

## PART 1 – Occurrence Description

<b>Time &amp; Date</b>	10/09/2024 at 02:50 hours (hrs)	
<b>Organisation</b>	Iarnród Éireann Infrastructure Manager (IÉ-IM)	
<b>Location</b>	North Esk access point at 169 Mile Post	
<b>Accident Description</b>	<p>On the 10<sup>th</sup> September 2024, during a T3 Possession on the Cork to Cobh and Midleton Lines, an IÉ-IM member of staff from the Chief Civil Engineer's (CCE) Department was undertaking the role of Person in Charge of a Road Rail Vehicle (PIC-RRV).</p> <p>At approximately 02:50 hrs the PIC-RRV was unhooking the draw bar from the Trailer and clearing some scrap pallet timber from the Trailer.</p> <p>The PIC-RRV did not give an instruction to the RRV Operator (RRVO) of the RRV Excavator to off-track.</p> <p>The RRVO was in the process of raising its rail wheels allowing the road wheels back to ground level (off-tracking) when the RRV moved forward striking the PIC-RRV from behind; the forward momentum of the RRV Excavator carried the PIC-RRV forward until coming into contact with the stationary Trailer.</p> <p>The PIC-RRV suffered minor cuts to their legs and sought medical attention the next day.</p> <p>It should be noted that the accident was reported internally on the 10<sup>th</sup> September, however, the seriousness of the occurrence was not identified until the 12<sup>th</sup> September when the CCTV footage was obtained. IÉ-IM then notified the RAIU.</p>	
<b>Definitions</b>	Coupling	In this case, attaching a Trailer to a towing RRV Excavator.
	Off-tracking	Removing an RRV from the line.
	Uncoupling	In this instance detaching a trailer from a towing RRV.
	RRV	Vehicles with road wheels and rail wheels enabling them to run over public roads or along the railway.
	PIC-RRV	A person competent to control the use of one or more RRVs within a possession. Note, the IÉ Rule Book uses the term Road Rail Vehicle Controller (RRVC), it should be understood that the title refers to the PIC-RRV.
	RRVO	A person competent to drive and operate a RRV within a possession.
	Trailer	A non-self-propelled rail mounted vehicle capable of being towed or propelled.

## PART 2 – Evidence

### Evidence reviewed

Evidence included: CCTV of the accident, RRVO Training Presentation, IÉ Rule Book, measures taken since the accident.

### Review of documentation related to the operation of RRVs

#### **Section Q, Part One, IÉ Rule Book**

The IÉ Rule Book states that “**the instructions contained in this Section Q Part One concerning RRVs also apply to the use of rail mounted trailers**”.

Section 2.5, states that “a competent RRVO is the only person allowed to drive or operate a RRV”.

Section 3.2, Checking the RRV and/ or Trailer, requires checks and checklists to be completed and completed documents given to the PIC-RRV.

Section 3.3, Use of Trailers, states that:

- Any Trailer that is found to have defective brakes must not be used and must be secured using chains and/or scotches until removed from the line;
- No Trailer must be left on the line uncoupled unless first secured by use of parking brakes. In darkness or poor visibility the Trailer must also have a red light placed on both ends of the vehicle;
- Do not load the Trailer beyond the maximum permitted weight for the Trailer. Do not exceed the limitations of the towing vehicle.

**There are no rules outlined in the IÉ Rule Book in terms of RRVOs coupling or uncoupling Trailers to/ from towing RRVs e.g. being given permission to couple or uncouple.**

#### Instructions to RRVOs/ PIC-RRVs (relevant to this accident)

In terms of the RRVO, the relevant requirements in Section 3.1, states that an RRVO must be given permission by a PIC-RRV before off-tracking; and, have a PIC-RRV present when off-tracking.

In terms of instructions to the PIC-RRV, Section 4.1 states that an PIC-RRV must be present when off-tracking.

**There are no rules outlined in the IÉ Rule Book in terms of giving RRVOs permission to couple or uncouple Trailers to/ from towing RRVs.**

**There are no rules outlined in the IÉ Rule Book requiring the PIC-RRV to be present for the coupling and uncoupling of Trailers to and from towing RRVs.**

## RRVO Training

### **Construction Skills Certification Scheme (CSCS)**

Certain construction workers carrying out safety critical tasks must complete Construction Skills Certification Scheme (CSCS) training for certain vehicles, including excavators. There is no CSCS training for Trailers.

### **RRVO Training Presentation**

In terms of off-tracking in the RRVO Training Presentation, there are instructions in relation to the PIC-RRV being present, off-tracking near overhead line equipment and off-tracking at level crossings. In terms of specific reference to Trailers, the presentation outlines that braking efficiency will be significantly reduced with loaded trailers, brake testing and lights on Trailers. The training also outlines an accident at Tebay (Cumbria, England) in 2004 which involved a runaway Trailer (with defective brakes) rolling for approximately five kilometres before striking a railway work gang, killing four and injuring five others.

The RRVO Training Presentation does references "Brake Couplings" and includes the following instructions in terms of coupling and uncoupling, stating:

- The RRVO is responsible for ensuring that a clear understanding is reached with the PIC-RRV on how the coupling or uncoupling movement will be made;
- If you are assisted by an individual and they are required to go between vehicles, you must instruct the person to wait until the vehicles have stopped completely;
- If there are any rail movements taking place near to the RRV you are going to couple or uncouple, you must ask the PIC-RRV to tell the person controlling those rail movements not to make any movements towards you.

It is noted that bullet point two states that an "individual" may assist, however, it does not explicitly state that this individual must be an RRVO (as Trailers are RRVs).

There is no formal requirement for practical training in terms of Trailers.

**There is insufficient theory based and practical training for RRVOs from review of the overall RRVO Training in relation to coupling and uncoupling Trailers to and from towing RRVs.**

## Trailers

In terms of the Trailers, there is a draw bar required to couple RRVs, see red draw bars on Trailer below. This draw bar needs to be supported during the coupling process (the draw bar does not need to be supported during the uncoupling process. Currently this is done by a ground operative. This means that there needs to be a person in between a stationary RRV (Trailer) and a moving RRV (towing vehicle).



**The RAIU considers that the use of these draw bars, by their nature, introduces a risk of collisions with ground operatives.**

### **Risk Assessment Method Statement (RAMS)**

The RAMS for the works on the night (Reference Number: CACRMS2024\_005) does identify the risk “Impact between RRV and personnel Fatalities”, with the following controls identified:

- Staff assisting with the on-tracking of rail trailers should stay well clear of the trailer until the RRV has stopped moving and has lowered the trailer close to the track on which is being on-tracked;
- RRVOs must not carry out any manoeuvre or lifting operation where ground operatives are standing in an area which may pose a risk of injury to them while these operations are taking place;
- RRVOs must immediately stop any manoeuvre of lifting operating where ground operative enter an area which pose a risk of injury to them while these operations are taking place.

**The RAMS does not include procedures for coupling and uncoupling Trailers from RRVs. The risk assessment does not identify the risks (e.g. impact between RRV and personnel fatalities) and control measures associated with coupling and uncoupling of Trailers from towing RRVs.**

### **CCTV of the accident**

When the PIC-RRV entered the five-foot (between the rails), the RRV Excavator remains stationary for approximately forty-three seconds, before reversing for three seconds and coming to a stop for four seconds.

The RRV Excavator then begins slowly moving in the direction of the PIC-RRV, for approximately eight seconds, before lowering the RRV Excavator bucket, at this point the RRV Excavator accelerates towards the PIC-RRV, striking the PIC-RRV two seconds later; the movement lasts another four seconds before the movement came to a stop and PIC-RRV removed themselves from between the RRV Excavator and the Trailer.

The CCTV does show that there is some communications between the PIC-RRV and the RRVO, however, it has been confirmed that there was no instruction given, by the PIC-RRV to the RRVO, to off-track the RRV Excavator.

See stills from CCTV on the following page.







## PART 3 – Measures taken since the accident

### Measures taken by IÉ-IM since the accident

IÉ-IM Safety Department issued a Safety Alert (Ref: IM/SA/3/2024) on the 13<sup>th</sup> September 2024; with the CCTV stills illustrated above to illustrate the seriousness of the accident.

In addition, IÉ-IM have developed, issued and are in the process of briefing a specific instruction in relation to coupling and uncoupling of Trailers to and from RRVs. An instruction has also been issued to all Safety Executives in all CCE Divisions on the IÉ-IM network to incorporate the content of the new instruction in all relevant RAMS.

**It is noted the this is an ongoing process, and future changes should incorporate the recommendations outlined in this USAN.**

## PART 4 – Further action by the RAIU

### Further action required?

The RAIU considers that this accident warrants a full investigation and have commenced their investigation into the accident.

It should be noted that the RAIU are also investigating two other accidents involving RRVs, namely:

- Collision between two RRVs, on the Athenry to Galway line, on the 8<sup>th</sup> March 2024;
- IÉ derailment of a RRV (excavator), near Ballycollin, Co. Offaly, on the 12<sup>th</sup> June 2024

## PART 5 – Urgent Safety Advice Notice

USAN Date	Issued on the 03/10/2024
USAN Title	Uncoupling Trailers from Towing RRVs
USAN Number	USAN 004
Addressee	IÉ-IM & Commission for Railway Regulation
Implementer	IÉ-IM CCE Department & RRV Contractors
Accident synopsis	An IÉ-IM PIC-RRV was struck by an RRV Excavator when the RRVO began off-tracking, without the permission of the PIC-RRV, who was standing in the five-foot after uncoupling the Trailer from the RRV Excavator.
Safety Issue Description	There was a dearth of instructions and training documentation related to the coupling and uncoupling of Trailers to/ from towing RRVs.
Possible consequences	There is a risk to IÉ-IM staff coupling/ uncoupling Trailers from RRVs (Towing Vehicles), the consequences include crush injuries and fatalities. There are also risks associated with not applying the brakes correctly (Tebay accident), if the RRVO is not competent.
USAN Safety Recommendation 1	<p><b>IÉ-IM should review the IÉ Rule Book Section Q Part 1 and consider the inclusion for the coupling and un-coupling Trailers to/ from towing RRVs. The review should consider at a minimum, for coupling and uncoupling Trailers:</b></p> <ul style="list-style-type: none"><li>• <b>The RRVO is responsible for the coupling/uncoupling procedures;</b></li><li>• <b>Only trained and assessed competent RRVOs are allowed to undertake the coupling/ uncoupling procedures for Trailers;</b></li><li>• <b>The RRVO must have been given permission from an PIC-RRV prior to undertaking coupling/ uncoupling procedures for Trailers;</b></li><li>• <b>A PIC-RRV must be present and verify that the RRVO is carrying out the procedures correctly.</b></li></ul>



<b>USAN Safety Recommendation 2</b>	<p>The RRV Contractors, supported by IÉ-IM, must develop procedures for the safe coupling and uncoupling of Trailers to and from towing RRVs this should include a process to remove the need for a ground operative to be in between an RRV and a trailer during the coupling/uncoupling process*†.</p>
<b>USAN Safety Recommendation 3</b>	<p>IÉ-IM, based on the procedures produced, should determine what mandatory procedures should be included in the IÉ Rule Book e.g. a functional brake test must be carried out for the coupling procedures.</p>
<b>USAN Safety Recommendation 4</b>	<p>RRVO Training Instructors should update the RRVO training for RRVOs for the operation, coupling and uncoupling of Trailers to/ from towing RRVs. This should include as a minimum:</p> <ul style="list-style-type: none"> <li>• Procedures for the safe coupling and uncoupling Trailers;</li> <li>• The different braking mechanisms associated with Trailers;</li> <li>• How to carry out a function brake test;</li> <li>• How to release the braking pressure;</li> <li>• The IÉ Rule Book rules of coupling and uncoupling Trailers;</li> <li>• Practical training in relation to the above.</li> </ul> <p>When RRVOs have received this training, this should be recorded by their employer and on a new RRV Competency Card, to ensure only competent RRVOs are allowed to undertake the coupling and uncoupling procedures for Trailers and that RRV Competency Cards can be inspected on site‡.</p>

\* Best practice should be considered, for example, Code of Practice for Trailers and Attachments with OTP, COP0014, Issue 7, Dec 2018; published by the Rail Safety and Standard Board (RSSB) on behalf of Mechanical & Electrical Engineering Networking Group (United Kingdom).

† Part of the development should consider whether a trestle (or other propped mechanism) could be used to support the draw bar during the coupling of RRVs, to remove the requirement for a ground operative to be present between two RRVs, when one is moving.

‡ It is noted that RRVOs must carry a CSCS Card (where relevant), an RRVO Theory Competence Certificate (issued by IÉ-IM), a Personal Track Safety Card (issued by IÉ-IM) and a Safe Pass. IÉ-IM and the RRV Contractors should determine how best to record competencies for presentation on site.