and Veolia were also carried out focusing on;

- Illegal dumping;
- Passenger flow and exit validation at stations;
- Third party Works;
- Tramway infrastructure and trespass;

Where the occasion permitted, inspectors took the opportunity to travel in locomotive cabs to assess operations and the condition of the permanent way. The RSC, as a small professional organisation, is required to maintain an awareness of developments in the railway sector, and in 2007 research was undertaken in the area of bridge strike prevention techniques. This report was completed in September 2008 and issued to larnród Éireann for comment. larnród Éireann supports the findings and is keen to develop a programme to implement associated observations and recommendations. A number of these are directed towards other stakeholders such as local authorities and these will be discussed with the Road Rail Safety Working Group. The report can be viewed on the our website.



Sighting distance checks at level crossing

4. Assessment of Duty Holder Safety Performance

Each railway undertaking is obliged to notify railway incidents and injury accidents to the RSC, in accordance with regulations made under the Railway Safety Act. The RSC maintains a record of these incidents and injury accidents. The data are useful for ascertaining prevailing risk levels and trends, for identifying new areas of particular risk, and for the assessment of duty-holder performance.

4.1. larnród Éireann Network

The larnród Éireann network has 1919km of running line in service.

The year 2008 saw a slight reduction in activity, with passenger traffic declining by around 2% in terms of passenger km and total number of passengers, while freight fell by a more significant 13%. Since the year 2000 the proportional split between passenger traffic and freight traffic has radically changed, and the use of diesel railcars has become more prevalent. This is reflected in the operating statistics shown in Appendix 1 of this report.

In terms of safety performance, the statistics presented in Appendix 2 indicate that there has been some encouraging progress in some key safety indicators. A sizeable reduction in the number of signals passed at danger (where sufficient warning was given) was particularly encouraging. Strikes of bridges under the railway also fell substantially. Action plans to address rolling stock issues identified in 2007 also appear to have had positive effect. Nonetheless, there were still some categories of incident which show there is no room for complacency. Two derailments occurred on running lines during normal operations, which was up from the single incident the previous year, and one of these is the subject to an RAIU investigation. There was also one instance of a passenger train colliding with buffer stops and one train collision with the gates of an attended level crossing.

There was an annual increase in the number of fatalities to trespassers and those fatally injured in suspicious circumstances. There was one other fatality on the network, where a motorist was killed when his car was struck by a train at a user worked level crossing, indicating that level crossings continue to be a key area of risk.

A more detailed analysis is given in Appendices 2 & 3 of this report.

4.2. Dublin Light Rail

The LUAS system came into operation in mid 2004 and has enjoyed a good safety record. Available statistics are brief in quantity and duration, as summarized in table 1 below.

Over 11.5 million train-km have been achieved since opening. In 2008, the system recorded its first fatality involving a moving tram. In a separate incident, a passenger pursuing a tram slipped under the tram and suffered a serious foot injury. The only serious equipment-related incident of note recorded was a depot derailment. The rates of road traffic accidents, injury, and instances where pedestrians and cyclists come in contact with a moving tram appear to have leveled out.

In 2008, there were 32 road traffic accidents, representing an increase over the previous two years, but less than the first full year of operation. Some 17 contact incidents with pedestrians and three contact incidents involving bicycles occurred, with the number remaining relatively stable over time.

The number of emergency brake applications by tram drivers continued to fall, partly due to defensive driving techniques being implemented. However the number of trams stopped by passengers using the emergency handle has increased considerably, mainly attributable to misuse by one individual.

4.3. Heritage Railways

The RSC received two reports of railway incidents from heritage railways in 2008. Both involved minor derailments and occurred on the Clonmacnoise and West Offaly Railway. There were no injuries reported.

4.4. Bord na Móna industrial railway

We regulate the Bord na Mona industrial railway where it interfaces with the public at level crossings and underpasses. In 2008 two incidents were reported: one where the gate of a level crossing was struck by a train, and another where a train derailed on a level crossing. Again, there were no injuries reported.



Table 1: LUAS operating and accident statistics 2004-2008

| Year | 2004 | 2005 | 2006 | 2007 | 2008 | Total |
|------------------------------|-------|-------|-------|-------|-------|--------|
| Months of operation | 6 | 12 | 12 | 12 | 12 | 54 |
| Tram Km (000)s | 1,000 | 2,500 | 2,661 | 2,751 | 2,744 | 11,656 |
| Road Traffic Accidents (RTA) | 17 | 36 | 24 | 28 | 32 | 137 |
| Contact of person with tram | - | 8 | 21 | 18 | 20 | 67 |
| Collision tram/tram | 1 | 1 | - | - | - | 2 |
| Derailment in depot | 1 | 4 | - | 3 | 1 | 9 |
| Derailment on mainline | 1 | 1 | 1 | - | - | 3 |
| - First Aid | - | 5 | 1 | 3 | 1 | 10 |
| - Medical Attention | 7 | 10 | 9 | 11 | 4 | 41 |
| - Hospital care | 2 | 2 | 2 | 2 | 1 | 9 |
| Total Injuries | 9 | 17 | 12 | 16 | 6 | 60 |
| Emergency Handle | n/a | 14 | 21 | 22 | 43 | 100 |
| Emergency Brake | n/a | 946 | 747 | 540 | 435 | 2668 |

(- denotes Zero. N/A denotes information not available)

4.5. Safety Enforcement

The Railway Safety Act provides the RSC with powers of enforcement which may be used where necessary to ensure safety. These powers can be used to require railway undertakings to address non-compliances with their safety cases and other statutory obligations and to address any risks that might otherwise be identified.

Under section 76 of the Act, the RSC requested larnród Éireann to submit an Improvement Plan to secure proper protection for Signal, Electrical and Telecommunications staff during the course of their work. Iarnród Éireann is now working to a new plan to address this issue.

4.6. Investigation

To meet the requirements of Article 18 of the Railway Safety Directive the Railway Safety Act provides for the establishment of a Railway Accident Investigation Unit within the RSC with shared administration but functionally separate appointment and reporting arrangements. In 2007, the Chief Investigator of the Unit was appointed by the Minister for Transport. In 2008 two of the four investigators posts that were advertised were filled. The Unit will be fully functional when its resourcing and training requirements have been attained.

Investigation by the Unit is causal, that is to say it seeks to identify the full facts of an incident and why it occurred with a view to preventing recurrence. The Railway Safety Directive specifies, in loss and injury terms, a minimum threshold above which investigation is mandatory. Investigation of incidents of lesser impact is discretionary.

In 2008 the Unit initiated five formal investigations into incidents and accidents with consequences ranging in severity from near misses to a fatality.

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5. Safety Development

5.1. Working Groups

5.1.1. Road-Rail Safety Working Group

In safety risk terms, railways are particularly vulnerable where they interface with roadways. On the larnród Éireann network there are more than 250 public road level crossings and 1200 bridges over or under public roads. In addition to such crossings, LUAS, also runs on-street for 8 km sharing road space with other users.

The road rail safety working group, which is chaired by the RSC, is an advisory working group that focuses on safety at road rail interfaces. It seeks to establish a coherent strategy for the collective management of this risk, and to identify the scope for specific actions that will improve safety levels. Membership is made up of the railway undertakings, the road authorities, An Garda Síochána, the Irish Road Haulage Association and the Department of Transport.

During 2008 the work of the Group included:

- Improving road signage for height restricted bridges in some areas,
- RSC letters sent to drivers and truck companies following bridge strikes,
- A procedure to commence joint (Road Authority, Iarnród Éireann, Garda) inspections of level crossings.

There was a reported downward trend in bridge strikes in 2008. Contributing factors include traffic management strategies and signage maintenance. On a number of occasions during the year drivers of road vehicles involved in bridge strikes were prosecuted under the Railway Safety Act.

5.2. Technical advice

Prior to RSC establishment, as the Railway Inspectorate division of the Department of Transport, we provided advice on railway matters to other departmental divisions within the limits of our competence. The RSC continues to provide this support where it does not compromise its independence.

The RSC supported the Department in its consultations at EU level. In addition, we assisted the Department in the transposition regulations to complete implementation of the Railway Safety Directive.

5.3. Guidance

In order to maintain its independence, the RSC does not prescribe how railways should be designed and operated. We do, however, provide guidance to railway undertakings and other stakeholders on the nature of their responsibilities and how these might be met most effectively. The provision of such guidance is essential to ensure that all parties, including the RSC, are able to meet their safety responsibilities effectively and to minimise the potential for adverse impact on other business activities

During 2008 guidelines were published

for the safety assessment of new rolling stock, both heavy and light rail. Guidelines were also published to assist Public Private Partnership schemes in meeting the requirements of sections 42 and 43 of the Railway Safety Act: These were RSC-G-015 for heavy rail and RSC-G-016 for light rail, both of which are in line with emerging European requirements. Progress was also made in developing a detailed guideline for signalling submissions. All of these guidelines are available on our website.

The Railway Safety Act places a general duty of care on every person to have regard for their own safety and that of others while carrying out activities on or near the railway. We have published guidance for third parties on how their activities may affect railway risk. These guidance documents cover areas such as planning and development, those neighbouring the railway and those crossing the railway.

A full list of current RSC guidelines is contained in Appendix 5.

5.4. European Union / European Rail Agency (EU/ERA)

5.4.1. EU

During 2008 the RSC assisted the Department of Transport in its consultations with Council concerning train crew certification, and revisions to the Directives on railway interoperability and safety. In particular, we collated the national safety rules for recording on the





ERA database. We also assisted in the implementation of these directives and the development of the Technical Specifications for Interoperability (TSI's), particularly those concerning railway infrastructure and

locomotives/carriages. As part of this process, the RSC represented the Department at meetings in Brussels in 2008.

5.4.2. ERA

ERA is the organisation charged with the practical implementation of EU railway policy. While the RSC continues to provide technical support to the EU railway activities of the Department of Transport, we are more focussed on participation in ERA fora and delivery of related information and reporting requirements.

The RSC is comprised of the National Safety Authority and the National Investigating Body: each unit delivered its mandatory annual report to the ERA for the year 2007.

Currently, the RSC is represented on the three principal bodies provided for in the Railway Safety Directive:

- ERA administrative board
- Network of National Safety Authorities
- Network of National Investigation Bodies

These networks provide a mechanism for member state regulatory and investigatory bodies, sharing knowledge and experience and supporting the ERA in developing the structures through which a common EU railway safety framework will be established.

In further support of this work, the ERA has set up a number of stakeholder working groups on which regulatory and investigatory bodies are represented. They are working to a five year window driven by timelines in the Railway Safety Directive. Their work is critical as the deliverables, in the form of methodologies and standards, will provide a safety benchmark for member state railways. Resource limitations preclude us from participating as fully in these groups as we would wish. We have prioritised our involvement and are represented on those working groups developing:

- Common safety indicators;
- Common safety targets;
- Methodologies for tracking the implementation of incident investigation recommendations;
- National Safety Rules;
- National Vehicle Register.

The ERA is headquartered in Valenciennes in northern France but, to facilitate access, it holds the majority of its meetings in Lille. In 2008, members of our team attended a total of 24 meetings.

In May the RSC was pleased to host a fact finding and familiarisation visit by ERA's Executive Director, Marcel Verslype. During the visit stakeholders from the Republic and from Northern Ireland had the opportunity to meet Mr Verslype and discuss the transition to the European safety and interoperability frameworks in an organisational and national context.



Luas line C1 under construction

6. Corporate Governance and Administration

6.1. Introduction

2008 was the third year of operation for the RSC. Many of the corporate governance and administration tasks were established in 2006 and in 2008 we continued this process. By the end of 2008, while further progress was made during the year, the transfer of the administration of the payroll was not completed.

Corporate governance comprises the systems and procedures by which enterprises are directed and controlled. In this, the RSC is guided by the Code of Practice for the Governance of State bodies, as published by the Department of Finance.

6.2. Finance

The RSC is committed to maintaining full transparency and effective controls over our financial management. Our funding is provided by the Department of Transport by a Grant-in-Aid. In 2008 this funding amounted to \in 2.098m. Our accounts for 2007 were subject to audit by the Comptroller and Auditor General and were approved by them in August 2008. Financial statements for the year ended 31st December 2008 have been prepared but not yet audited by the Comptroller and Auditor General. An extract from those statements is provided in Appendix 6.

6.3. Human Resources and Staff Development

In August 2007 the RSC submitted a Resource Strategy Document to the Department of Transport. In 2008 we were granted sanction by the Department of Finance to recruit the additional staff required, these being three inspectors and four investigators, the latter to enable full establishment of the RAIU.

6.4. Recruitment

In 2008 the RSC conducted a recruitment campaign to fill the various inspector and investigator positions for which sanction had been granted. Though again the RSC's lack of competitiveness in a very buoyant industry job market was evident, a situation widely experienced by our peer bodies, this campaign proved substantially more successful that previously. At year end, in addition to internal staff movements, an investigator had been recruited and three inspectors had accepted offers of employment with commencement dates in early 2009.

6.5. Risk Management

In 2008 the RSC reviewed its business risk assessment, identifying the key threats to the organisation's reputation and to our strategic, operational and financial interests. We have incorporated a risk management programme as an integral part of our business planning process. We will continue to strengthen existing risk management controls, and implement new controls as necessary.

6.6. Decentralisation and Accommodation

In March 2008, as part of a wider review of implementation strategy by the Department of Transport, the RSC's decentralisation location was changed from Ballinalsoe to Drogheda. Shortly thereafter an embargo was announced on any further capital expenditure on the programme pending review in 2011. The RSC has taken account of these decisions in its recruitment, resourcing, and overall business strategies.

The RSC's Blackrock office is inadequate to accommodate its expanded team. Following the Department of Transport's decision to separately accommodate the RAIU, the RSC identified suitable premises in Dublin city centre, which we see as a preferred interim location pending decentralisation. While a move could be achieved on a cost neutral basis, and would bring business advantages, in moving from Office of Public Works to private tenancy it would effectively increase overall public sector property costs. In the current economic climate this is not sustainable. We will, therefore, continue to operate from our current offices, which we are able to do pending recruitment to our two vacant positions.



6.7. Irish Language Commitment

The RSC is committed to implementing the relevant parts of the Official Languages Act 2003. Our signage and stationery are currently in both Irish and English.

We currently produce our official documents, such as the Annual Report and the Statement of Strategy, in both languages. The Irish language capability of our staff is maintained so that any queries can be responded to in either English or Irish. We encourage and facilitate the on-going language training of our staff.

6.8. Freedom of Information

The RSC is committed to the maintenance and development of an open culture and a transparent environment, where information is freely available and experience and knowledge is shared. We are committed to fostering and developing these conditions, which we see as essential to the effective regulation of safety.

The former Railway Inspectorate division, our forerunner under the aegis of the Department of Transport, was subject to the Freedom of Information Act. It is expected that the RSC will be included among the organisations governed by this Act by mid 2009. In the meantime, we are committed to conforming to the principles of this Act

6.9. Continuous Professional 6.10. Customer Charter Development

The RSC is a knowledge intensive organisation, and our ability to achieve our goals and objectives is determined by the calibre of our staff. Continuous learning is a core organisational requirement, essential to our maintaining the capacity to meet our work demands in a constantly developing and evolving industry.

In this context we actively support the professional development and in 2008 a second member of our team graduated from the University of Birmingham Masters Degree course in Railway Engineering which we have adopted as our core training module. During the year we also continued our active involvement in industry conferences and arranged joint seminars with our peer organisation in Korea, the Korean Railway Institute, and with the Safety Department of Metro Hong Kong.

The Customer Service charter was prepared in 2006 and is available on our website. This charter describes the level of service a customer can expect from the RSC. No customer service complaints were received in 2008.

6.11. Levy

When sanction for the additional staff for the RSC was granted by the Department of Finance it was on the basis that going forward, there would be no increase in Grant-in-Aid. In order to fund the additional staff, the RSC invoked the provision of section 26(1) of the Railway Safety Act 2005 and made regulations to impose a levy of each of the Railway undertakings. These regulations are contained in Statutory Instrument No. 568 of 2008.



Bord na Mona level crossing commissioning testing

Under the terms of the Railway Safety Act 2005, the Minister of Transport established the Railway Safety Advisory Council to represent the various stakeholder organisations and groups. The Council is an independent body and may make recommendations to the Minister or the RSC on various railway safety matters. The Commissioner may attend council meetings in an advisory capacity.

The Council met once in 2008 and at that meeting the RSC reported briefly on

its business activities. The meeting discussed the circumstances of a recent fatal accident at a user worked level crossing and asked the RSC review and report back on the operation of such crossings. The RSC also undertook to review safety aspects of bilingual railway signage.

8. Looking Forward

In the current economic climate we face greater uncertainty in relation to our projected workload. As new members join our team in 2009 the challenge will be to maintain the necessary organisational capacity and flexibility that will enable us to effectively balance workload and resources, and in doing so minimise our operating costs

A safety management system is only as effective as its implementation. Assessing the railway undertakings' safety case compliance is an essential part of the RSC's work but lack of resources has, in the past, prevented us devoting the time we would wish to this task. In 2009, the expansion of our team will enable us to implement a comprehensive audit and monitoring programme.

Our work must also be viewed in an expanding European context. European Technical Specifications for the Interoperability of Locomotives & Carriages and the Interoperability of Railway Infrastructure are expected to come into force at the end of 2009, and the revised and extended Interoperability Directive must be transposed into national legislation by mid-July 2010. National rules are being developed to complement the TSIs, to harmonise the acceptance process, and to facilitate cross-acceptance of rolling stock working to and from Northern Ireland.

Going forward, a key priority for the RSC will be achieving the reduction in operating costs that is required of all public bodies. In doing so we will ensure that our core objective of 'assuring the safety or railway services and affected persons though education, guidance and balanced regulation' is not compromised.



Korean Railroad Research Institute Seminar

Appendix 1: larnród Éireann operating statistics 2000-2008*

| Year | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|------------------------------------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------------------|----------------------------------------|
| Staff | 5,439 | 5,759 | 6,021 | 5,833 | 5,590 | 5,462 | 5,114 | 4,933 | 4,845 |
| Train-km passenger | 12,702,000 | 12,356,000 | 12,602,000 | 12,245,000 | 11,777,000 | 13,034,000 | 14,505,000 | 16,060,000** | n/a |
| Train-km freight | 2,730,000 | 4,133,000 | 2,895,000 | 2,705,000 | 3,350,000 | 4,953,000 | 3,737,000 | 772,000 | n/a |
| Train-km total | 15,432,000 | 16,489,000 | 15,497,000 | 14,950,000 | 15,217,000 | 17,987,000 | 18,242,000 | 16,832,000** | n/a |
| Locomotive-km diesel locos passenger | 9,198,000 | 8,516,000 | 8,500,000 | 7,776,000 | 7,038,000 | 7,845,000 | 8,706,000 | 9,696,000** | n/a |
| Locomotive- km diesel locos freight | 2,730,000 | 4,133,000 | 2,895,000 | 2,705,000 | 3,350,000 | 4,953,000 | 3,737,000 | 772,000 | n/a |
| Locomotive- km total diesel locos | 11,928,000 | 12,649,000 | 11,395,000 | 10,481,000 | 10,388,000 | 12,798,000 | 12,443,000 | 10,468,000** | n/a |
| Locomotive- km EMUs | 1,961,000 | 2,239,000 | 2,239,000 | 2,239,000 | 2,239,000 | 2,239,000 | 2,239,000 | 2,244,000** | n/a |
| Locomotive-km diesel railcars | 1,543,000 | 1,601,000 | 1,863,000 | 2,230,000 | 2,590,000 | 2,950,000 | 3,560,000 | 4,120,000** | n/a |
| Locomotive-km total railcars | 3,504,000 | 3,840,000 | 4,102,000 | 4,469,000 | 4,829,000 | 5,189,000 | 5,799,000 | 6,364,000** | n/a |
| Passenger journeys Freight Tonnes Passenger-km total | 31,721,000 1,389,138,088 | 34,206,000 1,515,303,000 | 35,370,000 1,628,410,000 | 35,558,000 1,600,615,000 | 34,550,000 1,581,698,000 | 37,653,000 1,781,400,000 | 43,350,000 1,872,067,000 | 45,513,000 825,000 2,007,065,000 | 44,646,000 717,000 1,975,786,000 |
| Km of track in service | 1,919 | 1,919 | 1,919 | 1,919 | 1,919 | 1,919 | 1,919 | 1,919 | 1,919 |

* source: larnród Éireann

** Includes EMU night test running of refurbished German sets and DMU test running of new 22000 class Intercity Railcars (ICRs)

n/a denotes information not available at time of compilation of this report

Appendix 2: Iarnród Éireann Rail incidents and injuries 1998-2008

| Railway operations and track maintenance: fatal injuries | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|--------------------------------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Fatal injury to person due to a train accident, not at level crossing | - | - | - | - | - | - | - | - | - | - | - |
| Fatal injury to passenger traveling on a train, other than in train accident | - | 3 | - | - | - | - | - | - | - | - | - |
| Fatal injury to passenger attempting to board or alight from train | - | - | 1 | - | 1 | - | - | - | - | - | - |
| Fatal injury to customer, no train involved | - | - | - | - | - | - | - | - | - | 1 | - |
| Fatal injury due to railway accident at a level crossing | - | - | - | - | 1 | - | 1 | - | - | 1 | 1 |
| Fatal injury to employee at a level crossing due to train in motion | - | - | - | - | - | - | - | - | - | - | - |
| Fatal injury to employee due to train in motion (other than at a level crossing) | - | - | - | 1 | - | - | - | - | - | - | - |
| Other fatal injury to employee on the railway | - | - | - | - | 1 | - | - | - | - | - | - |
| Fatal injury on railway or level crossing where trespass or suspicious death was indicated | 6 | 7 | 9 | 11 | 9 | 10 | 11 | 8 | 7 | 5 | 8 |

| Railway operations and track maintenance: non-fatal injuries | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|------------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Injury to passenger due to a train accident not at level crossing | | | | 11 | 5 | - | - | 12 | - | - | - |
| Injury to passenger traveling on train, other than in a train accident | | | | 60 | 54 | 66 | 70 | 73 | 41 | 35 | 22 |
| Injury to passenger attempting to board or alight from train | | | | 65 | 43 | 69 | 65 | 48 | 55 | 50 | 43 |
| Injury to passenger in station or visitor to premises | | | | 81 | 108 | 81 | 86 | 105 | 69 | 84 | 74 |
| Employee injury involving train movement or train accident | | | | 10 | 5 | 12 | 8 | 4 | 15 | 8 | 9 |
| Employee injury while working on railway | | | | 118 | 104 | 109 | 118 | 100 | 69 | 78 | 79 |
| Employee injury at level crossing | | | | 3 | 1 | 2 | - | 1 | 2 | 4 | - |
| Person injured in railway accident at level crossing | | | | 3 | 1 | - | - | - | - | 1 | - |
| Passenger injury in railway accident at level crossing | | | | - | - | - | 1 | - | - | - | - |
| Level crossing user injured | | | | 2 | 3 | - | 3 | 4 | - | 1 | 1 |
| Injury to other person | | | | 2 | 4 | 6 | 6 | 3 | 5 | 1 | 2 |

Appendix 2: Iarnród Éireann Rail incidents and injuries 1998-2008

| Train incidents | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|----------------------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Derailment of any passenger or goods train on running line | 3 | 3 | 1 | 1 | 1 | 4 | - | 2 | 3 | 1 | 2 |
| Other derailment on running line | 1 | - | 2 | 1 | - | 1 | - | - | 2 | 2 | 2 |
| Train collision with any passenger or goods train on running line | - | 2 | - | 1 | - | 1 | - | 1 | 1 | - | - |
| Train collision with buffer-stop (passenger train in service on running line) | - | 1 | - | 2 | 1 | - | - | - | - | - | 1 |
| Other train/train collision on running line | - | - | 1 | - | - | 1 | - | - | - | - | 1 |
| Train collision with a motor vehicle at a level crossing | 3 | 6 | 3 | 2 | 4 | - | 2 | 2 | 1 | 4 | 4 |
| Train collision with attended gates at a level crossing | 2 | 4 | 5 | 4 | 3 | 2 | 3 | - | 2 | 2 | 1 |
| Train collision with a vehicle obstructing the line (not at a level crossing) | - | - | 3 | - | 2 | 2 | - | - | - | - | - |
| Train collision with animal(s) | 52 | 46 | 26 | 32 | 32 | 43 | 40 | 42 | 43 | 42 | 33 |
| Train collision with other obstacle on the line | 6 | 3 | 1 | 2 | 2 | 3 | 1 | - | 5 | 9 | 17 |
| | | | | | | | | | | | |
| Rolling stock incidents | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
| Fire or smoke on locomotives or other rolling stock | 3 | 6 | 6 | 7 | 11 | 8 | 9 | 4 | 13 | 27 | 13 |
| Train dividing in running | 8 | 5 | - | - | 2 | 1 | - | 3 | - | 1 | 1 |
| Rolling stock door incident | - | - | 2 | - | 4 | 3 | - | - | 1 | 11 | 4 |
| | | | | | | | | | | | |
| Permanent way & infrastructure incidents | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
| Rail on passenger line fractured from head to foot | 6 | 12 | 3 | 3 | 5 | 3 | 1 | 6 | 4 | 1 | 2 |
| Bridge under the railway struck by road vehicle | 88 | 100 | 106 | 79 | 99 | 137 | 123 | 203 | 194 | 140 | 86 |
| Bridge parapet over the railway struck by road vehicle | 9 | 9 | 13 | 3 | 4 | 6 | 13 | 12 | 23 | 40 | 26 |
| Main (running) signal passed at danger where warning was given in time | 20 | 19 | 23 | 29 | 22 | 32 | 29 | 36 | 25 | 22 | 12 |

n/a indicates statistic not available at the time of compilation of this report.

Appendix 3: Accident & Incident Statistics Iarnród Éireann 1998-2008

Introduction

The accident and incident statistics included here are for the purpose of indicating the general level of safety and the safety trends on the Irish railway network.

The statistics are based on information reported to the Railway Safety (RSC) by larnród Éireann (IE) for the national heavy rail network in accordance with the RSC's reporting requirements. In general, the fatality and incident statistics are shown from 1996, and data for injuries are shown for years 2001-2008.

The following classifications are used:

- A train accident is a collision, derailment or fire involving a train;
- A train collision is a collision between trains, or between a train and a vehicle, object or animal;
- A railway accident is a train accident or accident resulting from the movement of trains, such as a person being injured by a train;
- Passenger includes anyone boarding, alighting or traveling on a train;
- Railway staff includes all contractors working on the railway;
- Injuries to employees and

contractors causing them to lose one whole day from their ordinary work are reportable;

- All third party injuries are reportable;
- Railway accidents at level crossings include collisions with motor vehicles.

The numbers quoted should not be considered as a complete representation of all safety statistics on the railways in Ireland. Statistics in future reports may vary due to realignment of definitions to accord with European regulations.

Railway Operations and Maintenance: Fatalities and Injuries

This report refers to fatalities and injuries to persons as a result of railway operations and maintenance of the railway. It does not, for instance, address fatalities or injuries occurring in maintenance workshops other than those involving the movement of trains. Injuries to persons in railway stations are included.

Fatal injuries to passengers have been very infrequent in recent years. The last passenger fatality due to a train accident was in 1991. From 1998-2007 there were 3 instances of fatality where a passenger fell from a train in motion, and 2 instances of fatality where a person attempted to board a moving train. As new rolling stock has been introduced, the risk of falls from moving trains has reduced dramatically as the doors cannot be operated while the train is in motion. This also deters passengers from pursuing departing trains in an attempt to board.

It was noted that passenger injuries while boarding, alighting, travelling on trains and while on railway premises have all reduced since 2007. Train accidents are rare and outcomes can vary in terms of injury. Reported injuries to passengers traveling are shown, whether or not the injury was caused by the motion of the train. Injuries can also be due to hot liquids, illness or misbehaviour of others. Injuries while boarding or alighting are generally as a result of slip/trip hazards, the platform gap or closing doors. Injuries in stations and premises are generally due to slips and trips on the level, falls on stairs and escalators or misbehaviour.

There was a significant accident to a passenger at Wicklow station, who fell between the train and platform as a train arrived, and sustained severe hand injuries.



Figures 4: Fatalities and injuries to travelling passengers, not at level crossings





In 2008 there was a single fatality of a level crossing user in a vehicle at a user-worked level crossing on the Ballina branch. There was also a single injury of the driver of another vehicle at Garraun automated open level crossing during the year.



Figures 5: Fatalities and injuries at level crossings



Figures 6: Fatalities and injuries to Employees

The year 2008 was the sixth consecutive year without an employee fatality which is worthy of note. The fatal accidents prior to this being in 2002 (felling trees) and 2001 (shunting of trains). The last fatality to an employee operating level crossing gates was in 1996.

Ongoing modernization of rolling stock and infrastructure has undoubtedly

reduced risk for certain groups of the workforce. Manually assisted coupling and uncoupling is being further reduced by the introduction of the railcar fleet, while the automation of level crossings has helped to reduce exposure of level crossing keepers to risk. Safety initiatives on working practices can help to ensure that fatal incidents remain at zero per annum. However, employee injuries remain at a similar level to previous years. The general trend in employee injuries is down since 2001. Many employee injuries are attributable to slips and falls, working on trains at rest, getting on and off trains, track maintenance activity and misbehavior of others (such as assault, discarded needles and attempts at self-harm). Injuries occurring in maintenance workshops are excluded from this report.



Figures 7: Fatalities and injuries in other circumstances

The above figures indicate the rate of deaths on the railway due to trespass or where there was some indication of trespass or suspicious circumstances. The year 2008 saw an increase in the number of deaths over the previous year. It is planned to liaise with the Coroners to gain a better understanding of the circumstances of each fatality. Injuries in other circumstances include trespass, overdose and attempted suicide.

Incidents Involving Trains

Train incidents, as reported below, include incidents involving rail vehicles on running lines, but exclude incidents in sidings and storage yards. They include derailment of trains and engines, collisions between trains or engines, collisions with buffer stops, collisions at level crossings and collisions with obstacles on the line.

During 2008 there were two derailments of note, although neither resulted in serious consequences for passengers or employees. On the 10th January, a freight train partially derailed south of Skerries after failure of an axle bearing. A RAIU investigation is underway into this. In August the locomotive of a passenger train was in collision with a landslip and derailed near Portarlington on the Dublin to Cork line. There were also two derailments of road-rail vehicles in engineering possessions during the year, one of which resulted in a railway employee injury.



Figure 8: Derailments on running lines



Figure 9: Train collisions with trains or buffer-stops

Collisions between trains and other trains and buffer stops on running lines, remained low in number with one event of each, both at low speed with minor damage. The collision occurred at Mallow with a 'rough shunt' while shunting passenger coaching stock. The buffer stop collision occurred at Ballina station with a passenger service, but without serious injuries.



Figure 10: Train collisions at level crossings

A car was struck at a user-worked level crossing near Straide, resulting in a fatality, shown in figure 5, while three other collisions occurred between trains and vehicles at an automated open level crossing at Garraun, a user-worked level crossing at Cappadine near Nenagh, and at Reynolds' field level crossing between Knockcroghery and Roscommon. In addition, a set of attended level crossing gates were struck by a train at Bridgetown in Co. Wexford. Thus it can be seen that the use of level crossings continues to make a noteworthy contribution to overall risk.



Figure 11: Train collisions with animals or other obstacles on the line

Incidents where trains collided with animals fell in 2008 to 33. Of these events, one third involved dogs. The number of collisions with large animals (those posing the greater safety risk) reduced significantly, particularly for cattle. The investment in line side fencing in the safety programme is likely to have had some influence on this statistic. There was a substantial increase in the number of reported obstacles struck in 2008, although this could be attributed to the improved reporting of minor strikes.



Figure 12: Incidents involving Rolling Stock

A general improvement was noted in the statistics for rolling stock for 2008. Incidents involving reports of smoke and fire on rolling stock approximately halved since 2007. The incidents that did occur were divided between power unit /engine fires, fires on bogies and braking equipment, also one air-conditioning unit fire and one event of minor arson. The improvement may be partially accounted for by a modifications programme to railcar engines.

There were 4 reports of doors opening or being open on moving trains (wrong side failures). This also represents a substantial drop from 11 events in 2007 and may be partially accounted for by the schedule of corrective actions that was implemented by IE.

Incidents Involving Railway Infrastructure

The incidents involving railway infrastructure reported below include broken rails on a passenger railway, strikes of bridges under and over the railway by road vehicles, and situations where railway running signals were passed at danger by trains.

Incidences of rails broken from head to foot remained low in number, with 2 being recorded in 2008. Timely rail replacement has assisted in keeping the number of broken rails at a low level.



Figure 13: Broken rails on Running Lines



Figure 14: Bridge strikes by road vehicle

Bridge strikes by road vehicles of bridges under and over the line (bridge parapets) continued to fall in 2008 from the previous year which was encouraging to note. Strikes to underline bridges in particular showed a substantial fall from previous years.



Figure 15: Signals Passed At Danger on Running Lines

In 2008, there were 22 signals passed at danger where warning was given in time and correct indications were received. This represented a substantial drop from 2007 and perpetuated the downward trend since 2005.

The 2008 incidents were comprised of some 12 running signals and 10 subsidiary signals passed at danger. Four of these incidents were classified as being significant (against five in 2007). The Heuston incident on the 7th March was worthy of note in that there was a sizeable overrun distance at busy location with high potential for conflicting moves, although only damage to the permanent way occurred.

Appendix 4: Approvals granted by the RSC in 2008

| Infrastructure Projects | Pi | Project Phase | | | | | |
|-----------------------------------------------------------|--------------|---------------|--------------|--|--|--|--|
| | Preliminary | Detailed | Operation | | | | |
| | Design | Design | Commission | | | | |
| | | | | | | | |
| Accessibility Project : Belfast and Galway Lines | \checkmark | \checkmark | | | | | |
| Bord na Mona : Level Crossings (2) | \checkmark | \checkmark | \checkmark | | | | |
| City Centre Re-signalling | \checkmark | | | | | | |
| Clondalkin-Fonthill East Station | | | \checkmark | | | | |
| Connolly Concourse Extn | | \checkmark | | | | | |
| Fintown Railway - track extension | \checkmark | \checkmark | \checkmark | | | | |
| Kilbarry (Blackpool) Station | \checkmark | | | | | | |
| Kilkenny Ring Road | | | \checkmark | | | | |
| KRP - Temporary Footbridges (2) | \checkmark | \checkmark | \checkmark | | | | |
| Laois Traincare Depot | | | \checkmark | | | | |
| Limerick Southern Link Road : Greenfields Overbridge | | | \checkmark | | | | |
| Limerick Southern Link Road : St Nessan's Road Overbridge | \checkmark | \checkmark | | | | | |
| LUAS Line A1 | \checkmark | | | | | | |
| LUAS Line A - M50/N7 Interchange | | \checkmark | \checkmark | | | | |
| LUAS Line B1 | | \checkmark | | | | | |
| LUAS Line C1 | | \checkmark | | | | | |
| LUAS Line C1 - Connolly Delta | | | \checkmark | | | | |
| M7/M8 : Doon Overbridge | \checkmark | | | | | | |
| M7/M8 : Shanboe Overbridge | | | | | | | |
| Midleton Line | | | | | | | |
| Midleton Line : Underbridge at Castlelake | \checkmark | \checkmark | | | | | |
| Infrastructure Projects | Pi | roject Pha | se | | | | |
| | Preliminary | Detailed | Operation | | | | |
| | Design | Design | Commission | | | | |
| Midleton Northern Relief Road : Overbridge | \checkmark | \checkmark | | | | | |
| N25 : Granny Junction Overbridge | \checkmark | \checkmark | | | | | |
| N25 : Kilmacow Overbridge | \checkmark | \checkmark | | | | | |
| N25 : Waterford and Suir Valley Railway, Overbridge | \checkmark | \checkmark | | | | | |
| N52 : Cloncollig Overbridge | \checkmark | \checkmark | | | | | |
| N6 : Bord na Mona Railway - 2 Overbridges | \checkmark | | | | | | |
| N7 : Kilmastulla Overbridge | \checkmark | \checkmark | | | | | |
| N7 : Lisnagry Overbridge | \checkmark | | \checkmark | | | | |
| N8 : Woodhill Overbridge | \checkmark | \checkmark | | | | | |
| N9/N10 : Dunbell Little Overbridge | \checkmark | \checkmark | | | | | |

| Infrastructure Projects | Project Phase | | | | | |
|------------------------------------------------|---------------|--------------|--------------|--------------|--|--|
| | Pr | eliminary | Detailed | Operation | | |
| | | Design | Design | Commission | | |
| N9/N10 : Jordanstown Overbridge | | | \checkmark | | | |
| N9/N10 : Knockmoylan Overbridge | | \checkmark | \checkmark | | | |
| N9/N10 : Roughfield Overbridge | | | \checkmark | | | |
| Parkwest Station | | | | \checkmark | | |
| Pearse Station Interim Works | | \checkmark | \checkmark | | | |
| Phoenix Park Station | | | | \checkmark | | |
| Pipes under railway - Rosslare Line (2) | | | \checkmark | | | |
| Rosslare Line Re-signalling | | | \checkmark | \checkmark | | |
| Seapoint Station | | | \checkmark | | | |
| Station Road, Portmarnock, Overbridge Widening | | \checkmark | \checkmark | | | |
| Tallaght Town Centre | | | | \checkmark | | |
| Underbridge - Cork Line - Multeen River | | | \checkmark | \checkmark | | |
| Up Platform at Hazelhatch | | | | \checkmark | | |

| Rolling Stock Projects | | P | roject Pha | se |
|--------------------------------------------------|-------------------------------------------------------------|-----------------------|--------------------|----------------------|
| | Concept | Preliminary Design | Detailed Design | Service Operation |
| larnród Éireann 8100 Dart Refurbishment | Full Acceptance. All Passenger Service Conditions Closed | | | |
| Iarnród Éireann Mk IV Intercity Carriages | Full Acceptance. All Passenger Service Conditions Closed | | | |
| LUAS 402 Light Rail Vehicles | Progress towards Detailed Design Acceptance | | | |
| Iarnród Éireann 22000 Intercity Railcars - 6 car | | \checkmark | \checkmark | \checkmark |
| larnród Éireann New EMU Project | \checkmark | | | |
| larnród Éireann Mk III Fleet Refurbishment | \checkmark | | | |
| larnród Éireann Multi Purpose Vehicle | \checkmark | | | |
| larnrod Eirreann Dynamic Track Stabiliser | \checkmark | | | |
| larnród Éireann Points & Crossings Tamper | \checkmark | | | |
| larnród Éireann Ballast Cleaner | \checkmark | | | |
| larnród Éireann Ballast Wagon | \checkmark | | | |
| Iarnród Éireann Plain Line Tamper | \checkmark | | | |
| LUAS Tram Temporary Livery | | \checkmark | | \checkmark |

Appendix 5: List of RSC Guidelines

The RSC issues Guidelines on certain aspects in relation to the operation of railways as well as on the approval of New Infrastructure Works and the approval of New Rolling Stock.

Based on the current status the following table lists the available RSC Guidelines. It is intended that the current revisions of all Guidelines will be available from the RSC webpage www.rsc.ie

| Date | RSC internal reference | Title |
|-----------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| 29.08.08 | RSC-G-001-B | Guidelines For The Design Of Railway Infrastructure And Rolling Stock, Section 0 INTRODUCTION AND THE TOP-LEVEL PRINCIPLES |
| 29.08.08 | RSC-G-002-B | Guidelines For The Design Of Railway Infrastructure And Rolling Stock, Section 1 PERMANENT WAY, EARTHWORKS AND STRUCTURES |
| 29.08.08 | RSC-G-003-B | Guidelines For The Design Of Railway Infrastructure And Rolling Stock, Section 2 STATIONS |
| 29.08.08 | RSC-G-004-B | Guidelines For The Design Of Railway Infrastructure And Rolling Stock, Section 3 ELECTRIC TRACTION SYSTEMS |
| 29.08.08 | RSC-G-005-B | Guidelines For The Design Of Railway Infrastructure And Rolling Stock, Section 4 SIGNALLING AND TELECOMMUNICATIONS |
| 29.08.08 | RSC-G-006-B | Guidelines For The Design Of Railway Infrastructure And Rolling Stock, Section 5 LEVEL CROSSINGS |
| 29.08.08 | RSC-G-007-B | Guidelines For The Design Of Railway Infrastructure And Rolling Stock, Section 6 TRAINS |
| 29.08.08 | RSC-G-008-B | Guidelines For The Design Of Railway Infrastructure And Rolling Stock, Section 7 TRAMWAYS |
| 14.03.08 | RSC-G-009-B | Guidelines for the Safety Assessment of New Infrastructure Works & New Rolling Stock |
| 25.04.08 | RSC-G-010-A | Third Party Guidance on Railway Risk - Volume 1 Planning and Development |
| 25.04.08 | RSC-G-011-A | Third Party Guidance on Railway Risk - Volume 2 Neighbours |
| 25.04.08 | RSC-G-012-A | Third Party Guidance on Railway Risk - Volume 3 Crossing the Railway |
| 25.04.08 | RSC-G-013-A | Third Party Guidance on Railway Risk - Volume 4 Passengers |
| At consultation | RSC-G-014 | draft Third Party Guidance on Railway Risk - Volume 5 Emergency Services |
| 12.03.08 | RSC-G-015-B | Guidelines for the Safety Assessment of New Heavy Rail Rolling Stock |
| 01.10.08 | RSC-G-016 | Guidelines for the Safety Assessment of New Light Rail Rolling Stock |
| 11.08.08 | RSC-G-017-B | Guidelines for the Safety Assessment of New Infrastructure Works for PPP Schemes |
| 11.08.08 | RSC-G-018-B | Guidelines for the Safety Assessment of New Rolling Stock for PPP Schemes |
| 11.08.08 | RSC-G-019-A | Guidelines for the Safety Assessment of Safety Cases for Test and Trial Running and Passenger Service Operations for PPP Schemes |
| Being drafted | RSC-G-020 | Signalling Guidelines |

Accounts



Income and Expenditure Account for the year ended 31 December 2008

| | Notes | 2008 € | 2007 € | |
|------------------------------------|-------|-------------|-------------|--|
| State Grant | 2 | 2,068,000 | 1,446,951 | |
| Other Income | 3 | 8,638 | 12,319 | |
| Transfer (to)/from Capital Account | 10 | 51,023 | (83,775) | |
| | | 2,127,661 | 1,375,495 | |
| Administration Costs | 4 | (1,420,326) | (1,257,087) | |
| Technical Consultants | | (542,288) | (447,952) | |
| (Deficit) / Surplus for the year | | 165,047 | (329,544) | |
| Balance at 1st January | | 218,016 | 547,560 | |
| Balance at 31st December | | 383,063 | 218,016 | |

Extract from draft unaudited accounts

The Commission had no gains or losses in the Financial Year other than those dealt with in the Income & Expenditure Account. The Statement of Accounting Policies and notes 1 to 15 form part of these Financial Statements.

Accounts

Balance Sheet at 31 December 2008

| | Notes | 2008 € | 2007 € | |
|-----------------------------------------------------------------|-------|-----------|-----------|--|
| Fixed assets | | | | |
| Tangible assets | 8 | 134,520 | 185,543 | |
| | | 134,520 | 185,543 | |
| Current assets | | | | |
| Cash at bank and in hand | | 450,364 | 360,505 | |
| Debtors and Prepayments | | 11,308 | 12,892 | |
| | | 461,672 | 373,397 | |
| Creditors | | | | |
| (amounts falling due within one year) Creditors and accruals | 9 | (78,609) | (155,381) | |
| | | (78,609) | (155,381) | |
| Net current assets | | 383,063 | 218,016 | |
| Net assets | | 517,583 | 403,559 | |
| Represented by | | | | |
| Capital Account | 10 | 134,520 | 185,543 | |
| Accumulated surplus at 31 December | | 383,063 | 218,016 | |
| | | 517 583 | 403 559 | |
| | | 517,505 | 403,339 | |

Extract from draft unaudited accounts

The Statement of Accounting Policies and notes 1 to 14 form part of these Financial Statements