Stáisiún Uí Chonghaile, Baile Átha Cliath 1, D01 V6V6
Connolly Station, Dublin 1, D01 V6V6
T 01 703 nnnn **F** 01 703 nnnn **E** info@irishrail.ie **W** www.irishrail.ie

13th September 2022

[redacted],
Email: [redacted]

Re FOI request IE_FOI_611

Dear [redacted]

I refer to your request dated 14th August 2022 made under the Freedom of Information Act 2014, which was received by my office on the 15th August, for records held by Iarnród Éireann.

Request:

- Copy of the Daily Incident Report from Sunday July 24th 2022
- Copy of any/all report(s), investigation(s) performed after the incidents at/near Bray on Sunday July 24th 2022*
- Maintenance + inspection records for last 3 years for coaches 8621/8521/8522/8622/8625/8525/8526/8626 for all issues related to heating/AC (HVAC)
- Correspondence between Irish Rail and CRR/RAIU in relation to incidents at/near Bray on Sunday July 24th 2022

I, Annette Reilly, have now made a final decision to part grant your request on 13th September 2022.

You have sought access to the records as listed above and I consider this an appropriate form of access in this case. Accordingly, a copy of the records is now attached including a copy of the schedule to these records.

*Please be advised the investigation into the Bray Airshow incidents will be published once completed, I will advise you once I have been notified of a publication date.

Rights of appeal

In the event that you are not happy with this decision you can make an appeal in relation to this matter, you can do so by writing to the FOI Unit, Corporate Communications, Iarnród Éireann Irish Rail, Connolly Station, Amiens St, Dublin 1 or by e-mail to foi@irishrail.ie. You should make your appeal within 4 weeks (20 working days) from the date of this notification, where a day is defined as a working day excluding, the weekend and public holidays, however, the making of a late appeal may be permitted in appropriate circumstances.
The appeal will involve a complete reconsideration of the matter by a more senior member of the staff of this body.

Should you have any questions or concerns regarding the above, please contact the FOI Officer on 01, 7034293.

Yours sincerely,

Ms. Annette Reilly

Decision Maker

Freedom of Information Request:
Schedule of Records for IE_FOI_611 : Summary for Decision Making

Record No.	Date of Record	Brief Description	No. of Pages	Decision: Grant/Part Grant/Refuse	Section of Act if applicable	Record Edited/Identify Deletions
1		Copy of the Daily Incident Report from Sunday July 24th 2022				
	1a	DIR 24.07.22	3	Grant	~	~
2		Copy of any/all report(s), investigation(s) performed after the incidents at/near Bray on Sunday July 24th 2022				
	2a	Train Operating Performance System 24.07.22	3	Grant	~	~
	2b	Timeline_Passengers disembarking onto running lines at Bray 24.07.22	2	Part Grant	S37	Personal Information of others
	2c	Emails - Bray Airshow	20+	Refuse	S30(1)(A)	As the Bray investigation is ongoing, this information is being refused as access to the record concerned could-prejudice the effectiveness of investigations conducted by or on behalf of an FOI body or the procedures or methods employed for the conduct thereof.
	2d	RU Investigation Remit - RU22-050_220724_69269	2	Refuse	S30(1)(A)	As the Bray investigation is ongoing, this information is being refused as access to the record concerned could-prejudice the effectiveness of investigations conducted by or on behalf of an FOI body or the procedures or methods employed for the conduct thereof.
3		Maintenance + inspection records for last 3 years for coaches 8621/8521/8522/8622/8625/8525/8526/8626 for all issues related to heating/AC (HVAC)				
	3a	8521 HVAC overhaul	2	Grant	~	~
	3b	8522 HVAC overhaul	6	Grant	~	~
	3c	8621 HVAC overhaul	2	Grant	~	~
	3d	8622 HVAC overhaul	6	Grant	~	~
	3e	Air Con Controller IO Status	3	Grant	~	~
	3f	HH07 8500 Saloon Air Conditioning - Filters change	3	Grant	~	~
	3g	HH08 8500 Saloon Air Conditioning - Examine	3	Grant	~	~
	3h	HVAC jobcards	18	Grant	~	~
	3i	Summary Report on hvac Systems on 8621-626-625-622	7	Grant	~	~
4		Correspondence between Irish Rail and CRR/RAIU in relation to incidents at/near Bray on Sunday July 24th 2022				
	4a	Ops SMS 2.2 Emergency Preparedness V1.06	17	Grant	~	~
	4b	Ops SMS 2.3 Crowd Control V1.02 260917	10	Grant	~	~

4c	Risk Assessment Emergency Scenario Response V8 Final	3	Grant	~	~
4d	Risk Assessment Passenger Comfort RA V8 Final	17	Grant	~	~
4e	Risk Assessment Train Driving V8 Final	31	Grant	~	~
4f	Rule Book Section H - Operation of Trains	226	Grant	~	~
4g	220724 IÉ Impromptu Passenger Evacuation Bray	2	Refuse		
4h	220724 - IE_69269_Bray_Self evacuation of DART Trains_IÉ-Prelim Report to CRR_Issue 1	3	Refuse	S30(1)(A)	As the Bray investigation is ongoing, this information is being refused as access to the record concerned could-prejudice the effectiveness of investigations conducted by or on behalf of an FOI body or the procedures or methods employed for the conduct thereof.
4i	Email - Accepted Bray Detraining Investigation	1	Refuse	S30(1)(A)	As the Bray investigation is ongoing, this information is being refused as access to the record concerned could-prejudice the effectiveness of investigations conducted by or on behalf of an FOI body or the procedures or methods employed for the conduct thereof.
4j	Email - Emailing 220724 IÉ Impromptu Passenger Evacuation Bray	1	Refuse	S30(1)(A)	As the Bray investigation is ongoing, this information is being refused as access to the record concerned could-prejudice the effectiveness of investigations conducted by or on behalf of an FOI body or the procedures or methods employed for the conduct thereof.
4k	Email - RE 220724 IÉ RAIU RFI 01_Impromptu Passenger Evacuation Bray	2	Refuse	S30(1)(A)	As the Bray investigation is ongoing, this information is being refused as access to the record concerned could-prejudice the effectiveness of investigations conducted by or on behalf of an FOI body or the procedures or methods employed for the conduct thereof.
4l	Email - Re Bray	1	Refuse	S30(1)(A)	As the Bray investigation is ongoing, this information is being refused as access to the record concerned could-prejudice the effectiveness of investigations conducted by or on behalf of an FOI body or the procedures or methods employed for the conduct thereof.

	4m	Email - Re: Emailing 220724 IÉ Impromptu Passenger Evacuation Bray	1	Refuse	S30(1)(A)	As the Bray investigation is ongoing, this information is being refused as access to the record concerned could-prejudice the effectiveness of investigations conducted by or on behalf of an FOI body or the procedures or methods employed for the conduct thereof.

Signed

Freedom of Information / Data Protection Executive

C.T.C. Reports
Sunday 24th of July 2022

C.T.C. P.A. TEST REPORT				
Zone	**Time of test**	**Faulty Stations**	**Comments**	**Stations Tested**
All	10.51	Castleknock	Purple (Faulty)	All stations

- As per weekly circular 4037 - Due to expected heavy loadings before and after the Bray Air Display, DART, Sligo, Rosslare Europort, Belfast, Maynooth, M3 Parkway & Northern Commuter services may be delayed by 45 minutes from 09.00 hrs.

- As per weekly circular 4037 - Due to Engineering Works between Birdhill and Roscrea, the following Traffic arrangements will apply:
  Reg. 17.20 Limerick/Ballybrophy (A461) - will be substituted by buses.
  Reg. 19.42 Ballybrophy/Limerick (A460) - will be substituted by buses.

- Running notice issued 22.07.22: All Ireland Football Final: Due to expected high loadings a 20-minute delay may occur to all services to and from Heuston and their connecting services up to 13.00 hrs and from 17.00 hrs. to 23.30hrs

- Running notice issued 20.07.22: All Ireland Football Final: A 25-minute delay may occur to Maynooth, M3 Parkway, Northern Suburban, Dart, Sligo & Rosslare Europort services from 11.00 hrs to 20.00 hrs.

Incident No	Incident Date and Time	Incident Title	Summary of events	Location type	Occurred at	Internal Report Category (Category)	Train Id	Depart time	Depart from	Arrival to
INC-69266	24/07/2022 10:23	Trespass on railway line at 14MP	E100 reported two trespassers on the line at the 14MP. Trains cautioned and PWD advised.	Milepost	Shanganagh Junction to Wexford - 14.0	Criminal Offences and Anti-social behaviour	E100	24/07/2022 09:00	Malahide	Greystones
INC-69267	24/07/2022 12:45	Aggressive behaviour on A405	Caller rang from A405 to say that he and his girlfriend were verbally abused by another passenger, and it got more serious when he threatened to kill them. No CSO on board. Thurles advised and had already been contacted by Gardaí who were contacted by someone on the train. Advised caller that staff and Gardaí at Thurles would attend.	On-board train		Criminal Offences and Anti-social behaviour	A405	24/07/2022 12:25	Limerick	Dublin Heuston
INC-69268	24/07/2022 11:30	Door fault in service E202 - Vehicle no 8323	E202 was delayed twenty minutes at Grand Canal Dock station due to a door fault. Fairview CME advised.	On-board train		Rolling Stock Incidents	E202	24/07/2022 10:50	Howth	Bray
INC-69269	24/07/2022 14:55	Passenger(s) alighting onto per way from Trains	Driver E268 reports losing door interlock integrity indication while detained at BR28 awaiting platform clearance at Bray. Train detained 6-8 minutes. Driver E268 reports passengers alighting from his train to the Per Way and walking to Bray. Traffic stopped. Passengers alighted en masse citing delays and rising temperatures. Passengers of E103 & E208 in rear began alighting to the Per Way. Decision taken by Incident Co-ordinator to evacuate trains in an orderly fashion. E268 & E103 evacuated to Bray LX. E208 evacuated via Woodbrook Golf Course. Line cleared in 3 stages and trains brought to Bray. Services turned at Dalkey & Dunlaoghaire. Line re-opened for examination by E752 @ 17:13.Line declared clear @ 17:25 and normal working resumed. See TOPS for cancellations, curtailments, and delays to services.	On-board train		Railway Operating Hazards	E268	24/07/2022 13:45	Dublin Connolly	Bray
INC-69270	24/07/2022 22:07	Fighting on E813 - 8514	Driver E813 received a report of a fight taking place on his train at Killiney. Fight spilled onto platform. Gardaí & Ambulance requested. One person removed to hospital. +40 late departure ex Killiney.	On-board train		Criminal Offences and Anti-social behaviour				
INC-69271	24/07/2022 23:03	Trespass on railway line at 8.5MP	Driver D823 reports a trespasser on the line at the 8.5MP.CCE advised. Traffic cautioned clear line safe at 00.17, caution removed.	Milepost	Connolly to Border - 8.880	Criminal Offences and Anti-social behaviour				
INC-69272	24/07/2022 00:00	Person(s) under influence of alcohol	Driver E762 reports a very drunk passenger alighted from his train at Booterstown. Signaller cautioned following traffic. Gardaí requested to remove passenger from station.			Criminal Offences and Anti-social behaviour				
INC-69273	24/07/2022 23:44	Person falls from platform onto track at Booterstown	While observing intoxicated person at Booterstown (earlier report of drunk person in station), person staggered and fell on to the tracks, then got up on to platform of own accord. Driver of southbound train (E225), assisted person and they boarded E925 and left the station, no personal details were	Platform	Booterstown Up	Accident to person(s)	E225	24/07/2022 23:05	Howth	Bray

			given. Investigations Dept advised.							
INC-69274	24/07/2022 23:39	Person(s) under influence of alcohol or drugs at Booterstown	E762 advised person intoxicated on platform 1 at Booterstown, trains at caution & Gardai advised. CCTV confirms same.	Platform	Booterstown Up	Criminal Offences and Anti-social behaviour	E762	24/07/2022 23:39		

Duty Manager C.T.C.

From: IE CTC Duty Manager(s)
To: [redacted]
Subject: Timeline: Passengers disembarking onto running lines at Bray 24.07.22
Date: Sunday 24 July 2022 19:53:20
Attachments: image001.jpg

All,

See below timeline; it's worth noting that the interval between E268 coming to a stop at BR28 and the first passenger forcing doors is approx. 6.5 mins.

14:43 E268 aux 13:45 Conly/Bray departed Shankill
14:47 E268 arrived at BR28 outside Bray, awaiting platform clearance (E804 plat 1, E266 plat 2)
14:55 Driver E268 requested opposite road protection due to loss of blue light on 8622
14:56 Emergency call from E268 passengers disembarking from train onto track
14:57 National Emergency Line CTC - first call from passenger confirming passengers disembarking from train to pway
14:58 E804 14:43 Bray/Mhide responding to emergency stop – passengers making unauthorised evacuation from E268
15:01 First passengers off E268 begin to arrive at Bray LX
15:03 Emergency call from E268 – Gardaí and staff requested, passengers evacuating en masse
15:05 Bray LX (in local) raised under emergency alert conditions to allow trespassers leave the line
15:10 E103 13:05 Howth/Gstones at BR26 - driver advises loss of blue light, passengers disembarking onto pway
15:25 E208 13:25 Mhide/Bray at BR24 reports passengers distressed, requested set back to Shankill (A602 in rear)
15:26 E208 13:25 Mhide/Bray reports loss of blue light, passengers disembarking from train to pway
15:51 E804 14:43 Bray/Mhide stopped on Dargle Bridge at Bray – driver requested by Gardaí and coast guard to open doors and allow passengers to evacuate to Bray
15:58 E804 driver reports that Garda Sergeant insists that doors should be opened on train to allow evacuation
16:11 Station Manager Bray at E208 (BR24) reported that passengers were evacuating through Woodbrook Golf Course with assistance from Gardaí; large group of trespassers moving north towards Shankill
16:33 DM on site declared line clear in advance of BR24 (in front of E208) to Bray platforms and requested that E268, E103 and E804 move into Bray
16:34 Station Manager Bray at E208 reported train secured and ready to move; line to be examined in rear for trespassers making their way back to Shankill
17:13 E752 16:53 Bray/Conly departs Bray; driver to examine up road Shankill/Killiney following reports of trespass
17:25 Both roads Bray/Shankill/Killiney reported clear and safe for normal working

Regards,

[redacted]

[redacted]

CTC Duty Manager
Central Traffic Control,
Connolly Station, Entrance Sheriff Street Lower, Dublin 1, D01C7F7
☎: +353 1 888 0050 ✉:ctcdutymanager@irishrail.ie : www.irishrail.ie

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ode	Details	Date	Scheduled	Actual	De ay Cause	WLC	Comments
E103	13:05 - Howth to Bray	2 -Jul-22	1 :12:00 [17 .5]	17:06:30	208303 - UNAUTHORISED DISEMBARKMENT		Aux E268 13: 5 Conly/Bray driver a erted Signal er that passenger(s) forced doors and alghted on pway. Al stopped w th station staff attend ng - SOC Driver of E103 13:05 Howth/Gstones reports passengers have d sembarked from h s train onto pway. Traffic stopped Gardai and stat on staff n attendance - SOC Traff c suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services will be turned back from Dún Laoghaire - SOC
E208	13:25 - Ma ah de to Bray	2 -Jul-22	1 :33:00 [173.1]	17:26:06	208303 - UNAUTHORISED DISEMBARKMENT		Aux E268 13: 5 Conly/Bray driver a erted Signal er that passenger(s) forced doors and alghted on pway. Al stopped w th station staff attend ng - SOC E208 13:25 Mhide/Bray passengers d sembarking onto pway staff on s te assist ng
1 7	16:05 - Be fast to Dub n Conno ly	2 -Jul-22	18:15:00 [1 .7]	18:29: 2	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	Awaiting platform in Connolly; Congestion in Conno ly due to DART special E752 Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver a erted Signal er that passenger(s) forced doors and alghted on pway. Al stopped with stat on staff attending - SOC Text sent 15.29hrs: Update
602	13: 5 - Dubln Connolly to Wexford	2 -Jul-22	16:13:30 [200]	19:33:30	20830 - WLC - UNAUTHORISED DISEMB. RKMENT	E268	Text sent 15.29hrs: Update Bray - Traff c suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services will be turned back from Dún Laoghaire - SOC
A603	1 :20 - Ross are Europort to Dubln Conno ly	2 -Jul-22	17:12:00 [78.9]	18:30:5	20830 - WLC - UNAUTHORISED DISEMB. RKMENT	E268	WLC A602. Text sent 15.29hrs: Update Bray - Traffic suspended at Bray passengers a ight ng onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services will be turned back from Dún Laoghaire - SOC
60	18: 5 - Dubln Connolly to Rosslare Europort	2 -Jul-22	21: 0:00 [13]	21:53:00	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	WLC A602. Text sent 15.29hrs: Update Bray - Traffic suspended at Bray passengers a ight ng onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Serv ces wil be turned back from Dún Laoghaire - SOC
A605	18:31 - Wexford to Dubln Conno ly	2 -Jul-22	20: 8:00 [102]	22:30:00	20830 - WLC - UNAUTHORISED DISEMB. RKMENT	E268	Text sent 18.25hrs: Due to earlier nc dent at Bray def. A602 1 :05 Conly/Rlare and A605 17: 0 Rlare/Conly wil operate as Bus transfer between Ross are Europort to Wexford. Expect 605 60 - SOC
D818	18:20 - Dublin Connolly to Drogheda	2 -Jul-22	19:16:00 [8.7]	19:2 : 2	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	Congestion n Connolly due to DART special E752 Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver a erted Signal er that passenger(s) forced doors and alghted on pway. Al stopped w th station staff attend ng - SOC Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Ser ices ll be turned back from Dún Laoghaire - SOC
E104	1 :05 - Malahide to Da key	2 -Jul-22	15:01:00 [5]	15:55:00	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver alerted S gna ler that passenger(s) forced doors and alghted on pway. Al stopped w th station staff attend ng - SOC Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers a ight ng onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laogha re - SOC
E105	1 : 8 - Malah de to Dun Laogha re	2 -Jul-22	15:36:30 [9]	15: 5:30	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver alerted S gna ler that passenger(s) forced doors and alghted on pway. Al stopped w th station staff attend ng - SOC Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers a ight ng onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laogha re - SOC
E106	15:28 - Malahide to Da key	2 -Jul-22	16:2 :00 [6.6]	16:30:36	20830 - WLC - UNAUTHORISED DISEMB. RKMENT	E268	Text sent 15.29hrs: Update Bray - Traffic suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laoghaire - SOC
E108	17:05 - Ma ah de to Bray	2 -Jul-22	18:12:30 [10.1]	18:22:36	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	WLC E805 WLC E10 heavy passenger loadings due to Bray A r Show and congestion due to trespass ssues at Bray.
E110	18:25 - Howth to Bray	2 -Jul-22	19:32:00 [0.1]	20:12:06	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	WLC E915 Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver a erted Signal er that passenger(s) forced doors and alghted on pway. Al stopped with stat on staff attending - SOC Text sent 15.29hrs: Update Bray: Traff c suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laoghaire - SOC
E209	13: 5 - Howth to Bray	2 -Jul-22	1 :52:00 [178.6]	17:50:36	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	Text sent 15.29hrs: Update Bray - Traffic suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laoghaire - SOC
E210	1 :30 - Howth to Dun Laoghaire	2 -Jul-22	15:19:00 [6.6]	15:25:36	20830 - WLC - UNAUTHORISED DISEMBARKMENT	e268	Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver alerted S gna ler that passenger(s) forced doors and alghted on pway. Al stopped w th station staff attend ng - SOC Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers a ight ng onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laogha re - SOC
E211	15:05 - Howth to Dalkey	2 -Jul-22	16:00:30 [11.]	16:11:5	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	Text sent 15.29hrs: Update Bray - Traff c suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laoghaire - SOC
E212	15: 5 - Howth to Dalkey	2 -Jul-22	16: 0:30 [10.5]	16:51:00	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver a erted Signal er that passenger(s) forced doors and alghted on pway. Al stopped with stat on staff attending - SOC Text sent 15.29hrs: Update Bray: Traff c suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laoghaire - SOC
E213	16:05 - Ma ah de to Bray	2 -Jul-22	17:13:00 [0.1]	17:53:06	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	WLC E80 departed from Bray but stopped due to trespass ssue on E268. E210 turned at Dun Laogha re and took up running as E80 . Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers alghting onto pway from E268 and E103. Stat on staff Gardaí and DFB n attendance. Services w ll be turned back from Dún Laoghaire - SOC
E214	16: 5 - Howth to Bray	2 -Jul-22	17:55:00 [15.3]	18:10:18	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	Formed by E105. Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver alerted Signaller that passenger(s) forced doors and alghted on pway. Al stopped with stat on staff attending - SOC Text sent 15.29hrs: Update Bray: Traff c suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laoghaire - SOC
E216	17: 5 - Howth to Bray	2 -Jul-22	18:53:00 [23]	19:16:00	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	Congest on in Connolly due to DART spec al E752 Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver a erted Signal er that passenger(s) forced doors and alghted on pway. Al stopped w th station staff attend ng - SOC Text sent 15.29hrs: Update Bray: Traff c suspended at Bray passengers alghting onto pway from E268 and E103. Stat on staff Gardaí and DFB n attendance. Ser ices ll be turned back from Dún Laoghaire - SOC
E218	18: 8 - Ma ah de to Bray	2 -Jul-22	19:57:00 [25]	20:22:00	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	WLC E808 Text sent 15.29hrs: Update Bray - Traff c suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Serv ces wil be turned back from Dún Laoghaire - SOC
E80	15:01 - Dun Laogha re to Ma ahide	2 -Jul-22	15:52:00 [37]	16:29:00	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	Departed from Bray but stopped due to trespass issue on E268. E210 turned at Dun Laoghaire and took up running as E80 . Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers a ight ng onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Ser ices ll be turned back from Dún Laoghaire - SOC
E805	15:5 - Da key to Malahide	2 -Jul-22	16:50:00 [12]	17:02:00	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver alerted S gna ler that passenger(s) forced doors and alghted on pway. Al stopped w th station staff attend ng - SOC Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers a ight ng onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laogha re - SOC
E807	16:5 - Da key to Malahide	2 -Jul-22	17:51:00 [17]	18:08:00	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	WLC E212 Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver a erted Signal er that passenger(s) forced doors and alghted on pway. Al stopped with stat on staff attending - SOC Text sent 15.29hrs: Update Bray: Traff c suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laoghaire - SOC
E808	17:20 - Bray to Ma ah de	2 -Jul-22	18:28:00 [2]	18:52:00	20830 - WLC - UNAUTHORISED DISEMB. RKMENT	E268	Text sent 15.29hrs: Update Bray - Traffic suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laoghaire - SOC
E912	15:38 - Dun Laoghaire to Howth	2 -Jul-22	16:26:00 [18]	16: :00	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	Formed by E105. Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver alerted Signaller that passenger(s) forced doors and alghted on pway. Al stopped with stat on staff attending - SOC Text sent 15.29hrs: Update Bray: Traff c suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laoghaire - SOC
E913	16:11 - Dalkey to Howth	2 -Jul-22	17:06:00 [19]	17:25:00	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	WLC E211 Text sent 15.29hrs: Update Bray - Traff c suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Serv ces wil be turned back from Dún Laoghaire - SOC
E91	16:31 - Dalkey to Howth	2 -Jul-22	17:27:00 [6]	17:33:00	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	WLC E106 Text sent 15.29hrs: Update Bray - Traff c suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Serv ces wil be turned back from Dún Laoghaire - SOC

E915	17:00 - Bray to Howth	2 -Jul-22	18:07:00 [38]	18: 5:00	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver alerted S gna ler that passenger(s) forced doors and alighted on pway. Al stopped w th station staff attend ng - SOC Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers a ight ng onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laogha re - SOC
E917	18:00 - Bray to Howth	2 -Jul-22	19:06:00 [28]	19:3 :00	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver alerted S gna ler that passenger(s) forced doors and alighted on pway. Al stopped w th station staff attend ng - SOC Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers a ight ng onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laogha re - SOC
E923	21:20 - Greystones to Howth	2 -Jul-22	22:37:00 [19.3]	22:56:18	20830 - WLC - UNAUTHORISED DISEMBARKMENT	E268	W.L.C A605 W.L.C A602 Text sent 18.25hrs: Due to earl er incident at Bray def. A602 1 :05 Conly/R are and A605 17: 0 Rlare/Conly w ll operate as Bus transfer between Ross are Europort to Wexford. Expect A605 60 - SOC

E268 Runn ng

StationName	SemaName	TrainT me	Arrive / Depart
CONNOLLY PL TFORM 5	CNLLY	13: 2:30	
CONNOLLY PLATFORM 5	CNLLY	13: 7: 8	D
TARA STREET DOWN PLATFORM	TARA	13:53:18	A
TARA STREET DOWN PLATFORM	TARA	13:55: 2	D
PEARSE DOWN PLATFORM	PERSE	13:56:18	A
PE RSE DOWN PL TFORM	PERSE	13:57:5	D
GRAND CANAL DOCK PLATFORM 3	GCDK	13:58: 2	A
GRAND CANAL DOCK PLATFORM 3	GCDK	1 :00:12	D
LANSDOWNE ROAD DOWN PLATFORM	LDWNE	1 :02:06	A
LANSDOWNE ROAD DOWN PL TFORM	LDWNE	1 :03:30	D
S NDYMOUNT DOWN PL TFORM	SMONT	1 :0 :06	
SANDYMOUNT DOWN PLATFORM	SMONT	1 :05:30	D
SYDNEY PARADE DOWN PLATFORM	SIDNY	1 :07:12	A
SYDNEY PARADE DOWN PLATFORM	SIDNY	1 :08: 2	D
BOOTERSTOWN DOWN PLATFORM	BTSTN	1 :09:5	A
BOOTERSTOWN DOWN PL TFORM	BTSTN	1 :11: 2	D
BLACKROCK DOWN PLATFORM	BROCK	1 :12: 2	A
BLACKROCK DOWN PLATFORM	BROCK	1 :15:06	D
SEAPOINT DOWN PLATFORM	SEAPT	1 :15:30	A
SEAPOINT DOWN PLATFORM	SEAPT	1 :17:18	D
S LTHILL DOWN PL TFORM	SHILL	1 :17:36	
SALTHILL DOWN PLATFORM	SHILL	1 :20:00	D
DUN LAOGHAIRE DOWN PLATFORM	DLERY	1 :21:18	A
DUN LAOGHAIRE DOWN PLATFORM	DLERY	1 :2 :00	D
SANDYCOVE DOWN PLATFORM	SCOVE	1 :25: 2	A
S NDYCOVE DOWN PL TFORM	SCOVE	1 :28:06	D
GLENAGEARY DOWN PLATFORM	GLGRY	1 :28:30	A
GLENAGEARY DOWN PLATFORM	GLGRY	1 :30:30	D
DALKEY DOWN PLATFORM	DLKEY	1 :32:00	A
DALKEY DOWN PLATFORM	DLKEY	1 :33: 2	D
KILLINEY DOWN PL TFORM	KILNY	1 :36:36	
KILLINEY DOWN PLATFORM	KILNY	1 :39:06	D
SHANKILL DOWN PLATFORM	SKILL	1 : 1:00	A
SHANKILL DOWN PLATFORM	SKILL	1 : 3: 2	D
BRAY 28 SIGNAL	BR28	1 : 7:18	A
BR Y 28 SIGN L	BR28	16:53:5	D
BRAY DOWN PLATFORM	BRAY	16:56:2	A
BRAY DOWN PLATFORM	BRAY	17:01:12	D
BRAY SHED	BSHED	17:02:18	A

The follow ng se v ces we e fully cance led

Date	Train Code	Details	Type	Location	Delay Cause	Comments
2 -Jul-22	E107	16:25 - Howth to Greystones	Cancel ation		208303 - UNAUTHORISED DISEMBARKMENT	Text sent 15.29hrs: Update Bray - Traffic suspended at Bray passengers al ghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laogha re - SOC
2 -Jul-22	E911	1 :50 - Greystones to Howth	Cancel ation		208303 - UNAUTHORISED DISEMBARKMENT	Text sent 15.29hrs: Update Bray: Traff c suspended at Bray passengers al ghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laogha re - SOC

The follow ng se v ces we e pa t ally cance led (eg. te m nated at Dalkey o Dun Laogha e and tu ned back f om the e to m n m se the ove all d s upt on)

Date	Train Code	Detai s	Type	Location	De ay Cause	Comments
2 -Jul-22	A602	13: 5 - Dublin Connolly to Wexford	Stop Short	Wexford	20830 - WLC - UNAUTHORISED DISEMBARKMENT	Text sent 18.25hrs: Due to earl er nc dent at Bray def. A602 1 :05 Conly/R are and A605 17: 0 Rlare/Conly w ll operate as Bus transfer between Ross are Europort to Wexford. Expect 605 60 - SOC
2 -Jul-22	605	18:31 - Wexford to Dubln Connolly	Start Forward	Wexford	20830 - WLC - UNAUTHORISED DISEMBARKMENT	Text sent 18.25hrs: Due to earl er nc dent at Bray def. A602 1 :05 Conly/R are and A605 17: 0 Rlare/Conly w ll operate as Bus transfer between Ross are Europort to Wexford. Expect 605 60 - SOC
2 -Jul-22	E103	13:05 - Howth to Bray	Stop Short	Bray	208303 - UNAUTHORISED DISEMBARKMENT	Aux E268 13: 5 Conly/Bray driver a erted Signaller that passenger(s) forced doors and alighted on pway. Al stopped w th station staff attending - SOC Driver of E103 13:05 Howth/Gstones reports passengers have disembarked from h s train onto pway. Traffic stopped Gardai and stat on staff n attendance - SOC Traffic suspended at Bray passengers al ghting onto pway from E268 and E103. Station staff Gardai and DFB in attendance. Services wil be turned back from Dún
2 -Jul-22	E104	1 :05 - Malah de to Dalkey	Stop Short	Dalkey	20830 - WLC - UNAUTHORISED DISEMBARKMENT	Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver a erted Signal er that passenger(s) forced doors and a ighted on pway. All stopped with stat on staff attending - SOC Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers al ghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be
2 -Jul-22	E105	1 : 8 - Malah de to Dun Laoghaire	Stop Short	Dun Laoghaire	20830 - WLC - UNAUTHORISED DISEMBARKMENT	Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver a erted Signal er that passenger(s) forced doors and a ighted on pway. All stopped with stat on staff attending - SOC Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers al ghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laogha re - SOC
2 -Jul-22	E106	15:28 - Ma ahide to Dalkey	Stop Short	Dalkey	20830 - WLC - UNAUTHORISED DISEMBARKMENT	Text sent 15.29hrs: Update Bray - Traffic suspended at Bray passengers al ghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laogha re - SOC
2 -Jul-22	E110	18:25 - Howth to Bray	Stop Short	Bray	20830 - WLC - UNAUTHORISED DISEMBARKMENT	WLC E915 Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver a erted Signaler that passenger(s) forced doors and a ighted on pway. All stopped with stat on staff attending - SOC Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers al ghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laogha re - SOC
2 -Jul-22	E210	1 :30 - Howth to Dun Laoghaire	Stop Short	Dun Laoghaire	20830 - WLC - UNAUTHORISED DISEMBARKMENT	Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver a erted Signal er that passenger(s) forced doors and a ighted on pway. All stopped with stat on staff attending - SOC Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers al ghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laogha re - SOC
2 -Jul-22	E211	15:05 - Howth to Dalkey	Stop Short	Dalkey	20830 - WLC - UNAUTHORISED DISEMBARKMENT	Text sent 15.29hrs: Update Bray - Traffic suspended at Bray passengers al ghting onto pway from E268 and E103. Station staff Gardaí and DFB in attendance. Services wil be turned back from Dún Laogha re - SOC

2 -Jul-22	E212	15: 5 - Howth to Dalkey	Stop Short	Dalkey	20830 - WLC - UNAUTHORISED DISEMBARKMENT	Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver alerted Signaler that passenger(s) forced doors and alighted on pway. All stopped with station staff attending - SOC Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardai and DFB in attendance. Services will be turned back from Dún Laoghaire - SOC
2 -Jul-22	E804	15:01 - Dun Laoghaire to Malahide	Start Forward	Dun Laoghaire	20830 - WLC - UNAUTHORISED DISEMBARKMENT	Departed from Bray but stopped due to trespass issue on E268. E210 turned at Dun Laoghaire and took up running as E80 . Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardai and DFB in attendance. Services will be turned back from Dún Laoghaire - SOC
2 -Jul-22	E805	15:5 - Dalkey to Malahide	Start Forward	Dalkey	20830 - WLC - UNAUTHORISED DISEMBARKMENT	Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver alerted Signaler that passenger(s) forced doors and alighted on pway. All stopped with station staff attending - SOC Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardai and DFB in attendance. Services will be turned back from Dún Laoghaire - SOC
2 -Jul-22	E807	16:5 - Dalkey to Malahide	Start Forward	Dalkey	20830 - WLC - UNAUTHORISED DISEMBARKMENT	WLC E212 Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver alerted Signaler that passenger(s) forced doors and alighted on pway. All stopped with station staff attending - SOC Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardai and DFB in attendance. Services will be turned back from Dún Laoghaire - SOC
2 -Jul-22	E808	17:20 - Bray to Malahide	Start Forward	Bray	20830 - WLC - UNAUTHORISED DISEMBARKMENT	Text sent 15.29hrs: Update Bray - Traffic suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardai and DFB in attendance. Services will be turned back from Dún Laoghaire - SOC
2 -Jul-22	E912	15:38 - Dun Laoghaire to Howth	Start Forward	Dun Laoghaire	20830 - WLC - UNAUTHORISED DISEMBARKMENT	Formed by E105. Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver alerted Signaler that passenger(s) forced doors and alighted on pway. All stopped with station staff attending - SOC Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardai and DFB in attendance. Services will be turned back from Dún Laoghaire - SOC
2 -Jul-22	E913	16:11 - Dalkey to Howth	Start Forward	Dalkey	20830 - WLC - UNAUTHORISED DISEMBARKMENT	WLC E211 Text sent 15.29hrs: Update Bray - Traffic suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardai and DFB in attendance. Services will be turned back from Dún Laoghaire - SOC
2 -Jul-22	E914	16:31 - Dalkey to Howth	Start Forward	Dalkey	20830 - WLC - UNAUTHORISED DISEMBARKMENT	WLC E106 Text sent 15.29hrs: Update Bray - Traffic suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardai and DFB in attendance. Services will be turned back from Dún Laoghaire - SOC
2 -Jul-22	E917	18:00 - Bray to Howth	Start Forward	Bray	20830 - WLC - UNAUTHORISED DISEMBARKMENT	Text sent 15.02hrs: Aux E268 13: 5 Conly/Bray driver alerted Signaler that passenger(s) forced doors and alighted on pway. All stopped with station staff attending - SOC Text sent 15.29hrs: Update Bray: Traffic suspended at Bray passengers alghting onto pway from E268 and E103. Station staff Gardai and DFB in attendance. Services will be turned back from Dún Laoghaire - SOC

Fitted to 8521 07-04-20.

DRL 103-104 Ashbourne INd Est, Ashbourne, Co Meath, A84 WK37, Ireland

OIC RC ADM

HVAC Saloon DART

Overhaul	✓
Repair	
Warranty	

Serial No 312078 Taken From Unit Car No:

	Side 1 OK / Fault	Side 1 current	Side 2 OK / Fault	Side 2 current	
Condenser Motor	(OK) / Fault	0.71A	(OK) / Fault	0.71A	
Compressor	(OK) / Fault	4.65A	(OK) / Fault	4.70A	
Evaporator Motor	(OK) / Fault	4.75A			
Air Heater	(OK) / Fault	12.42A			
low pressure switch	(OK) / Fault		(OK) / Fault		
high pressure switch	(OK) / Fault		(OK) / Fault		
Heat protection	(OK) / Fault				
Return air temp sensor	(OK) / Fault				
Air flow Switch	(OK) / Fault				
Pressure test 24h	✓		✓		
Total gas charged 407c	2.2 KG		2.2 KG		

EXTRAS:

	quantity		
			- HEATER FUSE 15A - REPAIRED CAPYLARI TUBE BOTH SIDE - NEW BRACKET FOR FAN
New Gas Added KG (total)	4.4	KG	
Additional Labour Hrs	8	H	

Signed By: Almir Kazić Test Date: 30/03/2020

Fitted to 8521 07.04.20

DRL 103-104 Ashbourne INd Est, Ashbourne, Co Meath, A84 WK37, Ireland

OK RC

HVAC Saloon DART

Overhaul	Y
Repair	
Warranty	

Serial No 312077 Taken From Unit Car No:

	Side 1 OK / Fault	Side 1 current	Side 2 OK / Fault	Side 2 current	
Condenser Motor	(OK) / Fault	0.6A	(OK) / Fault	0.6A	
Compressor	(OK) / Fault	4.8A	(OK) / Fault	4.8A	
Evaporator Motor	(OK) / Fault	4.5A	4.50		
Air Heater	(OK) / Fault	12.5A	12.4A		
low pressure switch	(OK) / Fault		(OK) / Fault		
high pressure switch	(OK) / Fault		(OK) / Fault		
Heat protection	(OK) / Fault				
Return air temp sensor	(OK) / Fault				
Air flow Switch	(OK) / Fault				
Pressure test 24h	V		V		
Total gas charged 407c	2.2 KG		2.2 KG		

EXTRAS:

	quantity		
			- BOTH SIDE REPAIRED CAPILARY TUBE
			- FUSE FOR HEATER ELEMENTS x2 (15A 150CO)
			-
New Gas Added KG (total)	/	KG	
Additional Labour Hrs	6	H	

Signed By: JAMES Test Date: 20/03/2020

Fitted to 8522 05.05.22.

DRL 103-104 Ashbourne INd Est, Ashbourne, Co Meath, A84 WK37, Ireland

DRL
Transport Vehicle Parts & Services

22000 Saloon

Overhaul	
Repair	

Serial No 312080 **Taken From Unit** **Car No:**

	Side 1 OK / Fault	Side 2 Ok/Fault	Note:
Condensor Motor	OK / Fault 1.2A	Ok/Fault 1.2A	
Evaporator Motor	OK / Fault 4.2A	Ok/Fault	
w Pressure Switch	OK / Fault	Ok/Fault	
High Pressure Switch	OK / Fault	Ok/Fault	
Air Heater	OK / Fault 12.4A	Ok/Fault	
Compressor	OK / Fault 4.6A	Ok/Fault 4.2A	
Temp Sensor	OK / Fault	Ok/Fault	
Temp Sensor	OK / Fault	Ok/Fault	
Thermo Switch	ok / Fault	ok/Fault	
Air Flow Switch	OK / Fault		

Extras

BOTH SIDES FITTED		
CAPILARY TUBE		
NEW GAS	44	407C

Signed By: **Test Date:**

DRL

HVAC OVERHAUL 8500 Saloon

Serial No: 312080

OVERHAUL ✓
REPAIR

Saloon HVAC Unit Overhaul - HM Tasks [Heavy Maintenance]

Task	Step 1 New Compressor	Hours Per Job	Qty	YES √	
3	Replacement of Compressor	4			

Task	Step 2 Overhaul standard	Hours Per Job	Qty	YES √	
1	Remove Air Conditioning Unit and Exchange with Spare	0	0	✓	
2	Replace the Resilient Mounts of the Air Conditioning Unit	1	4	✓	
2.a	Filter-dryer and	2	2		
4	Remove the Evaporator Blower Unit and Condenser Blower Unit, Replace the Bearing, Clean, Repaint and Re-attach Blower Unit	5	4	✓	
5	Replace the Resilient Mounts of Compressors and Blower Unit	1	0		
6	Steams Clean the Condenser Coils and Evaporator Coil	0	0	✓	
7	Clean the Air conditioning Unit Including the Evaporator Drip Tray	2	0	✓	
8	Repair and Replace Thermal Insulator and Shield Rubber, if necessary	1	1	✓	
9	Check Refrigerant Leakage with Detector	1	0	✓	
10	Replace the Inverter Unit,	1	0	✓	
	Noise Filter,	0.5	3	✓	
11	Function, Insulation Resistance and Dielectric Strength Test	1	0	✓	
12	Check, Clean and Repaint Covers	4	0	✓	
13	Replace Insulator and Shield Rubber of Evaporator Cover	1	0	✓	
	Total Hrs Saloon HVAC Overhaul	20.5			

Item No.	Step 3 EXTRA PARTS		QTY		
1	HVAC Compressor [Model YG540CH-9N]				S
2	Condenser Coil 1			2	S
3	Condenser Coil 2			2	S
4	Evaporator Coil				S
5	High Pressure Switch				S
6	Low Pressure Switch				S
7	Air Pressure Switch				S
8	Temperature Sensor [Model SEK-14K108]				S
9	Inverter Unit [Model INV/44-B0]				S
10	Noise Filter [Model LF-220]				S
11	Over Current Relay [Model TR-1SN/3A (18A)]				S
12	Evaporator Fan [Model MBF-19B]				S
13	Condenser Fan [Model EF045-4DQ.4F.5]				S
14	Electric Heater [Model HE-7002V]				S
26	**Gas for 8520 HVAC Units**		Kg	5	B
27	Flex Hose HVAC 8520				B
28	Vib Hose HVAC 8520				B
150	capillary tubes				B
151	Reactor / condensor tanks				B
152	Over Current Relay				B

DRL **HVAC OVERHAUL 8500 Saloon**

Item No.	Step 4 Additional Labour	Hours	Hours
		7	
Notes:			
FIXED BOTH SIDES CAPILARY TUBE			
Signed : [signature]		Date: 11/03/22	

Fitted to 8522 05.05.22.

DRL 103-104 Ashbourne INd Est, Ashbourne, Co Meath, A84 WK37, Ireland

DRL
Transport Vehicle Parts & Services

8500	
Overhaul	✓
Repair	

Serial No 312088 **Taken From Unit** **Car No:**

	Side 1 OK / Fault	Side 2 Ok/Fault	Note:
Condensor Motor	Ok / Fault 1.2A	Ok/Fault 1.2A	
Evaporator Motor	Ok / Fault 4.7A	Ok/Fault	
w Pressure Switch	Ok / Fault	Ok/Fault	
High Pressure Switch	Ok / Fault	Ok/Fault	
Air Heater	Ok / Fault 11.2	Ok/Fault 11.2A	
Compressor	Ok / Fault 4.6A	Ok/Fault	
Temp Sensor	Ok / Fault	Ok/Fault	
Temp Sensor	Ok/ Fault	Ok/Fault	
Thermo Switch	Ok/ Fault	Ok/Fault	
Air Flow Switch	Ok / Fault	Ok/Fault	

Extras

Signed By: **Test Date:**

DRL

HVAC OVERHAUL 8500 Saloon

Serial No: 312088

OVERHAUL √

REPAIR

Saloon HVAC Unit Overhaul - HM Tasks [Heavy Maintenance]

Task	Step 1 New Compressor	Hours Per Job	Qty	YES √	
3	Replacement of Compressor	4			

Task	Step 2 Overhaul standard	Hours Per Job	Qty	YES √	
1	Remove Air Conditioning Unit and Exchange with Spare	0	0	√	
2	Replace the Resilient Mounts of the Air Conditioning Unit	1	4	√	
2.a	Filter-dryer and	2	2		
4	Remove the Evaporator Blower Unit and Condenser Blower Unit, Replace the Bearing, Clean, Repaint and Re-attach Blower Unit	5	4	√	
5	Replace the Resilient Mounts of Compressors and Blower Unit	1	0		
6	Steams Clean the Condenser Coils and Evaporator Coil	0	0	√	
7	Clean the Air conditioning Unit Including the Evaporator Drip Tray	2	0	√	
8	Repair and Replace Thermal Insulator and Shield Rubber, if necessary	1	1	√	
9	Check Refrigerant Leakage with Detector	1	0	√	
10	Replace the Inverter Unit,	1	0	√	
	Noise Filter,	0.5	3	√	
11	Function, Insulation Resistance and Dielectric Strength Test	1	0	√	
12	Check, Clean and Repaint Covers	4	0	√	
13	Replace Insulator and Shield Rubber of Evaporator Cover	1	0	√	
	Total Hrs Saloon HVAC Overhaul	20.5			

Item No.	Step 3 EXTRA PARTS		QTY		
1	HVAC Compressor [Model YG540CH-9N]				S
2	Condenser Coil 1			2	S
3	Condenser Coil 2			2	S
4	Evaporator Coil				S
5	High Pressure Switch				S
6	Low Pressure Switch				S
7	Air Pressure Switch				S
8	Temperature Sensor [Model SEK-14K108]				S
9	Inverter Unit [Model INV/44-B0]				S
10	Noise Filter [Model LF-220]				S
11	Over Current Relay [Model TR-1SN/3A (18A)]				S
12	Evaporator Fan [Model MBF-19B]				S
13	Condenser Fan [Model EF045-4DQ.4F.5]				S
14	Electric Heater [Model HE-7002V]				S
26	**Gas for 8520 HVAC Units**		Kg	5	B
27	Flex Hose HVAC 8520				B
28	Vib Hose HVAC 8520				B
150	capillary tubes				B
151	Reactor / condensor tanks				B
152	Over Current Relay				B

DRL

HVAC OVERHAUL 8500 Saloon

Item No.	Step 4 Additional Labour	Hours	Hours
		7	
Notes:			
FIXED BOTH SIDES CAPILARY TUBE			
Signed : SAM		Date: 11/03/22	

Fitted to 8621 07.04.20

DRL 103-104 Ashbourne INd Est, Ashbourne, Co Meath, A84 WK37, Ireland

OK Adam PL

HVAC Saloon DART

Overhaul	✓
Repair	
Warranty	

Serial No 312074 Taken From Unit Car No:

	Side 1 OK / Fault	Side 1 current	Side 2 OK / Fault	Side 2 current	
Condenser Motor	(OK) / Fault	0.60A	(OK) / Fault	0.60A	
Compressor	(OK) / Fault	10.2A	(OK) / Fault	10.5A	
Evaporator Motor	(OK) / Fault	4.7A	4.5A		
Air Heater	(OK) / Fault	12.6A	12.6A		
low pressure switch	(OK) / Fault		(OK) / Fault		
high pressure switch	(OK) / Fault		(OK) / Fault		
Heat protection	(OK) / Fault				
Return air temp sensor	(OK) / Fault				
Air flow Switch	(OK) / Fault				
Pressure test 24h	✓		✓		
Total gas charged 407c	2.2 KG		2.2 KG		

EXTRAS:

	quantity		
AIR FLOW SWITCH	1		- FLUSH SYSTEM - REARED CAPILARY TUBE BOTH SIDE
New Gas Added KG (total)	4.4	KG	
Additional Labour Hrs	8	H	

Signed By: Adam Test Date: 20/03/2020

Fitted to 8621 07.04.20

DRL 103-104 Ashbourne INd Est, Ashbourne, Co Meath, A84 WK37, Ireland

OK & CARRY

HVAC Saloon DART

Overhaul	✓
Repair	
Warranty	

Serial No 312073 Taken From Unit Car No:

	Side 1 OK / Fault	Side 1 current	Side 2 OK / Fault	Side 2 current	
Condenser Motor	(OK) / Fault	0.70A	(OK) / Fault	0.71A	
Compressor	(OK) / Fault	4.45A	(OK) / Fault	4.42A	
Evaporator Motor	(OK) / Fault	4.58A			
Air Heater	(OK) / Fault	12.40A			
low pressure switch	(OK) / Fault		(OK) / Fault		
high pressure switch	(OK) / Fault		(OK) / Fault		
Heat protection	(OK) / Fault				
Return air temp sensor	(OK) / Fault				
Air flow Switch	(OK) / Fault				
Pressure test 24h	✓		✓		
Total gas charged 407c	2.2 KG		2.2 KG		

EXTRAS:

	quantity	
New Gas Added KG (total)	1	KG
Additional Labour Hrs	7	H

- Repaired both side copylami
- tobe
- Repaired broken bolts

Signed By: Almir Kozic Test Date: 30/03/2020

Fitted to 8622 05.05.22

DRL 103-104 Ashbourne INd Est, Ashbourne, Co Meath, A84 WK37, Ireland

DRL
Transport Vehicle Parts & Services

HVAC Saloon DART

Overhaul	x ✓
Repair	
Warranty	

Serial No 312,061 Taken From Unit Car No:

	Side 1 OK / Fault	Side 1 current	Side 2 OK / Fault	Side 2 current	
Condenser Motor	OK / Fault	1.3A	OK / Fault	1.3	
Compressor	OK / Fault	4.9A	OK / Fault	4.9A	
Evaporator Motor	OK / Fault	4.7A			
Air Heater	OK / Fault	12.7A	OK / Fault		
Low pressure switch	OK / Fault		OK / Fault		
High pressure switch	OK / Fault		OK / Fault		
Heat protection	OK / Fault		OK / Fault		
Return air temp sensor	OK / Fault		OK / Fault		
Air flow Switch	OK / Fault		OK / Fault		
Fresh Temp sensor	OK / Fault		OK / Fault		
Pressure test 24h	x		x		
Total gas charged 407c	2.5		2.5		

EXTRAS:		
New Gas Added KG (total)	5	KG
Additional Labour Hrs	8	H
One bottle nitrogen		
Heater fuse	1	

Signed By: Test Date: 3063/22

DRL

HVAC OVERHAUL 8500 Saloon

Serial No: 312061

OVERHAUL √

REPAIR

Saloon HVAC Unit Overhaul - HM Tasks [Heavy Maintenance]

Task	Step 1 New Compressor	Hours Per Job	Qty	YES √	
3	Replacement of Compressor	4			

Task	Step 2 Overhaul standard	Hours Per Job	Qty	YES √	
1	Remove Air Conditioning Unit and Exchange with Spare	0	0	√	
2	Replace the Resilient Mounts of the Air Conditioning Unit	1	4	√	
2.a	Filter-dryer and	2	2		
4	Remove the Evaporator Blower Unit and Condenser Blower Unit, Replace the Bearing, Clean, Repaint and Re-attach Blower Unit	5	4	√	
5	Replace the Resilient Mounts of Compressors and Blower Unit	1	0		
6	Steams Clean the Condenser Coils and Evaporator Coil	0	0	√	
7	Clean the Air conditioning Unit Including the Evaporator Drip Tray	2	0	√	
8	Repair and Replace Thermal Insulator and Shield Rubber, if necessary	1	1	√	
9	Check Refrigerant Leakage with Detector	1	0	√	
10	Replace the Inverter Unit,	1	0	√	
	Noise Filter,	0.5	3	√	
11	Function, Insulation Resistance and Dielectric Strength Test	1	0	√	
12	Check, Clean and Repaint Covers	4	0	√	
13	Replace Insulator and Shield Rubber of Evaporator Cover	1	0	√	
	Total Hrs Saloon HVAC Overhaul	20.5			

Item No.	Step 3 EXTRA PARTS		QTY		
1	HVAC Compressor [Model YG540CH-9N]				S
2	Condenser Coil 1		1		S
3	Condenser Coil 2		2		S
4	Evaporator Coil				S
5	High Pressure Switch				S
6	Low Pressure Switch				S
7	Air Pressure Switch				S
8	Temperature Sensor [Model SEK-14K108]				S
9	Inverter Unit [Model INV/44-B0]				S
10	Noise Filter [Model LF-220]				S
11	Over Current Relay [Model TR-1SN/3A (18A)]				S
12	Evaporator Fan [Model MBF-19B]				S
13	Condenser Fan [Model EF045-4DQ.4F.5]				S
14	Electric Heater [Model HE-7002V]				S
26	**Gas for 8520 HVAC Units**	5	Kg		B
27	Flex Hose HVAC 8520				B
28	Vib Hose HVAC 8520				B
150	capillary tubes				B
151	Reactor / condensor tanks				B
152	Over Current Relay				B

DRL

HVAC OVERHAUL 8500 Saloon

Item No.	Step 4 Additional Labour	Hours	Hours
			8
Notes:			
FIXED BOTH SIDE CARLITEY TUBE			
FUSE FOR HEATER ELEMENT X2			
Signed : SPW		Date: 30/03/22	

Fitted to 8622 - 05.05.22

DRL 103-104 Ashbourne INd Est, Ashbourne, Co Meath, A84 WK37, Ireland

DRL
Transport Vehicle Parts & Services

HVAC Saloon DART

Overhaul	x
Repair	
Warranty	

Serial No 312062 Taken From Unit Car No:

	Side 1 OK / Fault	Side 1 current	Side 2 OK / Fault	Side 2 current	
Condenser Motor	OK / Fault	1.3A	OK / Fault	1.3A	
Compressor	OK / Fault	4.9A	OK / Fault	4.5A	
Evaporator Motor	OK / Fault	4.7A			
Air Heater	OK / Fault	12A	OK / Fault		
Low pressure switch	OK / Fault		OK / Fault		
High pressure switch	OK / Fault		OK / Fault		
Heat protection	OK / Fault		OK / Fault		
Return air temp sensor	OK / Fault		OK / Fault		
Air flow Switch	OK / Fault		OK / Fault		
Fresh Temp sensor	OK / Fault		OK / Fault		
Pressure test 24h	x		x		
Total gas charged 407c	2.5		2.5		

EXTRAS:

New Gas Added KG (total)	5	KG
Additional Labour Hrs	8	H
One bottle nitrogen		
Heater fuse	1	

Signed By: SM Test Date: 30/03/22

DRL

HVAC OVERHAUL 8500 Saloon

Serial No: 312062	OVERHAUL	√
	REPAIR	

Saloon HVAC Unit Overhaul - HM Tasks [Heavy Maintenance]

Task	Step 1 New Compressor	Hours Per Job	Qty	YES √	
3	Replacement of Compressor	4			

Task	Step 2 Overhaul standard	Hours Per Job	Qty	YES √	
1	Remove Air Conditioning Unit and Exchange with Spare	0	0	√	
2	Replace the Resilient Mounts of the Air Conditioning Unit	1	4	√	
2.a	Filter-dryer and	2	2		
4	Remove the Evaporator Blower Unit and Condenser Blower Unit, Replace the Bearing, Clean, Repaint and Re-attach Blower Unit	5	4	√	
5	Replace the Resilient Mounts of Compressors and Blower Unit	1	0		
6	Steams Clean the Condenser Coils and Evaporator Coil	0	0	√	
7	Clean the Air conditioning Unit Including the Evaporator Drip Tray	2	0	√	
8	Repair and Replace Thermal Insulator and Shield Rubber, if necessary	1	1	√	
9	Check Refrigerant Leakage with Detector	1	0	√	
10	Replace the Inverter Unit,	1	0	√	
	Noise Filter,	0.5	3	√	
11	Function, Insulation Resistance and Dielectric Strength Test	1	0	√	
12	Check, Clean and Repaint Covers	4	0	√	
13	Replace Insulator and Shield Rubber of Evaporator Cover	1	0	√	
	Total Hrs Saloon HVAC Overhaul	20.5			

Item No.	Step 3 EXTRA PARTS		QTY		
1	HVAC Compressor [Model YG540CH-9N]				S
2	Condenser Coil 1		2		S
3	Condenser Coil 2		2		S
4	Evaporator Coil				S
5	High Pressure Switch				S
6	Low Pressure Switch				S
7	Air Pressure Switch				S
8	Temperature Sensor [Model SEK-14K108]				S
9	Inverter Unit [Model INV/44-B0]				S
10	Noise Filter [Model LF-220]				S
11	Over Current Relay [Model TR-1SN/3A (18A)]				S
12	Evaporator Fan [Model MBF-19B]				S
13	Condenser Fan [Model EF045-4DQ.4F.5]				S
14	Electric Heater [Model HE-7002V]				S
26	**Gas for 8520 HVAC Units**	5	Kg		B
27	Flex Hose HVAC 8520				B
28	Vib Hose HVAC 8520				B
150	capillary tubes				B
151	Reactor / condensor tanks				B
152	Over Current Relay				B

DRL

HVAC OVERHAUL 8500 Saloon

Item No.	Step 4 Additional Labour	Hours	Hours
		8	

Notes:

BOTH SIDE CAPILARY TUBE FITED
FUSE FOR HEATER X 2

Signed :

Date: 30/03/22

Iarnród Éireann CME Department	Vehicle Maintenance Instruction	Reference No.	HH85A0009
		Issue No.	1.0
		Operative Date	17/09/2012
		Status	Live
Fleet 8520/8620	8520 Air Con Controller – I/O Status	Prepared By	D Mullen
		Checked By	R. Mackey
		Approved By	D. McConnell

8520 Air Con Controller – I/O Status

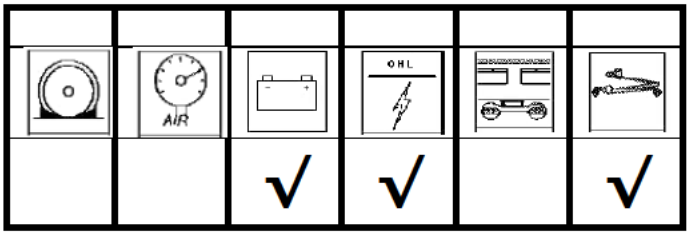
Description of Input/Output LED's on 8520 air conditioning controller

Safety Critical: No

Vehicle Applicability

TC1	MC1	MC2	TC2
Applicable	Applicable	Applicable	Applicable

Safety Conditions



		√	√		√

PPE Required

Item	Description	Standard
1	High Visibility Vest	EN 471 Class 2, EN510, EN5331 Index 1
2	Safety Footwear	EN ISO 20345
3	Bump Hat	EN 812
9	Not to go Boards / Personal Hazard Tags	

Special Tools

Item	Description	Part Number	SAP Code
1			

Related Documents

Item	Description	Document Reference
1	ACCP & CBCP Maintenance Manual	Toshiba 6F3R1103

Parts

Item	Description	Quantity	Part Number	SAP Code
1				

Notes: This document should be used to assist in a fault-finding process on 8520 saloon air condition units.

Step	Instruction
1	Check the saloon air conditioning controllers fault status by visual examination of the panel pictured in FIG1. If a fault is present, (as shown in FIG1 EF2 fault), proceed to step 2.

LED	*Description*	*Normal Status*
CPU RUN	Controller working	On
EF1	Evap fan 1 fault	Off
CP11	Unit 1 Comp 1 fault	Off
CP12	Unit 1 Comp 2 fault	Off
CHe1	Overheat sw 1 tripped	Off
EF2	Evap fan 2 fault	Off
CP21	Unit 2 Comp 2 fault	Off
CP22	Unit 2 Comp 2 fault	Off
CHe2	Overheat sw 2 tripped	Off

FIG1

2	Investigate the fault using the tables below which gives a description of the functions of the I/O LED's on the controller boards IFRP-F4 and IFRP-F2 pictured in FIG2 and FIG3. Shown is the LED status for normal running operation.

IFRP-F4 Board		
LED	*Description*	*LED Normal Status*
DI01	DSW Setting Value1	Off
DI02	DSW Setting Value2	Off
DI03	DSW Setting Value3	Off
DI04	DSW Setting Value4	Off
DI05	Test Operation switch	Off
DI06	Test Mode sw: Cooling	Depends on test sw position
DI07	Test Mode sw: Heating	Depends on test sw position
DI08	ACB1 Feedback	On
DI09	IVK1 Feedback	On
DI10	CPK11 Feedback	Temp dependant
DI11	CPK12 Feedback	Temp dependant
DI12	EF1 (Inverter fault, evap fan over current relay tripped)	On
DI13	DHe1 Over heat switch	On
DI14	No 1 Hvac CP1 (HPS1, LPS1 IOL1)	On
DI15	No 1 Hvac CP2 (as above)	On
DI16	EF1 (air flow detector fault)	On* **(see note)**

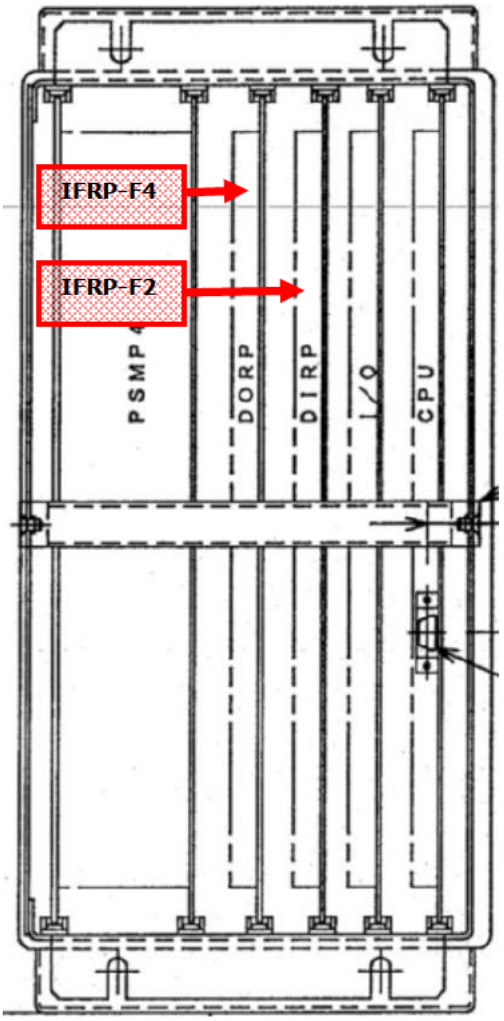


FIG2

IFRP-F2 Board		
LED	***Description***	***LED Normal Status***
DI01	Hvac On Signal	On
DI02	Extinguisher Cancellation signal	On
DI03	AC compressor start signal	Temp dependant
DI04	N/A	Off
DI05	N/A	Off
DI06	N/A	Off
DI07	Main circuit OFF detection	On
DI08	ACB2 Feedback	On
DI09	IVK2 Feedback	On
DI10	CPK21 Feedback	Temp dependant
DI11	CPK22 Feedback	Temp dependant
DI12	EF2 Fault (Inverter fault, evap fan over current relay tripped)	On
DI13	DHe2 Over heat switch	On
DI14	No 2 Hvac CP1 (HPS1, LPS1 IOL1)	On
DI15	No2 Hvac CP2 (as above)	On
DI16	EF1 (air flow detector fault)	On* **(see note)**

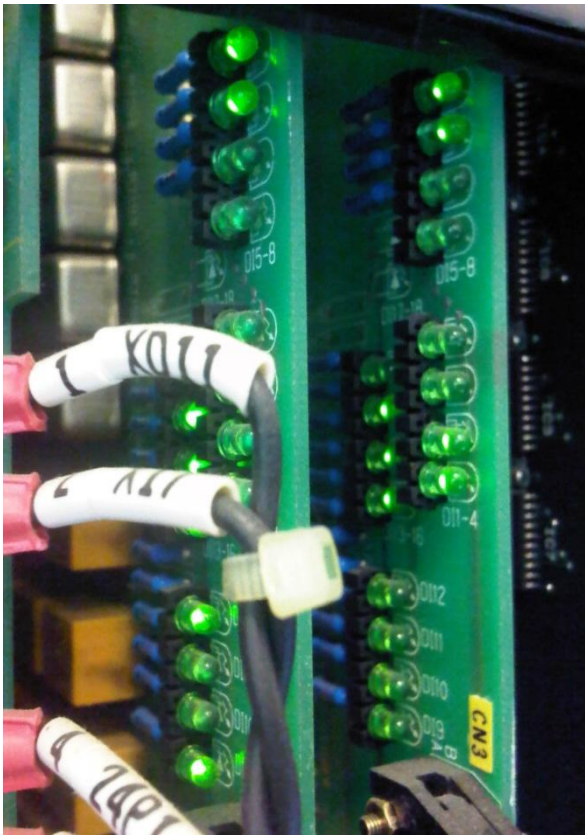


FIG3

If the led DI16 is not lit within the first minute of air-con start-up or reset then the air flow detector switch may be defective or blocked. If this occurs the Evaporator fan associated will stop running and the system will then perform one automatic reset. If the fault continues to remain present, the system will shut down completely after another 10 mins and indicate either an EF1 or EF2 fault.

HH85J0007 Saloon Air Conditioning – Renew Filters

Renew filters in saloon air conditioning unit.

TC1	MC1	MC2	TC2
Applicable	Applicable	Applicable	Applicable

Safety Conditions

Warning. Ensure that the saloon air conditioning has cooled before undertaking this task. Ensure that the air conditioning unit is isolated before panel is lowered. Care must be taken when working on stepladders

PPE		
ITEM	DESCRIPTION	SAP CODE
1	Safety footwear	
2	Gloves	

SPECIAL TOOLS		
ITEM	DESCRIPTION	PART NO.
1	None	

RELATED DOCUMENTATION		
ITEM	DESCRIPTION	REFERENCE
1	None	

MATERIALS				
ITEM	DESCRIPTION	QTY/VEH	PART NO.	SAP CODE
1	Return Air Filters	4		
2	Fresh Air Filter	4		

Steps	Instruction
1	Ensure that the saloon air conditioning system is isolated and has cooled before undertaking tasks.
2	In the saloon, locate the access panel for the fresh air filters in the saloon ceiling (Fig 1).
3	Turn the captive screws ② and open the air filter access panel ① supporting it by hand.
4	Release the two snap locks ③ at the lower end of the safety chains and open slowly the access panel ①.
5	First remove the centre return air filter ④, and next the right and left return air filters ⑤ moving to the centre position along the filter guide rail.
6	Renew the fresh air filter ⑥ located at the short sides of return air opening.
7	Install renewed return air filters performing the above steps in reverse order.
8	Retain the filters for cleaning.
9	Refit the air filter access panel, ensuring that it is secure following filter replacement.
10	Repeat task for other air conditioning units.
11	Report any defects to the Supervisor. All components repaired, renewed or deferred to be recorded on the examination sheet.

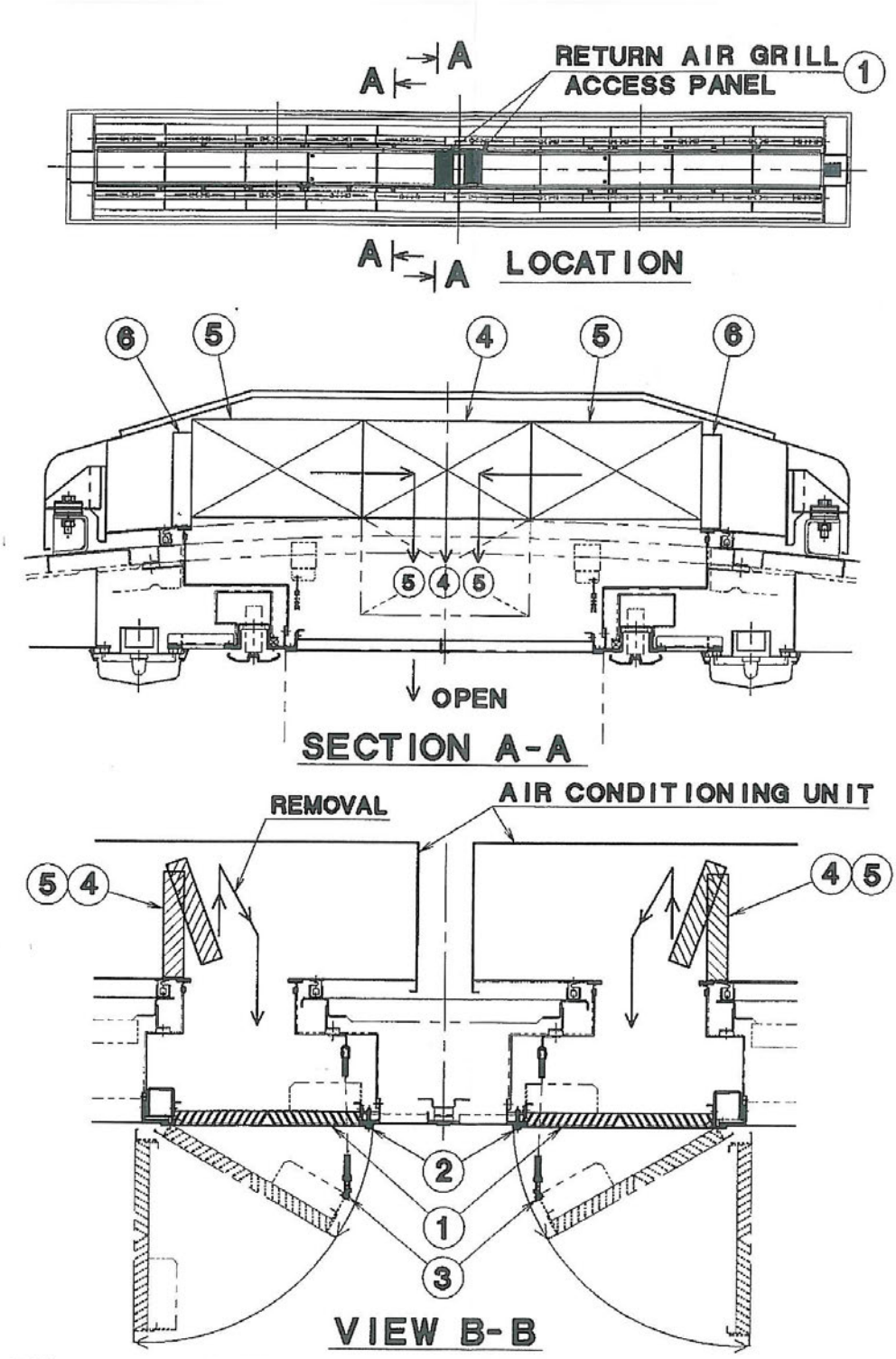


Fig 1. Return and Fresh Air Filters Replacement (Saloon)

DART CME Department	Vehicle Maintenance Instruction	Reference No.	HH85J0008
		Issue No.	2.0
		Operative Date	29/01/2013
		Status	Live
Fleet 8520/8620	Saloon Air Conditioning - Examine	Prepared By	D.Mullen
		Checked By	R. Mackey
		Approved By	D. McConnell

Saloon Air Conditioning - Examine

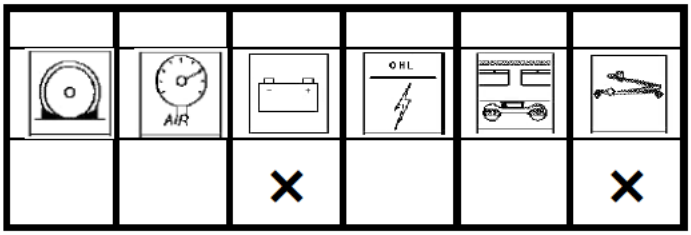
Functional and visual inspection of air conditioning unit

Safety Critical: No

Vehicle Applicability

TC1	MC1	MC2	TC2
Applicable	Applicable	Applicable	Applicable

Safety Conditions



PPE Required		
Item	**Description**	**Standard**
1	High Visibility Vest	EN 471 Class 2, EN510, EN5331 Index 1
2	Safety Footwear	EN ISO 20345
3	Bump Hat	EN 812
4	Safety Glasses - Standard	EN 166
6	Safety Gloves - Standard	EN 420
9	Not to go Boards / Personal Hazard Tags	

Special Tools			
Item	**Description**	**Part Number**	**SAP Code**
1			

Related Documents		
Item	**Description**	**Document Reference**
1	Saloon Air-Con Maintenance Manual (Toshiba)	RPU-7002V
2	Air Con Controller – IO Status	HH85A0009

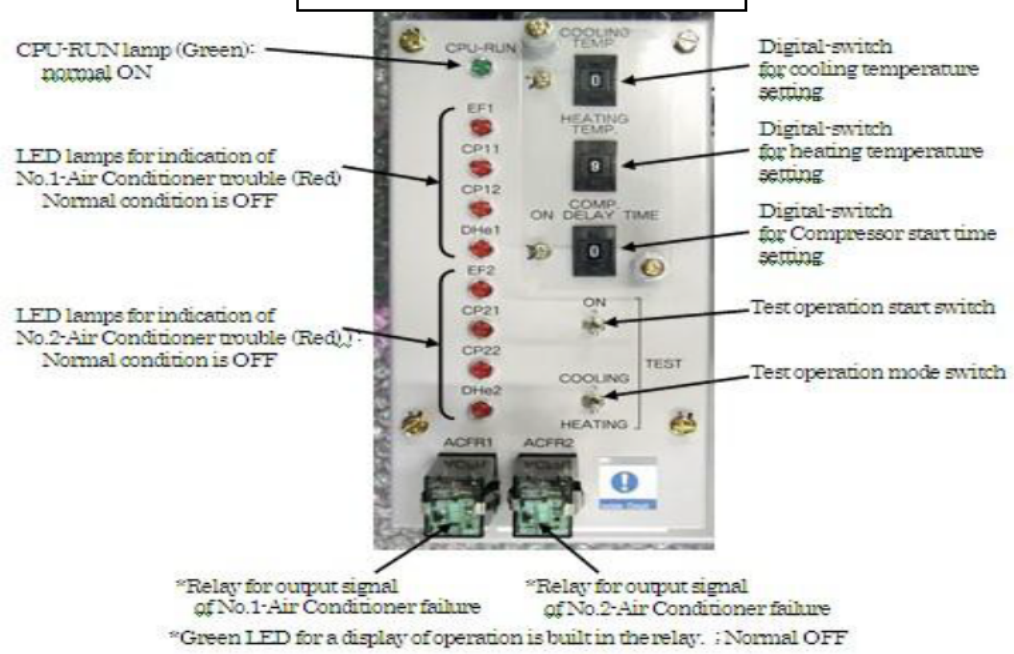
Parts				
Item	**Description**	**Quantity**	**Part Number**	**SAP Code**
1				

	Ensure that the saloon air conditioning system is isolated (AC and DC supplies) and has cooled before undertaking tasks 1 to 3.
Step	**Instruction**
1	Open both air conditioning access panels in the saloon ceiling for access under the air conditioning unit.  **FIG1**
2	Check condition of thermal insulation for damage or disturbance. Small areas of damage may be repaired with self-adhesive foil tape. Examine cables and plugs for damage and security. Ensure that there is no fraying of cables, insulation deterioration or heat damage. Check that air temp sensors are clean and free from dust. Carefully clean with a dry cloth or soft brush if necessary.
3	Refit the saloon ceiling access panels. Ensure that seals are in good condition with no signs of damage or deterioration. Ensure that they are securely fitted.
4	**TC Car:** Open electrical cupboard's no1 and no2 in the saloon area. Check that the following circuit-breakers are in the on (normal) position: ACCCB, ACCPCB, IVCB1, IVCB2, ACB1, ACB2, FHCB, ACCCB **MC Car:** Open electrical cupboard's no7 and no9 in the saloon area. Check air-con circuit-breakers are in the on (normal) position. ACCPCB, IVCB1, IVCB2, ACB1, ACB2, FHCB, ACCCB Any breakers found in a tripped (off) position must be investigated.
5	De-isolate AC and DC supplies. Ensure that air-con is pulsed off from cab. Run the system self-tests by following the steps below. Run the heating test first followed by the cooling test. **Heating:** Move the test operation mode switch to "Heating" position. Move the test operation start switch to the on position for 3 secs until the test mode begins. Check that heating contactors energise. This test mode will energise full heating for approx 5 mins. Ventilation fans will continue to run for two minutes after heating has de-energised. When self-test is complete the air-con unit stops automatically.

Cooling:
Ensure that the heating test mode has ended before beginning cooling test. Move the test operation mode switch to "cooling" position. Move the test operation start switch to the on position for 3 secs until the test mode begins. Confirm that compressors and condensor fans are running. This test mode will operate full cooling for approx 5 mins. When self-test is complete the air-con unit stops automatically.

During tests, listen for any unusual noise from vent-fan, compressor and condenser fan motors that may indicate a problem with motor bearings.

FIG2 Air Con Controller



LED	Color	Target equipment		On	Off
CPU-RUN	Green	Air conditioning Control Panel		Normal	Failure or Power down
EF1	Red	No.1 Air con.	Evaporator fan circuit	Failure	Normal
CP11	Red	No.1 Air con.	Compressor1 circuit	Failure	Normal
CP12	Red	No.1 Air con.	Compressor2 circuit	Failure	Normal
DHe1	Red	No.1 Air con.	Overhead heater circuit in	Failure	Normal
EF2	Red	No.2 Air con.	Evaporator fan circuit	Failure	Normal
CP21	Red	No.2 Air con.	Compressor1 circuit	Failure	Normal
CP22	Red	No.2 Air con.	Compressor2 circuit	Failure	Normal
DHe2	Red	No.2 Air con.	Overhead heater circuit	Failure	Normal

6 Pulse on the saloon air conditioning from the TC cab.

Check the system for any possible faults by Inspecting the LED fault lamps shown (FIG2). Active faults on the system are shown by an illumination of the relevant fault LED. Investigate and note any faults present on the system.

7 Close all panels. Report any defects to the Supervisor and note on exam sheet. All components repaired, renewed or deferred to be recorded on the examination sheet.

Order: 40565300 Air-con Modular: E111 11.00 Ex Howth 862 Page 1

Notification
Vehicle **8622** DART TRAILER CAR
Equipment
Priority **Start date:** 08.09.2022
All Work on Order Completed? **YES** / **NO**

Air-con Modular: E111 11.00 Ex Howth 8621-626-625-622 driver reported burning smell in cab and saloon staff met at the ramp.

Staff met at the ramp and strong smell in saloon and banging noise coming from cabinet 2 and ACCCB not all the way up and wouldn#t go up or down. Set failed at Connolly.
On return to depot air-con modular faults lights were flashing Air-con turn off will require further fault finding.

06-07-20
Air con fault finding
air con module faulty showing fault lights, module can be swapped from good unit to test if required tomorrow and Floor heating contactor will need to be replaced due to heat damage

07-07-20
contactor replaced, system tested and ok

OP No 0010 **Conf No** **21336116 44100 Fairview**

Date	Start Time	End Time	Total	Signature
__/__/__	____:____	____:____	____:____	
__/__/__	____:____	____:____	____:____	
07/07/20	____:____	____:____	____:____	Donal Holdeman
__/__/__	____:____	____:____	____:____	

Order: 40626338 air con fleet checks - filters replaced Page 1

Notification 600000126988
Vehicle 8622 DART TRAILER CAR
Equipment
Priority 2 General **Start date:** 27.06.2022
All Work on Order Completed? **YES** / **NO**

---

air con fleet checks - filters replaced and force cooling test completed - all cars operated as expected - 27.06.22

OP No 0010 **Conf No** 22460109 738301 **Lester Adam**

Date	Start Time	End Time	Total	Signature
___/___/___	____:____	____:____	____:____	_____
___/___/___	____:____	____:____	____:____	_____
___/___/___	____:____	____:____	____:____	_____
27/06/22	____:____	____:____	____:____	Adam Lester

Order: 40597671 Air Con filters replaced all cars after Page 1

Notification
Vehicle **8622** DART TRAILER CAR
Equipment
Priority **Start date:** 24.08.2022
All Work on Order Completed? **YES** / **NO**

Air Con filters replaced all cars after water leak report. drain holes cleared on roof - 08.03.22

OP No 0010 **Conf No** **21939880 44100 Fairview**

Date	Start Time	End Time	Total	Signature
___/___/___	____:____	____:____	____:____	_____
___/___/___	____:____	____:____	____:____	_____
___/___/___	____:____	____:____	____:____	_____
08/03/22	____:____	____:____	____:____	Adam Taylor

Order: 40598220 Air Con Filters Changed - force cooling Page 1

Notification
Vehicle **8622** DART TRAILER CAR
Equipment
Priority **Start date:** 08.09.2022
All Work on Order Completed? **YES** / **NO**

Air Con Filters Changed - force cooling test completed and all cars operated as expected - 08.08.21

OP No 0010 **Conf No** **21953204 44100** **Fairview**

Date	Start Time	End Time	Total	Signature
__/__/__	____:____	____:____	____:____	
__/__/__	____:____	____:____	____:____	
__/__/__	____:____	____:____	____:____	
08/08/21	____:____	____:____	____:____	Aidan Foster

Order: 40584972 Air con filters replaced - 18.02.2021 Page 1

Notification
Vehicle 8622 DART TRAILER CAR
Equipment
Priority **Start date:** 07.09.2022
All Work on Order Completed? **YES** / **NO**

Air con filters replaced - 18.02.2021

OP No 0010 **Conf No** 21688438 44100 **Fairview**

Date	Start Time	End Time	Total	Signature
__/__/__	____:____	____:____	____:____	
__/__/__	____:____	____:____	____:____	
__/__/__	____:____	____:____	____:____	
18/02/21	____:____	____:____	____:____	Adam Lekree

Order: 40576444 Air Con filter replacement - 11.11.20 Page 1

Notification
Vehicle 8622 DART TRAILER CAR
Equipment
Priority **Start date:** 08.09.2022
All Work on Order Completed? **YES** / **NO**

Air Con filter replacement - 11.11.20

OP No 0010 **Conf No** 21533934 44100 **Fairview**

Date	Start Time	End Time	Total	Signature
11/11/20	____:____	____:____	____:____	
___/___/___	____:____	____:____	____:____	
___/___/___	____:____	____:____	____:____	
___/___/___	____:____	____:____	____:____	

Order: 40567531 air con filters replaced and cooling for Page 1

Notification
Vehicle 8622 DART TRAILER CAR
Equipment
Priority **Start date:** 07.09.2022
All Work on Order Completed? **YES** / **NO**

---

air con filters replaced and cooling force test completed and all cars operated as expected - 07.04.20

OP No 0010 **Conf No** 21376259 44100 **Fairview**

Date	Start Time	End Time	Total	Signature
__/__/__	____:____	____:____	____:____	
__/__/__	____:____	____:____	____:____	
__/__/__	____:____	____:____	____:____	
7/4/20	____:____	____:____	____:____	

Order: 40553354 filters replaced all cars - 23.10.2019 Page 1

Notification
Vehicle 8622 DART TRAILER CAR
Equipment
Priority **Start date:** 07.09.2022
All Work on Order Completed? **YES** / **NO**

---

filters replaced all cars - 23.10.2019

OP No 0010 **Conf No** 21136638 44100 **Fairview**

Date	Start Time	End Time	Total	Signature
__/__/__	____:____	____:____	____:____	
__/__/__	____:____	____:____	____:____	
__/__/__	____:____	____:____	____:____	
23/10/19	____:____	____:____	____:____	

Order: 40566944 Air Con not working - staff travelled em Page 1

Notification
Vehicle **8622** DART TRAILER CAR
Equipment
Priority **Start date:** 24.08.2022
All Work on Order Completed? **YES** / **NO**

Air Con not working - staff travelled em push button pressed in cab - 01.11.2020

OP No 0010 **Conf No** **21363480 44100** **Fairview**

Date	Start Time	End Time	Total	Signature
__/__/__	____:____	____:____	____:____	
__/__/__	____:____	____:____	____:____	
__/__/__	____:____	____:____	____:____	
11/11/22	____:____	____:____	____:____	Donal Hendrick

Order: 40628451 air con checked before service Page 1

Notification 600000128601
Vehicle 8621 DART TRAILER CAR
Equipment
Priority 2 General **Start date:** 26.07.2022
All Work on Order Completed? YES / NO

---

air con checked before service
* 26.07.2022 13:31:23 JONATHAN WHATLEY (WHATLEY_J)
* ALL AIR CON CHECKED BEFORE SERVICE AND NO ISSUES OR FAULTS

OP No 0010 **Conf No** 22503357 44100 **Fairview**

Date	Start Time	End Time	Total	Signature
__/__/__	____:____	____:____	____:____	
__/__/__	____:____	____:____	____:____	
__/__/__	____:____	____:____	____:____	
26/07/22	____:____	____:____	____:____	Donal Hardiman

Order: 40590215 air con filters replaced Page 1

Notification
Vehicle 8621 DART TRAILER CAR
Equipment
Priority **Start date:** 01.07.2022
All Work on Order Completed? **YES** / **NO**

---

air con filters replaced
system tested including force cooling test and no faults reported - 01.07.22

OP No 0010 **Conf No** 21796137 44100 **Fairview**

Date	Start Time	End Time	Total	Signature
___/___/___	____:____	____:____	____:____	
___/___/___	____:____	____:____	____:____	
___/___/___	____:____	____:____	____:____	
01/07/22	____:____	____:____	____:____	Aidan Lee

Order: 40590892 Air Con EM stop button broken - 08.03.22 Page 1

Notification
Vehicle **8621** DART TRAILER CAR
Equipment
Priority **Start date:** 07.09.2022
All Work on Order Completed? **YES** / **NO**

Air Con EM stop button broken - 08.03.22

OP No 0010 **Conf No** **21813221 44100** **Fairview**

Date	Start Time	End Time	Total	Signature
___/___/___	____:____	____:____	____:____	_____
___/___/___	____:____	____:____	____:____	_____
___/___/___	____:____	____:____	____:____	_____
08/03/22	____:____	____:____	____:____	Donat Haldeman

Order: 40585019 AIRCON FILTERS REPLACED Page 1

Notification
Vehicle 8621 DART TRAILER CAR
Equipment
Priority **Start date:** 19.02.2021
All Work on Order Completed? **YES** / **NO**

AIRCON FILTERS REPLACED

OP No 0010 **Conf No** 21690722 738301 **Lester Adam**

Date	Start Time	End Time	Total	Signature
___/___/___	____:____	____:____	____:____	_____
___/___/___	____:____	____:____	____:____	_____
___/___/___	____:____	____:____	____:____	_____
19/02/21	____:____	____:____	____:____	Adam Lester.

Order: 40596896 Saloon Ventilation:17.07.2021 - E221 13. Page 1

Notification
Vehicle **8621** DART TRAILER CAR
Equipment
Priority **Start date:** 22.08.2022
All Work on Order Completed? (**YES**) / **NO**

Saloon Ventilation:17.07.2021 - E221 13.30 Ex Malahide 8621-626-625-622 driver
reported that air-con was blowing hot air in all saloons units swapped in Connolly. all air con filters replaced tested after and all cars cooling. Force cooling tests completed and all operating as should.

OP No 0010 **Conf No** **21924431 44100** **Fairview**

Date	Start Time	End Time	Total	Signature
__/__/__	____:____	____:____	____:____	_____
__/__/__	____:____	____:____	____:____	_____
12/07/21	____:____	____:____	____:____	Donal Henderson
__/__/__	____:____	____:____	____:____	_____

Order: 40566180 Aircon filters replaced - all cars, forc Page 1

Notification
Vehicle **8621** DART TRAILER CAR
Equipment
Priority **Start date:** 15.07.2020
All Work on Order Completed? **YES** / **NO**

Aircon filters replaced - all cars, force cooling test performed and no performed as expected - 07.10.2020

OP No 0010 **Conf No** **21351342 44100** **Fairview**

Date	Start Time	End Time	Total	Signature
___/___/___	____:____	____:____	____:____	_____
___/___/___	____:____	____:____	____:____	_____
___/___/___	____:____	____:____	____:____	_____
7/10/20	____:____	____:____	____:____	_____

Order: 40566221 AIRCON FILTERS CHANGED - 15.07.20 Page 1

Notification
Vehicle **8621** DART TRAILER CAR
Equipment
Priority **Start date:** 15.07.2020
All Work on Order Completed? **YES** / **NO**

AIRCON FILTERS CHANGED - 15.07.20

OP No 0010 **Conf No** **21351343 162116** **Hardiman Donal**

Date	Start Time	End Time	Total	Signature
__/__/__	____:____	____:____	____:____	
__/__/__	____:____	____:____	____:____	
__/__/__	____:____	____:____	____:____	
15/7/20	____:____	____:____	____:____	

Order: 40566180 Aircon filters replaced - all cars, forc Page 1

Notification
Vehicle **8621** DART TRAILER CAR
Equipment
Priority **Start date:** 15.07.2020
All Work on Order Completed? **YES** / **NO**

Aircon filters replaced - all cars, force cooling test performed and performed as expected - 07.10.2020

OP No 0010 **Conf No** **21351342** **44100** **Fairview**

Date	Start Time	End Time	Total	Signature
__/__/__	____:____	____:____	____:____	
__/__/__	____:____	____:____	____:____	
7/10/20	____:____	____:____	____:____	

Order: 40627714 air con faults on prep Page 1

Notification 600000127968
Vehicle 8626 DART TRAILER CAR
Equipment
Priority 2 General **Start date:** 15.07.2022
All Work on Order Completed? **YES** / **NO**

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air con faults on prep
* 15.07.2022 10:51:02 JONATHAN WHATLEY (WHATLEY_J)
* PREP DRIVER REPORTED 8625-26 ALL CARS HAD AIR CON FAULTS SHOWING
all reset and set checked 20 mins later and all cars cooling

OP No 0010 **Conf No** 22488718 44100 **Fairview**

Date	Start Time	End Time	Total	Signature
__/__/__	____:____	____:____	____:____	
__/__/__	____:____	____:____	____:____	
15/07/22	____:____	____:____	____:____	Adam Lester

SUMMARY REPORT

8520 Air Conditioning Work - Last 3 Years on Trainsets:

8621-521-526-626 and 8622-522-526-626

Trainset: 8621-521-526-626		
Work Order	Work Completed	Date
40628451	Air Con fleet checks - force cooling test completed	30.07.2022
40590215	Scheduled Filter Replacement: Air Con filters replaced all cars – force cooling test completed	01.07.2022
40590892	E.M. stop button damaged - replaced	08.03.2022
40585019	Scheduled Filter Replacement: Air Con Filters replaced all cars	01.02.2022
40596896	Air Con Filters replaced all cars – Hot air reported in saloon force cooling test completed	17.07.2021
40576040	Scheduled Filter Replacement: Air Con Filters replaced all cars	18.02.2021
40566180	Air Con fleet check - force cooling test completed	07.10.2020
40566221	Scheduled Filter Replacement: Air Con Filters replaced all cars	07.10.2020
60436824	Air Con heavy maintenance module overhaul	07.04.2020
40520828	Scheduled Filter Replacement: Air Con Filters replaced all cars	01.04.2020
40566180	Scheduled Filter Replacement: Air con filters replaced all cars – force cooling test completed	30.10.2019
40520829	Scheduled 4 year: Air conditioning unit – light overhaul	12.02.2019

SUMMARY REPORT

Trainset: 8622-522-525-625		
Work Order	Work Completed	Date
40626338	Scheduled Filter Replacement: Air Con filters replaced all cars – force cooling test completed	27.06.2022
60501118	Air Con heavy maintenance module overhaul	05.05.2022
40597671	Air Con Filters replaced all cars (post driver reporting water dripping) drain holes cleared	08.03.2022
40598220	Scheduled Filter Replacement: Air Con filters replaced all cars – force cooling test completed	08.08.2021
40584972	Scheduled Filter Replacement: Air Con Filters replaced all cars	08.02.2021
40576444	Scheduled Filter Replacement: Air Con Filters replaced all cars	11.11.2020
40565300	Contactor replaced system tested and ok	07.07.2020
40567531	Scheduled Filter Replacement: Air Con filters replaced all cars – force cooling test completed	07.04.2020
40553354	Scheduled Filter Replacement: Air Con Filters replaced all cars	23.10.2019
40553353	Scheduled 4 year: Air conditioning unit – light overhaul	25.02.2019

Faults Reported

Car	Work Order	Fault Reported and Action	Date
8625	40532975 40567531	Saloon reported as too hot - Air Con filters replaced all cars – force cooling test completed	01.04.2020
8622	40565300	Smell in saloon – contactor issue - Faulty saloon heating contactor – contactor replaced, system tested and ok	07.07.2020
8622	40566944	Air con reported as not working by driver - Staff travelled with set and E.M. push button was pressed in cab – rest and ok	01.11.2020
8621	40596896	Hot air reported in saloon - Set was swapped out in Connolly all filters in all cars replaced, cooling tests performed after and all cars operating as expected	17.07.2021
8626	40627714	Fault light displayed on train prep - system reset performed and rechecked 20 mins later and all cars cooling	15.07.2022

SUMMARY REPORT

8520 Air Conditioning Maintenance Periodicity

Document Type	Vehicle Instruction Number	Maintenance Description	Periodicity
VMI	HH85J0007	Saloon Air Conditioning - Renew filters	6 Monthly
VMI	HH85J0008	Saloon Air Conditioning - Examination	6 Monthly
VOI	HH85J1004	Air Conditioning Unit - Light Overhaul	4 Years
VOI	HH85J1002	Saloon Air Conditioning Unit - Overhaul	As Required

8520 Air Conditioning Maintenance Completion Dates Per Car

8621							
Instruction	Date Completed						
HH85J0007 - 6 monthly	01.07.22	01.02.22	17.07.21	18.02.21	07.10.20	01.04.20	30.10.19
HH85J0008 - 6 monthly	01.07.22	01.02.22	17.07.21	18.02.21	07.10.20	01.04.20	30.10.19
HH85J1004 – 4 years	13.02.19						
HH85J1002 – Overhaul	07.04.20						

SUMMARY REPORT

8521							
Instruction	Date Completed						
HH85J0007 - 6 monthly	01.07.22	01.02.22	17.07.21	18.02.21	07.10.20	01.04.20	30.10.19
HH85J0008 - 6 monthly	01.07.22	01.02.22	17.07.21	18.02.21	07.10.20	01.04.20	30.10.19
HH85J1004 – 4 years	13.02.19						
HH85J1002 – Overhaul	07.04.20						

8526							
Instruction	Date Completed						
HH85J0007 - 6 monthly	01.07.22	01.02.22	17.07.21	18.02.21	07.10.20	01.04.20	30.10.19
HH85J0008 - 6 monthly	01.07.22	01.02.22	17.07.21	18.02.21	07.10.20	01.04.20	30.10.19
HH85J1004 – 4 years	13.02.19						
HH85J1002 – Overhaul	Due 2023						

SUMMARY REPORT

8626							
Instruction	Date Completed						
HH85J0007 - 6 monthly	01.07.22	01.02.22	17.07.21	18.02.21	07.10.20	01.04.20	30.10.19
HH85J0008 - 6 monthly	01.07.22	01.02.22	17.07.21	18.02.21	07.10.20	01.04.20	30.10.19
HH85J1004 – 4 years	13.02.19						
HH85J1002 – Overhaul	Due 2023						

8622							
Instruction	Date Completed						
HH85J0007 - 6 monthly	27.06.22	08.03.22	08.08.21	08.02.21	11.11.20	07.04.20	23.10.19
HH85J0008 - 6 monthly	27.06.22	08.03.22	08.08.21	08.02.21	11.11.20	07.04.20	23.10.19
HH85J1004 – 4 years	25.02.19						
HH85J1002 – Overhaul	05.05.22						

SUMMARY REPORT

8522							
Instruction	Date Completed						
HH85J0007 - 6 monthly	27.06.22	08.03.22	08.08.21	08.02.21	11.11.20	07.04.20	23.10.19
HH85J0008 - 6 monthly	27.06.22	08.03.22	08.08.21	08.02.21	11.11.20	07.04.20	23.10.19
HH85J1004 – 4 years	25.02.19						
HH85J1002 – Overhaul	05.05.22						

8525							
Instruction	Date Completed						
HH85J0007 - 6 monthly	27.06.22	08.03.22	08.08.21	08.02.21	11.11.20	07.04.20	23.10.19
HH85J0008 - 6 monthly	27.06.22	08.03.22	08.08.21	08.02.21	11.11.20	07.04.20	23.10.19
HH85J1004 – 4 years	25.02.19						
HH85J1002 – Overhaul	Due 2023						

SUMMARY REPORT

8625							
Instruction	Date Completed						
HH85J0007 - 6 monthly	27.06.22	08.03.22	08.08.21	08.02.21	11.11.20	07.04.20	23.10.19
HH85J0008 - 6 monthly	27.06.22	08.03.22	08.08.21	08.02.21	11.11.20	07.04.20	23.10.19
HH85J1004 – 4 years	25.02.19						
HH85J1002 – Overhaul	Due 2023						

Reference No.	Ops SMS 2.2
Issue	1
Operative Date	18/06/2018
Status	Live
Prepared by	KB/PG
Checked by	JS/SG
Approved by	Director RU
Location	RU SharePoint.

Operations Safety Management System

Ops SMS 2.2
Emergency Preparedness.

This Standard sets out the Railway Undertakings Operations Safety Department policy and principles for emergency preparedness.

These arrangements have been approved by the Director RU and therefore constitute mandatory practices that apply throughout the RU Operations Department.

The implementation of this standard will be audited by the Head of Health and Safety RU.

Signed:

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_____

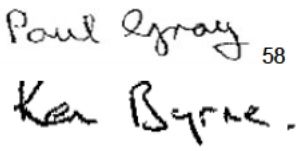
Director RU (Acting)

This standard is made available via the document management system and via SharePoint. Electronic copies of the Standards are controlled and live. Holders of printed copies of the Standard are responsible themselves for ensuring that they have the most up to date version as appropriate.

This is a Controlled Document, as presented on-line

It is Uncontrolled if printed, unless endorsed to the contrary.

Issue Control Sheet

Issue	Revision	Pages	Signatures	Implementation
1	1.06	1 to 17	Prepared By:  Date:12/06/2018 Checked by:  Date: 12/06/2018  Date: 18/06/2018	The following implementation plan applies: Changes to version 1.06 are mandatory from 18/07/2018. This will allow time for SM's to familiarise themselves with the updates before they must be implemented.

Revision Record:

Version No.	Date	Comments
1.06	18/06/2018	Section 3.1 updated to include emergency evacuation drills. Section 6 Terms & Definitions updated to include definitions for managed locations, emergency exercise table top and emergency evacuation drill. Additional information provided on requirements of evacuation drills and emergency exercises in clause 7.3.1.3.1. Clause 7.3.1.10 amended "plans are maintained and available for each location so that they can be readily consulted". Clause 12.4 updated to include evacuation drills.

Contents

1 Policy

1.1 The Railway Undertaking Operations Department will ensure emergency preparedness plans are in place for the effective response to, and management of emergencies.

2 Scope

2.1 This Railway Undertaking standard addresses the requirements for emergency preparedness and specifies the Operations Department protocols for emergency preparedness and response.

3 Objectives

3.1 To facilitate a co-ordinated and effective response to emergencies by:

- Ensuring there is appropriate planning for emergency situations
- Preparing Operations Staff for emergencies by informing them of requirements utilising:
- Training
- Iarnród Éireann's Rule Book
- Risk based Local Emergency plans for every managed location
- Crowd Control Plans
- Train Evacuation booklet
- Railway Incident Officer Training
- Emergency evacuation drills
- Exposure to Scenario Planned Emergency Exercises/Tabletop exercises

4 References

- RU-SMS-012 Policy and Principles for Emergency Response
- Safety Health and Welfare at Work Act 2005
- Railway Safety Act 2005
- Iarnród Éireann Emergency Response Handbook
- Iarnród Éireann Rule Book

- Iarnród Éireann Train Evacuation Booklet

5 Key Elements

5.1 Operations use of scenario planning to:

- Identify and prepare for potential emergency situations
- Plan appropriate responses to foreseeable emergencies
- Evaluate resources available to deal with emergencies
- Plan a co-ordinated responses taking account of emergency plans developed by Infrastructure Managers other Railway Undertakings and emergency services requirements
- Consider customer care arrangements, both during and after an emergency situation

- Determine the appropriate level of training for staff in aspects of, departmental standards and local Plans, as determined by their respective roles
- Provision of role based checklists to support emergency response personnel to accomplish their responsibilities

5.2 Preparation of the Railway Undertaking's Operations Departmental Emergency Plans describing how emergencies will be dealt with taking into account:

- That employees are issued with Train Evacuation Booklets
- Tabletop and live emergency exercises
- The Strategic Command Centre
- Operations Department responses to emergency situations including tunnels and dangerous substances
- The use of checklists for emergency situations
- Updating plans based on lessons learnt from accidents/incidents and emergency exercises

5.3 The preparation of Local Emergency Plans. These will take into account available emergency resources and requirements, the plans developed by Infrastructure Managers and other Railway Undertakings and with regard to the Emergency Services. These plans will be prepared with co-operation from all stakeholders.

6 Terms and Definitions

Responsible Managers	Passenger Services Managers, District Managers, Station Managers, Accountable Line Managers
Normal Conditions	The conditions which assets and systems are designed to accommodate.
Degraded Conditions	The state of assets and systems when they operate due to sub-standard conditions of one or more components, or the environment.
Emergency	An unplanned event that poses serious and imminent danger to people, property or process, and requires an immediate emergency response.
Iarnród Éireann Railway Incident Officer (IÉIO)	A trained and competent person who is responsible for the safety of an accident site, including liaison with the emergency services, and to whom all those entitled to be on the site will respond.
Managed Location	Locations such as stations, depots, buildings etc. Managed locations include all unmanned stations. The local emergency plan for such locations will be credible and risk based.

Emergency Exercise Tabletop	An exercise for key personnel involving simulated scenarios. There are no people or agencies on the ground. They are used to assess Emergency Plans, Policies, and Procedures. They can be: - Basic where the event remains constant; - Advanced where the original scenario alters as the exercise progresses.
Emergency Exercise Full Scale	A full-scale exercise is multi-discipline exercise involving departments from the RU and IM. It puts people in simulated emergency scenarios and tests the effective response of people and processes on the ground. It uses realistic real-time interaction and communications. It allows for utilisation and testing of seldom used resources. It often includes participation from the Principal Response Agencies.
Emergency Evacuation Drill	A method of practising how a location would be evacuated in the event of a fire or other emergency. The existing alarm system is activated. The evacuation takes place as if the emergency had occurred.

7 Roles and Responsibilities

7.1 Director RU

7.1.1 Ensuring the emergency preparedness of their department, including appropriately distributed trained and competent personnel.

7.1.2 Nominating a person as the Operations Emergency Planning Officer.

7.1.3 Ensuring that the Infrastructure Manager/CTC is supplied with up-to-date information of on-call personnel.

7.1.4 Ensuring the emergency services are provided with all relevant information both to prepare in advance for their emergency response, and at the time of the emergency.

7.1.5 Ensuring safety responsibility statements reflect the responsibilities, tasks and authorities covered in the emergency plans

7.1.6 Ensuring resources are available within the Operations Department to implement the requirements of the Railway Undertaking Operations Departmental Standards and Local Emergency Plans.

7.1.7 Ensuring competencies relating to emergency response are identified, staff with a role in emergency response are trained and their competence maintained through the departmental competency management system.

7.1.8 Represent the Railway Undertaking Operations Department at relevant scenario planning workshops.

7.2 Operations Departmental Emergency Planning Officer

7.2.1 The Operations Emergency Planning Officers must:

7.2.1.1 Contribute to the development of the Departmental Emergency Preparedness Standard and local emergency plans.

7.2.1.2 Facilitate scenario planning annually within the Operations Department with respect to Local Emergency Plans and planned Emergency Exercises.

7.2.1.3 Ensure that local emergency plans are produced and that the ownership of each managed location/building, and of the corresponding local plan, is identified.

7.2.1.4 Publicise both company and departmental plans for emergency response within the Operations Department.

7.2.1.5 Represent the Operations Department at company-wide scenario planning workshops.

7.2.1.6 Review lessons learnt from emergency exercises and disseminate lessons learnt to relevant stakeholders.

7.2.1.7 Ensure the Operations emergency planning feeds into the IM's emergency planning requirements.

7.3 Passenger Services Managers & District Managers

7.3.1 Passenger Services Managers, & District Managers must ensure:

7.3.1.1 Local Emergency Plans (LEP's) are compiled to an agreed template

7.3.1.2 LEP's are reviewed on a 12 monthly basis or earlier if required and briefed to staff/contractors and relevant third parties.

7.3.1.3 Rehearsals of the LEP's must take place, proportionate to the risks at each location.

7.3.1.3.1 A minimum of two evacuation drills for each location and one emergency exercise (live/table top) per District annually is required.

7.3.1.4 Crowd Control Plans are in place as per Ops SMS 2.3.

7.3.1.5 That cooperation with the emergency services is maintained and they are facilitated with requests for emergency exercises, access to plans and are briefed on relevant risks.

7.3.1.6 That annual emergency exercises (live/tabletop) take place utilising risk based scenario planning.

7.3.1.7 That lessons learnt from emergency exercises are collated and forwarded to the Operations Emergency Planning Officer for consideration.

7.3.1.8 That the review of emergency plans takes account of lessons learnt from emergency exercises and real emergencies.

7.3.1.9 That the emergency response to serious incidents is reviewed and where necessary relevant RU staff members are briefed on any lessons learned.

7.3.1.10 That plans are maintained and available for each location so that they can be readily consulted.

7.3.1.11 That Station Managers consult and co-operate with relevant emergency services/local authorities in relation to LEP's.

8 Emergency Response Handbook Roles

8.1 The roles relating to operational employees responding to an emergency are detailed in the Emergency Response Handbook. Role specific emergency response checklists are available to download from Sharepoint.

8.2 All Front line managers must familiarise themselves with the duties that they may be required to undertake in an emergency situation.

9 Scenario Planning – Operations

9.1 The Operations Emergency Planning Officer must identify a range of credible foreseeable emergency scenarios and plan suitable responses. All appropriate emergency scenarios identified must be considered. This

scenario planning forms the basis of the operations departmental local emergency plans.

9.2 The Operations Departmental local emergency plans must take stock of available resources, skills, equipment and manpower, and address the interaction with other company departments, Infrastructure Managers, other Railway Undertakings and the emergency services.

9.3 The Head of Health and Safety RU and the Director RU must review the provision and content of contingency plans to ensure the welfare of customers affected by an emergency.

9.4 The Operations Emergency Planning Officer must ensure emergency plans address customer care requirements, both at the site and time of an incident and in the aftermath. The plans must consider rest and reception centres which could be used to handle large numbers of people after an emergency, as well as the needs of non-travelling family members and other relations. The needs of users of other disrupted train services will be planned for.

9.5 A table of credible emergencies is contained in Appendix 1 which defines the emergency response plan to be utilised in the event of such emergencies being realised.

10 Scenario Planning

10.1 Responsible Managers must ensure production of local emergency plans for all managed locations. Where appropriate, scenario planning must take place with involvement and co-operation from other departments, Infrastructure Managers, other Railway Undertakings and the emergency services.

10.2 Responsible Managers must ensure scenario planning addresses credible emergencies and consider:

- Location specific examples
- Available resources
- The briefing of relevant parties.

10.3 Guidance on scenario planning and credible emergencies is provided in Appendix 2.

11 Strategic Command Centre (SCC)

11.1 The SCC is located at the Conference Room in the Training Centre Inchicore and will be utilised to manage major emergencies.

11.2 The Manager Training must arrange for the setting up of the SCC as appropriate.

11.3 Communication with the SCC via e-mail is facilitated via strategiccomc@irishrail.ie

11.4 The active SCC phone numbers will be disseminated to relevant parties on activation of the centre.

11.5 A review of the contents of the SCC must take place annually or following its use in an emergency or emergency exercise.

12 Emergency Exercises/ Evacuation Drills

12.1 Emergency exercise must take place within each District annually and may take the form of live or tabletop exercises.

12.2 Emergency exercises must test emergency preparedness to ensure that staff are fully aware of their roles and responsibilities in the event of an emergency.

12.3 Guidance on the format for emergency exercises is provided by the RU Safety Department.

12.4 All lessons learnt from emergency exercises and evacuation drills must be collated utilising Lessons learnt Form available on SharePoint. The relevant data should then be updated onto Sharepoint's emergency exercise lessons learnt page for the benefit of all stakeholders.

13 Training

13.1 Responsible managers must ensure staff are trained and competent to deal with any immediate response. This involves being able to:

- Make an assessment of the situation
- Give relevant information to those who can arrange assistance
- Understand how to prevent any deterioration of the situation
- Recognise their own limitations.

13.2 Responsible Managers must appoint and ensure people are trained for the role of Iarnród Éireann Incident Officer (IÉIO) to deal with emergencies involving train operations.

13.3 Responsible Managers, assisted by the Operations Emergency Planning Officers will project manage emergency exercises and will test particularly:

- On-call responses
- Crowd control
- Fire arrangements
- Communications, including Telecommunications systems
- Media management.

14 Review

14.1 Any issue/difficulties arising from the implementation of this standard must be forwarded to the Safety Planning Manager, RU utilising the document review record/issue log template which will be reviewed and the standard amended as and when is necessary.

Appendix 1: Guidance Notes for Local Emergency Plans

Published plans will exist for every managed location. The following general principles apply to Local Plans. They should:

- Be available for each managed location, in such a way as to be readily accessible in an emergency;
- Be expressed in a simple, succinct manner and be easy to follow;
- Be kept in good and legible condition;
- Be renewed each year or sooner if circumstances change;
- Be used during the briefing of contractors;
- Be generic (i.e. have a number of pre-printed sections, which are universal in that type of location) with local information added by pen or by word-processor;
- Contain up-to-date contact numbers for the emergency services, local doctor, local Garda, spiritual aid, Iarnród Éireann IM's Control Office and the local manager;
- Address appropriate Health & Safety responsibilities;
- Consider environmental issues;
- Consider security issues;
- Describe where emergency equipment is kept (e.g. emergency lights, water, sand, de-icing chemicals etc.);
- Identify items which would be hazardous in a fire (e.g. chemicals, fuel stores, detonators, electrical switch rooms etc.);
- Describe assembly points and, in large stations, the form of words to alert the staff without alarming members of the public to a developing emergency;
- Describe what is to be done with money, computer records, etc.;
- Describe the means of alerting passengers and other members of the public including those with impairments.

Local Emergency Plans will address the following issues, as appropriate, (these are not presented in any order of precedence):

- Communication procedures for alerting and mobilising staff;
- Effective means of communication with on-call staff;
- Communication procedures for alerting emergency services;

- Nomination and identification of local control centres;
- Nomination and identification of first aid posts, shelter and muster stations;
- Recognised emergency access points along the track (access for emergency services);
- Designated escape routes and evacuation plans from stations;
- Train evacuation plans, both at stations and between stations;
- Evacuation notices on trains;
- Roll call procedures for buildings;
- Staff qualified to act as IEIO for appropriate incidents and their locations and contact details;
- Food and onward travel for affected passengers;
- Sources of emergency refreshments;
- Billing arrangements for such urgent services/purchases from local traders;
- Authorisation for taxis and accommodation;
- Opening of station toilet and refreshment facilities which might otherwise be closed;
- Office-based staff qualified to undertake 'customer care' responsibilities;
- General volunteers from the staff;
- Availability and use of 'disruption forms';
- Notice boards and writing materials;
- High visibility vests or means for the public to recognise staff who are there for guidance;
- Suitable locations for Reception Centres in the event of major emergencies for a) casualties; b) relatives/friends hand-over point;
- Contact arrangements with Bus Éireann, Dublin Bus, LUAS, Road-freight for replacement services by road;
- Appropriate equipment for personal protection for on-call staff as well as for handling the responsibilities on site, such as grab-bags;
- Staff training and guidance;

Appendix 2: Credible Emergencies / Scenario Planning

Emergency plans should, where appropriate, address the following potential emergency situations:

Credible Emergency	**Addressed Via***	**Owner**
Train Collision Derailment	Local Emergency Plan	RU Station Manager
Level Crossing accident;	Local Emergency Plan	Infrastructure Manager
Fire on a Train	Train Evacuation Booklet	RU Safety Department
A fire within a station or other building	Local Emergency Plan	RU Station Manager
Congestion at stations, crowd control;	Crowd Control Plan	RU Station Manager
Assault of passengers or staff;	Prevention of Workplace Violence Policy	RU Safety Department
Obstruction of the line;	Local Emergency Plan	RU Station Manager
• Infrastructure failures such as; ❖ Signalling ❖ Viaduct Collapse ❖ Communications ❖ Bridge Strike ❖ Bridge Collapse ❖ Tunnel Collapse	Emergency Plan	Infrastructure Manager
Road vehicle intrusion on the Railway	Local Emergency Plan	RU Station Manager
Train failure in a tunnel;	Rule Book*/ Train Evacuation Booklet.	*IM & RU Safety Department
Major Power Cut	Local Emergency Plan	RU Station Manager

Gas Leak	Local Emergency Plan	RU Station Manager
Malicious attacks such as bomb threats/chemical attacks/hijacking;	Local Emergency Plan	RU Station Manager
Severe Weather Conditions	Local Emergency Plan	RU Station Manager
Pandemic Disease Outbreak		
Train Failure	Rulebook	Infrastructure Manager
Other Scenarios identified from Emergency Exercises, the Company-wide emergency planning workshop or *lessons learnt from Industry wide incidents.	Applicable Publication	IM or RU

*As per RU SMS 001 (S) 5 & Ops SMS 2.2 (S) 12.

Scenario planning at Departmental and Local level will also consider situations identified at the Company-wide emergency planning workshop.

These plans will be aligned with County Council Area Plans as appropriate.

Reference No.	Ops SMS 2.3
Issue	1
Operative Date	07/11/2017
Status	Live
Prepared by	KB/PG
Checked by	JS/SG
Approved by	Director RU
Location	RU SharePoint

Operations Safety Management System

Ops SMS 2.3 Crowd Control

This standard sets out the process for controlling the safe movement of people on Iarnród Éireann stations or premises through effective crowd control management.

These arrangements have been approved by the Director RU and therefore constitute mandatory practices that apply throughout the RU Operations Department.

The implementation of this standard will be audited by the Head of Health and Safety RU.

Signed: 36

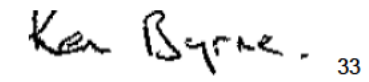
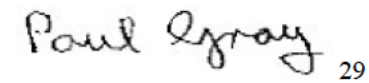
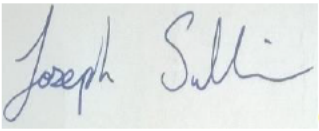
Director RU

This standard is made available via the document management system and via SharePoint. Electronic copies of the Standards are controlled and live. Holders of printed copies of the Standard are responsible themselves for ensuring that they have the most up to date version as appropriate.

This is a Controlled Document, as presented on-line

It is Uncontrolled if printed, unless endorsed to the contrary.

Issue Control Sheet

Issue	Revision	Pages	Signatures	Implementation
1	1.02	1 to 10	Prepared By:  33  29 Date:02/11/2017 Checked by:  17276  009 Date: 07/11/2017	The following implementation plan applies to this mandatory standard: As per Operative date.

Revision Record

Version No.	Date	Comments
1.02	07/11/2017	Title Railway Undertaking Safety Manager changed to Head of Health and Safety RU throughout.

Contents

1 Purpose

1.1 This standard sets out the arrangements for the safe control of crowds on Iarnród Éireann Railway Undertaking railway stations and premises.

2 Scope

2.1 This standard applies to all operational employees who may be directly involved with or indirectly influence the management of crowds at stations.

3 References

3.1 RSSB Guidance Document Crowd Management at Stations, Issue: 01 October 2004.

4 Key Elements

4.1 Crowd control will be managed through:

a) The production of risk based crowd control plans

b) Planning for events and scenarios likely to generate crowds on stations or premises and implementing effective contingency plans and control measures

c) Ensuring that relevant staff are competent in crowd control techniques

5 Responsibilities

5.1 This standard applies to all operational employees who may be directly involved with or indirectly influence the management of crowds at stations including:

External Agencies

- Contracted Security Personnel, and when necessary,
- Involvement with Emergency Services when necessary, i.e. Gardai, Fire Department and ambulance services.

6 Crowd Control Plans

6.1 Station Managers must ensure that each station/premises likely to be at risk of overcrowding must have a risk based crowd control plan to ensure the safety of affected persons.

6.2 Subject areas to consider within the plan:

a) The design of the station platform, including restricted clearances resulting in the risk of people being struck by a moving train/falling on the track, with consideration being given to the positioning of doors on train carriages.

b) Train dispatch staff being unable to carry out their train dispatch duties due to sightlines being blocked or by them being unable to move to the viewing position due to the crowd

c) The design and capacity of concourses, stairs, escalators, passages, likely obstructions, pinch-points, gates or barriers in the passengers' routes, escalators and the risk of slips, trips and falls and crushing injuries

d) Facilities to accommodate passengers with visual impairments, hearing impairments or restricted mobility

e) Arrangements for emergency evacuation from the station or premises

f) The operating environment, for example ticket collection, checking capabilities and timetable gaps, the effect of hot days, rain, snow and ice

g) Information provided at the station or premises and availability of staff

h) The size and profile of the crowd:

- Generated by train service disruption
- Generated by major events in the vicinity of the station
- Generated by seasonal influences i.e. Tourists, Christmas Shoppers

i) Potential for trespass on to the railway infrastructure

j) The effects from excessive heat from adverse weather conditions leading to stress, dehydration

k) For major events, terrorist threats leading to the requirement for emergency evacuation etc…

l) One person operated, or unmanned stations

m) Part-time or unstaffed platforms

6. 3 Using the findings from the risk assessment appropriate justifiable controls shall be identified and implemented.

7 Controls to Manage Crowd Congestion

7.1 Staff Competence

7.1.1 Station Managers must ensure that staff used to control crowding on stations are briefed on the crowd control plan and the local evacuation plan procedures.

7.2 Signage

7.2.1 Appropriate signs shall be provided as necessary to control the risk of overcrowding. In providing this, consideration shall be given to:

- Why the signage is required for directing the crowd flow
- The needs of the user of the signage
- The information and how it is displayed shall be clear, accurate and consistent and dependent on the situation and location.

Forms of information include:

- Electronic displays
- Fixed signs, both permanent and temporary
- Spoken messages via PA or face-to-face with staff

7.2.2 Symbols are to be preferred and, where used, they shall be consistent with standards used by Iarnród Éireann and statutory requirement.

7.3 New technology

7.3.1 Staff at stations who are required to use technical systems for crowd control must be competent in the operation of the systems used.

8 Major/Rare Events - Information & Communication

8.1 In planning for major/rare events that are likely to result in crowd congestion the following shall be provided and captured within the Crowd Control Plan:

- Arrangements that provide for advance warning and planning including good co-operation between agencies managing events likely to cause crowd congestion and their staff or contractors operating in or near the station
- A review of available intelligence and previous experience

- The passenger numbers expected through the station and other stations that are affected
- Possible measures to regulate the rate at which passengers arrive at the station
- The involvement of the police and other agencies and stakeholders
- Consideration of the availability or non availability of other adjacent transport modes and the effect of this on rail operations
- Identification of the necessary station resources and supervisory arrangements to manage passenger throughput and any required crowd control measures, including, where appropriate, making provision for extra staff available at short notice
- Liaison arrangements with platform planning/allocation of staff to optimise passenger flows, connections, access/egress to/from platforms
- Passenger information/signage that is frequent, consistent, accurate, relevant and accessible taking account of the need for methods that are effective during crowded and potential stressful conditions.
- The arrangements for the dispatch of trains to ensure these remain safe
- The opportunities for dispatching trains before scheduled departure time when station duties have been completed
- Use of alternative services
- An emergency plan

8.2 Typical areas to be covered in the Crowd Control Plan are:

a) General Information:

- Introduction
- Crowd safety management team
- Briefing
- Possible Hazards
- A plan of the location
- Staffing arrangements
- Entrances and entry routes

- Normal exit routes
- Emergency exit routes
- Measures to prevent overcrowding

b) Command and Control:

- Crowd management operation
- Crowd management centre
- Communications

c) Additional Information

- Weather
- Road closures
- Car parking and taxis
- Bus operations
- Customer assistance
- Sanitary provision
- Left luggage
- Revenue protection
- First aid provision

d) Appendices

- Emergency procedures
- Contact persons & telephone numbers
- Activity plan
- Site layout plan

8.3 The plan shall be tested with station staff and managers using potential credible examples of situation scenarios that could occur and then applying the plan to check if those situations could be managed.

9 Congestion due to Train Service Changes

9.1 The safe operation of stations must be considered when train services are changed as congestion may occur. The crowd control plan will address such risks.

9.2 Where excessive passenger loading is likely, reasonably practicable measures should be utilised such as:

- Alternative station access and routes
- Utilising additional services
- Station announcements
- Additional stopping patterns
- Media announcements

10 Incident Management

10.1 The crowd control plans shall detail the arrangements for:

- Providing additional staff to provide information and to control increased numbers of passengers at stations directly or remotely involved through alterations to train schedules and events in the vicinity of the station(s).
- Evacuation from trains or stations with details of how this will be carried out in an orderly manner to avoid overcrowding during the evacuation
- Preventing overcrowding in the area to which people are evacuated
- Preventing people from entering the evacuated areas until it is safe to do so.

11 Evacuation Exercises

11.1 Regular and appropriate evacuation exercises shall be carried out at stations to test crowd control movements for the evacuation of trains and stations and the execution of Crowd Management and Incident Response Plans. This may be a real or a tabletop exercises.

12 Review of Effectiveness of the Crowd Management Plan

12.1 After a crowd control incident or planned events a review shall be carried out to discuss the effectiveness of the Crowd Management Plan, to identify and document any lessons learned and to initiate any corrective actions for the future. After every such review, the findings will be copied and forwarded to the Head of Health and Safety RU who will address relevant issues.

13 Review

13.1 Any issue/difficulties arising from the implementation of this standard must be forwarded to the Safety Planning Manager, RU utilising the document review record/issue log template which will be reviewed and the standard amended as and when is necessary.

Risk Register Title:	Emergency Scenario Response
Version No:	8.0
Location:	IE RU
Owner:	IE RU
Date Reviewed:	23/02/2022
Date Next Review:	22/02/2023
Document Review Panel:	Caroline Barrett — Safety Liaison Executive Galway
	Ishbel Macgregor Curtin — Safety Executive
	Ken Byrne — Safety Planning Manager

Likelihood Assessment Criteria
1 - Improbable -Unlikely to occur over a 50 year Period
2 - Remote - Likely to occur once every 10 to 50 years
3 - Occasional - Likely to occur once every 2 to 10 years
4 - Probable - Likely to occur once every 6 months to 2 years
5- Frequent - Likely to occur at least once every 6 months

Consequence Assessment Criteria
1 - Insignificant - Insignificant consequences
2 - Minor - Single minor injury
3 - Major - Single major injury or multiple minor injuries
4 - Critical - Single fatality or multiple major injuries
5- Catastrophic - Multiple fatalities

Hierarchy of Risk Controls
Most Effective
Eliminate
Substitute
Isolate
Engineering controls
Administrative controls
Personal Protective Equipment (PPE)
Least Effective

Risk Statuses
Open - Initial status assigned when Hazard is entered in risk register
Cancelled - The issue is not a Hazard or it is wholly contained in other Hazard
Transferred - Hazard has been formally transferred to another Dept or Organisation
Pending - Risk Controls have been identified which will reduce the risk to ALARP
Managed - All controls implemented - Specific ongoing management and monitoring required
Closed - Hazard eliminated and / or no specific ongoing management and monitoring required

Note to User: For guidance on the requirements for each column hold cursor over column heading.

							Initial Risk						Residual Risk						
Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Initial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerablity	Risk Owner	ALARP ?	Status	Additional Commentary and Evidence / Reference Docs
1	16/10/2017	Updated from V7	Emergency Response	Train stopped by Accident/Failure/Obstruction or other exceptional incident	Catastrophic	Staff trained in degraded working and emergency response protocols. IF A TRAIN ACCIDENT OCCURS: arrangements must be made immediately to prevent other trains becoming involved this must be done by arranging for EMERGENCY SIGNAL PROTECTION if this cannot be achieved quickly or if this may not stop all approaching trains. EMERGENCY DETONATOR PROTECTION must also be provided. Drivers to apply training and instructions as per Section M of the rule book specifically Section 3 Instructions to drivers. Guards to apply training and instructions as per Section M of the rule book specifically Section 4 instructions to Guards. All staff provided with a copy of the Train Evacuation Booklet containing instructions on: Situations that might prompt a train evacuation and how to deal with them Available Equipment Using others to assist Carrying out the evacuation. Local emergency plans in place and briefed to staff. For major emergencies guidance and procedures are contained within the Emergency Response Handbook. Annual Scenario Planning exercises occur as per RU SMS 012 and Ops SMS 2.2. Lessons learnt recorded and reviewed to facilitate continuous improvement.	1	5	5	Tolerable		Station Manager		1	5	5	Tolerable	District Manager	Confirmed by Risk Owner to be ALARP	Managed	Rule Book Section M Train Evacuation Booklet Emergency Response Handbook RU SMS 012 Emergency Response Ops.SMS 2.2 Emergency Preparedness
2	16/10/2017	Updated from V7	Emergency Response	Fire on Train	Catastrophic	Staff trained in degraded working and emergency response protocols. Any fire however small on a moving train must be put out immediately; Unless this can be done within a few seconds the train must be stopped immediately. Drivers to apply training and instructions as per Section M of the rule book specifically Section 3 Instructions to drivers. Guards to apply training and instructions as per Section M of the rule book specifically Section 4 instructions to Guards. All staff relevant on board contractors and other RU personnel provided with a copy of the Train Evacuation Booklet containing instructions on dealing with fires on trains and: - Situations that might prompt a train evacuation and how to deal with them - Available Equipment - Using others to assist - Carrying out the evacuation. Staff issued with 'On board Fire extinguishers guidebook' Local emergency plans in place and briefed to staff. For major emergencies guidance and procedures are contained within the Emergency Response Handbook. Annual Scenario Planning occurs in accordance with RU SMS 012 and Ops SMS 2.2. Lessons learnt recorded and reviewed to facilitate continuous improvement. Fam liarisation briefings with fire services. Monitoring in place in accordance with Ops.SMS 1.3 Form No. 10 Risk Assessment and Emergency Plan Monitoring ***NOTE: Please see fire onboard train risk register for further control measures related to fire onboard train.**	1	5	5	Tolerable		Station Manager		1	5	5	Tolerable	District Manager	Confirmed by Risk Owner to be ALARP	Managed	Rule Book Section M Train Evacuation Booklet. On board Fire extinguishers guidebook Emergency Response Handbook RU SMS 012 Emergency Response Ops.SMS 2.2 Emergency Preparedness Local Emergency Plan Ops.SMS 1.3 Form No. 10 Risk Assessment and Emergency Plan Monitoring
3	16/10/2017	Updated from V7	Emergency Response	Evacuation following fire within a station or other building;	Catastrophic	Staff trained in emergency response protocols. Local emergency plan in place and briefed to staff. Evacuation plan to be activated which contains procedures for: - Clearing the building of all persons. - Assembly points and checklists for staff. - Contacting relevant persons - Advising the emergency services in relation to hazardous substances /unaccounted for persons. Evacuation drills undertaken twice per annum. Local emergency plans in place and briefed to staff. For major emergencies guidance and procedures are contained within the Emergency Response Handbook. Annual Scenario Planning exercises occur as per RU SMS 012 and Ops SMS 2.2. Lessons learnt recorded and reviewed to facilitate continuous improvement. All incidents investigated/reviewed to facilitate lessons learnt and continuous improvement. Fire risk assessment updated following consultation with B&F with specific focus on Fire prevention and fire Suppression methods. Monitoring in place in accordance with Ops.SMS 1.3 Form No. 10 Risk Assessment and Emergency Plan Monitoring	1	5	5	Tolerable		Station Manager		1	5	5	Tolerable	District Manager	Confirmed by Risk Owner to be ALARP	Managed	RU SMS 012 Emergency Response Ops.SMS 2.2 Emergency Preparedness Local Emergency Plan Ops.SMS 1.3 Form No. 10 Risk Assessment and Emergency Plan Monitoring
4	16/10/2017	Updated from V7	Emergency Response	Assault of passengers or staff	Major	Employees trained in Conflict Resolution (Stop Workplace Related Violence). Operations Policy Document on Prevention of Workplace Violence issued to staff and includes strategies to de-escalate conflict. Areas of High Risk (based on historical DATA) to have additional security provided as a preventative measure. CCTV in place improved lighting and communication [help points] facilities which can mitigate the effects of anti-social behaviour. Periodic barrier checks utilised to reduce the risk of confrontation. Signage in place (Anti-Social Behaviour ASB 1 & 2 Workplace Violence WPV 1 & Respect our Staff poster) with helpline details for the reporting of anti-social behaviour. Fines/Additional fines issued to abusive passengers. Letters of Warning and Barring letters issued to known offenders. Staff instructed not to place themselves in danger. Staff instructed to ring for assistance from Gardai where required as per training emergency phone numbers on display. Respect Signage (Respect our staff poster) on display at possible conflict points e.g. on trains at booking offices and at barriers. Workplace related violence poster (WPV 1) displayed for staff detailing the key stages for dealing with confrontation. Monitoring in place as per Ops SMS 1.3 Form 06 - Station Staff Monitoring (other than safety critical). Accidents and Near Miss / Close call procedures followed in accordance with Ops SMS 2.5 Accidents Reported and Investigated in accordance with Ops SMS 2.4 and RU SMS 007	3	4	12	Undesirable	Trial of Body-worn devices that can be used as a deterrent and or to de-escalate incidents of anti-social behaviour.	PSM		2	4	8	Undesirable	DRU	Confirmed by Risk Owner to be ALARP	Managed	Operations Safety Policy: Prevention of Workplace Violence Posters: Anti-Social Behaviour ASB 1 & 2 Workplace Violence WPV 1 Respect Our Staff Training Course:: Stop Workplace Related Violence Monitoring: Ops SMS 1.3 Safety Monitoring Form 06 Station Staff Monitoring (other than safety critical) Ops SMS 2.4 Accident and Incident Investigation RU SMS 007 Policy and Principles for Reporting and Investigation of Accidents and Incidents Ops SMS 2.5 Accident & Near Miss/Close- Call Procedures
5	16/10/2017	Updated from V7	Emergency Response	Stone throwing striking train window.	Minor	Laminated glass installed on rolling stock. BSBS7 GM/RT2456 GM/TT0122 Attending security personnel to apply training to prevent escalation and to apprehend culprits where practicable. Gardaí will be notified of criminal behaviour CCTV in place improved lighting and communication [help points] facilities which can mitigate the effects of anti-social behaviour. Reports of trespass areas forwarded to CCE department Accidents and Near Miss / Close call procedures followed in accordance with Ops SMS 2.5 Accidents Reported and Investigated in accordance with Ops SMS 2.4 and RU SMS 007	4	2	8	Undesirable		Station Manager		4	2	8	Undesirable	District Manager	Confirmed by Risk Owner to be ALARP	Managed	Ops SMS 2.4 Accident and Incident Investigation RU SMS 007 Policy and Principles for Reporting and Investigation of Accidents and Incidents Ops SMS 2.5 Accident & Near Miss/Close- Call Procedures
6	28/04/2022	New	Emergency Response	Stone throwing through open driver cab side-window.	Minor	Attending security personnel to apply training to prevent escalation and to apprehend culprits where practicable. Gardaí will be notified of criminal behaviour CCTV in place improved lighting and communication [help points] facilities which can mitigate the effects of anti-social behaviour. Reports of trespass areas forwarded to CCE department Accidents and Near Miss / Close call procedures followed in accordance with Ops SMS 2.5 Accidents Reported and Investigated in accordance with Ops SMS 2.4 and RU SMS 008	1	1	1	Negligible		Station Manager		1	2	2	Negligible	District Manager	Confirmed by Risk Owner to be ALARP	Managed	Ops SMS 2.4 Accident and Incident Investigation RU SMS 007 Policy and Principles for Reporting and Investigation of Accidents and Incidents Ops SMS 2.5 Accident & Near Miss/Close- Call Procedures
7	16/10/2017	Updated from V7	Emergency Response	Incidents in Tunnel	Catastrophic	Designated staff trained as IE Incident Officers by training school and refreshed as necessary. Emergency Response Protocols in place in accordance with RU SMS 012 Emergency Plans for tunnels > 1KM in place in accordance with RU SMS 012 Staff trained in emergency response protocols. Drivers trained in route knowledge which faci itates the response. Rule Book & General Appendix procedures to be applied. For major emergencies guidance and procedures are contained within the Emergency Response Handbook. Local Emergency Plans in Place. Annual Scenario Planning with involvement and co-operation from other departments and the emergency services as per RU SMS 012	1	5	5	Tolerable		Station Manager		1	5	5	Tolerable	District Manager	Confirmed by Risk Owner to be ALARP	Managed	Rule Book Section A General Appendix Tunnels Emergency Plans RU SMS 012 Policy and Principles for Emergency Response Emergency Response Handbook
8	16/10/2017	Updated from V7	Emergency Response	Operations employees involved in degraded Operations; - Serious Operational Incidents	Catastrophic	Staff are trained in relation to operating under degraded conditions. Competence management system and standards further address such issues: This includes assessments relating to working under degraded conditions and simulation exercises. Staff apply their training. RU SMS 020 applies. Scenario Planning is in place as per RU SMS 012 and Ops SMS 2.2. Lessons learnt recorded and reviewed to facilitate continuous improvement. For major emergencies guidance and procedures are contained within the Emergency Response Handbook. Monitoring in place in accordance with Ops.SMS 1.3 Form No. 5 Safety Critical Staff Monitoring	1	5	5	Tolerable		Station Manager		1	5	5	Tolerable	District Manager	Confirmed by Risk Owner to be ALARP	Managed	RU SMS 020 RU SMS 012 Ops.SMS 2.2 Ops.SMS 1.3 Form No. 05 Safety Critical Staff Monitoring SM

							Initial Risk						Residual Risk							
Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Liekihood	Severity	Initial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Liekihood	Severity	Residual Risk	Tolerab lity	Risk Owner	ALARP ?	Status	Additional Commentary and Evidence / Reference Docs
9	16/10/2017	Updated from V7	Emergency Response	Major Power Cut	Catastrophic	Local emergency plans in place and briefed to staff. Local Emergency plan contains procedures for responding to loss of ut lities. Emergency lighting in place. Back up power source / generator in place. Trains will be diverted to serve suitable safe locations. Location to be evacuated in the event of complete loss of power resulting in hazards due to poor visibility. Annual Scenario Planning exercises occur as per RU SMS 012 and Ops SMS 2.2. Lessons learnt recorded and reviewed to facilitate continuous improvement. For major emergencies guidance and procedures are contained within the Emergency Response Handbook. Monitoring in place in accordance with Ops.SMS 1.3 Form No. 10 Risk Assessment and Emergency Plan Monitoring	1	5	5	Tolerable		Station Manager		1	5	5	Tolerable	District Manager	Confirmed by Risk Owner to be ALARP	Managed	RU SMS 012 Ops.SMS 2.2 Local Emergency Plan Ops.SMS 1.3 Form No. 10 Risk Assessment and Emergency Plan Monitoring
10	16/10/2017	Updated from V7	Emergency Response	Gas Leak	Catastrophic	Local Emergency plans in place and briefed to staff. Plans contain instructions for responding to a gas leak which includes shutting off the source open all windows and doors and contacting the gas supplier / Emergency Services. Ensure gas appliances are checked/maintained annually. Evacuation plans implemented as necessary. Do not: use electrical alarms to alert people alarms could cause the ignition of the gas Do not: switch electrical equipment/ appliances/ light switches on or off Do not: Use electrical extractor fans Annual Scenario Planning Exercises occur as per RU SMS 012 and Ops SMS 2.2. Lessons learnt recorded and reviewed to facilitate continuous improvement For major emergencies guidance and procedures are contained within the Emergency Response Handbook. Monitoring in place in accordance with Ops.SMS 1.3 Form No. 10 Risk Assessment and Emergency Plan Monitoring	1	5	5	Tolerable		Station Manager		1	5	5	Tolerable	District Manager	Confirmed by Risk Owner to be ALARP	Managed	RU SMS 012 Ops.SMS 2.2 Local Emergency Plan Ops.SMS 1.3 Form No. 10 Risk Assessment and Emergency Plan Monitoring
11	16/10/2017	Updated from V7	Emergency Response	Malicious attacks such as bomb threats.	Catastrophic	Local Emergency plans in place and briefed to staff. Plans contain instructions for alerting regarding such threats. Evacuation plans implemented as necessary. Emergency services contacted as necessary. Station announcements and safety posters are in place in relation to unattended baggage. Annual Scenario Planning Exercises occur is per RU SMS 012 and Ops SMS 2.2. Lessons learnt recorded and reviewed to facilitate continuous improvement. For major emergencies guidance and procedures are contained within the Emergency Response Handbook. Monitoring in place in accordance with Ops.SMS 1.3 Form No. 10 Risk Assessment and Emergency Plan Monitoring	1	5	5	Tolerable		Station Manager		1	5	5	Tolerable	District Manager	Confirmed by Risk Owner to be ALARP	Managed	RU SMS 012 Ops.SMS 2.2 Local Emergency Plan Ops.SMS 1.3 Form No. 10 Risk Assessment and Emergency Plan Monitoring
12	16/10/2017	Updated from V7	Emergency Response	Severe weather conditions	Critical	Winter Readiness Procedure (RU OP 18) in place and implemented in location. IRISH RAIL WEATHER MANAGEMENT PROCEDURES - CCETMS -311 Technical Bulletin Guidance on Service Restrictions during Adverse Weather Events CCE-TEB-2014-05 followed. Annual Scenario Planning Exercises undertaken as per RU SMS 012 and Ops SMS 2.2. Lessons learnt recorded and reviewed to facilitate continuous improvement. For major emergencies guidance and procedures are contained within the Emergency Response Handbook. Monitoring in place in accordance with Ops.SMS 1.3 Form No.9 Platforms and station environs and ; 10 Risk Assessment and Emergency Plan Monitoring	1	4	4	Tolerable		Station Manager		1	4	4	Tolerable	District Manager	Confirmed by Risk Owner to be ALARP	Managed	RU SMS 012 Ops.SMS 2.2 Local Emergency Plan IRISH RAIL WEATHER MANAGEMENT PROCEDURES CCETMS -311 Technical Bulletin Guidance on Service Restrictions during Adverse Weather Events CCE-TEB-2014-05. Ops.SMS 1.3 Form No. 10 Risk Assessment and Emergency Plan Monitoring
13	16/10/2017	Updated from V7	Emergency Response	Pandemic disease outbreak - Staff exposure	Catastrophic	Implement Government and HSE guidelines. Staff briefed to recognise the symptoms so that they can take appropriate actions. Staff showing symptoms associated with the pandemic should be instructed not to report for work. Suspension of non critical business activities; Permitting/instructing relevant staff not affected by the outbreak to work from home; Cancellation of non essential meetings; Increased use of telephone conference fac lity; Suspension of recruitment and training activities; and Suspension of specific non-essential and/or non-time sensitive business activities. In cases where a person feels ill or if someone observes that another person is exhibiting symptoms of the pandemic at work the person concerned should be told to go home and follow the Dept. of Health/Chief Medical Officer's advice. Increase cleaning regime at station and on trains. For major emergencies guidance and procedures are contained within the Emergency Response Handbook. RU SMS 012 applies. IÉ Operations Continuity Group (Irish Rail and each TOC)- Process in place to monitor effects of a Pandemic on the numbers of staff affected on a day-to-day basis in order to identify the trigger levels for contingency plans. This information is shared on a national basis (weekly) during the course of the pandemic Staff briefed on the following guidelines and issued with supporting documents and staff packs: - Safety Induction Briefings - Railway Undertaking Worker Rep checks v 1.0 - RU SP 5 Safety Policy Use of Face Masks v 1.0 - Safety Care Video - Staff briefing packs v.2 - Necessary Posters - Safe Christmas Guidelines Work Safety Protocols HSA Lead Worker Representative guidelines. Supporting Documents: - Return to Work Declaration - Safety Induction Briefing - Worker Representative Briefing - Employee Close Contact Log - Guidance on Dealing with a Suspected Case - Worker Representative Supplement Guidance Ref-005 - Guidance for occupying buildings in during pandemic - Managers Implementation Checklist - Guidance for First Aid Arrangements - Process for meeting on any IE premises - Bereavement Leave	1	5	5	Tolerable		Station Manager		1	5	5	Tolerable	District Manager	Confirmed by Risk Owner to be ALARP	Managed	Safety Induction Briefings Railway Undertaking Worker Rep checks v 1.0 RU SP 5 Safety Po icy Use of Face Masks v 1.0 Safety Care Video Staff briefing packs v.2 Necessary Posters Safe Christmas Guidelines Work Safety Protocols HSA Lead Worker Representative guidelines. Supporting Documents: Return to Work Declaration Safety Induction Briefing Worker Representative Briefing Employee Close Contact Log Guidance on Dealing with a Suspected Case Worker Representative Supplement Guidance Ref-005 Guidance for occupying buildings during pandemic Managers Implementation Checklist Guidance for First Aid Arrangements Process for meeting on any IE premises
14	05/03/2018	Updated from V7	Emergency Response	Pandemic disease outbreak - Vulnerable persons exposure.	Catastrophic	Staff briefed and advised to: - Cover their mouth and nose when coughing or sneezing using a tissue whenever possible; - dispose of dirty tissues promptly and carefully – bag or bin them as is practicable; - avoid non-essential travel and large crowds of people whenever poss ble; - maintain good basic hygiene for example washing hands frequently with soap and water to reduce the spread of the virus from hands to face or to other people - maintain the acquire social distance guidelines - wear face masks - clean hard surfaces (e.g. kitchen worktops door handles) frequently using a normal cleaning product. - Use of signage to promote good practice. - Provide sufficient and accessible means for reducing spread of infection (e.g. provision of hand washing facilities or hand-hygiene sanitising products); - More frequent cleaning on premises and ensure the resources to achieve these will be available; Consider whether enhanced communications and information technology infrastructures are needed to support employees working from home tele-conferencing instead of face to face meetings and remote customer access. Staff briefed on the following guidelines and issued with supporting documents and staff packs: - Safety Induction Briefings - Railway Undertaking Worker Rep checks v 1.0 - RU SP 5 Safety Policy Use of Face Masks v 1.0 - Safety Care Video Staff briefing packs v.2 - Necessary Posters - Safe Christmas Guidelines - Work Safety Protocols - HSA Lead Worker Representative guidelines. Supporting Documents: - Return to Work Declaration - Safety Induction Briefing - Worker Representative Briefing - Employee Close Contact Log - Guidance on Dealing with a Suspected Case - Worker Representative Supplement Guidance Ref-005 - Guidance for occupying buildings during pandemic - Managers Implementation Checklist - Guidance for First Aid Arrangements - Process for meeting on any IE premises	1	5	5	Tolerable		Station Manager		1	5	5	Tolerable	District Manager	Confirmed by Risk Owner to be ALARP	Managed	Work safety Protocol Covid-19 National Protocol for Employers and workers - section D6 At risk workers available on 'SharePoint'

							Initial Risk						Residual Risk							
Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Initial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerab lity	Risk Owner	ALARP ?	Status	Additional Commentary and Evidence / Reference Docs
15	05/03/2018	Updated from V7	Emergency Response	Pandemic disease outbreak - Station/Service Management	Catastrophic	Liaise with the CMO in relation to the particular affects of the disease on vulnerable groups. Brief vulnerable groups on the advice obtained and apply the advised instructions/procedures If a worker in the very high-risk or high risk categories cannot work from home and must be in the workplace employers must make sure that they are supported to maintain a physical distance of 2 metres from others at the workplace. Employer should enable such workers to work from home where possible. See 'Work safety Protocol Covid-19 National Protocol for Employers and workers - section D6 At risk workers available on 'SharePoint'	1	5	5	Tolerable		Station Manager		1	5	5	Tolerable	District Manager	Confirmed by Risk Owner to be ALARP	Managed	
16	05/03/2018	Updated from V7	Emergency Response	Pandemic disease outbreak - Fleet Management	Catastrophic	Irish Rail and each TOC will consider the following contingency arrangements to ensure continued staffing of key stations. There will be a specific focus on those stations which have been identified as mandatory train dispatch locations: - Operation of stations which are normally staffed as unstaffed stations; - Prioritising of stations that require staff presence and at which times; and - Utilising available staff from other grades with the appropriate competencies to provide a staff presence at key stations to undertake core activities (including train dispatch) Irish Rail to consult and identify the level of train services they are able to deliver in relation to the level of expected absenteeism . Where appropriate consideration will be given to utilising staff from other grades with the appropriate competencies to supplement train crew and associated resources (such as shunting) where a specific need has been identified. Where required all business activities will be suspended; such measures will be taken based on advice from the relevant health professionals and the Department of Transport. - Maintain the required social distance guidelines. - Ensure 2 metres floor makings in place. - wear face masks - clean hard surfaces (e.g. kitchen worktops door handles) frequently using a normal cleaning product. - Use of signage to promote good practice. - Provide sufficient and accessible means for reducing spread of infection (e.g. provision of hand washing facilities or hand-hygiene sanitising products); - Increase cleaning regime of premises and ensure the resources to achieve these will be available; - clean hard surfaces (e.g. kitchen worktops door handles) frequently using a normal cleaning product.	1	5	5	Tolerable		Station Manager		1	5	5	Tolerable	District Manager	Confirmed by Risk Owner to be ALARP	Managed	
17	05/03/2018	Updated from V7	Emergency Response	Pandemic disease outbreak - Absenteeism affecting signalling capabilities.	Catastrophic	Irish rail will consider the following contingency arrangements to ensure rolling stock maintenance activities: - The implications for fleet maintenance/servicing schedules; - Operating train services "short formed" to minimise accumulated miles and also release stock for day time maintenance; - Derogation/extension in duration between time based examinations be agreed. - Availability and authority of professionally competent persons to make risk assessed decisions on the above; - Mutual support between depots that have available staff in relation to train maintenance; - Ordering and stockpiling of key components the supply of which might be compromised (especially brake pads and blocks); - Management of diesel fuel stocks; and - Coverage of train operating activities at depots (e.g. shunters).The following contingency arrangements will be considered to ensure rolling stock maintenance activities: Further mitigation measures will typically comprise a combination of staged train service contingency plans redeployment of staff to key activities and locations and derogations from certain requirements (particularly those based on a periodicity). Where required all business activities will be suspended; such measures will be taken based on advice from the relevant health professionals and the Department of Transport.	1	5	5	Tolerable		Station Manager		1	5	5	Tolerable	District Manager	Confirmed by Risk Owner to be ALARP	Managed	Staff briefed on the following guidelines and issued with supporting documents and staff packs. Safety Induction Briefings Railway Undertaking Worker Rep checks v 1.0 RU SP 5 Safety Po icy Use of Face Masks v 1.0 Safety Care Video Staff briefing packs v.2 Necessary Posters Safe Christmas Guidelines Work Safety Protocols HSA Lead Worker Representative guidelines. Supporting Documents: Return to Work Declaration Safety Induction Briefing Worker Representative Briefing Employee Close Contact Log Guidance on Dealing with a Suspected Case Worker Representative Supplement Guidance Ref-005 Guidance for occupying buildings in during pandemic Managers Implementation Checklist Guidance for First Aid Arrangements Process for meeting on any IE premises
18	05/03/2018	Updated from V7	Emergency Response	Pandemic disease outbreak - Competency requirements	Catastrophic	Irish Rail will liaise with the IM to assess the impact of high absenteeism amongst signallers and control room operators. RU and IM to agree prioritisation of service on to key routes and restricted hours of operation as necessary. Staff briefed on the following guidelines and issued with supporting documents and staff packs. Safety Induction Briefings Railway Undertaking Worker Rep checks v 1.0 RU SP 5 Safety Policy Use of Face Masks v 1.0 Safety Care Video Staff briefing packs v.2 Necessary Posters Work Safety Protocols HSA Lead Worker Representative guidelines. Supporting Documents: - Return to Work Declaration - Safety Induction Briefing - Worker Representative Briefing - Employee Close Contact Log - Guidance on Dealing with a Suspected Case - Worker Representative Supplement Guidance Ref-005 - Guidance for occupying buildings in during pandemic - Managers Implementation Checklist - Guidance for First Aid Arrangements - Process for meeting on any IE premises	1	5	5	Tolerable		Station Manager		1	5	5	Tolerable	District Manager	Confirmed by Risk Owner to be ALARP	Managed	CMO Covid-19 Medical Assessment for Train Driver form
19	05/03/2018	Updated from V7	Emergency Response	Pandemic disease outbreak Competency Management	Catastrophic	Irish Rail will determine the implication on competency management systems including medical requirements and consider the following with a view to agreeing: - Any necessary derogation/extension - Reduced competence assessment being undertaken - Ident fication of all competence assessors and the groups of staff that they could be used to assess; - Derogation to utilise non-cert ficated staff to conduct competence assessment; and - Deferment of periodic medical assessments to limit exposure levels - Liaise with IM on competency management	1	5	5	Tolerable		Station Manager		1	5	5	Tolerable	District Manager	Confirmed by Risk Owner to be ALARP	Managed	Safety Induction Briefings Railway Undertaking Worker Rep checks v 1.0 RU SP 5 Safety Po icy Use of Face Masks v 1.0 Safety Care Video Staff briefing packs v.2 Necessary Posters Safe Christmas Guidelines Work Safety Protocols HSA Lead Worker Representative guidelines. Supporting Documents: Return to Work Declaration Safety Induction Briefing Worker Representative Briefing Employee Close Contact Log Guidance on Dealing with a Suspected Case Worker Representative Supplement Guidance Ref-005 Guidance for occupying buildings during pandemic Managers Implementation Checklist Guidance for First Aid Arrangements Process for meeting on any IE premises

Risk Register Title:	Passenger Comfort				**Likelihood Assessment Criteria**						**Consequence Assessment Criteria**						**Hierarchy of Risk Controls**						**Risk Statuses**								
Version No:	8.0				**1 - Improbable** -Unlikely to occur over a 50 year Period						**1 - Insignificant** - Insignificant consequences						Eliminate						**Open -** Initial status assigned when Hazard is entered in risk register								
Location:	IE RU				**2 - Remote** - Likely to occur once every 10 to 50 years						**2 - Minor** - Single minor injury						Substitute						**Cancelled** - The issue is not a Hazard, or it is wholly contained in other Hazard								
Owner:	IE RU				**3 - Occasional** - Likely to occur once every 2 to 10 years						**3 - Major** - Single major injury or multiple minor injuries						Isolate						**Transferred** - Hazard has been formally transferred to another Dept. or Organisation								
Date Reviewed:	16/02/2022				**4 - Probable** - Likely to occur once every 6 months to 2 years						**4 - Critical -** Single fatality or multiple major injuries						Engineering controls						**Pending** - Risk Controls have been identified which will reduce the risk to ALARP								
Date Next Review:	15/02/2023				**5- Frequent** - Likely to occur at least once every 6 months						**5- Catastrophic** - Multiple fatalities						Administrative controls						**Managed -** All controls implemented - Specific ongoing management and monitoring required								
Document Review Panel	Caroline Barrett	Safety Liaison Executive, Galway															Personal Protective Equipment (PPE)						**Closed** - Hazard eliminated and / or no specific ongoing management and monitoring required								
	Olivia Minogue	Station Manager, Athlone															Increase of Effectiveness														
	Ishbel Macgregor Curtin	Safety Executive			**Note to User:** For guidance on the requirements for each column, hold cursor over column heading.																										
	Ken Byrne	Safety Planning Manager																													
Note to User: For guidance on the requirements for each column, hold cursor over column heading.																															
								Initial Risk							Residual Risk																

Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Initial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerability	Risk Owner	ALARP yes / no?	Status	Additional Commentary and Evidence / Reference Docs
1	30/10/2015	Updated from V7	Crowd management at Stations	Crowd Management	Major	Crowd control plans in place in accordance with Ops.SMS 2.3 Crowd Control. Staff deployed to control crowding at stations. Staff briefed on crowd control plans and local evacuation procedures. Monitoring in place in accordance with Ops.SMS 1.3 Form No. 10 Risk Assessment and Emergency Plan Monitoring	2	3	6	Tolerable				2	3	6	Tolerable	PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Ops.SMS 1.3 Form No. 10 Risk Assessment and Emergency Plan Monitoring
2	30/10/2015	Updated from V7	Crowd management at Stations	Wayfinding - Signage not appropriate resulting in confusion and unnecessary crowd build up.	Major	Appropriate signage and platform markings provided as necessary with consideration given to requirements in accordance with Safety Standard Ops.SMS 2.3. Monitoring in place in accordance with Ops. SMS 1.3 and in according with IM & BFMM monitoring	2	3	6	Tolerable				2	3	6	Tolerable	PSMs, Manager B&FM, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3. Crowd Control Ops.SMS 1.3 Form No. 10 Risk Assessment and Emergency Plan Monitoring IM & BFM Monitoring
3	30/10/2015	Updated from V7	Crowd management at Stations	Major/Rare Events - Insufficient Information & Communication - including overuse of rail industry jargon not understood by passengers.	Major	Staff at stations required to use technical systems for crowd control must be competent in the operation of the system used. Planning for major/rare events to include criteria as set out in Safety Standard Ops.SMS 2.3. Crowd Control. Crowd control plans in place. Monitoring in place in accordance with Ops. SMS 1.3 Form No. 10	1	3	3	Negligible				1	3	3	Negligible	PSMs, Safety Compliance Manager RU.	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3. Crowd Control Ops.SMS 1.3 Form No. 10 Risk Assessment and Emergency Plan Monitoring
4	30/10/2015	Updated from V7	Crowd Management at stations.	Crowded stairs resulting in loss of footing.	Major	Crowd Control plans in place in accordance with Safety Standard Ops SMS 2.3. Crowd Control Temporary or permanent access restrictions introduced to reduce build up of passengers on stairwells. Staff trained in crowd control and local evacuation procedures. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Use of station announcements and deployment of additional staff as necessary to ensure passenger flow. Monitoring in place in accordance with Ops. SMS 1.3 Form No. 10	2	3	6	Tolerable				2	3	6	Tolerable	PSMs, Safety Compliance Manager RU.	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3. Crowd Control Ops.SMS 1.3 Form No. 10 Risk Assessment and Emergency Plan Monitoring
5	30/10/2015	Updated from V7	Crowd Management at stations.	Insufficient Communication between station and platform staff and train crew	Catastrophic	Crowd Control plans in place in accordance with Safety Standard Ops SMS 2.3. Crowd Control. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Platform utilisation plan in place. Station communications protocols in place. Monitoring in place in accordance with Ops. SMS 1.3 Form No. 10	1	5	5	Tolerable				1	5	5	Tolerable	PSMs, Safety Compliance Manager RU.	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3. Crowd Control. Ops.SMS 1.3 Form No. 10 Risk Assessment and Emergency Plan Monitoring
6	30/10/2015	Updated from V7	Crowd Management at stations.	Passengers rushing from waiting areas	Major	Platform allocation displayed and announced in sufficient time prior to service departure to prevent waiting passengers rushing from waiting areas. Designated waiting areas in reasonable proximity to platform access. CTC apply service regulation and dynamic station monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring	2	3	6	Tolerable				2	3	6	Tolerable	PSMs, Manager CTC, Safety Compliance Manager RU.	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring
7	30/10/2015	Updated from V7	Crowd Managements at Stations	Large numbers of passengers attempting to board at once.	Critical	Crowd control plans in pace in accordance with Safety Standards Ops SMS 2.3 Crowd Control. Station Announcements utilised advising passengers to stand back from train doors allowing passengers to alight prior to attempting to board and advising passengers to take care. Available station staff deployed as necessary. Additional face to face communication by deployed staff. Monitoring in place in accordance with Ops. SMS 1.3; Dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	PSMs, Safety Compliance Manager RU.	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring
8	30/10/2015	Updated from V7	Crowd management at Stations	Congestion due to Train Service Changes.	Critical	The safe operation of stations must be considered when train services are changed in accordance with Safety Standard Ops.SMS 2.3. Crowd Control. Crowd control plan in place. CTC apply service regulation and dynamic station monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring	1	4	4	Tolerable				1	4	4	Tolerable	PSMs, Manager CTC, Safety Compliance Manager RU.	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring

							Initial Risk							Residual Risk								
Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Intial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerability	Risk Owner	ALARP yes / no?	Status	Additional Commentary and Evidence / Reference Docs		
9	30/10/2015	Updated from V7	Crowd management at Stations	Congestion due to Train Service Changes. - Excessive Passenger Loading.	Critical	In accordance with Safety Standard Ops.SMS 2.3 Crowd Control Where reasonably practicable the following measures are utilised Alternative station access and routes, Utilisation of additional services, Station Announcements, Additional stopping patterns. Media and Social Media Announcements. Crowd control plan in place. CTC apply service regulation and dynamic station monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring	1	4	4	Tolerable				1	4	4	Tolerable	PSMs, Manager CTC, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
10	30/10/2015	Updated from V7	Crowd management at Stations	Failure in Incident Management.	Catastrophic	Crowd control plans in place in accordance with Safety Standard Ops.SMS 2.3. detailing arrangements for a) Providing additional staff to provide information and to control increased numbers of passengers at stations directly or remotely involved through alterations to train schedules and events in the vicinity of the station(s). b) Evacuation from trains or stations with details of how this will be carried out in an orderly manner to avoid overcrowding during the evacuation c) Preventing overcrowding in the area to which people are evacuated d) Preventing people from entering the evacuated areas until it is safe to do so. CTC apply service regulation and dynamic station monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring	1	5	5	Tolerable				1	5	5	Tolerable	PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
11	30/10/2015	Updated from V7	Crowd management at Stations	Failure to review the Effectiveness of the crowd management Plan - lessons not learnt resulting in incident recurring.	Critical	In accordance with Safety Standard Ops.SMS 2.3 Crowd Control After a crowd control incident or planned events a review shall be carried out to discuss the effectiveness of the Crowd Management Plan, to identify and document any lessons learned and to initiate any corrective actions for the future. After every such review, the findings will be copied and forwarded to the Head of Health and Safety RU who will address relevant issues. Monitoring in place in accordance with Ops. SMS 1.3 Form 13 Dynamic Monitoring	1	4	4	Tolerable				1	4	4	Tolerable	PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
12	30/10/2015	Updated from V7	Crowd management at Stations	Staff not competent.	Critical	Staff trained and competent in crowd control. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Emergency evacuations carried out twice yearly, debriefing and lessons learnt recorded following event and discussed at LRG meetings. Emergency exercises carried out annually , debriefing and lessons learnt recorded following events and discussed at LRG and SLE meetings. Monitoring in place in accordance with Ops. SMS 1.3 Form 13 Dynamic Monitoring	1	4	4	Tolerable				1	4	4	Tolerable	PSMs, Training & Development Manager, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
13	30/10/2015	Updated from V7	Crowd management at Stations	Invalid tickets/tickets not recognised at point of entry/exit. Passengers presenting invalid tickets at barriers, or otherwise delaying at barriers and therefore causing a blockage at a particular gate.	Critical	Should congestion occur barriers are set to run free as necessary. Audible warning for failed or invalid ticket. Signage at points prior to exiting to increase customer awareness; additional signage utilised as required to direct crowd flow. Staff assistance provided as necessary. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring	1	4	4	Tolerable				1	4	4	Tolerable	PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
14	30/10/2015	Updated from V7	Crowd management at Stations	Failure of validators may adversely affect entry to/exit from platforms resulting in crushing incident.	Critical	Design of validators is such that they will fail to safe. Additional staff deployed as necessary. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring	1	4	4	Tolerable				1	4	4	Tolerable	Manager B&FM, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
15	30/10/2015	Updated from V7	Crowd management at Stations	Insufficient ATG's to cater for the maximum number of trains that could arrive co-incidentally at the station resulting in a heavy flow of passengers at once.	Critical	Analysis undertaken to determine sufficiency of ATGs to cater for the maximum number of trains (of maximum possible length) that could arrive co-incidentally at stations and discharge all of their passengers with the ATGs in operational mode so that no person has to wait more than 5 minutes to pass through the ATGs. Monitoring in place in accordance with review of Crowd Control Plans.	1	4	4	Tolerable				1	5	5	Tolerable	Manager B&FM, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring .		

							Initial Risk							Residual Risk								
Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Intial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerability	Risk Owner	ALARP yes / no?	Status	Additional Commentary and Evidence / Reference Docs		
16	30/10/2015	Updated from V7	Crowd management at Stations	Limited space for gates, leading to congestion at peak periods around 'pinch points' resulting in crushing incident.	Critical	Gate space designed to facilitate safe throughput for the passengers in accordance with the required levels for the location. Monitoring of passenger levels. Increase gate space where reasonably practicable. Station access, Stopping patterns and platform arrangements are considered when compiling the crowd control plan. Platform allocation plan is utilised to reduce excessive build up of persons. Monitoring in place in accordance with Ops. SMS 1.3; Dynamic station monitoring in place.	1	4	4	Tolerable				1	5	5	Tolerable	Manager B&FM, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
17	30/10/2015	Updated from V7	Crowd Management at stations.	Lack of resources/staff to adequately control crowd resulting in crushing incidents.	Critical	PSMs to take account of previous experience in relation to special events to ensure that resources are adequate. A crowd control management team will be in place and will monitor resource/staffing issues. Additional staff deployed as required. External assistance will be agreed with agencies prior to the event. Crowd control plans/emergency plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring.	1	4	4	Tolerable				1	4	4	Tolerable	PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
18	30/10/2015	Updated from V7	Crowd Management at stations.	Special events and congestion at ATG's.	Critical	Extensive testing and trialling ensures that a passenger throughput of 30 ppm is achievable. Design of the validators is such that they should reduce potential bottlenecks. Design allows for quick switch to 'free-flow' operation to prevent unsafe levels of congestion. Should congestion occur barriers are set to run free. The ATG will restrict access to the platforms. Consideration will be given to restricting access to the station itself. PSMs to be aware of dates for likely events and to apply crowd control plan. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in place in accordance with Ops. SMS 1.3; Dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	Manager B&FM, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
19	30/10/2015	Updated from V7	Crowd Management at stations.	Poor Underfoot Conditions – Slip, trip, fall	Critical	Station Inspection checks in operation in accordance with Ops.SMS 2.5 Accident & Near Miss/Close-Call Procedures. Trip hazards removed and Immediate clean up of any spillage. Signage utilised where necessary, Cordon off areas as necessary. Monitoring in place in accordance with Ops. SMS 1.3; Dynamic station monitoring in place and Ops.SMS 2.5 Accident & Near Miss/Close-Call Procedures	1	4	4	Tolerable				1	4	4	Tolerable	PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring. Accident & Near Miss/Close-Call Procedures.		
20	30/10/2015	Updated from V7	Crowd Management at stations.	Installation of additional ATG's adding to congestion/crowding.	Critical	Installation of additional ATG's will only occur when they do not adversely affect crowd flows specific areas for consideration are The areas occupied by the ATG's, station concourse areas, surrounding passageways, over-bridges or subways, position of retail outlets and platforms. Safety Standard Ops. SMS 2.3 Crowd Control utilised to ensure compliance with good practice. Monitoring in place in accordance with Ops. SMS 1.3; Dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	Manager B&FM, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
21	30/10/2015	Updated from V7	Crowd Management at stations.	Access/Egress / Blocked Entry / Exit Routes	Critical	Entry and exit routes are clearly designated and are kept free of obstructions. Signage in place and additional signage as necessary to direct crowd flow. Announcements as necessary to clear areas. Monitoring in place in accordance with Ops. SMS 1.3; Dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		

							Initial Risk							Residual Risk								
Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Intial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerability	Risk Owner	ALARP yes / no?	Status	Additional Commentary and Evidence / Reference Docs		
22	30/10/2015	Updated from V7	Crowd Management at stations.	Service Provision-Overcrowding of Services.	Major	Service provision are planned to facilitate special events. Access to stations are monitored to prevent overcrowding. Provision of alternative services e.g. stop orders issued as required and bus transport where necessary. Corporate communications to advise travelling public (via email/radio/ website/ social media) of capacity issues for special events. Monitoring in place in accordance with Ops. SMS 1.3; CTC apply service regulation and dynamic station monitoring in place.	1	3	3	Negligible	.			1	3	3	Negligible	Manager CTC, PSMs, Safety Compliance Manager	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
23	30/10/2015	Updated from V7	Crowd Management at stations.	Large numbers of passengers on platforms resulting in unacceptable levels of congestion on platforms exceeding platform capacity.	Critical	No Defined Platform Numbers Displayed 20 mins prior to departure which will limit number of passengers on platform at any one time. Should congestion occur on platforms, gates are manually set to egress. Signalperson advised to delay arrival or direct train to alternative platform. Increased levels of supervision in any known peak periods by station staff. Platform allocation plan are utilised to reduce excessive build up of persons. Crowd control plan in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in place in accordance with Ops. SMS 1.3; Dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	Manager CTC, PSMs, Safety Compliance Manager	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
24	30/10/2015	Updated from V7	Crowd Management at stations.	Customers causing congestion around validators restricting passenger flow of passengers joining other trains.	Critical	Dedicated waiting/queuing areas are utilised. Dedicated egress from platforms to validators is utilised. Station announcements to clear congestion, signage in place and additional signage as necessary to direct crowd flow. Should congestion occur barrier are set to run free. Additional staff deployed as necessary. Crowd control plan in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in place in accordance with Ops. SMS 1.3; Dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
25	30/10/2015	Updated from V7	Crowd Management at stations.	Congestion due to cross flows at ATG's resulting in crushing incident.	Critical	Configuration of the ATGs is such that they reduce cross flows so that any cross flows occur in 'open areas' rather than 'confined areas'. Crowd control plans in place, Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in place in accordance with Ops. SMS 1.3 and dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	Manager B&FM, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
26	30/10/2015	Updated from V7	Crowd Management at stations.	Entering/Exiting station/Validators, Large numbers of passengers entering/exiting station at once.	Critical	Platform allocation plan is utilised to reduce excessive build up of persons. Distribution of incoming trains in a manner that reduces crowd density to as low as is reasonably practicable. In the event of excessive build up of passengers at validators they are put to open position. Staff deployed to pinch points to control access/egress where required. The numbers of passengers on platforms are constantly monitored on the ground and by CCTV. Crowd control plan and crowd management team in place. Station announcements utilised as necessary. Signage utilised as necessary. Monitoring in place in accordance with Ops. SMS 1.3 and dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	Manager CTC, PSMs, Safety Compliance Manager	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
27	30/10/2015	Updated from V7	Crowd Management at stations.	ATG becomes defective and remains in closed position resulting in congestion/crushing incident.	Critical	The ATG's are designed to fail to safe. Alternative arrangements are Opening of gates, introduction of alternative queuing plan, additional staff. Crowd control/emergency plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in place in accordance with Ops. SMS 1.3 and dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	Manager B&FM, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring .		

							Initial Risk							Residual Risk								
Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Intial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerability	Risk Owner	ALARP yes / no?	Status	Additional Commentary and Evidence / Reference Docs		
28	30/10/2015	Updated from V7	Crowd Management at stations.	Access/Egress , Large numbers of passengers using the station	Critical	Platform allocation plan is utilised to reduce excessive build up of persons. Distribution of incoming trains in a manner that reduces crowd density to as low as is reasonably practicable. In the event of excessive build up of passengers at validators they are put to open position. Staff deployed to pinch points to control access/egress where required. The numbers of passengers on platforms is constantly monitored on the ground and by CCTV. Station announcements utilised as necessary. Signage utilised as necessary. Crowd control plan/emergency plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in place in accordance with Ops. SMS 1.3 and dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	Manager CTC, PSMs, Safety Compliance Manager	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control/Emergency Plan Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
29	30/10/2015	Updated from V7	Crowd Management at stations.	Access/Egress Person struck by road vehicle	Critical	Traffic flow into the station is monitored. Set down area is closed off if it presents a risk to safety of passengers. Defined speed limit in place Station car parks are restricted if a risk to passenger safety occurs. Announcements and Signage utilised where necessary. Crowd control plan/emergency plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in place in accordance with Ops. SMS 1.3 and dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control/Emergency Plan Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
30	30/10/2015	Updated from V7	Crowd Management at stations.	Train Failure/Degraded Working causing crowding	Critical	Passenger access to the station is controlled/staggered until such time as an auxiliary train has been provided. Staff to make regular announcements to direct passengers and promote safe behaviour. Advise Gardaí on duty of delays and relay updated information to them as necessary. Contact CTC and advise them of the situation. Crowd control /emergency plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in place in accordance with Ops. SMS 1.3; CTC apply service regulation and dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	Manager CTC, PSMs, Safety Compliance Manager	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control/Emergency Plan Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
31	30/10/2015	Updated from V7	Crowd Management at stations.	Accessing platforms, Large numbers of passengers allowed onto platform resulting in crushing, person struck by train/Fall from Platform	Critical	Signage in place. PA announcements where necessary advising passengers to stay behind the yellow line and that trains will not depart until they are on board. Passenger numbers on platforms monitored on the ground and via CCTV from booking office and access to platforms is halted if required. In the event of excessive build up of passengers at validators they are put to open position. Crowd control plan and crowd management team in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in place in accordance with Ops. SMS 1.3; Dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	PSMs. Safety Compliance Manager	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control/Emergency Plan Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
32	30/10/2015	Updated from V7	Crowd Management at stations.	Persons using station under the influence of alcohol	Minor	Crowd control and PIC Training in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Security staff deployed where required to monitoring passenger behaviour. Gardai assistance for major events/disruption will be utilised where required. "By law 16. No person in a state of intoxication shall enter or remain upon the railway or in any vehicle and no person who is in an unfit or improper condition to travel by passenger train or whose dress or clothing is in a condition liable to soil or injure the linings or cushions of any carriage, or the dress or clothing of any passenger, shall enter or remain in any lift or vehicle". Persons not fit to travel due to consumption of alcohol will be refused travel. Restriction on the sale of alcohol on trains/ at stations where necessary. "At risk behaviour at train stations" safety poster guidance for staff are displayed locally for staff usage. Monitoring in place in accordance with Ops. SMS 1.3; dynamic station monitoring in place.	3	2	6	Tolerable				3	2	6	Tolerable	PSMs, Training & Development Manager, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		

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Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Intial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerability	Risk Owner	ALARP yes / no?	Status	Additional Commentary and Evidence / Reference Docs		
33	30/10/2015	Updated from V7	Crowd Management at stations.	Assaults on staff/Anti-social behaviour	Major	Front line staff trained in conflict resolution (Stop Workplace Related Violence (SWeRVe)) Operations Policy Document on Prevention of Workplace Violence issued to staff and includes strategies to de-escalate conflict. Areas and Events of High Risk (based on historical DATA) have additional security provided as a preventative measure. CCTV in place, improved lighting and communication [help points] facilities which can mitigate the effects of anti-social behaviour. Periodic barrier checks utilised to reduce the risk of confrontation. Fines/Additional fines issued to abusive passengers. Staff instructed not to place themselves in danger. Gardaí assistance for major events/disruption utilized. Security staff deployed where required to monitor passenger behaviour. Staff instructed to ring for assistance from Gardaí where required, as per training, emergency phone numbers on display. Issue Fixed Payment Notices for anti-social behaviour, criminal offences and trespass incidents. Issuing of non statutory prohibition orders for persistent offenders from CIE Group Solicitor in collaboration with local Operations management. Respect Signage (Respect our staff poster) on display at possible conflict points e.g. on trains, at booking offices and at barriers with helpline details for the reporting of anti-social behaviour. Workplace related violence poster (WPV 1) displayed for staff detailing the key stages for dealing with confrontation. Monitoring in place as per Ops SMS 1.3 Form 06 - Station Staff Monitoring (other than safety critical) and Form 13 - Dynamic station monitoring form. Reporting structures (Hazard Report Book/ On Line Hazard Report form) in place.	4	2	8	Undesirable	Introduce Body Worn CCTV devices as deterrent.	Safety Planning Manager		4	2	8	Undesirable	Training & Development Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Operations Safety Policy Prevention of Workplace Violence Posters Anti-Social Behaviour ASB 1 & 2 Workplace Violence WPV 1, Respect Our Staff Training Course Stop Workplace Related Violence Monitoring Ops SMS 1.3 Safety Monitoring Form 06 Station Staff Monitoring (other than safety critical) & Form 13 Dynamic Monitoring Hazard Report Book		
34	22/11/2019	Updated from V7	Crowd Management at stations.	Passenger falling ill/being injured	Minor	Staff trained and certified as First Aid Responders and refreshed on two yearly basis by training school. Emergency service/Ambulance service assistance for major events/disruption are utilized where required. First aid materials available in station and trained first aiders on site. First aid facilities pre-checked prior to event to ensure they are adequate. Emergency services details contained in local emergency plans. Gates are opened to facilitate access for emergency services. Monitoring in place in accordance with Ops. SMS 1.3 dynamic station monitoring in place.	2	2	4	Tolerable				3	2	6	Tolerable	PSMs	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
35	30/10/2015	Updated from V7	Crowd Management at stations.	Station Evacuation; passengers may get crushed as people try to exit through validators using their tickets.	Critical	The operator is able to open all gates in the case of major incidents/emergencies which will allow for free flow of passengers. The validators are linked to the alarm system. Design of validators is such that they will fail-safe (to open position). Additional staff deployed as necessary. Local emergency/crowd control plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in place in accordance with Ops. SMS 1.3 dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	Manager B&FM, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control/Emergency Plan Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
36	30/10/2015	Updated from V7	Crowd Management at stations.	Station equipment preventing safe passage throughout the station.	Critical	All equipment to be positioned to facilitate safe access/egress. Crowd control plan in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in place in accordance with Ops. SMS 1.3 dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	Manager B&FM, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
37	30/10/2015	Updated from V7	Crowd Management at stations.	Failure to adequately respond to an emergency.	Critical	Scenario based local emergency plans in place and staff briefed on same including evacuation procedures. Staff training with regard to emergency procedures. Emergency Response Handbook in place for response to major emergencies. Emergency exercises undertaken and lesson learnt recorded. Regular and appropriate evacuation exercises to test crowd control movements in in accordance with Safety Standard Ops.SMS 2.3 Crowd Control. Staff supplied with a copy of the train evacuation booklet. Additional staff deployed as necessary. Monitoring in place in accordance with Ops. SMS 1.3 dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	PSMs, DMs, SMs, Training & Development Manager, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Emergency Response Handbook Train Evacuation Booklet Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
38	30/10/2015	Updated from V7	Crowd Management at stations.	Weather Conditions, Staff exposed to inclement or hot weather resulting in heat, cold, stress or dehydration.	Minor	Staff supplied with appropriate Personal Protective Equipment, Sun Creams and access to water facilities. Monitoring in place in accordance with Ops. SMS 1.3 dynamic station monitoring in place.	1	2	2	Negligible				1	2	2	Negligible	PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		

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39	30/10/2015	Updated from V7	Crowd Management at stations.	Weather Conditions, Platforms and access routes not treated to take account of ice or snow.	Critical	All such areas will be treated (salted). Signage in place as necessary. Train Dispatch Staff briefed on and receive a copy of the Professional Train Dispatchers Handbook. RU OP 21 (Winter Readiness) provides guidance on winter weather readiness Monitoring in place in accordance with Ops. SMS 1.3 dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	PSMs	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring. Professional Train Dispatchers Handbook		
40	30/10/2015	Updated from V7	Crowd Management at stations.	Weather Conditions high winds - structures/fittings/Signage not sufficiently secured.	Critical	Where high winds are forecast structures/fittings and Signage to checked to ensure that they are sufficiently secured. RU OP 21 (Winter Readiness) provides guidance on winter weather readiness	1	4	4	Tolerable				1	4	4	Tolerable	PSMs	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
41	30/10/2015	Updated from V7	Crowd Management at stations.	Train dispatch; customer falls between train and platform	Critical	Staff trained in train dispatch in accordance with SSOW 9.9 including how to stop a train in an emergency. Train Dispatch Staff briefed on and receive a copy of the Professional Train Dispatchers Handbook. Passengers instructed to stay behind the yellow line. Mind the gap announcements to be made. Additional staff deployed as necessary. Crowd control plans in place. Signage in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in place in accordance with Ops. SMS 1.3 and dynamic station monitoring in place.	4	2	8	Undesirable				4	2	8	Undesirable	Training & Development Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control SSOW 9.9 Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring Professional Train Dispatchers Handbook.		
42	30/10/2015	Updated from V7	Crowd Management at stations.	Train dispatch - staff visibility - train dispatch corridor is obstructed by crowding causing blind spots -	Critical	All train dispatchers trained and competent in local dispatch methods. Train Dispatch Staff briefed on and receive a copy of the Professional Train Dispatchers Handbook. Local train dispatch plans in place in accordance with SSOW 9.9 Additional staff deployed as necessary. Train Drivers trained and competent in Driver Only Operations. . D.O.O. Risk Assessment in Place. Competence Management system in place	1	4	4	Tolerable				1	4	4	Tolerable	Training & Development Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	SSOW 9.9 Professional Train Dispatchers Handbook. D.O.O Risk Assessment Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
43	30/10/2015	Updated from V7	Crowd Management at stations.	Mobility/visually/hearing impaired passengers	Critical	Customer service staff will provide assistance as required. Tactile in place to aid visually impaired customers in locating platform edge. Train Dispatch Staff briefed on and receive a copy of the Professional Train Dispatchers Handbook. Competence Management system in place. Platform Train Interface Risk Assessments in place. DOO Risk Assessments in place. Crowd Control Plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in place in accordance with Ops. SMS 1.3 and dynamic station monitoring in place.	1	4	4	Tolerable				1	4	4	Tolerable	PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Professional Train Dispatchers Handbook. DOO Risk Assessment Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
44	30/10/2015	Updated from V7	Crowd Management at Stations	Train dispatch aids being less affective due to crowding	Catastrophic	Train Dispatch Staff briefed on and receive a copy of the Professional Train Dispatchers Handbook. Dispatch batons utilised. Local train dispatch plans in place in accordance with SSOW 9.9 Local Dispatch Crowd Control Plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Platform Train Interface Risk Assessments in place. Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring	1	5	5	Tolerable				1	5	5	Tolerable	PSMs,	Confirmed by Risk Owner to be ALARP	Managed	SSOW 9.9 Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring Professional Train Dispatchers Handbook.		
45	30/10/2015	Updated from V7	Crowd Management at Stations	Visibility of signage is restricted due to crowding.	Critical	Crowd control plan in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Additional staff deployed, station announcements and face to face communications as necessary. Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring	1	4	4	Tolerable				1	4	4	Tolerable	PSMs	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		

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46	30/10/2015	Updated from V7	Crowd Management at Stations	Platform marking less visible due to crowding.	Critical	Train Dispatch Staff briefed on and receive a copy of the Professional Train Dispatchers Handbook. Local train dispatch plans in place in accordance with SSOW 9.9 Local Dispatch Crowd Control Plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Additional staff deployed, station announcements and face to face communications as necessary. Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring	1	4	4	Tolerable				1	4	4	Tolerable	PSMs	Confirmed by Risk Owner to be ALARP	Managed	SSOW 9.9 Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring Professional Train Dispatchers Handbook.		
47	30/10/2015	Updated from V7	Crowd Management at stations	Disabled access provisions restricted due to crowding.	Minor	Crowd Control Plan in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Customer service staff will provide assistance as required. Tactile in place to aid visually impaired customers in locating platform edge. Train Dispatch Staff briefed on and receive a copy of the Professional Train Dispatchers Handbook.	1	2	2	Negligible				1	2	2	Negligible	PSMs	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring. Professional Train Dispatchers Handbook		
48	30/10/2015	Updated from V7	Crowd Management at stations	Use of wheelchair ramp during crowded conditions – injury to passengers	Minor	Crowd Control Plan in place. Customer service staff will provide assistance as required. Tactile in place to aid visually impaired customers in locating platform edge. Train Dispatch Staff briefed on and receive a copy of the Professional Train Dispatchers Handbook. Monitoring in place in accordance with Ops. SMS 1.3 and dynamic station monitoring in place	1	2	2	Negligible				1	2	2	Negligible	PSMs, Safety Compliance Manager	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring Professional Train Dispatchers Handbook.		
49	30/10/2015	Updated from V7	Crowd Management at stations	Wheelchair user travelling through crowded areas in station	Minor	Crowd Control Plan in place. Customer service staff will provide assistance as required. Tactile in place to aid visually impaired customers in locating platform edge. Train Dispatch Staff briefed on and receive a copy of the Professional Train Dispatchers Handbook. Monitoring in accordance with Ops. SMS 1.3 and dynamic station monitoring in place	1	2	2	Negligible				1	2	2	Negligible	PSMs, Safety Compliance Manager	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring Professional Train Dispatchers Handbook.		
50	30/10/2015	Updated from V7	Crowd Management at stations	Passenger luggage at crowded platforms	Minor	Crowd Control Plan in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Train Dispatch Staff briefed on and receive a copy of the Professional Train Dispatchers Handbook. Conditions of Carriage Luggage must be kept with passengers at all times. Luggage must not obstruct platforms, passageways, aisles or prohibit entry or exit to / from the train. Monitoring in accordance with Ops. SMS 1.3 and dynamic station monitoring in place	1	2	2	Negligible				1	2	2	Negligible	PSMs	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring Professional Train Dispatchers Handbook.		
51	30/10/2015	Updated from V7	Crowd Management at stations	Steps/other areas of change of levels not considered a hazard becomes a hazard during crowding	Critical	PSMs to take account of previous experience in relation to special events. A crowd control management team will be in place and will monitor resource/staffing issues. Additional staff deployed as required. External assistance will be agreed with agencies prior to the event. Crowd control plans/emergency plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in accordance with Ops. SMS 1.3 and dynamic station monitoring in place	1	4	4	Tolerable				1	4	4	Tolerable	District Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
52	30/10/2015	Updated from V7	Crowd Management at stations	Poor lighting in crowded conditions results in slip, trip or fall.	Major	PSMs to take account of previous experience in relation to special events. A crowd control management team will be in place and will monitor resource/staffing issues. Additional staff deployed as required. External assistance will be agreed with agencies prior to the event. Crowd control plans/emergency plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in accordance with Ops. SMS 1.3 and dynamic station monitoring in place.	2	3	6	Tolerable				2	3	6	Tolerable	PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		

							Initial Risk							Residual Risk									
Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Intial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerability	Risk Owner	ALARP yes / no?	Status	Additional Commentary and Evidence / Reference Docs		
53	30/10/2015	Updated from V7	Crowd Management at stations	Elderly passenger caught up in large group of people - falls.	Major	PSMs to take account of previous experience in relation to special events. A crowd control management team will be in place and will monitor resource/staffing issues. Additional staff deployed as required. External assistance will be agreed with agencies prior to the event. Crowd control plans/emergency plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in accordance with Ops. SMS 1.3 and dynamic station monitoring in place	2	3	6	Tolerable				2	3	6	Tolerable	PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
54	30/10/2015	Updated from V7	Crowd Management at stations	Passenger trips over rubbish bags	Major	PSMs to take account of previous experience in relation to special events. A crowd control management team will be in place and will monitor resource/staffing issues. Additional staff deployed as required. External assistance will be agreed with agencies prior to the event. Crowd control plans/emergency plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in accordance with Ops. SMS 1.3 and dynamic station monitoring in place	2	3	6	Tolerable				2	3	6	Tolerable	PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
55	30/10/2015	Updated from V7	Crowd Management at stations	Passenger knocked over by another running in crowded conditions	Major	PSMs to take account of previous experience in relation to special events. A crowd control management team will be in place and will monitor resource/staffing issues. Additional staff deployed as required. External assistance will be agreed with agencies prior to the event. Crowd control plans/emergency plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Monitoring in accordance with Ops. SMS 1.3 and dynamic station monitoring in place	2	3	6	Tolerable				2	3	6	Tolerable	PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control/Emergency Plans Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
56	30/10/2015	Updated from V7	Crowd Management at stations	Access to emergency equipment and fire extinguishers restricted.	Major	PSMs to take account of previous experience in relation to special events. A crowd control management team will be in place and will monitor resource/staffing issues. Additional staff deployed as required. External assistance will be agreed with agencies prior to the event. Crowd control plans/emergency plans and monitoring in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Scenario based local emergency plans in place and staff briefed on same including evacuation procedures. Staff training with regard to emergency procedures. Emergency Response Handbook in place for response to major emergencies. Emergency exercises undertaken and lesson learnt recorded. Regular and appropriate evacuation exercises to test crowd control movements in in accordance with Safety Standard Ops.SMS 2.3 Crowd Control. Staff supplied with a copy of the train evacuation booklet. Additional staff deployed as necessary. Monitoring in accordance with Ops. SMS 1.3 and dynamic station monitoring in place	2	3	6	Tolerable				2	3	6	Tolerable	PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control/Emergency Plans Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring Professional Train Dispatchers Handbook. Emergency Response Handbook		
57	2016	Updated from V7	Crowd Management on trains	Overcrowding on trains	Insignificant	Operations Planning and Commercial Departments manage set capacity through Monitoring of passenger loadings through reservations system (number of tickets sold) and communication with booking offices. Requesting and arranging additional capacity on services from CME Fleet controller. Requesting and arranging additional services (auxiliary) from IM in liaison with CME Fleet controller and Operating Districts. Advising Operations locations (booking offices) when capacity has been reached and prohibiting further ticket sales for affected services unless passengers wish to purchase upgrade. Communication with passengers (e-mail)who have purchased flexible tickets (i.e. can travel on a choice of trains) to advise of large numbers of passengers travelling and advise if they wish a seat to travel in accordance with reservation. Communication with passengers through social media (Facebook & Twitter) advising them of very heavy loadings. Communicating with all stations on affected routes advising them of the need to establish passenger controls (queuing systems) for affected services.	5	1	5	Tolerable				5	1	5	Tolerable	Operations Planning Manager, Commercial Director, PSMs, CME Fleet Managers, Manager CTC	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		

							Initial Risk							Residual Risk								
Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Intial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerability	Risk Owner	ALARP yes / no?	Status	Additional Commentary and Evidence / Reference Docs		
						CTC capacity allocation for both long term (working time table) planning in place in accordance with IMO-SMS-051 section 8.1 Short term Ad hoc Variation Requests in place for planning and for reasonably foreseeable events up to 10 days in advance in accordance with IMO-SMS-051 section 8.2 and very short notice planning request in place for capacity allocation up to 24 hours notice in advance in accordance with IMO-SMS-051 section 8.3 and Capacity allocation with in 24 hours of operation managed by CTC in accordance with Operations Control Manual section 20. CTC proactively monitors real-time train operations against the daily train plan intervening and directing as required and ensures accurate information is provided to all stakeholders and passengers											Manager CTC, Operations Planning Manager	Confirmed by Risk Owner to be ALARP	Managed			
						CME Fleet Controller matches fleet capacity with demand as part of long term planning process (WTT). CME Fleet Controller provides additional capacity and/ or train sets, if available, at request of RU Operations department.											CME Fleet Managers, Operations Control Manager, Manager CTC	Confirmed by Risk Owner to be ALARP	Managed			
58	2016	Updated from V7	Crowd Management on Trains	Wheelchair customers on crowded trains – Restricted space (including access to toilet facilities)	Insignificant	Seat reservation system in place. Fleet capacity managed by Fleet Controller. Local crowd control plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Communication of capacity issues via CTC. On-board staff trained in customer service, crowd control and SWeRV. On-board announcements. Face to Face communications where practicable. Emergency help button at wheelchair space and in toilet should assistance be required. Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring	3	1	3	Negligible				3	1	3	Negligible	Digital Channels Manager, CME Fleet Managers, Manager CTC, Training & Development Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
59	2016	Updated from V7	Crowd Management on Trains	Delays to services resulting from crowding or incidents related to crowding.	Insignificant	Seat reservation system in place. Fleet capacity managed by Fleet Controller Local crowd control plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Additional staff deployed as practicable. Communication of capacity issues via CTC. On-board staff trained in customer service, crowd control and SWeRV. On-board announcements. Face to Face communications where practicable. Pre Planned and timed announcements for specific issues Monitoring in place in accordance with CTC apply service regulation and dynamic train & station monitoring in place.	3	1	3	Negligible				3	1	3	Negligible	Digital Channels Manager, CME Fleet Managers, Manager CTC, Training & Development Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
60	2016	Updated from V7	Crowd Management on Trains	Falls due to train movement are exacerbated by passengers having to stand.	Minor	Seat reservation system in place. Fleet capacity managed by Fleet Controller Local crowd control plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Communication of capacity issues via CTC. On-board staff trained in customer service, crowd control and SWeRV. On-board announcements. Face to Face communication where practicable. Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring	2	2	4	Tolerable				2	2	4	Tolerable	Digital Channels Manager, CME Fleet Managers, Manager CTC, Training & Development Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
61	2016	Updated from V7	Crowd Management on Trains	Reduced capacity due to cancelled or short formation trains. Not enough trains to cope with demand.	Insignificant	Seat reservation system in place. Maximisation of capacity by fleet controller. Local crowd control plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Communication of capacity issues via CTC. On-board staff trained in customer service, crowd control and SWeRV. On-board announcements. Alternative arrangements put in place where practicable. Media alerts by corporate communications CTC apply service regulation and dynamic train & station monitoring in place.	4	1	4	Tolerable				4	1	4	Tolerable	Digital Channels Manager, CME Fleet Managers, Manager CTC, Training & Development Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
62	2016	Updated from V7	Crowd Management on Trains	Lack of handholds on crowded trains	Major	Fleet design and allocation appropriate to route and journey type.	2	3	6	Tolerable				2	3	6	Tolerable	Manager CME	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		

							Initial Risk						Residual Risk								
Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Intial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerability	Risk Owner	ALARP yes / no?	Status	Additional Commentary and Evidence / Reference Docs		
63	2016	Updated from V7	Crowd Management on Trains	Crowded trains restricting the ability of passengers to see on-board train route maps.	Insignificant	On-board staff trained in customer service, crowd control and SWeRV. On board announcements. Monitoring in place in accordance with Ops. SMS 1.3;	3	1	3	Negligible				3	1	3	Negligible	Training & Development Manager, PSMs	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
64	2016	Updated from V7	Crowd Management on Trains	On-train crowding contributing to passenger caught in external train doors	Major	Operations Planning and Commercial Departments manage set capacity through Monitoring of passenger loadings through reservations system (number of tickets sold) and communication with booking offices. Requesting and arranging additional capacity on services from CME Fleet controller. Requesting and arranging additional services (auxiliary) from IM in liaison with CME Fleet controller and Operating Districts. Advising Operations locations (booking offices) when capacity has been reached and prohibiting further ticket sales for affected services unless passengers wish to purchase upgrade. Communication with passengers (e-mail)who have purchased flexible tickets (i.e. can travel on a choice of trains) to advise of large numbers of passengers travelling and advise if they wish a seat to travel in accordance with reservation. Communication with passengers through social media (Facebook & Twitter) advising them of very heavy loadings. Communicating with all stations on affected routes advising them of the need to establish passenger controls (queuing systems) for affected services.	1	3	3	Negligible				1	3	3	Negligible	Operations Planning Manager, Commercial Director, PSMs, CME Fleet Managers, Manager CTC, Digital Channels Manager	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control SSOW 9.9 Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring Professional Train Dispatchers Handbook.		
						CTC capacity allocation for both long term (working time table) planning in place in accordance with IMO-SMS-051 section 8.1 Short term Ad hoc Variation Requests in place for planning in place for reasonably foreseeable events up to 10 days in advance in accordance with IMO-SMS-051 section 8.2 and very short notice planning request in place for capacity allocation up to 24 hours notice in advance in accordance with IMO-SMS-051 section 8.3 and Capacity allocation with in 24 hours of operation managed by CTC in accordance with Operations Control Manual section 20. CTC proactively monitors real-time train operations against the daily train plan intervening and directing as required and ensures accurate information is provided to all stakeholders and passengers											Manager CTC, Operations Planning Manager	Confirmed by Risk Owner to be ALARP	Managed			
						CME Fleet Controller matches fleet capacity with demand as part of long term planning process (WTT). CME Fleet Controller provides additional capacity and/ or train sets, if available, at request of RU Operations department.											CME Fleet Managers, Operations Control Manager, Manager CTC	Confirmed by Risk Owner to be ALARP	Managed			
						Train dispatch managed in accordance with Ops SMS 1.5 Management of Train Dispatch and Platform Train Interface Risk. Local Dispatch Plans in Place in accordance with SSOW 9.9 Guidelines for Local Arrangements for Train Dispatch. Train Dispatchers trained and competent in Train Dispatch, Local Dispatch Plan and Crowd Control. Staff briefed on and receive a copy of the Professional Train Dispatchers Handbook. Train Drivers trained and competent in accordance with Ops SMS 3.3 Route Knowledge Drivers in Route Knowledge and Risk. On board staff trained in customer service, crowd control and SWeRV. In Station and on-board train announcements. Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring											PSMs, Training & Development Manager, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops SMS 1.5 Management of Train Dispatch and Platform Train Interface Risk. SSOW 9.9 Guidelines for Local Arrangements for Train Dispatch. Professional Train Dispatchers Handbook. Ops SMS 3.3 Route Knowledge Drivers in Route Knowledge and Risk. Ops. SMS 1.3; Form 13 Dynamic Monitoring		
65	2016	Updated from V7	Crowd Management on Trains	On-train crowding contributing to falls on train and passenger/workforce tripping	Minor	Operations Planning and Commercial Departments manage set capacity through Monitoring of passenger loadings through reservations system (number of tickets sold) and communication with booking offices. Requesting and arranging additional capacity on services from CME Fleet controller. Requesting and arranging additional services (auxiliary) from IM in liaison with CME Fleet controller and Operating Districts. Advising Operations locations (booking offices) when capacity has been reached and prohibiting further ticket sales for affected services unless passengers wish to purchase upgrade. Communication with passengers (e-mail)who have purchased flexible tickets (i.e. can travel on a choice of trains) to advise of large numbers of passengers travelling and advise if they wish a seat to travel in accordance with reservation. Communication with passengers through social media (Facebook & Twitter) advising them of very heavy loadings. Communicating with all stations on affected routes advising them of the need to establish passenger controls (queuing systems) for affected services.	1	2	2	Negligible				1	2	2	Negligible	Operations Planning Manager, Commercial Director, PSMs, CME Fleet Managers, Manager CTC, Digital Channels Manager	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring Professional Train Dispatchers Handbook.		
						CTC capacity allocation for both long term (working time table) planning in place in accordance with IMO-SMS-051 section 8.1 Short term Ad hoc Variation Requests in place for planning in place for reasonably foreseeable events up to 10 days in advance in accordance with IMO-SMS-051 section 8.2 and very short notice planning request in place for capacity allocation up to 24 hours notice in advance in accordance with IMO-SMS-051 section 8.3 and Capacity allocation with in 24 hours of operation managed by CTC in accordance with Operations Control Manual section 20. CTC proactively monitors real-time train operations against the daily train plan intervening and directing as required and ensures accurate information is provided to all stakeholders and passengers											Manager CTC, Operations Planning Manager	Confirmed by Risk Owner to be ALARP	Managed			

							Initial Risk							Residual Risk								
Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Intial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerability	Risk Owner	ALARP yes / no?	Status	Additional Commentary and Evidence / Reference Docs		
						CME Fleet Controller matches fleet capacity with demand as part of long term planning process (WTT). CME Fleet Controller provides additional capacity and/ or train sets, if available, at request of RU Operations department.												CME Fleet Managers, Operations Control Manager, Manager CTC	Confirmed by Risk Owner to be ALARP	Managed			
						Seat reservation system in place. Maximisation of capacity by fleet controller. Local crowd control plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Communication of capacity issues via CTC. On-board staff trained in customer service, crowd control and SWeRV. On-board announcements utilised.												Digital Channels Manager, CME Fleet Managers, Manager CTC, Training & Development Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed			
66	2016	Updated from V7	Crowd Management on Trains	On-train crowding contributing to falls on train and passenger/workforce falling (not trip)	Minor	Operations Planning and Commercial Departments manage set capacity through Monitoring of passenger loadings through reservations system (number of tickets sold) and communication with booking offices. Requesting and arranging additional capacity on services from CME Fleet controller. Requesting and arranging additional services (auxiliary) from IM in liaison with CME Fleet controller and Operating Districts. Advising Operations locations (booking offices) when capacity has been reached and prohibiting further ticket sales for affected services unless passengers wish to purchase upgrade. Communication with passengers (e-mail)who have purchased flexible tickets (i.e. can travel on a choice of trains) to advise of large numbers of passengers travelling and advise if they wish a seat to travel in accordance with reservation. Communication with passengers through social media (Facebook & Twitter) advising them of very heavy loadings. Communicating with all stations on affected routes advising them of the need to establish passenger controls (queuing systems) for affected services.	1	2	2	Negligible				1	2	2	Negligible	Operations Planning Manager, Commercial Director, PSMs, CME Fleet Managers, Manager CTC, Digital Channels Manager	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
						CTC capacity allocation for both long term (working time table) planning in place in accordance with IMO-SMS-051 section 8.1 Short term Ad hoc Variation Requests in place for planning in place for reasonably foreseeable events up to 10 days in advance in accordance with IMO-SMS-051 section 8.2 and very short notice planning request in place for capacity allocation up to 24 hours notice in advance in accordance with IMO-SMS-051 section 8.3 and Capacity allocation with in 24 hours of operation managed by CTC in accordance with Operations Control Manual section 20. CTC proactively monitors real-time train operations against the daily train plan intervening and directing as required and ensures accurate information is provided to all stakeholders and passengers												Manager CTC, Operations Planning Manager	Confirmed by Risk Owner to be ALARP	Managed			
						CME Fleet Controller matches fleet capacity with demand as part of long term planning process (WTT). CME Fleet Controller provides additional capacity and/ or train sets, if available, at request of RU Operations department.												CME Fleet Managers, Operations Control Manager, Manager CTC	Confirmed by Risk Owner to be ALARP	Managed			
						Seat reservation system in place. Maximisation of capacity by fleet controller. Local crowd control plans in place. Communication of capacity issues via CTC. On-board staff trained in customer service, crowd control and SWeRV. On-board announcements utilised. Monitoring in accordance with Ops. SMS 1.3 and dynamic station monitoring in place.												Digital Channels Manager, CME Fleet Managers, Manager CTC, Training & Development Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed			
67	2016	Updated from V7	Crowd Management on Trains	On-train crowding contributing to passenger caught in internal train doors.	Minor	Door detection system in place. Seat reservation system in place. Maximisation of capacity by fleet controller. Local crowd control plans in place. Communication of capacity issues via CTC. On-board staff trained in customer service, crowd control and SWeRV. On-board announcements utilised. Monitoring in accordance with Ops. SMS 1.3 and dynamic station monitoring in place.	1	2	2	Negligible				1	2	2	Negligible	Technical Manager, CME; Digital Channels Manager; CME Fleet Managers, Manager CTC, Training & Development Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
68	2016	Updated from V7	Crowd Management on Trains	On-train crowding contributing to passenger fainting/collapsing due to restricted space.	Minor	Seat reservation system in place. Maximisation of capacity by fleet controller. Local crowd control plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Communication of capacity issues via CTC. On-board staff trained in customer service, crowd control and SWeRV. On-board announcements utilised. Monitoring in accordance with Ops. SMS 1.3 and dynamic station monitoring in place.	1	2	2	Negligible				1	2	2	Negligible	Technical Manager, CME; Digital Channels Manager; CME Fleet Managers, Manager CTC, Training & Development Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		

							Initial Risk							Residual Risk								
Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Intial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerability	Risk Owner	ALARP yes / no?	Status	Additional Commentary and Evidence / Reference Docs		
69	2016	Updated from V7	Crowd Management on Trains	On-train crowding contributing to passenger /workforce strain injury - e.g. attempting to keep balance or stepping over luggage.	Minor	Seat reservation system in place. Overhead storage space available and end of carriage luggage racks available where applicable. Maximisation of capacity by fleet controller. Local crowd control plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Communication of capacity issues via CTC. On-board staff trained in customer service, crowd control and SWeRV. On-board announcements utilised. Monitoring in accordance with Ops. SMS 1.3 and dynamic station monitoring in place.	1	2	2	Negligible				1	2	2	Negligible	Technical Manager, CME; Digital Channels Manager; CME Fleet Managers, Manager CTC, Training & Development Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
70	2016	Updated from V7	Crowd Management on Trains	On-train crowding contributing to passenger /workforce - Assault.	Minor	Seat reservation system in place. Maximisation of capacity by fleet controller. Local crowd control plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Communication of capacity issues via CTC. On-board staff trained in customer service, crowd control and SWeRV. On-board announcements utilised. Operations Policy Document on Prevention of Workplace Violence issued to staff and includes strategies to de-escalate conflict. Areas and Events of High Risk (based on historical DATA) have additional security provided as a preventative measure. CCTV in place on MK4 and ICR fleets Fines/Additional fines issued to abusive passengers. Staff instructed not to place themselves in danger. Gardaí assistance for major events/disruption utilized. Security staff deployed on trains where required to monitor passenger behaviour. Staff instructed to ring for assistance from Gardaí where required, as per training. Fixed Payment Notices issued for anti-social behaviour, criminal offences and trespass incidents. Issuing of non statutory prohibition orders for persistent offenders from CIE Group Solicitor in collaboration with local Operations management. Reporting structures (Hazard Report Book/ On Line Hazard Report form) in place. Monitoring in accordance with Ops. SMS 1.3 and dynamic station monitoring in place.	4	2	8	Undesirable	Introduce Body Worn CCTV devices as deterrent.			4	2	8	Undesirable	Technical Manager, CME; Digital Channels Manager; CME Fleet Managers, Manager CTC, Training & Development Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
71	2016	Updated from V7	Crowd Management on Trains	On-train crowding contributing to passenger fall whilst boarding/alighting	Major	Seat reservation system in place. Maximisation of capacity by fleet controller. Local crowd control plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Communication of capacity issues via CTC. On-board staff trained in customer service, crowd control and SWeRV. On-board announcements utilised. Dynamic train & station monitoring in place. For Platform Train Interface Risk please see local PTI Risk Assessments	1	3	3	Negligible				1	3	3	Negligible	Technical Manager, CME; Digital Channels Manager; CME Fleet Managers, Manager CTC, Training & Development Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
72		Updated from V7	Crowd Management on Trains	On-train crowding contributing to passenger fall whilst boarding/alighting - passenger falls between the train and the platform.	Major	Operations Planning and Commercial Departments manage set capacity through Monitoring of passenger loadings through reservations system (number of tickets sold) and communication with booking offices. Requesting and arranging additional capacity on services from CME Fleet controller. Requesting and arranging additional services (auxiliary) from IM in liaison with CME Fleet controller and Operating Districts. Advising Operations locations (booking offices) when capacity has been reached and prohibiting further ticket sales for affected services unless passengers wish to purchase upgrade. Communication with passengers (e-mail)who have purchased flexible tickets (i.e. can travel on a choice of trains) to advise of large numbers of passengers travelling and advise if they wish a seat to travel in accordance with reservation. Communication with passengers through social media (Facebook & Twitter) advising them of very heavy loadings. Communicating with all stations on affected routes advising them of the need to establish passenger controls (queuing systems) for affected services.	1	4	4	Tolerable				1	4	4	Tolerable	Operations Planning Manager, Commercial Director, PSMs, CME Fleet Managers, Manager CTC, Digital Channels Manager	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring. Professional Train Dispatchers Handbook		
						CTC capacity allocation for both long term (working time table) planning in place in accordance with IMO-SMS-051 section 8.1 Short term Ad hoc Variation Requests in place for planning in place for reasonably foreseeable events up to 10 days in advance in accordance with IMO-SMS-051 section 8.2 and very short notice planning request in place for capacity allocation up to 24 hours notice in advance in accordance with IMO-SMS-051 section 8.3 and Capacity allocation with in 24 hours of operation managed by CTC in accordance with Operations Control Manual section 20. CTC proactively monitors real-time train operations against the daily train plan intervening and directing as required and ensures accurate information is provided to all stakeholders and passengers											Manager CTC, Operations Planning Manager	Confirmed by Risk Owner to be ALARP	Managed			
						CME Fleet Controller matches fleet capacity with demand as part of long term planning process (WTT). CME Fleet Controller provides additional capacity and/ or train sets, if available, at request of RU Operations department.											CME Fleet Managers, Operations Control Manager, Manager CTC	Confirmed by Risk Owner to be ALARP	Managed			

							Initial Risk							Residual Risk								
Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Intial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerability	Risk Owner	ALARP yes / no?	Status	Additional Commentary and Evidence / Reference Docs		
						Seat reservation system in place. Maximisation of capacity by fleet controller. Local crowd control plans in place. Communication of capacity issues via CTC. On-board staff trained in customer service, crowd control and SWeRV. On-board announcements utilised. Dynamic train & station monitoring in place. For Platform Train Interface Risk please see local PTI Risk Assessments. Local train dispatch plans in place. All train dispatchers trained and competent in local dispatch methods. Train Dispatch Staff briefed on and receive a copy of the Professional Train Dispatchers Handbook. Use of additional staff as necessary. Train Drivers trained and competent in Driver Only Operations. Competence Management system in place. D.O.O. Risk Assessment in Place.											Digital Channels Manager, CME Fleet Managers, Manager CTC, Training & Development Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed			
73		Updated from V7	Crowd Management on Trains	On-train crowding contributing to passenger crushed or struck against objects - resulting in bruises, cuts and abrasions	Minor	Operations Planning and Commercial Departments manage set capacity through Monitoring of passenger loadings through reservations system (number of tickets sold) and communication with booking offices. Requesting and arranging additional capacity on services from CME Fleet controller. Requesting and arranging additional services (auxiliary) from IM in liaison with CME Fleet controller and Operating Districts. Advising Operations locations (booking offices) when capacity has been reached and prohibiting further ticket sales for affected services unless passengers wish to purchase upgrade. Communication with passengers (e-mail)who have purchased flexible tickets (i.e. can travel on a choice of trains) to advise of large numbers of passengers travelling and advise if they wish a seat to travel in accordance with reservation. Communication with passengers through social media (Facebook & Twitter) advising them of very heavy loadings. Communicating with all stations on affected routes advising them of the need to establish passenger controls (queuing systems) for affected services.	1	2	2	Negligible				1	2	2	Negligible	Operations Planning Manager, Commercial Director, PSMs, CME Fleet Managers, Manager CTC, Digital Channels Manager	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
						CTC capacity allocation for both long term (working time table) planning in place in accordance with IMO-SMS-051 section 8.1 Short term Ad hoc Variation Requests in place for planning in place for reasonably foreseeable events up to 10 days in advance in accordance with IMO-SMS-051 section 8.2 and very short notice planning request in place for capacity allocation up to 24 hours notice in advance in accordance with IMO-SMS-051 section 8.3 and Capacity allocation with in 24 hours of operation managed by CTC in accordance with Operations Control Manual section 20. CTC proactively monitors real-time train operations against the daily train plan intervening and directing as required and ensures accurate information is provided to all stakeholders and passengers											Manager CTC, Operations Planning Manager	Confirmed by Risk Owner to be ALARP	Managed			
						CME Fleet Controller matches fleet capacity with demand as part of long term planning process (WTT). CME Fleet Controller provides additional capacity and/ or train sets, if available, at request of RU Operations department.											CME Fleet Managers, Operations Control Manager, Manager CTC	Confirmed by Risk Owner to be ALARP	Managed			
						Seat reservation system in place. Maximisation of capacity by fleet controller. Local crowd control plans in place. Communication of capacity issues via CTC. On-board staff trained in customer service, crowd control and SWeRV. On-board announcements utilised. CTC apply service regulation and dynamic train & station monitoring in place.											Digital Channels Manager, CME Fleet Managers, Manager CTC, Training & Development Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed			
74	2016	Updated from V7	Crowd Management on Trains	Insufficient information to passengers prior to boarding - preventing passengers to make alternative arrangements.	Insignificant	Seat reservation system in place. Capacity / Event management system in place. Maximisation of capacity by fleet controller. Local crowd control plans in place. Staff are briefed on specific event plans and rebriefed on crowd control and evacuation plans annually. Communication of capacity issues via CTC. On-board staff trained in customer service, crowd control and SWeRV. Corporate communications to media and social media advising of capacity issues. Station Announcements utilised. Alternative services in place where practicable. CTC apply service regulation and dynamic train & station monitoring in place.	3	1	3	Negligible				3	1	3	Negligible	Digital Channels Manager, Business Development Managers, Corporate Communications Manager, CME Fleet Managers, Manager CTC, Training & Development Manager, PSMs, Safety Compliance Manager RU	Confirmed by Risk Owner to be ALARP	Managed	Ops.SMS 2.3 Crowd Control Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
75	2016	Updated from V7	Crowd Management on Trains	Available methods/solutions for reducing on-board congestion not communicated to passengers.	insignificant	Staff monitor seat occupancy throughout route. Staff make announcements over train PA and or face to face to Inform passengers to move to available free seats, move to uncongested spaces to prevent unnecessary bunching. Staff to make announcements that luggage must be removed from seats to facilitate other passengers. Monitoring in accordance with Ops. SMS 1.3 and dynamic station monitoring in place.	3	1	3	Negligible				3	1	3	Negligible	PSMs	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in accordance with Ops. SMS 1.3 and dynamic station monitoring in place.		

							Initial Risk							Residual Risk								
Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Intial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerability	Risk Owner	ALARP yes / no?	Status	Additional Commentary and Evidence / Reference Docs		
76	2016	Updated from V7	Crowd Management on Trains	Large numbers of passengers attempting to alight at once resulting in bottle neck.	Minor	IM and RU Platform Train Risk Assessments conducted. On-board staff trained in customer service, crowd control and SWeRV. On-board and station announcements utilised. Additional staff deployed at stations where practicable.	2	2	4	Tolerable				2	2	4	Tolerable	Head of Health and Safety IM and RU, Training & Development Manager, PSMs	Confirmed by Risk Owner to be ALARP	Managed			
77	2016	Updated from V7	Crowd Management on Trains - Luggage	Items falling from rack - Luggage storage capacity.	Minor	Luggage must not obstruct platforms, passageways, aisles or prohibit entry or exit to / from the train. Designated luggage storage areas are available at the end of carriages, overhead and at floor level between seat units (where applicable). Heavy and / or unwieldy items should not be stored overhead. All items stored on overhead racks must be securely and fully placed onto them. Bye Law(4) No person shall place, or allow to remain, on any luggage rack in any vehicle any article or thing in his or her possession, care or control if requested not to do so by an authorised person. Luggage items and weight limit as passenger charter. No person shall place, or allow to remain, on any luggage rack in any vehicle any article or thing in his or her possession, care or control if requested not to do so by an authorised person. Signage and announcements in place. Monitoring in accordance with Ops. SMS 1.3 and dynamic station monitoring in place.	3	2	6	Tolerable				3	2	6	Tolerable	Technical Manager, CME; PSMs	Confirmed by Risk Owner to be ALARP	Managed	Monitoring in place in accordance with Ops. SMS 1.3; Form 13 Dynamic Monitoring		
78	2016	Updated from V7	Crowd Management on Trains - Luggage	Falling from rack Luggage – Luggage rack mismatch	Minor	Designated luggage storage areas are available at the end of carriages, overhead and at floor level between seat units (where applicable). Heavy and / or unwieldy items should not be stored overhead. All items stored on overhead racks must be securely and fully placed onto them. Bye Law(4) No person shall place, or allow to remain, on any luggage rack in any vehicle any article or thing in his or her possession, care or control if requested not to do so by an authorised person. Luggage items and weight limit as passenger charter. Signage and announcements in place. On-board train & station monitoring in place by staff.	3	2	6	Tolerable				3	2	6	Tolerable	Technical Manager, CME; PSMs	Confirmed by Risk Owner to be ALARP	Managed			
79	2016	Updated from V7	Crowd Management on Trains - Luggage	Falling of unstowed luggage – Train motion – points, suspension, and speed.	Minor	Track design and maintenance schedule in place to ensure smooth ride. Track monitoring and reporting system in place. Designated luggage storage areas are available at the end of carriages, overhead and at floor level between seat units (where applicable) Fleet maintenance schedule in place. Drivers trained in route risks and professional driving techniques to ensure smoothness of ride. Heavy and / or unwieldy items should not be stored overhead. All items stored on overhead racks must be securely and fully placed onto them. Luggage items and weight limit as passenger charter. Signage and announcements in place. On-board train monitoring in place by staff.	2	2	4	Tolerable				2	2	4	Tolerable	Divisional Engineers, Technical Manager, CME, PSMs	Confirmed by Risk Owner to be ALARP	Managed			
80	2016	Updated from V7	Crowd Management on Trains - Luggage	Luggage mishandled – storage at height, luggage storage accessibility, unable to lift heavy luggage, unable to reach rack, reaching over other passengers	Minor	Luggage must not obstruct platforms, passageways, aisles or prohibit entry or exit to / from the train. Designated luggage storage areas are available at the end of carriages, overhead and at floor level between seat units (where applicable). Heavy and / or unwieldy items should not be stored overhead. All items stored on overhead racks must be securely and fully placed onto them. Signage and announcements in place. On-board train monitoring in place by staff.	3	2	6	Tolerable				3	2	6	Tolerable	Technical Manager CME, PSMs	Confirmed by Risk Owner to be ALARP	Managed			
81	2016	Updated from V7	Crowd Management on Trains - Luggage	Luggage blocking walkways / doorways access and egress to carriages	Minor	Designated luggage storage areas are available at the end of carriages, overhead and at floor level between seat units (where applicable) As stated in CIE Bye Law 18 Passengers shall not obstruct walkways or doorways or otherwise inconvenience passengers by reason of their luggage and are obliged to remove same at staff members request. Luggage items and weight limit as passenger charter. On-board staff trained in Customer Service, Crowd Control and SWeRV. On-board CCTV Signage in place. On-board announcements utilised. On-board train monitoring in place by staff.	1	2	2	Negligible				1	2	2	Negligible	Technical Manager CME, Training & Development Manager, PSMs	Confirmed by Risk Owner to be ALARP	Managed			

							Initial Risk							Residual Risk								
Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Intial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerability	Risk Owner	ALARP yes / no?	Status	Additional Commentary and Evidence / Reference Docs		

							Initial Risk							Residual Risk								
Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Intial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerability	Risk Owner	ALARP yes / no?	Status	Additional Commentary and Evidence / Reference Docs		

Risk Register Title:	Train Driving	
Version No:	8	
Location:	IE RU	
Owner:	IE RU	
Date Reviewed:	28/03/2022	
Date of Next Review:	27/03/2023	
Review Panel:	Catherine Cahill	Station Manager, Killarney & Tralee
	Kieran O'Sullivan	DTE Cork
	Kevin Corkery	Chief Traction Executive
	Ishbel Macgregor Curtin	Safety Executive
	Ken Byrne	Safety Planning Manger RU
	Sean Geoghegan	Safety Compliance Manager RU
	Joseph Sullivan	Head of Health and Safety RU

Likelihood Assessment Criteria

1 - Improbable -Unlikely to occur over a 50 year Period
2 - Remote - Likely to occur once every 10 to 50 years
3 - Occasional - Likely to occur once every 2 to 10 years
4 - Probable - Likely to occur once every 6 months to 2 years
5- Frequent - Likely to occur at least once every 6 months

Consequence Assessment Criteria

1 - Insignificant - Insignificant consequences
2 - Minor - Single minor injury
3 - Major - Single major injury or multiple minor injuries
4 - Critical - Single fatality or multiple major injuries
5- Catastrophic - Multiple fatalities

Hierarchy of Risk Controls

Risk Statuses

Open - Initial status assigned when Hazard is entered in risk register
Cancelled - The issue is not a Hazard, or it is wholly contained in other Hazard
Transferred - Hazard has been formally transferred to another Dept. or Organisation
Pending - Risk Controls have been identified which will reduce the risk to ALARP
Managed - All controls implemented - Specific ongoing management and Monitoring in accordance with required
Closed - Hazard eliminated and / or no specific ongoing management and Monitoring in accordance with required

Note to User: For guidance on the requirements for each column, hold cursor over column heading.

							Initial Risk					Residual Risk							
Ref	Date Identified	Hazard Source	Asset / PEIO / Task	Hazard Description	Consequence	Existing Controls	Likelihood	Severity	Initial Risk	Tolerability	Additional Risk Controls	Control Owner	Due Date	Likelihood	Severity	Residual Risk	Tolerability	Risk Owner	ALARP ?	Status	Additional Commentary and Evidence / Reference Docs
1	12/02/2015	Updated from V 7	Fitness	Persons selected do not meet medical criteria to operate as train driver resulting in Operational incident including injury to persons or overspeed leading SPAD/Derailment/Collision.	Catastrophic	Medical fitness of Train Driver is managed in accordance with requirements of Ops.SMS 3.0, (6.3); Ops.SMS 3.4 (5.1); RU SMS 004.(4.4) and Ops. SMS 3.6 -Appendix A "Statement Readiness for duty" Monitoring in place in accordance with requirements of RU SMS 004 (5.3 - 5.3.3.1) and Ops SMS 3.6 (6.3.1.(e).	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	CMO		1	5	5	Tolerable	PSM/HR			RU SMS 004 Policy and Principles for Selection, Training, Competence and Fitness of Safety Critical Staff (4.4), (5.3-5.3.3.1) Ops. SMS 3.0 Drivers Training (6.3) (6.3.1 (e)) Ops SMS 3.4 Driver Licensing (5.1) Ops. SMS 3.6 Drivers Booking On and Off Duty-Appendix A "Statement Readiness for duty" General Safety Rules.
2	12/02/2015	Updated from V 7	Selection	Persons selected does not meet competence criteria. Operational incident including to injury to persons or overspeed leading SPAD/Derailment/Collision.	Catastrophic	The selection of Train Drivers is managed in accordance with the requirements of Ops.SMS 3.0 Sections (6.3, 7 & 10, Appendix A & B) and RU SMS 004 Section (5.2) Monitoring in place in accordance with requirements of Ops SMS 3.1 (7 & 8).	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	Training Centre/DTE		1	5	5	Tolerable	Training Centre/HR			RU SMS 004 Policy and Principles for Selection, Training, Competence and Fitness of Safety Critical Staff (5.2) Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix A - Review of Trainee Driver Operational Portfolio File Appendix B - Certificate of Competence Appendix D - Assessment Tracker PQA Driver Only Form. Appendix F - Practical Assessment Evidence Form Appendix M - PQA Driver Support Plan
3	12/02/2015	Updated from V 7	Training	Person does not receive suitable/sufficient training. Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	The training of Drivers is managed in accordance the requirements of Ops.SMS 3.0 (6,7,8,9,10,11). Accredited training syllabus conducted by training centre in place Supervision and monitoring in place in accordance the requirements of Ops SMS 3.1 (7, 8 & 9) including the use of Lead drivers. Basic training & assessment in place in accordance with requirements of Ops.SMS 3.0 (Appendix A, B & C)	2	5	10	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal. 2 yearly Documented Review between Training Centre and Safety Department of Training Course content and syllabus.	DTE		2	5	10	Undesirable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix A - Review of Trainee Driver Operational Portfolio File. Appendix B - Certificate of Competence. Appendix C - Planned Personal Contract Record Form. Appendix D - Assessment Tracker PQA Driver Only Form Appendix F - Practical Assessment Evidence Form Appendix M - PQA Driver Support Plan.
4	12/02/2015	Updated from V 7	Initial Assessment of competence	Deficiencies in competence. Operational incident including injury to persons or overspeed leading SPAD/Derailment/Collision.	Critical	The initial assessment and certification of Train Drivers is managed in accordance with the requirements of Ops.SMS 3.1 (8). Monitoring in place in accordance with the requirements of Ops. SMS 3.1 (10, 12 &15) Basic training and assessment in place in accordance with the requirements of Ops.SMS 3.0 (Appendix A, B & C)	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DM/PSM		2	4	8	Undesirable	DRU			Ops SMs3.0 - Drivers Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix C - Planned Personal Contract Record Form. Appendix D - Assessment Tracker PQA Driver Only Form Appendix F - Practical Assessment Evidence Form Appendix G - Interim Review / Summary Assessment Record Form Appendix H - Unannounced Assessment Form

5	12/02/2015	Updated from V 7	Post Qualifying Assessments	Newly qualified Driver not ensuring compliance with the standards delivered during training.	Catastrophic	Post Qualifying Assessment is managed in accordance with the requirements of Ops.SMS 3.1 (9). Monitoring and assessment in place in accordance with the requirements of Ops. SMS 3.1 (9, 10 12 & 15) Basic training and assessment in place in accordance with the requirements of Ops.SMS 3.0 (Appendix A, B & C)	2	5	10	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal. t	DTE		2	5	10	Undesirable	DM/PSM			Ops SMS 3.0 - Drivers Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix A - Review of Trainee Driver Operational Portfolio File. Appendix B - Certificate of Competence. Appendix C - Planned Personal Contract Record Form. Appendix D - Assessment Tracker PQA Driver Only Form Appendix F - Practical Assessment Evidence Form Appendix G - Interim Review / Summary Assessment Record Form. Appendix H - Unannounced Assessment Form
6		Updated from V 7	Post Qualifying Assessments	Newly qualified Driver lacking in confidence (or over-confident) and lacking experience in driving duties. Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision	Catastrophic	Planned Personal Contact is managed in accordance with requirements of Ops sms 3.1 (8) and DTE support working relationship established. Post Qualifying Assessment is managed in accordance with the requirements of Ops.SMS 3.1 (9). Monitoring and assessment in place in accordance with the requirements of Ops. SMS 3.1 (9, 10 12 & 15) Basic training and assessment in place in accordance with the requirements of Ops.SMS 3.0 (Appendix A, B & C).	2	5	10	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		2	5	10	Undesirable				Ops SMS 3.0 - Drivers Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix A - Review of Trainee Driver Operational Portfolio File. Appendix B - Certificate of Competence. Appendix C - Planned Personal Contract Record Form. Appendix D - Assessment Tracker PQA Driver Only Form Appendix F - Practical Assessment Evidence Form Appendix G - Interim Review / Summary Assessment Record Form. Appendix H - Unannounced Assessment Form
7	12/02/2015	Updated from V 7	Continuous Assessment & Monitoring	Not ensuring that train drivers remain competent to drive trains at all times resulting in Operational incident including injury to persons or overspeed leading SPAD/Derailment/Collision.	Critical	Continuous Monitoring and Assessment is managed in accordance with the requirements of Ops.SMS 3.1 (10). Safety Briefings carried out in accordance with Ops. SMS 3.5 (7). Monitoring and Assessment in place in accordance with the requirements of Ops. SMS 3.1 (12 & 15)	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.1 - Competence Management Drivers Appendix A - Review of Trainee Driver Operational Portfolio File. Appendix D - Assessment Tracker PQA Driver Only Form Appendix E - Assessment Tracker Non PQA Drivers only. Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Appendix I - Assessment Review Tracker. Appendix K - Portfolio Front Page Template Appendix L - Index for Driver's Safety File Ops SMS 3.5 - Safety Briefing Train Drivers Appendix A - Record of Briefing Form Appendix B - Safety Briefing Key Issues Covered Appendix C - Drivers Feedback Form
8	12/02/2015	Updated from V 7	Assessment Methods	Failures of compliance with competence standards, the professional Train Driving policy, and all applicable rules and regulations resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Critical	Formal Train Driving assessments are managed in accordance with the requirements of Ops.SMS 3.1 (11). Monitoring in place in accordance with the requirements of Ops. SMS 3.1 (12 & 15) Basic training and assessment in place in accordance with the requirements of Ops.SMS 3.0	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		2	4	8	Undesirable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix A - Review of Trainee Driver Operational Portfolio File. Appendix D - Assessment Tracker PQA Driver Only Form Appendix E - Assessment Tracker Non PQA Drivers only. Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Appendix F - Practical Assessment Evidence Form Appendix I - Assessment Review Tracker.
9	12/02/2015	Updated from V 7	Performance Monitoring	Not ensuring competence standards applicable to train driving are being met consistently and that appropriate action is taken resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Critical	The retention of competency management and training records are robust, traceable and secure and take into account the maintenance of competence portfolios and training records in a specified electronic form. Performance Monitoring is managed in accordance with the requirements of Ops.SMS 3.1 (12). Monitoring in place in accordance with the requirements of Ops. SMS 3.1 (12 & 15) Trained and competent DTE conducts competence assessments in accordance with Ops SMS 6.1	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the	DTE		2	4	8	Undesirable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Appendix F - Practical Assessment Evidence Form Appendix I - Assessment Review Tracker. Ops SMS 6.1 - Selection, Training, Monitoring and Assessment of District Traction Executives Selection, Training, Monitoring and Assessment of District Traction Executives
10	12/02/2015	Updated from V 7	Recording of Assessments, Monitoring and Certificates of Competence.	Not ensuring that assessments are properly recorded to ensure that Certificates of Competence are issued with the knowledge that the individual has been trained, assessed and monitored to the required standards.; resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Critical	The retention of competency management and training records are robust, traceable and secure and take into account the maintenance of competence portfolios and training records in a specified electronic form. Recording of Assessment, Monitoring and Certificates of Competence are managed in accordance with the requirements of Ops.SMS 3.1 (14, 15). Briefings carried out and documents in accordance with Ops SMS 3.5. Trained and competent DTE conducts competence assessments and maintains records in compliance with Ops. SMS 6.1. Monitoring in place in accordance with the requirements of Ops. SMS 3.1 (15.3)	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		2	4	8	Undesirable	DM/ Chief DTE			Ops SMS 3.1 - Competence Management Drivers Appendix A - Review of Trainee Driver Operational Portfolio File Appendix B - Certificate of Competence Appendix D - Assessment Tracker PQA Driver Only Form. Appendix F - Practical Assessment Evidence Form Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Appendix F - Practical Assessment Evidence Form Appendix I - Assessment Review Tracker Ops SMS 3.5 - Safety Briefing Train Drivers Appendix A - Record of Briefing Form Appendix B - Safety Briefing Key Issues Covered Appendix C - Drivers Feedback Form Ops SMS 6.1 - Selection, Training, Monitoring and Assessment of District Traction Executives Selection, Training, Monitoring and Assessment of District Traction Executives Driver Experience Record.
11	12/02/2015	Updated from V 7	Route Knowledge	Not ensuring Train Drivers have and retain sufficient route knowledge resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	Route Knowledge is managed in accordance with the requirements of Ops.SMS 3.3 (11). Local route risk assessments in place. Route Information books issued to drivers. Route assessments include a practical ride and an assessment of underpinning knowledge. All train drivers receive a copy of the Train Driving Competence Standards Booklet - Unit 4.3 refers. Monitoring in place in relation to route knowledge in accordance with requirements of Ops SMS 3.1 (9.2.2) . Records maintained per Ops SMS 3.1 (10.6 - Continuous Assessment Plan). Appendix D Assessment Tracker PQA Driver Only Form or Appendix E Assessment Tracker Non PQA Drivers only. Covered in Module 6 and principles of route learning / awareness of Operational Risk and SPAD and Module 7 Introduction to driving. Module 9 Practical handling and route driving.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix D Assessment Tracker PQA Driver Only Form Appendix E - Assessment Tracker Non PQA Drivers only. Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Appendix F - Practical Assessment Evidence Form Appendix I - Assessment Review Tracker. Ops SMS 3.3 - Route Knowledge Drivers Route Knowledge Drivers Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Route Information Books
12	12/02/2015	Updated from V 7	Issue of publications and personal equipment	Non-provision of required equipment/publications for Drivers to undertake duties safely resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	Issue of publications and personal equipment is managed and recorded in accordance with the requirements of Ops.SMS 1.9. (6). Drivers issued with Rule Book - equipment required by drivers listed in Section H 3.2. Monitoring in place in accordance with the requirements of Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form 4 Ops SMS 3.6 (7) and Ops SMS 3.1 (10.8 - Summary Assessments) Covered in module 2 - Introduction to Railway Operations & Traction	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE/Depot Controller/SM/ Station Controller/ Traffic Coordinator/ Charge hand Drivers		1	5	5	Tolerable	DM			Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Appendix C - Receipt of Operational Notices. Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form 4 - Depot Monitoring Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix I - Assessment Review Tracker. Equipment Card Rule Book - Section H 3.2.

13	12/02/2015	Updated from V 7	Communication of safety and operating information	Non-Provision of essential information resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	Communication of safety and operational information is managed in accordance with the requirements of Ops.SMS 3.6 (9) and RU SMS 010 - Safety Critical Communications All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to "Report for duty using approved methods" in accordance with Unit 1 (1.2 C & D). Monitoring is in place in relation to the communication of essential information - Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form 4, and Ops. SMS 3.1 (9.3.1 - Continuous Assessment) Systems are in place for the communication of essential safety information. Examples include • Weekly circular • Late Notice Case • Safety briefings • Safety Alerts Covered in module 2 - Introduction to Railway Operations & Traction. Module 4.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE/Depot Controller/SM		1	5	5	Tolerable	DM			Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form 4 - Depot Monitoring Form 7 - Station/Depot Monitoring Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix I - Assessment Review Tracker. Ops SMS 3.5 - Safety Briefing Train Drivers Safety Briefing Train Drivers Appendix A - Record of Briefing Form Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Appendix C - Receipt of Operational Notices RU SMS 010 - Safety Critical Communications
14	12/02/2015	Updated from V 7	Train Driver Development and Support	Not identifying individuals who are likely to be are involved in future safety incidents and to provide additional support and advice and additional monitoring or relief from duty as necessary; resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	Train Drivers' Development & Support is managed in accordance with requirements of Ops.SMS 3.2. All accidents and incidents are investigated to prevent a recurrence in accordance with RU SMS 007 applied. Monitoring in place in accordance with requirements of Ops SMS 3.6 (7) - Drivers booking on/off duty. All drivers are issued with the Professional Driving Handbook, -Section 2 includes reference and details of Employee Support. *Process in place during training to review such issues.*	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE/Depot Controller/SM/ Station /Traffic Coordinator/ Charge hand Drivers		1	5	5	Tolerable	DM			Ops SMS 3.2 - Driver Development and Support System Driver Development and Support System Appendix A - Summary of incidents and Guidance on calculating duration of DDP Appendix B - Record Sheet Appendix C - Development Plan Safety Performance Review Form. Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form A - Depot Monitoring Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers RU SMS 007 - Policies and principles of Reporting and Investigating Accidents and Incidents
15	12/02/2015	Updated from V 7	Safety Briefing of Train Drivers	Not ensuring that train drivers receive necessary safety briefings resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	Train Drivers' Safety Briefings are managed in accordance with requirements of Ops.SMS 3.5. Safety Briefing update days occur in accordance with Ops.SMS 3.5 (12). Records maintained in accordance with requirements of Ops 3.5 (13) Appendix A Record of Briefing Form Appendix B Key Issues covered and evidence retained on drivers Continuous Assessment file in accordance with requirements of Ops SMS 3.1(9.3).	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but	DTE		1	5	5	Tolerable	DM			Ops SMS 3.5 - Safety Briefing Train Drivers Appendix A Record of Briefing Form Appendix B Safety Briefing Key Issues Covered; Appendix C - Drivers Feedback Form. Ops SMS 3.1 - Competence Management Drivers Appendix D - Assessment Tracker PQA Driver Only Form Appendix E - Assessment Tracker Non PQA Drivers only. Appendix G - Interim Review \Summary Assessment Record Form Appendix I - Assessment Review Tracker.
16	12/02/2015	Updated from V 7	Train Driving - personal Preparation for duty	Not ensuring sufficient rest prior to attending duty to ensure alertness & fitness for work resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to personal preparation for duty in accordance with Unit 1 (1.1 A) Professional Driving Handbook, is issued to all train drivers - Section 2 outlines Guidance and Supporting Information. The requirements of Ops.SMS 1.4 - Management of Working Time are applied to rosters. Train Drivers rosters are analysed using Fatigue and Risk Index (FRI) and adjusted to ensure they do not exceed tool thresholds. Drivers are instructed to advise their line manager if they have not had sufficient rest. Monitoring in place at depots in accordance with Ops SMS 3.6 (7). Covered in modules 1 & 2	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE/Depot Controller/SM/ Station /Traffic Coordinator/ Charge hand Drivers		1	5	5	Tolerable	DM			Ops SMS 1.4 - Management of Working Time Management of Working Time Appendix A - Excess hours Assessment and Authorisation Form. Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers
17	12/02/2015	Updated from V 7	Drivers Work-Detonator Protection	Exploding detonators, Risk of injury from flying fragments.	Major	Staff are trained in the correct distance to stand away from exploding detonators. All drivers are issued with Rule Book and Section B (4.4) applied. Monitoring and assessment included in Summary Assessment examination in accordance with Ops SMS 3.1 (9, 10). Module 4	1	3	3	Negligible		DTE		1	3	3	Negligible	DM			Ops SMS 3.5 - Safety Briefing Train Drivers Appendix A - Record of Briefing Form Appendix B Safety Briefing Key Issues Covered Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form RU-TC-100-V1.2-Day 24 Rule Book Section B (4.4)
18	12/02/2015	Updated from V 7	Drivers Work-Accessing the lineside	Walking along the railway track - Slip, trip or fall.	Insignificant	Drivers receive training and certification in personal track safety in accordance with RU SMS 020 and Summary Assessment in accordance with Ops SMS 3.1 (10.8.3). Drivers are issued with Rule Book and are instructed to go on or near the line side only when absolutely necessary and keep to the cess whenever possible in accordance with Section B. Authorised walking routes covered in annual safety statement briefing. Drivers instructed to wear PPE (High Visibility Vest/Clothing and Safety Footwear) and are monitored in accordance with Ops SMS 3.6 (7) and Ops SMS 3.1 (10). All train drivers receive a copy of Train Driving Competence Standards Booklet and are monitored in relation to the requirements of Unit 1 (1.3A) - personal Track Safety. Module 1 PTS, Module 2, Module 4 & Module 7 (route knowledge)	5	1	5	Tolerable		DTE/Depot Controller/SM/ Station /Traffic Coordinator/ Charge hand Drivers		1	3	3	Negligible	DM			Rule Book Sections A (2) & B (2). Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix I - Assessment Review Tracker. Ops SMS 1.3 - Operational Standard for Safety Monitoring Form 4 - Depot Monitoring. Ops SMS 3.6 (7) - Booking on and off duty and communication of essential information - Trains Drivers. RU SMS 020 - Personal Track Safety PTS TC-0330
19	12/02/2015	Updated from V 7	Drivers Work-Accessing the lineside	Walking along the railway track, being struck by a rail vehicle resulting in major injury or death	Critical	Drivers receive training and certification in personal track safety in accordance with RU SMS 020 and Summary Assessment in accordance with Ops SMS 3.1 (10.8.3). Authorised walking routes covered in annual safety statement briefing. Drivers are issued with Rule Book and are instructed to go on or near the line side only when absolutely necessary and keep to the cess whenever possible in accordance with Section B. Drivers to obtain signal protection when necessary - Rule Book Section H 3.6.10. Drivers instructed to wear PPE (High visibility Vest/Clothing and Safety Footwear) and are monitored in accordance with Ops SMS 3.6 (7) and Ops SMS 3.1 (10). All train drivers receive a copy of Train Driving Competence Standards Booklet and are monitored in relation to the requirements of Unit 1 (1.3A) - personal Track Safety. *Module 1 PTS, Module 2, Module 4 & Module 7 (route knowledge)*	1	4	4	Tolerable		DTE/Depot Controller/SM/ Station /Traffic Coordinator/ Charge hand Drivers		1	4	4	Tolerable	DM			Rule Book Sections A (2) , B (2) , & H (3.6.10) Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix I - Assessment Review Tracker. Ops SMS 1.3 - Operational Standard for Safety Monitoring Form 4 - Depot Monitoring. Ops SMS 3.6 - Booking on and off duty and communication of essential information - Trains Drivers. PTS TC-0330

20	12/02/2015	Updated from V 7	Preparation for duty	Driver under the influence of alcohol / drugs resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision. .	Catastrophic	Drug & Alcohol policy RU SMS 018 is applied. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to personal preparation for duty in accordance with Unit 1 (1.1 C) Drivers monitored booking on duty - Ops.SMS 3.6 (7) and Appendix A Statement Readiness for Duty displayed at booking on points. Drugs and Alcohol testing in place (random and for cause) Chemist on Call Service available to check potential influence and impact of medication. Covered in Modules 1, 2 and 4.	1	5	S	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE/Depot Controller/SM/ Station /Traffic Coordinator/ Charge hand Drivers		1	5	5	Tolerable	DM			RU SMS 018 - Drugs & Alcohol Policy. Ops SMS 3.2- Driver Development and Support System Driver Development and Support System Ops SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Appendix A Statement Readiness for Duty displayed at booking on points. Chemist on Call Service
21	12/02/2015	Updated from V 7	Preparation for duty	Not carrying/wearing approved glasses where required or to abide by restrictions on wearing prescribed corrective glasses and sunglasses. Driver does not correctly recognise signal colour due to glare resulting in SPAD.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to personal preparation for duty in accordance with Unit 1 (1.1 D) and Ops SMS 3.6 (7), Appendix A Statement Readiness for Duty displayed at booking on points and applied. Monitoring in accordance with Ops SMS 3.1(12)	1	5	S	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most	DTE/Depot Controller/SM/ Station /Traffic Coordinator/ Charge hand Drivers		1	5	5	Tolerable	DM			Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Appendix A Statement Readiness for Duty displayed at booking on points. Ops. SMS 3.1 Competence Management Drivers Appendix H - Unannounced Assessment Form
22	12/02/2015	Updated from V 7	Carrying Driver Equipment	Injuries sustained due to poor manual handling technique	Insignificant	Manual Handling Training carried out by a Certified Instructor. Ops. SSoW 9.3 included in Safety Statement which is briefed annually. Railway Undertaking Safety Policy Manual handling and Ergonomic Risk Booklet applied. Monitoring in accordance with Ops SMS 3.1 (9.22 - Continuous Assessment) and reporting structures in place. Module 1 manual handling	3	1	3	Negligible	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the	DTE		1	2	2	Negligible	DM			Ops SSoW 9.3 - Guidelines for Manual Handling I.E. Railway Undertaking Safety Policy Manual handling and Ergonomic Risk Booklet Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form RU-TC-100-V1.2-Day 2
23	12/02/2015	Updated from V 7	Manual Operation of Hand points	Injuries sustained due to poor manual handling technique	Insignificant	Maintenance regime for hand points. Manual Handling Training carried out by a Certified Instructor. Ops. SSoW 9.3 - Manual Handling included in Safety Statement which is briefed annually. Railway Undertaking Safety Policy Manual handling and Ergonomic Risk Booklet applied. Monitoring in accordance with Ops SMS 3.1 (9.22 - Continuous Assessment) and reporting structures in place. Anti-slip surface on points Monitoring in accordance with Ops SMS 3.1 (9.22 - Continuous Assessment) and reporting structures in place. Module 1 manual handling, infrastructure, Module 4 & Module 8	3	1	3	Negligible	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	2	2	Negligible	DM			Ops SSoW 9.3 - Guidelines for Manual Handling Railway Undertaking Safety Policy Manual handling and Ergonomic Risk Booklet applied. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form RU-TC-100-V1.2-Day 2
24	12/02/2015	Updated from V 7	Driver assisting wheelchair passenger on/off train	Injuries sustained due to poor manual handling technique	Insignificant	Manual Handling Training carried out by a Certified Instructor. Ops. SSoW 9.3 - Manual Handling and Ops SSoW 9.12 - Assisting Wheelchair Customers at Stations, are included in Safety Statement which is briefed annually. Railway Undertaking Safety Policy Manual handling and Ergonomic Risk Booklet applied. Monitoring in accordance with Ops SMS 3.1 (9.22 - Continuous Assessment) and reporting structures in place. Monitoring in accordance with Ops SMS 3.1 (9.22 - Continuous Assessment) and reporting structures in place. Module 1 manual handling, infrastructure, Module 4 & Module 8	3	1	3	Negligible	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	2	2	Negligible	DM			Ops SSoW 9.3 - Guidelines for Manual Handling Ops SSoW 9.12 - Assisting Wheelchair Customers at Stations Railway Undertaking Safety Policy Manual handling and Ergonomic Risk Booklet Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form RU-TC-100-V1.2-Day 2
25	12/02/2015	Updated from V 7	Human Factors Attending for Duty	Driver does not attend at the correct time and or for correct duty and is rushing tasks as a consequence resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision. .	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to lifestyle awareness per Unit 1 (1.2 A). Drivers issued with Rule Book and apply Section H, (3.1) Professional Driving Handbook, issued to all drivers the requirements of Managing Lifestyle and personal Issues - Section 1 (Key Principle 3) applied. The requirements of Ops.SMS 3.1 (10, 12) are applied. Drivers must attend timely for duty as scheduled. Drivers rosters arranged to allow sufficient time for reading of notices, train preparation and other tasks. Monitoring in place in accordance with Ops. SMS 3.6. Covered in Module 2 & Module 4.	1	5	S	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE/Depot Controller/SM/ Station /Traffic Coordinator/ Charge hand Drivers		1	5	5	Tolerable	DM			Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form 4 - Depot Monitoring Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Appendix A Statement Readiness for Duty displayed at booking on points.
26	12/02/2015	Updated from V 7	Drivers Booking on Duty	Not booking on in the approved method.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to booking on in accordance with Unit 1, (1.2 B). Professional Driving Handbook, issued to all drivers- Managing Lifestyle and personal Issues - Section 1 (Key Principle 3) applied. The requirements of Ops.SMS 3.6 (7) and Ops SMS 3.1 (12) are applied. Monitoring in place in accordance with Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form 4 and Ops SMS 3.6 (7). Covered in Module 2 & Module 4.	1	5	S	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE/Depot Controller/SM/ Station /Traffic Coordinator/ Charge hand Drivers		1	5	5	Tolerable	DM			Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form 4 - Depot Monitoring Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Appendix A Statement Readiness for Duty displayed at booking on points.
27	12/02/2015	Updated from V 7	Reading Notice Cases	Not reading necessary notice cases and to clarify relevant items resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to reading notice cases in accordance with Unit 1 (1.2 C). The requirements of Ops.SMS 3.6 (9) and Ops SMS 3.1 (12) are applied. Drivers check and read notice cases contents and clarify any items they are unsure about. Monitoring in place in accordance with Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form 4 and Ops SMS 3.6 (7, 9). Covered in Module 2 & Module 4.	1	5	S	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE/Depot Controller/SM/ Station /Traffic Coordinator/ Charge hand Drivers		1	5	5	Tolerable	DM			Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form 4 - Depot Monitoring Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Appendix A Statement Readiness for Duty displayed at booking on points.

28	12/02/2015	Updated from V 7	Carrying required equipment	Not carrying required equipment resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to carrying required equipment in accordance with Unit 1 (1.2D). All Drivers issued with Rule Book, necessary equipment listed in Section H, 4.2. The requirements of Ops.SMS 3.1 - Continuous Assessments applied. Monitoring in place in accordance with Ops SMS 1.9 (6) and Document Review Record / Issue Log maintained	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form 4 - Depot Monitoring Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 1.9 - Issue of Publications and Personal Equipment. Equipment Card Rule Book Section H 4.2.
29	12/02/2015	Updated from V 7	Carrying required publications.	Not carrying required publications therefore not having access to vital data for the safe running of trains resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to carrying required publications in accordance with Unit 1 (1.2 C & D). The requirements of Ops SMS 1.9 - Issue of Publications and Personal Equipment applied. The requirements of Ops.SMS 3.1 - Continuous Assessments and Ops SMS 3.6 (10 - Appendix C, Receipt of Operational Notices) are applied. Safety Briefing Update Days scheduled in accordance with Ops SMS 3.5 (12). Monitoring in place in accordance with Ops SMS 3.6 (6.3). Covered in Module 2 & Module 4.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE/Depot Controller/SM/ Station /Traffic Coordinator/ Charge hand Drivers		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix A - Record of Briefing Form Appendix B - Safety Briefing Key Issues Covered Ops SMS 1.9 - Issue of Publications and Personal Equipment. Ops SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Appendix C - Receipt of Operational Notices
30	12/02/2015	Updated from V 7	Maintaining publications as necessary.	Not amending, updating and maintaining publications as necessary resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to maintaining publications in accordance with Unit 1 (1.2E). The requirements of Ops.SMS 3.1 - Continuous Assessment and Ops SMS 3.6 (10 - Appendix C, Receipt of Operational Notices) applied. Safety Briefing Update Days scheduled in accordance with Ops SMS 3.5 (12). Monitoring in place in accordance with Ops SMS 3.6 (6.3). Covered in Module 2 & Module 4.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the	DTE/Depot Controller/SM/ Station Controller / Traffic Coordinator/ Charge hand Driver		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix A - Record of Briefing Form Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Appendix C - Receipt of Operational Notices
31	12/02/2015	Updated from V 7	Clarification of information	Not clarifying location & formation of train worked and necessary alterations to normal requirements resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to clarifying information in accordance with Unit 1 (1.2F). The requirements of Ops.SMS 3.1 (11), Ops SMS 3.6 (9) and RU SMS 010 applied. Monitoring in place in accordance with Ops SMS 3.5 (6.3.1h) and Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form 4. Covered in Module 2,4 and 8.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE/Depot Controller/SM /Station Controller/ Traffic Coordinator / Charge hand Driver		1	5	5	Tolerable	DM			Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form 4 Ops SMS 3.5 - Safety Briefing Train Drivers Appendix A - Record of Briefing Form Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form RU SMS 010 Safety Critical Communications
32	12/02/2015	Updated from V 7	Personal Track Safety	Not adhering to authorised walking routes with possibility of slip, trip or fall and or being struck by vehicle.	Critical	Drivers receive training and certification in personal track safety in accordance with RU SMS 020 and Summary Assessment in accordance with Ops SMS 3.1 (10.8.3) All train drivers receive a copy of Train Driving Competence Standards Booklet and are monitored in relation to the requirements of Unit 1 (1.3A) - Personal Track Safety. Drivers are issued with Rule Book and are instructed to go on or near the line side only when absolutely necessary and keep to the cess whenever possible in accordance with Section B. Drivers instructed to wear PPE (High visibility Vest/Clothing and Safety Footwear) and are monitored in accordance with Ops SMS 3.6 (7) and Ops SMS 3.1 (10). Authorised walking routes are detailed in the local safety statements and briefed annually. Monitoring in place per Ops SMS 3.1 - Competence Management Drivers Continuous Assessment. Covered in Module 1,2 and 9	1	4	4	Tolerable		DTE/Depot Controller/SM /Station Controller/ Traffic Coordinator / Charge hand Driver		1	4	4	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix A - Record of Briefing Form Appendix B - Safety Briefing Key Issues Covered Rule Book Sections A (2) & B (2). Ops SMS 1.3 - Operational Standard for Safety Monitoring Form 4 - Depot Monitoring. PTS TC-0330
33	12/02/2015	Updated from V 7	Personal Protective Equipment (P.P.E)	Not wearing necessary PPE and maintaining it in good order.	"Catastrophic"	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to PPE in accordance with Unit 1 (1.3 B). The requirements of Ops.SMS 3.1 (9), and RU SMS 1.9 (6) applied. Professional Driving Handbook, Section 1 (Key Principle 3) applies. Monitoring in place in accordance with Ops SMS 1.3 (4, 1.9). *Covered in Module 1*	1	4	4	Tolerable		DTE/Depot Controller/SM/ Station Controller / Traffic Coordinator/ Charge hand Driver		1	4	4	Tolerable	DM			Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form 4 - Depot Monitoring Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Ops SMS 1.9 - issue of Publications and Personal Equipment Professional Driving Handbook, Section 1 (Key Principle 3)
34	12/02/2015	Updated from V 7	Personal Track Safety	Not ensuring personal safety when on or near the line.	Critical	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to personal track safety Unit 1 (1.3 C). Drivers are issued with Rule Book and apply Section A & B. Ops.SMS 3.1(12), and RU SMS 020 applied. Monitoring in place in accordance with Ops SMS 3.1 - Competence Management Drivers Continuous Assessment. Covered in Module 1	1	4	4	Tolerable		DTE/Depot Controller/SM/ Station Controller / Traffic Coordinator/ Charge hand Driver		1	4	4	Tolerable	DM			Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form 4 - Depot Monitoring Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Rule Book Sections A (2) & B (2). RU SMS 020 - Personal Track Safety
35	12/02/2015	Updated from V 7	Complete turn of duty	Not clarifying the requirements for the next turn of duty prior to leaving duty resulting in driver arriving for duty in an unfit condition both physically and psychologically; resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision. .	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to completing their turn of duty in accordance with Unit 1 (1.4 A). The requirements of Ops.SMS 3.1 (12) and Ops SMS 3.6 (8) are applied. Monitoring in place in accordance with Ops SMS 3.6 (7). Covered in Module 2 & 4.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the	DTE/Depot Controller/SM/ Station Controller / Traffic Coordinator/ Charge hand Driver		1	5	5	Tolerable	DM			Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form 4 - Depot Monitoring Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers
36	12/02/2015	Updated from V 7	Complete turn of duty	Not informing the supervisor before leaving duty where there may be insufficient rest period between turns of duty resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision. .	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to personal preparation for duty in accordance with Unit 1 (1.4 B). The requirements of Ops.SMS 3.6 (8) applied. Rosters managed in accordance with Ops SMS 1.4. Monitoring in place in accordance with Ops SMS 3.6 (7). Covered in Module 2	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE/Depot Controller/SM/ Station Controller / Traffic Coordinator/ Charge hand Driver		1	5	5	Tolerable	DM			Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form 4 - Depot Monitoring Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Op SMS 1.4 - Management of Working Time.

37	12/02/2015	Updated from V 7	Complete turn of duty	Not informing supervisor prior to the lapse of route or traction competence resulting in driver travelling over route/unit without sufficient competence.; resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision. .	Catastrophic	Route Knowledge and competence is managed in accordance with requirements of Ops.SMS 3.1 (10.6), Ops SMS 3.3 (9) and Ops SMS1.3 (Form 4). All train drivers receive a copy of the Train Driving Competence Standards Booklet and monitoring is in place in relation to route knowledge Unit 1 (1.4 C). DTEs/ Depot Manager tracking system in place. Covered in Module 2	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the	DTE/Depot Controller/SM/ Station Controller / Traffic Coordinator/ Charge hand Driver		1	5	5	Tolerable	DM			Ops SMS 1.3 - Operational Standard for Safety Monitoring Form 4 - Depot Monitoring Ops SMS 3.3 - Route Knowledge Drivers Route Record Card - Train Drivers Driver Route Refresher Request Form Ops SMS 3.1 - Competence Management Drivers Appendix I - Assessment Review Tracker Appendix D - Assessment Tracker PQA Driver Only Form Appendix E - Assessment Tracker Non PQA Drivers only.
38	12/02/2015	Updated from V 7	Complete turn of duty	Not reporting significant information in writing, using the correct forms prior to leaving duty resulting in operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to the preparation of trains per Unit 1 (1.4 D). The requirements of Ops.SMS 3.6 (8). All drivers are issued with Rule book, and apply Section H (3.6.1). Driver's equipment includes 'Abnormal Occurrence Report Pad' to use to record any incidents. Monitoring in place in accordance with Ops SMS 3.6 (8). Covered in Module 2 & 4	1	5	5	Tolerable		DTE/Depot Controller/SM/ Station Controller / Traffic Coordinator/ Charge hand Driver		1	5	5	Tolerable	DM			Ops SMS 3.5 - Safety Briefing Train Drivers Appendix A - Record of Briefing Form Appendix B - Safety Briefing Key Issues Covered Abnormal Occurrence Report Pad Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Rule Book, Section H (3.6.1).
39	12/02/2015	Updated from V 7	Dealing with sharps	Sharps / Needle stick Injury	Critical	Safe system of work are employed when sharps or needles are encountered - Ops SSoW 9.1 included in Safety Statement briefed annually. Sharps kit available at main stations. Reporting structures in place in accordance with Ops SMS 3.6 (8). Referenced briefly in PTS & in General Appendix briefing	1	4	4	Tolerable		DTE/Depot Controller/SM/ Station Controller / Traffic Coordinator/ Charge hand Driver		1	4	4	Tolerable	DM			Ops SMS 3.5 - Safety Briefing Train Drivers Appendix A - Record of Briefing Form Appendix B - Safety Briefing Key Issues Covered RU SSoW 9.1 - Operations Safe System of Work for persons exposed to needle sticks and sharps.
40	12/02/2015	Updated from V 7	Prepare trains	Not arriving at the train in sufficient time to carry out duties resulting in train entering service prior to correct preparation.; resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision. .	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to the preparation of trains per Unit 2 (2.1B). All drivers are issued with Professional Driving Handbook, Section 1 Key principle 2 'Managing lifestyle and personal issues' applied. Drivers must attend timely for duty as scheduled. Drivers rosters arranged to allow sufficient time for preparation for shift. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment and 12 - performance Monitoring.) Covered in Module 2 & 4.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE/Depot Controller/SM/ Station Controller / Traffic Coordinator/ Charge hand Driver		1	5	5	Tolerable	Dm			Ops SMS 1.3 - Operational Standard for Safety Monitoring Operational Standard for Safety Monitoring Form 4 - Depot Monitoring Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Professional Driving Handbook, Section 1 Key principle 2
41	12/02/2015	Updated from V 7	Prepare trains	Driver begins preparation sequence or moves train whilst other persons are working on unit e.g. Maintenance Staff/Staff fuelling unit.	Catastrophic	CME operate to safe system of work which includes the attachment of "not to be moved" boards on trains on which work is being carried out. Drivers must check units to ensure that there is not any "not to be moved" boards on the unit prior to train preparation/train movement. Instructions on "not to be moved" boards contained in relevant traction manuals. All drivers are issued with Rule Book and apply Section H (2). Training Assessment and Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment). . Covered in Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Rule Book Section H (2) RU-TC-100-V1.2-Day 13
42	12/02/2015	Updated from V 7	Prepare trains	Not preparing trains in accordance with relevant train type instructions resulting in train entering service prior to correct preparation; resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision. .	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to the preparation of trains per Unit 2 (2.1 B). The requirements of Ops.SMS 3.1 (11) are applied. All drivers are issued with Rule Book and apply Section H 3.3. Drivers must ensure correct preparation of train in accordance with train type relevant traction manual. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment). *Covered in Module 4 & 8.*	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Rule Book Section H 3.3 Traction Card
43	12/02/2015	Updated from V 7	Prepare trains	Driver enters or exits cab in an unsafe manner.	Minor	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to the preparation of trains per Unit 2 (2.1 C). All drivers issued with Professional Driving Handbook, Section 1, Key principle 3 - steps and hand rails are utilised - 3 point contact applied. All drivers issued with Manual Handling and Ergonomic Risk Policy. Ops. SSoW 9.3 (Manual Handling) briefed and applied. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment). Covered in Module 4 & 8.	1	2	2	Negligible		DTE		1	2	2	Negligible	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SSoW 9.3 - Guidelines for Manual Handling Railway Undertaking Safety Policy Manual handling and Ergonomic Risk Booklet applied. Professional Driving Handbook, Section 1, Key principle 3
44	12/02/2015	Updated from V 7	Prepare trains	Driver does not check train systems/safety systems and equipment in accordance with procedures resulting in train entering service prior to correct preparation; resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision. .	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to the preparation of trains per Unit 2 (2.1 D). All drivers issued with Professional Driving Handbook, Section 1, Key principle 3 applied. All drivers issued with Rule Book and apply Section H 3.3. Requirements of Ops SMS 3.0 applied in train, and relevant traction manuals. Monitoring and assessment in place in accordance with Ops SMS 3.1 (11). Covered in Module 4 & 8.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Traction Card Professional Driving Handbook, Section 1, Key principle 3 Rule Book, Section H 3.3.
45	12/02/2015	Updated from V 7	Prepare trains	Driver does not carry out required brake test resulting in train entering service prior to correct preparation resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Prepare Trains' in accordance with Unit 2 (2.1 F). All drivers issued with Rule Book and apply H (2) and relevant traction manuals. All drivers issued with Professional Driving Handbook, Section 1, Key principle 3 applied. Monitoring and assessment in place in accordance with Ops 3.1 (11). Covered in Module 4 & 8.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Traction Card Professional Driving Handbook, Section 1, Key principle 3 Rule Book, Section H 2

46	12/02/2015	Updated from V 7	Prepare trains	Driver does not identify / rectify faults within his responsibility resulting in train entering service prior to correct preparation resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Prepare trains in Unit 2 (2.1 G) and 'Respond to Train Faults in accordance with Unit 6 (6.1 C). Requirements of Ops SMS 3.0 applied in training. Relevant traction manuals applied. Monitoring and assessment in place in accordance with Ops 3.1 (11). Covered in Module 4 & 8.	1	5	S	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Traction Card Faults Procedures and Brake Isolations on I.É Rolling Stock booklet Traction Manuals SPK-RU-TC-200-Day 4 SPK-RU-TC-300-Day 4 SPK-RU-TC-400-Day 5 SPK-RU-TC-500-Day 5
47	12/02/2015	Updated from V 7	Prepare trains	Driver does not record and report all equipment irregularities in the appropriate documents resulting in train entering service in an unfit state and Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision. .	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to ' Prepare trains' in accordance with Unit 2 (2.1 H). Driver to complete train set Log Book All Drivers issued with Rule Book and apply Section H 3.6. Ops.SMS 3.6 (8). Requirements of Ops SMS 3.0 applied in training Monitoring and assessment in place in accordance with Ops SMS 3.1 (9 &12) Covered in Module 4.	1	5	S	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B Safety Briefing Key Issues Covered Ops SMS 3.6 - Booking On and Off duty & Communication of Essential Information - Train Drivers. Log Book Rule Book, Section H 3.6. SPK-RU-TC-200-Day 4 SPK-RU-TC-300-Day 4 SPK-RU-TC-400-Day 5 SPK-RU-TC-500-Day 5
48	12/02/2015	Updated from V 7	Prepare trains	Driver does not inform relevant person of train not fit for service resulting in train entering service in an unfit condition ; resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision. .	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Prepare trains' in accordance with Unit 2 (2.1 I). All Drivers issued with Rule Book and apply Section H 3.6. Ops.SMS 3.6 (8) applies. Monitoring and assessment in place in accordance with Ops SMS 3.1 (9 & 12) Covered in Module 4.	1	5	S	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix B - Professional knowledge of rolling stock Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Rule Book, Section H 3.6 Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers
49	12/02/2015	Updated from V 7	Dispose & Immobilise Train	Driver does not dispose of train in the designated location clear of running lines resulting in collision resulting in Operational incident including injury to persons/Derailment/Collision.	"Catastrophic",	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Dispose & Immobilise Trains"' in accordance with unit 2 (2.2 A & B). Ops.SMS 3.3 (8) applied. Briefings in accordance with Ops SMS 3.5 (8.7) and during Simulated assessment biennially. All drivers issued with Professional Driving Handbook, Section 1, Key principle 4 applied. Monitoring and assessment in accordance with Ops.SMS 3.1(11) Covered in Module 4 & 8.	1	5	S	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Professional Driving Handbook, Section 1, Key principle 4
50	12/02/2015	Updated from V 7	Dispose & Immobilise Train	Driver does not dispose of & immobilise train as instructed resulting in runaway and collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Dispose & Immobilise Trains"' in accordance with unit 2 (2.2 A & B). Covered in and Ops.SMS 3.3 (8) Briefings in accordance with Ops SMS 3.5 (8.7) and during Simulated assessment biennially All drivers issued with Professional Driving Handbook, Section 1, Key principle 4 applied. Covered in training in accordance with Ops SMS 3.0. Monitoring and assessment in accordance with Ops.SMS 3.1(11) Covered in Module 4 & 8.	1	5	S	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Professional Driving Handbook, Section 1, Key principle 4 SPK-RU-TC-200-Week 2 SPK-RU-TC-300-Week 2 SPK-RU-TC-400-Week 2 SPK-RU-TC-500-Week 2
51	12/02/2015	Updated from V 7	Dispose & Immobilise Train	Driver does not secure train when leaving cab as instructed resulting in unauthorised access to cab and possible runaway/ illegal movement.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Dispose & Immobilise Trains"' in accordance with unit 2 (2.2 C) All drivers issued with Professional Driving Handbook, Section 1, Key Principle 3 applied. All drivers issued with Rule book and apply Section H 3.7 and relevant traction manuals. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in accordance with Ops.SMS 3.1(11) Covered in Module 4 & 8.	1	5	S	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book, Section H 3.7 Relevant Traction Manuals. Professional Driving Handbook, Section 1, Key Principle 3 SPK-RU-TC-200-Week 2 SPK-RU-TC-300-Week 2 SPK-RU-TC-400-Week 2 SPK-RU-TC-500-Week 2
52	12/02/2015	Updated from V 7	Dispose & Immobilise Train	Driver does not extinguish external lights resulting in distraction of other driver contributing to Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Dispose & Immobilise Trains"' in accordance with unit 2 (2.2 D). All drivers issued with Rule book and apply Section H 3.7 and relevant traction manuals, Briefings carried out in accordance with Ops SMS 3.5. Monitoring and assessment in place in accordance with Ops.SMS 3.1(11). Covered in Module 4 & 8.	1	5	S	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book, Section H 3.7 Relevant Traction Manuals

53	12/02/2015	Updated from V 7	Dispose & Immobilise Train	Driver does not shut down diesel engines in accordance with instruction resulting in continuous exposure to fumes	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Dispose & Immobilise Trains"' in accordance with unit 2(2.2 I). Training in accordance with Ops SMS 3.0 applied and relevant traction manuals. Briefings carried out in accordance with Ops SMS 3.5. Monitoring and assessment in accordance with Ops.SMS 3.1 Covered in Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Relevant Traction Manuals SPK-RU-TC-200-Week 2 SPK-RU-TC-300-Week 2 SPK-RU-TC-400-Week 2 SPK-RU-TC-500-Week 2
54	12/02/2015	Updated from V 7	Drive & Shunt Trains in Depots / Siding	Driver does not reach a clear understanding with relevant staff prior to any movement taking place resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision. .	Insignificant	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive and shunt trains in depots/sidings" in accordance with unit 3 (3.1 A). Requirements of RU SMS 010 applied. All drivers issued with Professional Driving Handbook, Section 1, Key Principle 4 applied. Random communication downloads taken and assessed by DTEs and feedback provided to Drivers. Monitoring and assessment in place in accordance with Ops.SMS 3.1 (12). Covered in Module 4 & 8.	4	1	4	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form RU SMS 010 - Safety Critical Communications Appendix A - SCC Assessment Sheet Professional Driving Handbook, Section 1, Key Principle 4
55	12/02/2015	Updated from V 7	Drive & Shunt Trains in Depots / Siding	Driver does not respond to Verbal instructions / Approved hand signals / Radio or fixed signals resulting in SPAD, derailment or collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive and shunt trains in depots/sidings" in accordance with unit 3 (3.1 B). Requirements of RU SMS 010 applied. All drivers issued with Rule Book and apply Section J (3.1). All drivers issued with Professional Driving Handbook, Section 1, Key Principle 4 applied. . Requirements of Ops SMS 3.0 - Driver Training Appendix A (4) applied in training.. Monitoring and assessment in place in accordance with Ops.SMS 3.1 (9). Covered in Module 4 & 8.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form RU SMS 010 - Safety Critical Communications Appendix A - SCC Assessment Sheet Professional Driving Handbook, Section 1, Key Principle 4 Rule Book, Section J 3.1. RU-TC-100-V1.2-Day 22
56	12/02/2015	Updated from V 7	Drive & Shunt Trains in Depots / Siding	Driver does not drive from leading cab resulting in SPAD, derailment or collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive and shunt trains in depots/sidings" in accordance with unit 3 (3.1 C). The requirements of Ops.SMS 3.1(11) applied. All drivers issued with Rule Book and apply Section H 2.9. All drivers issued with Professional Driving Handbook, Section 1, Key Principle 4 applied. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops SMS 3.1 (11). Covered in Module 4 & 8.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book, Section H 2.9. Professional Driving Handbook, Section 1, Key Principle 4 RU-TC-100-V1.2-Day 22
57	12/02/2015	Updated from V 7	Drive & Shunt Trains in Depots / Siding	Driver does not control train in line with requirements resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision. .	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive and shunt trains in depots/sidings" in accordance with unit 3 (3.1 D). Requirements of Ops.SMS 3.1 (11.3) and . Ops.SMS 3.6 (7) applied All drivers are issued with Professional Driving Handbook, Section 1, Key Principle 4 applied. Requirements of Ops SMS 3.0 applied in training. Requirements of Ops SMS 7.0 applied in relation to downloads Monitoring and assessment in place in accordance with Ops SMS 3.1 (11) and Ops SMS 7.0 - Train Data Recorders & Speed checking of trains. Covered in Module 4 & 8.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form Professional Driving Handbook, Section 1, Key Principle 4. RU-TC-100-V1.2-Day 22
58	12/02/2015	Updated from V 7	Drive & Shunt Trains in Depots / Siding	Driver does not drive in accordance with rail head conditions resulting in SPAD, derailment or collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive and shunt trains in depots/sidings' in accordance with Unit 3 (3.1 E) and 'Operating Trains under degraded conditions" in accordance with Unit 7 (7.1). Requirements of Ops.SMS 3.1 (9.2.2), Ops.SMS 3.3, and Ops.SMS 3.6 (9) applied. All drivers are issued with Professional Driving Handbook, Section 1, Key Principle 5 applied Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops SMS 3.1 (12). Requirements of RU Op 21 applied. Promotion of Defensive Driver concept. Covered in Module 4 & 8.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains, Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form Ru Op 21 - Winter Readiness Professional Driving Handbook, Section 1, Key Principle 5. RU-TC-100-V1.2-Day 22
59	12/02/2015	Updated from V 7	Drive & Shunt Trains in Depots / Siding	Driver does not check all facing points & derailers before passing over them resulting in SPAD, derailment or collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive and shunt trains in depots/sidings" in accordance with unit 3 (3.1 F). Requirements of Ops.SMS 3.1(9) and Ops.SMS 3.3 (6, 8) applied. All drivers issued with Professional Driving Handbook, Section 1, Key Principle 4 applied. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops. SMS 3.1 (9.2.2). Covered in Module 4 & 8.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Professional Driving Handbook, Section 1, Key Principle 4 RU-TC-100-V1.2-Day 22

60	12/02/2015	Updated from V 7	Drive & Shunt Trains in Depots / Siding	Driver does not operate hand point safely / correctly resulting in derailment or collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive and shunt trains in depots/sidings" in accordance with unit 3 (3.1 G). Principals of manual handling are applied. Ops. SSoW 9.3 available in Safety Statement which is briefed to all staff annually. Briefings carried out in accordance with Ops SMS 3.5. Anti-slip surface on points Monitoring in accordance with Ops SMS 3.1 (9.22 - Continuous Assessment) and reporting structures in place. Covered in Modules 1, 2, 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SSoW 9.3 - Guidelines for Manual Handling. I.E. Railway Undertaking Safety Policy Manual handling and Ergonomic Risk Booklet
61	12/02/2015	Updated from V 7	Drive & Shunt Trains in Depots / Siding	Driver does not control train in accordance with route knowledge i.e. entering sheds & approaching buffer stops ,& washes resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive and shunt trains in depots/sidings" in accordance with unit 3 (3.1 H). Requirements of Ops.SMS 3.1 (9) and Ops.SMS 3.3 applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops. SMS 3.1 (9). Nexala monitoring and reporting system in place for 22000 fleet. ATP provided on DART. Promotion of Defensive Driver concept. Covered in Module 4, 6 & 8.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form Professional Driving Handbook, Section 1 Key Principle 4 Nexala RU-TC-100-V1.2-Day 22
62	12/02/2015	Updated from V 7	Drive & Shunt Trains in Depots / Siding	Driver does not control train within speed limits resulting in SPAD, derailment or collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive and shunt trains in depots/sidings" in accordance with unit 3 (3.1 I). Requirements of Ops.SMS 3.1(12) applied. Ops.SMS 3.3 and Ops.SMS 3.6 (9) applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops. SMS 3.1 (12.2) Random downloads and speed checks monitoring carried out Ops SMS 7.0 ATP provided on DART. Promotion of Defensive Driver concept. Module 4 & 8.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Ops SMS 3.6 - Booking on and off duty & Communication of essential information - Trains Drivers. Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form Professional Driving Handbook, Section 1 Key Principle 4 RU-TC-100-V1.2-Day 22
63	12/02/2015	Updated from V 7	Drive & Shunt Trains in Depots / Siding	Driver does not stop immediately if sight of shunter is lost resulting in SPAD, derailment or collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive and shunt trains in depots/sidings" in accordance with unit 3 (3.1 J). All drivers issued with Rule Book and apply Section J (3.1.2) and Professional Driving Handbook, Section 1 Key Principle 4. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops SMS 3.1 (12.3). Module 4 & 8.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Rule Book Section J (3.1.2). Professional Driving Handbook, Section 1, Key Principle 4. RU-TC-100-V1.2-Day 22
64	12/02/2015	Updated from V 7	Drive & Shunt Trains in Depots / Siding	Driver does not change ends in accordance with procedures resulting in runaway.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive and shunt trains at depots/sidings" in accordance with unit 3 (3.1 C). All drivers issued with Rule Book and apply Section H (2.9) and Professional Driving Handbook, Section 1 Key Principle 4. Relevant traction manuals and Ops SMS 3.1 (9) applied. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops. SMS 3.1 (9) Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Rule Book, Section H (2.9). Relevant Traction Manuals Professional Driving Handbook, Section 1, Key Principle 4 RU-TC-100-V1.2-Day 22
65	12/02/2015	Updated from V 7	Coupling & Uncoupling trains from the Cab	Driver does not reach a clear understanding with all relevant staff resulting in collision or entrapment.	Critical	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive and shunt trains in depots/sidings" in accordance with unit 3 (3.1 A). Requirements of RU SMS 010 applied., All drivers issued with Rule Book and apply Section J (3.1.1) and Professional Driving Handbook, Section 1 Key Principle 4. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops.SMS 3.1 (12). Module 4 & 8.	1	4	4	Tolerable		DTE		1	4	4	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form RU SMS 010 - Safety Critical Communications Rule Book, Section j (3.1.1). Relevant Traction Manuals Professional Driving Handbook, Section 1, Key Principle 4 RU-TC-300-V1-Day 10 RU-TC-200-V1-Day 10 RU-TC-400-V1-Week 2 RU-TC-500-V1-Week 2

66	12/02/2015	Updated from V 7	Coupling & Uncoupling trains	Driver does not stop the appropriate distance from other trains before coupling resulting in collision or entrapment.	Critical	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Couple and uncouple trains from the cab" in accordance with unit 3 (3.2 B). All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 and relevant traction manuals applied. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops.SMS 3.1 (11). *Module 4 & 8.*	1	4	4	Tolerable		DTE		1	4	4	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Relevant Traction Manuals Professional Driving Handbook, Section 1, Key Principle 4 RU-TC-300-V1-Day 10 RU-TC-200-V1-Day 10 RU-TC-400-V1-Week 2 RU-TC-500-V1-Week 2
67	12/02/2015	Updated from V 7	Coupling & Uncoupling trains from the Cab	Driver does not ensure train is secured before coupling / uncoupling resulting in runaway.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Couple and uncouple trains from the cab" in accordance with unit 3 (3.2 C). All drivers issued with Professional Driving Handbook, Section 1, Key Principle 4 and relevant traction manuals applied. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops.SMS 3.1 (11.3.1 d). Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Relevant Traction Manuals Professional Driving Handbook, Section 1, Key Principle 4 RU-TC-300-V1-Day 10 RU-TC-200-V1-Day 10 RU-TC-400-V1-Week 2 RU-TC-500-V1-Week 2
68	12/02/2015	Updated from V 7	Coupling & Uncoupling trains from the Cab	Driver does not apply emergency brake before shunter goes between vehicles resulting in entrapment.	Critical	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Couple and uncouple trains from the cab" in accordance with unit 3 (3.2 D). All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 and relevant traction manuals applied. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops.SMS 3.1 (11.3), Module 8.	1	4	4	Tolerable		DTE		1	4	4	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Relevant Traction Manuals Professional Driving Handbook, Section 1, Key Principle 4 RU-TC-300-V1-Day 10 RU-TC-200-V1-Day 10 RU-TC-400-V1-Week 2 RU-TC-500-V1-Week 2
69	12/02/2015	Updated from V 7	Coupling & Uncoupling trains from the Cab	Driver does not ensure coupling and connection block covers are in position and not damaged resulting in train divide and collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Couple and uncouple trains from the cab" in accordance with unit 3 (3.2 E). All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied Relevant traction manuals applied. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops.SMS 3.1 (11.3), Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Relevant Traction Manuals Professional Driving Handbook, Section 1, Key Principle 4 RU-TC-300-V1-Day 10 RU-TC-200-V1-Day 10 RU-TC-400-V1-Week 2 RU-TC-500-V1-Week 2
70	12/02/2015	Updated from V 7	Coupling & Uncoupling trains from the Cab	Driver does not ensure coupling and brake connection are correctly made in accordance with train type resulting in train divide and collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Couple and uncouple trains from the cab" in accordance with unit 3 (3.2 G). All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied Relevant traction manuals applied. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops.SMS 3.1 (11.3), Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Relevant Traction Manuals Professional Driving Handbook, Section 1, Key Principle 4 RU-TC-300-V1-Day 10 RU-TC-200-V1-Day 10 RU-TC-400-V1-Week 2 RU-TC-500-V1-Week 2
71	12/02/2015	Updated from V 7	Coupling & Uncoupling trains from the Cab	Driver does not carry out a pull away test where applicable resulting in train divide & collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Couple and uncouple trains from the cab" in accordance with unit 3 (3.2 H). All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied Relevant traction manuals applied. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops.SMS 3.1 (11.3), Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Relevant Traction Manuals Professional Driving Handbook, Section 1, Key Principle 4 RU-TC-300-V1-Day 10 RU-TC-200-V1-Day 10 RU-TC-400-V1-Week 2 RU-TC-500-V1-Week 2
72	12/02/2015	Updated from V 7	Coupling & Uncoupling trains from the Cab	Equipment left foul of the running line resulting in collision/derailment.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive & Shunting at Depots" in accordance with unit 3 (3.1 H). Adequate lighting are provided in daylight and darkness in yard sidings and sheds. Shunter to check route before authorising the driver to proceed. Driver required to drive train on sight, being able to stop short of any obstruction. All drivers issued with Professional Driving Handbook, Section 1, Key Principle 4 applied. Effective storage provided for equipment Monitoring and assessment in place in accordance with Ops.SMS 3.1 (11.3), Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 1, Key Principle 4

73	12/02/2015	Updated from V 7	Coupling & Uncoupling trains from the Cab	Driver begins preparation sequence or moves train whilst other persons are working on unit e.g. Maintenance Staff/Staff fuelling unit.	Catastrophic	CME operate to safe system of work which includes the attachment of "not to be moved" boards on trains on which work is being carried out. Drivers must check units to ensure that there is not any "not to be moved" boards on the unit prior to train preparation/train movement. Instructions on "not to be moved" boards contained in relevant traction manuals. All drivers are issued with Rule Book and apply Section H (2). Training Assessment and Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment). . Covered in Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book Section H (2) RU-TC-300-V1-Day 10 RU-TC-200-V1-Day 10 RU-TC-400-V1-Week 2 RU-TC-500-V1-Week 2
74	12/02/2015	Updated from V 7	Mobilise & start train	Driver does not set up cab in accordance with train instructions resulting in train entering service in unfit condition contributing to Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Mobilise and start trains" in accordance with unit 4 (4.1 B). All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 and relevant traction manuals applied.. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops. SMS 3.1 (11.3). ATP provided on DART. CAWS provided on running line. Module 4 , 7 & 8.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Relevant Traction Manuals Professional Driving Handbook, Section 1, Key Principle 4 SPK-RU-TC-200-Week 2 SPK-RU-TC-300-Week 2 SPK-RU-TC-400-Week 2 SPK-RU-TC-500-Week 2
75	12/02/2015	Updated from V 7	Mobilise & start train	Driver does not set up cab radio & PIS resulting in failure to make necessary communication in an emergency.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Mobilise and start trains" in accordance with unit 4 (4.1 C). All drivers issued with Professional Driving Handbook, Section 1 Key Principle 3 and relevant traction manuals applied. Requirements of Ops SMS 3.0 applied in training. Briefings given in accordance with Ops. SMS 3.5. Monitoring and assessment in place in accordance with Ops.SMS 3.1 (9) Random downloads taken from trains in accordance with Ops SMS 7.0. Module 4, 7 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Relevant Traction Manuals Professional Driving Handbook, Section 1, Key Principle 3. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form SPK-RU-TC-200-Week 2 SPK-RU-TC-300-Week 2 SPK-RU-TC-400-Week 2 SPK-RU-TC-500-Week 2
76	12/02/2015	Updated from V 7	Mobilise & start train	Driver does not apply sufficient brakes to ensure train does not move resulting in Operational incident including injury to persons or overspeed leading to SPAD/Derailment/Collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Mobilise and start trains" in accordance with unit 4 (4.1 D) Requirements of Ops.SMS 3.1 (12) applied All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 and relevant traction manuals applied. Briefings carried out in accordance with Ops. SMS 3.5. Training, monitoring and assessment in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment). ATP provided on DART. CAWS provided on running line. *Module 4 & 8.*	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Relevant Traction Manuals Professional Driving Handbook, Section 1, Key Principle 4. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form SPK-RU-TC-200-Week 2 SPK-RU-TC-300-Week 2 SPK-RU-TC-400-Week 2 SPK-RU-TC-500-Week 2
77	12/02/2015	Updated from V 7	Train dispatch (at staffed stations)	Driver closes doors before receiving "station work complete signal" resulting in person(s) entrapment.	Major	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Mobilise and Start Trains" in accordance with unit 4 (4.1 H) All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Requirements of RU SSoW 9.9 applied. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops.SMS 3.1 (12) Random downloads taken from train in accordance with Ops. SMS 7.0 Module 4	1	3	3	Negligible		DTE		1	3	3	Negligible	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form Professional Driving Handbook, Section 1, Key Principle 4. RU SMS 9.9 -Guidelines for Local Arrangements for Train Dispatch RU-TC-100-V1.2-Day 22+Day 23
78	12/02/2015	Updated from V 7	Train dispatch (at staffed stations)	Driver does not await the "train ready to start" signal resulting in person(s) falling between train and platform.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Mobilise and Start Trains" in accordance with unit 4 (4.1 H) All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Requirements of RU SSoW 9.9 applied. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops.SMS 3.1 (12) Random downloads taken from train in accordance with Ops. SMS 7.0. Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form Professional Driving Handbook, Section 1, Key Principle 4. RU SMS 9.9 - Guidelines for Local Arrangements for Train Dispatch RU-TC-100-V1.2-Day 22+Day 23
79	12/02/2015	Updated from V 7	Train dispatch (at staffed stations)	Driver misreads hand signals resulting in operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Mobilise and Start Trains" in accordance with unit 4 (4.1 H) All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops.SMS 3.1 (12) CAWS provided on running line. Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 1, Key Principle 4. RU-TC-100-V1.2-Day 22+Day 23
80	12/02/2015	Updated from V 7	Train dispatch (at all stations)	Driver does not respond appropriately to emergency indication while departing platform. e.g. "emergency stop" hand signal, emergency cord activation, emergency stop message on train radio, general call, pass/com activation, etc.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Mobilise and Start Trains" in accordance with unit 4 (4.1 J & N) All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 and Requirements of RU SMS 010 applied. Monitoring in place in accordance with Ops.SMS 3.1 (9.2.3), Random downloads taken from train in accordance with Ops. SMS 7.0. Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form RU SMS 010 - Safety Critical Communications Appendix 1 - SCC Assessment Sheet. Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form Professional Driving Handbook, Section 1, Key Principle 4.

81	12/02/2015	Updated from V 7	Train dispatch (at all stations)	Train doors left open during train dispatch resulting in person(s) falling from train.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Mobilise and Start Trains" in accordance with unit 4 (4.1 I) All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. RU SSoW 9.5 -Departing Unstaffed Platforms (unmanned platforms) / RU SSoW 9.9 (Local Train Dispatch) applied. Door interlock systems are provided preventing traction power being obtained until door interlocking is achieved ("blue light"). Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops.SMS 3.1. Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form RU SSoW 9.5 -Departing Unstaffed Platforms (unmanned platforms) RU SMS 9.9 (Local Train Dispatch). Professional Driving Handbook, Section 1 Key Principle 4 RU-TC-100-V1.2-Day 22+Day 23
82	12/02/2015	Updated from V 7	Train departing unstaffed Platform (DO Operation)	Train doors left open resulting in person falling from the train	Critical	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Mobilise and Start Trains" in accordance with unit 4 (4.1 I) All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4, and RU SSoW 9.5 - Departing Unstaffed Platforms (unmanned platforms) / RU SSoW 9.9 (Local Train Dispatch) applied. Briefings carried out in accordance with Ops SMS 3.5. Door interlock systems are provided preventing traction power being obtained until door interlocking is achieved ("blue light"). If door interlock system fails, failsafe door closure will occur when train exceeds 7KPH. Requirements of Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops.SMS 3.1. Module 4	1	4	4	Tolerable		DTE		1	4	4	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU SSoW 9.5 - Departing Unstaffed Platforms (unmanned platforms) / RU SSoW 9.9 - Local Train Dispatch Professional Driving Handbook, Section 1 Key Principle 4 RU-TC-100-V1.2-Day 22+Day 23
83	12/02/2015	Updated from V 7	Train departing unstaffed Platform (DO Operation)	Passenger rushing to join train falls between train and platform	Insignificant	All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied Ops SSoW 9.5 Departing Unstaffed Platforms (unmanned platforms) / RU SSoW 9.9 (Local Train Dispatch) applied. On board CCTV. Yellow & White line on platform, signage at station and station announcements. Requirements of Ops SMS 3.0 applied in training. Briefings carried out in accordance with Ops SMS 3.5. Monitoring and assessment in place in accordance with Ops SMS 3.1 . Module 4	3	1	3	Negligible		DTE/SM/ Station Controller/ Traffic Coordinator/ PIC		1	4	4	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Professional Driving Handbook, Section 1 Key Principle 4 RU-TC-100-V1.2-Day 22+Day 23
84	12/02/2015	Updated from V 7	Train departing unstaffed Platform (DO Operation)	Passengers acting in a foolhardy manner or under the influence alcohol/drugs falls between train and platform	Insignificant	All drivers issued with Professional Driving Handbook, Section 2 Page 80 applied Ops SSoW 9.5 (unmanned platforms) / RU SSoW 9.9 (Local Train Dispatch) applied. On board CCTV. Yellow & White line on platform, signage at station and station announcements. Requirements of Ops SMS 3.0 applied in training. Briefings carried out in accordance with Ops SMS 3.5. Monitoring and assessment in accordance with Ops.SMS 3.1 (12) Module 4	3	1	3	Negligible		DTE/SM/ Station Controller/ Traffic Coordinator/ PIC		1	4	4	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU SSoW 9.5 - Departing Unstaffed Platforms (unmanned platforms) / RU SSoW 9.9 (Local Train Dispatch) Professional Driving Handbook, Section 2 Page 80 RU-TC-100-V1.2-Day 22+Day 23
85	12/02/2015	Updated from V 7	Train departing unstaffed Platform (DO Operation)	DOO Monitor/Mirror Defective preventing driver viewing train doors.	Critical	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Mobilise and Start Trains" in accordance with unit 4 (4.1 H & I). All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 and Ops SSoW 9.5 Departing Unstaffed Platforms applied. Ops SMS 3.0 applied in training. Monitoring and assessment in place in accordance with Ops SMS 3.1 (12). Drivers report faults to CTC. Monitors are designed and maintained in accordance with SET Telecommunications standards I-Tel 3610, Issue 2.0, Requirements of Driver Only Operated (DOO) CCTV System. I-TEL-3612, Iss.2.0, Maintenance for Driver Only Operated (DOO) CCTV System. Inspection of monitors occurs as per scheduled six monthly check. Camera cleaning and maintenance regimes ensure risk mitigation against poor visibility Module 4	1	4	4	Tolerable		DTE		1	4	4	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4 Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SSoW 9.5 -Departing Unstaffed Platforms I-Tel 3610, Issue 2.0, Requirements of Driver Only Operated (DOO) CCTV System. I-TEL-3612, Iss.2.0, Maintenance for Driver Only Operated (DOO) CCTV System. RU-TC-100-V1.2-Day 22+Day 23
86	12/02/2015	Updated from V 7	Train departing unstaffed Platform (DO Operation)	Driver departing platform in degraded/unusual conditions e.g. reversible working	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Mobilise and start trains' Unit 4 (4.1 F & L) and 'Operating trains under degraded conditions" in accordance with unit 7 (7.1 A, B, C, D) Ops SSoW 9.5 - Departing Unstaffed Platforms applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 5 applied. Requirements of Ops SMS 3.0 applied in training. Briefings carried out in accordance with Ops SMS 3.5 Random downloads taken from trains in accordance with Ops SMS 7.0. Monitoring and assessment in place in accordance with Ops.SMS 3.1 (9). Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 5. RU SSoW 9.5 - Departing Unstaffed Platforms Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form RU-TC-100-V1.2-Day 22+Day 23
87	12/02/2015	Updated from V 7	Train dispatch	Driver does not ensure procedures are followed to dispatch train worked by guard.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Mobilise and Start Trains" in accordance with unit 4 (4.1 J). All drivers issued with Rule Book and apply Section H 3.4.1 and Professional Driving Handbook, Section 1 Key Principle 4. Requirements of Ops SMS 3.0 applied in training. Monitoring in place in accordance with Ops.SMS 3.1 (12). Module 4 & 8 as appropriate	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Rule book Section H (3.4.1). Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form RU-TC-100-V1.2-Day 22+Day 23

88	12/02/2015	Updated from V 7	Train dispatch	Driver does not ensure correct signal and route is indicated prior to moving resulting in SPAD, derailment or collision.	Insignificant	Driver Reminder Appliance in place on diesel fleets ATP provided on DART (electric fleets) Drivers trained in non technical skills / human factors / error protection techniques during initial training. Rule Book Section H All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Mobilise and Start Trains" in accordance with unit 4 (4.1 K). Requirements of Ops.SMS 3.3- Route Knowledge, RU SSoW 9.5 -Departing Unstaffed Platforms and Professional Driving Handbook, Section 1 Key Principle 4 applied. Requirements of Ops SMS 3.0 applied in training. Briefings carried out in accordance with Ops. SMS 3.5. Monitoring and assessment in place in accordance with Ops.SMS 3.1 (9). CAWS provided on running line. Modules 4 , 6, 7 & 8	4	1	4	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. RU SSoW 9.5 - Departing Unstaffed Platforms Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.3 - Route Knowledge Drivers Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Ops. SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU-TC-100-V1.2-Day 22+Day 23
89	12/02/2015	Updated from V 7	Start train	Driver does not pay extra attention when starting against a cautionary signal resulting in SPAD, derailment or collision.	Insignificant	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Mobilise and Start Trains" in accordance with unit 4 (4.1 M). Requirements of Ops.SMS 3.3 - Route Knowledge applied. All drivers are issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Requirements of Ops SMs 3.0 applied in training. Briefings carried out in accordance with Ops. SMS 3.5. Monitoring and assessment in place in accordance with Ops SMS 3.1 (9). ATP provided on DART. CAWS provided on running line. Driver Reminder Application in place on diesel fleets Modules 4 , 6, 7 & 8	4	1	4	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. RU SSoW 9.5 - Departing Unstaffed Platforms Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.3 - Route Knowledge Drivers Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Ops. SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU-TC-100-V1.2-Day 28+Day 29 HF/NTS/Error Prevention RU-TC-100-V1.2-Day 21+Day 24 SPAD awareness
90	12/02/2015	Updated from V 7	Stop train at signals	Driver engages in unnecessary action which may cause distractions when braking resulting in SPAD derailment or collision	Critical	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Stop trains at signals" in accordance with unit 4 (4.2 A). All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Safety Briefing and Updated Days scheduled in accordance with Ops SMS 3.5 applied. Monitoring in place in accordance with Ops SMS 3.1 (9). ATP provided on DART. CAWS provided on running line. Module 2,3,4 & 6.	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. RU SSoW 9.5 - Departing Unstaffed Platforms Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops. SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU-TC-100-V1.2-Day 28+Day 29 HF/NTS/Error Prevention RU-TC-100-V1.2-Day 21+Day 24 SPAD awareness
91	12/02/2015	Updated from V 7	Stop train at signals	Driver does not to respond to the first cautionary signal resulting in SPAD derailment or collision.	Critical	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Stop trains at signals" in accordance with unit 4 (4.2 B). Requirements of Ops.SMS 3.3 applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied and Simulated assessment every two years. Safety Briefing and Updated Days scheduled in accordance with Ops SMS 3.5 applied. Monitoring and assessment in place in accordance with Ops SMS 3.1 (9). ATP provided on DART. CAWS provided on running line. Module 2,3,4 & 6.	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form RU-TC-100-V1.2-Day 28+Day 29 HF/NTS/Error Prevention RU-TC-100-V1.2-Day 21+Day 24 SPAD awareness
92	12/02/2015	Updated from V 7	Stop train at signals	Driver does not adjust approach to any signal not normally stopped at when it is showing a red aspect resulting in SPAD, derailment or collision.	Minor	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Stop trains at signals" in accordance with unit 4 (4.2 C). Requirements of Ops.SMS 3.3 applied All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied and Simulated assessment biennially. Safety Briefing and Updated Days scheduled in accordance with Ops SMS 3.5 applied. Monitoring and assessment in place in accordance with Ops SMS 3.1 (9). ATP provided on DART. CAWS provided on running line, Module 2,3,4 & 6.	4	2	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form RU-TC-100-V1.2-Day 28+Day 29 HF/NTS/Error Prevention RU-TC-100-V1.2-Day 21+Day 24 SPAD awareness
93	12/02/2015	Updated from V 7	Stop train at signals	Driver does not allow sufficient braking distance during low rail adhesion resulting in SPAD, overspeed, infra damage, derailment or collision.	Critical	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Stop trains at signals" in accordance with unit 4 (4.2 G). Requirements of Ops.SMS 3.3 applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 5 and Briefings in accordance with Ops SMS 3.5 applied. Requirements of RU SMS 21 applied. Low rail adhesion briefing document given annually to drivers. Low rail adhesion forecasts issued and posted at booking on points in accordance with Ops SMS 3.6 (7). Sandite trains and gel applicators in identified risk areas. New trains are fitted with WSP equipment and some are fitted with WSP applied sanding to improve levels of adhesion. Relevant traction manuals applied. Vegetation management in place. Monitoring in place in accordance with Ops SMS 3.1 (9). ATP provided on DART. CAWS provided on running line, Module 2,4 & 6.	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Ops SMS 21 - Winter Readiness Relevant Traction Manuals. RU-TC-100-V1.2-Day 28+Day 29 HF/NTS/Error Prevention RU-TC-100-V1.2-Day 21+Day 24 SPAD awareness

94	12/02/2015	Updated from V 7	Stop train at signals	Driver does not respond to single yellow signal and fails to target fix location of red resulting in or collision.	Critical	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Stop trains at signals" in accordance with unit 4 (4.2 E). Requirements of Ops.SMS 3.3 applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied, and Simulator assessment biennially. Briefing carried out in accordance with Ops. SMS 3.5. Monitoring and assessment in place in accordance with Ops SMS 3.1 (9). ATP provided on DART. CAWS provided on running line, *Module 4,7 & 8.*	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.3 - Route Knowledge Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU-TC-100-V1.2-Day 28+Day 29 HF/NTS/Error Prevention RU-TC-100-V1.2-Day 21+Day 24 SPAD awareness
95	12/02/2015	Updated from V 7	Stop train at signals	Driver does not adhere to the 15 x 20 rule or 10 x 20 rule resulting in SPAD, derailment or collision.	Catastrophic	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Stop trains at signals" in accordance with unit 4 (4.2 H). Requirements of Ops.SMS 3.3 applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. In accordance with Ops. SMS 3.5 - Low rail adhesion briefing document given annually to drivers. Low Rail Adhesion Forecasts posted in Late Notice Cases in accordance with Ops SMS 3.6 (7). Monitoring in place in accordance with Ops SMS 3.1 (11). ATP provided on DART. CAWS provided on running line, Module 4 & 7.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Booking on and off duty & communication of essential information - Train Drivers.
96	12/02/2015	Updated from V 7	Stop train at signals	Driver stops train at position that does not provides a clear view of signal for starting away resulting in SAS SPAD.	Critical	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Stop trains at signals" in accordance with unit 4 (4.2 I). Route Knowledge training Ops.SMS 3.3 applied. All train drivers are issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings carried out in accordance with Ops SMS 3.5. Monitoring in place in accordance with Ops SMS 3.1 (9). Random downloads taken from trains in accordance with Ops SMS 7.0. ATP provided on DART. Driver Reminder Application in place on diesel fleets Module 4 & 7	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form RU-TC-100-V1.2-Day 28+Day 29 HF/NTS/Error Prevention RU-TC-100-V1.2-Day 21+Day 24 SPAD awareness
97	12/02/2015	Updated from V 7	Stop train at signals	Driver does not apply sufficient brakes when leaving the cab resulting in runaway resulting in SPAD, derailment or collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Stop trains at Signals' in accordance with Unit 4 (4.2 J). Requirements of Ops.SMS 3.1 (11), Ops.SMS 3.3 and relevant traction manuals applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment). ATP provided on DART. CAWS provided on running line, Module 4,7 & 8.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form Relevant Traction Manuals
98	12/02/2015	Updated from V 7	Stop train at signals	Driver does not reduce speed as necessary during times of poor visibility resulting in over-speed infrastructure damage, SPAD, derailment or collision.	Critical	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Stop trains at Signals' in accordance with Unit 4 (4.2 K). Requirements of Ops.SMS 3.1 (11), Ops.SMS 3.3 and relevant traction manuals applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 5 applied. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment). Promotion of Defensive Driver concept. CAWS provided on running line, Module 4	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 5. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Ops SMS 21 - Winter Readiness Relevant Traction Manuals. RU-TC-100-V1.2-Day 28+Day 29 HF/NTS/Error Prevention RU-TC-100-V1.2-Day 21+Day 24 SPAD awareness
99	12/02/2015	Updated from V 7	Stop train at signals	Driver does not take appropriate action for ATP zero speed command resulting in SPAD, derailment or collision	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Stop trains at Signals' in accordance with Unit 4 (4.2 L). Requirements of Ops. SMS 3.1 (11), Ops. SMS 3.3 and relevant traction manuals applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment). ATP provided on DART. Promotion of Defensive Driver concept. Module 4 & 7	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Relevant Traction Manuals.

100	12/02/2015	Updated from V 7	Driving trains	Driver does not apply necessary restrictions in relation to cab access - limits of authority - cab passes resulting in distraction, SPAD and serious operational incident.	Critical	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in accordance with Unit 3. Requirements of Ops.SMS 3.1 (9) applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 3 applied. Briefings carried out in accordance with Ops SMS 3.5. The issue of traction unit cab passes is strictly controlled. Module 2,3,4,7,& 8.	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 3. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU-TC-100-V1.2-Day 28+Day 29
101	12/02/2015	Updated from V 7	Driving trains	Driver does not control train in responses to CAWS/ATP downgrades resulting in SPAD, derailment or collision.	Minor	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive trains' in accordance with Unit 4 (4.3 C). Requirements of Ops.SMS 3.1 (11). All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Random downloads taken from trains in accordance with Ops SMS 7.0. Promotion of defensive driving concept. Module 4	4	2	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form RU-TC-100-V1.2-Day 28+Day 29
102	12/02/2015	Updated from V 7	Driving trains	Driver does not maintain cab discipline and concentration resulting in SPAD, derailment or collision.	Minor	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive trains' in accordance with Unit 4 (4.3 D). Requirements and monitoring in accordance with Ops.SMS 3.1 (9) applied. RU SMS 3.0 applied in training. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 3 applied Safety Briefing Update Days carried out in accordance with Ops SMS 3.5. ATP provided on DART. CAWS provided on running line, Module 4	4	2	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 3. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU-TC-100-V1.2-Day 28+Day 29
103	12/02/2015	Updated from V 7	Driving trains	Driver does not adhere to speed restrictions resulting in Overspeed or SPAD causing derailment or collision.	Critical	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive trains' in accordance with Unit 4 (4.3 E). All drivers issued with Rule Book and apply Section H 3.5.2. Requirements of Ops.SMS 3.1 (9), Ops. SMS 3.6 (9), and Ops.SMS 7.0 All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Ops SMS 3.5 applied for briefings. Promotion of Defensive Driver concept. ATP provided on DART. CAWS provided on running line, Module 4 & 7	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form Rule Book Section H 3.5.2. RU-TC-100-V1.2-Day 28+Day 29
104	12/02/2015	Updated from V 7	Driving trains	Driver does not answer routine cab radio calls in a safe manner resulting in SPAD, derailment or collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive trains' in accordance with Unit 4 (4.3 F). Requirements of Ops.SMS 3.1 (12) and RU SMS 010 applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Continuous assessment in accordance with Ops SM 3.1 (12) applied. ATP provided on DART. CAWS provided on running line, Module 4 & 7.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form RU SMS 010 - Safety Critical Communications Appendix 1 - SCC Assessment Sheet
105	12/02/2015	Updated from V 7	Driving trains	Driver does not carry out routine running brake tests to confirm brakes are operating as required resulting in overspeed leading to SPAD, Collision	Critical	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive trains' in accordance with Unit 4 (4.3 G). Requirements of Ops.SMS 3.1 (9), and Ops.SMS 3.3 All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Ops SMS 3.5 applied for briefings. Module 4 & 8	1	4	4	Tolerable		PSM		1	4	4	Tolerable	DRU			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form RU-TC-100-V1.2-Day 28+Day 29
106	12/02/2015	Updated from V 7	Driving trains	Driver does not use horn to warn staff on or about the track.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive trains' in accordance with Unit 4 (4.3 H). All drivers issued with Rule Book and apply Section H 3.5.5. Requirements of Ops.SMS 3.1 (9), and Ops.SMS 3.3 applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Ops SMS 3.5 applied for briefings. Random downloads taken from trains in accordance with Ops SMS 7.0. ATP provided on DART. Module 4 & 8	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4 Rule Book, Section H (3.5.5.). Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form

107	12/02/2015	Updated from V 7	Driving trains	Driver does not report events which may effect his or other trains resulting in SPAD, derailment or collision.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive trains' in accordance with Unit 4 (4.3 I). Requirements of Ops.SMS 3.1 (11), Ops.SMS 2.5 (7.1.3) and Ops SMS 3.5 applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 3 applied. All drivers issued with Rule Book and apply Section H 3.6. ATP provided on DART. Module 4	2	5	10	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		2	5	10	Undesirable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 3. Ops SMS 2.5 - Accident and Near Miss/Close Call Procedures. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Rule Book Section H (3.6).
108	12/02/2015	Updated from V 7	Driving trains	Driver does not observe the line ahead for hazards that may result in a collision or derailment.	Catastrophic	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive trains' in accordance with Unit 4 (4.3 J) Requirements of Ops.SMS 3.1 (11), and Ops SMS 3.3 applied. All drivers issued with Rule Book and apply Section H 3.6. Promotion of Defensive Driver concept. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous assessment).. Module 4 & 8	2	5	10	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		2	5	10	Undesirable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form RU-TC-100-V1.2-Day 28+Day 29
109	12/02/2015	Updated from V 7	Driving trains	Driver does not respond to unusual noise or observations that may result in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive trains' in accordance with Unit 4 (4.3 K). Requirements of Ops.SMS 3.1 (9) applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. Promotion of Defensive Driver concept. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous assessment). Module 4	2	5	10	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		2	5	10	Undesirable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered
110	12/02/2015	Updated from V 7	Driving trains	Driver does not control locomotive hauled trains/ Light locomotives of different formations in accordance with instructions resulting in SPAD, overspeed, derailment or collision.	Critical	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive trains' in accordance with Unit 4 (4.3 L). Requirements of Ops.SMS 3.1 (11), and Ops SMS 3.3, and relevant traction manuals applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. Promotion of Defensive Driver concept. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous assessment). Module 4 & 8	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form RU-TC-100-V1.2-Day 28+Day 29
111	12/02/2015	Updated from V 7	Drive and Stop trains at stations	Driver does not stop at designated stopping point resulting in inadequate train dispatch and operating incident.	Catastrophic	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive trains' in accordance with Unit 4 (4.3 K). Requirements of Ops.SMS 3.1 (9) and Ops SMS 3.3 applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. Promotion of Defensive Driver concept. Safe system of work in place for train dispatch Ops SSoW 9.5. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous assessment). Module 6 & 9	2	5	10	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		2	5	10	Undesirable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form RU SSoW 9.5 - Departing Unstaffed Platforms. RU-TC-100-V1.2-Day 28+Day 29
112	12/02/2015	Updated from V 7	Drive and Stop trains at stations	Driver does not adhere to terminal platforms speed resulting in collision	Critical	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive and stop trains at stations' in accordance with Unit 4 (4.4 A). Requirements of Ops.SMS 3.1 (12.3d) applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Requirements of Ops SMS 3.3 applied. ATP in place for EMU's. Promotion of Defensive Driver concept. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous assessment). CAWS provided on running line, Module 4 & 6	1	4	4	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DM		1	4	4	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form RU-TC-100-V1.2-Day 28+Day 29

113	12/02/2015	Updated from V 7	Drive and Stop trains at stations	Wrong side door enablement resulting in persons falling onto per way.	Insignificant	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Drive and stop trains at stations' in accordance with Unit 4 (4.4 D). Requirements of Ops.SMS 3.1 (12) and Ops SMS 3.3 applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous assessment). *Module 4, 6 & 9*	4	1	4	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form RU-TC-100-V1.2-Day 28+Day 29
114	12/02/2015	Updated from V 7	Changing ends and handover train in service	Driver does not change ends in accordance with instruction (2.2C)	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Changing ends and handover trains in service' in accordance with Unit 4 (4.5 A). Requirements of Ops.SMS 3.1 (11) and Ops SMS 3.3 applied. All drivers issued with Rule book and apply Section H 2.9. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous assessment). Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Appendix F - Practical Assessment Evidence Form Rule Book Section H (2.9).
115	12/02/2015	Updated from V 7	Changing ends and handover train in service	Driver does not check front / Rear lights and destination indicators resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Changing ends and handover trains in service' in accordance with Unit 4 (4.5 C). Requirements of Ops.SMS 3.1 (11) and Ops SMS 3.3 applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. All drivers issued with Rule Book and apply Section H 2.2 & 3.3.3. Briefings carried out in accordance with Ops SMS 3.5. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous assessment). Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Rule book, Section H (2.2 & 3.3.3)
116	12/02/2015	Updated from V 7	Changing ends and handover train in service	Driver does not apply sufficient brake to hold train when at a stand (2.2B)	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Changing ends and handover trains in service' in accordance with Unit 4 (4.5 D). Requirements of Ops.SMS 3.1 (11) and Ops SMS 3.3 applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings carried out in accordance with Ops SMS 3.5. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous assessment). ATP provided on DART. Module 4	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form
117	12/02/2015	Updated from V 7	Changing ends and handover train in service	Driver does not identify the relieving driver as the correct person to take charge of the train	Catastrophic	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Changing ends and handover trains in services" in accordance with unit 4 (4.5 F). All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings carried out in accordance with Ops SMS 3.5. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous assessment). Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 1 Key Principle 4 Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU-TC-100-V1.2-Day 28+Day 29
118	12/02/2015	Updated from V 7	Changing ends and handover train in service	Driver does not pass on relevant information to relieving driver.	Catastrophic	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Changing ends and handover trains in services" in accordance with unit 4 (4.5 G). All drivers issued with Rule Book and apply Section H 3.7.3. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous assessment). Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 1 Key Principle 4. Rule Book, Section H (3.7.3) Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU-TC-100-V1.2-Day 28+Day 29
119	12/02/2015	Updated from V 7	Conducting other Driver	Driver does not clarify and agree roles and responsibilities of all involved resulting in serious operational incident.	Catastrophic	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operating trains in service - Conduct other drivers" in accordance with unit 4 (4.6 A). Requirements of Ops.SMS 3.1 (14) applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings carried out in accordance with Ops SMS 3.5. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment. ATP provided on DART. CAWS provided on running line, Module 4	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Appendix J - Lead Driver Assessment Form Professional Driving Handbook , Section 1 Key Principle 4. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU-TC-100-V1.2-Day 28+Day 29

120	12/02/2015	Updated from V 7	Conducting other Driver	Driver does not explain appropriate safety equipment and operational controls resulting in serious operational incident.	Catastrophic	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operate trains in service - Conduct other drivers" in accordance with unit 4 (4.6 B). All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Requirements of Ops SMS 3.1 (11) applied. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous assessment). ATP provided on DART. Module 4	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Appendix J - Lead Driver Assessment Form Professional Driving Handbook , Section 1 Key Principle 4. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU-TC-100-V1.2-Day 28+Day 29
121	12/02/2015	Updated from V 7	Conducting other Driver	Driver does not clarify train characteristics and risks so sufficient notice of braking and other operational requirement can be given resulting in serious operational incident.	Catastrophic	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operating trains in service - Conduct other drivers " in accordance with unit 4 (4.6 C). Requirements of Ops.SMS 3.1 (14) applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings and assessment in accordance with Ops SMS 3.5 & 3.1 (10.5 SBUD). Monitoring in place in accordance with Ops 3.1 (9- Continuous Assessment). ATP provided on DART. CAWS provided on running line, Module 4	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Appendix J - Lead Driver Assessment Form Professional Driving Handbook , Section 1 Key Principle 4. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU-TC-100-V1.2-Day 28+Day 29
122	12/02/2015	Updated from V 7	Conducting other Driver	Conductor Driver does not communicate with driver to ensure all route risks and characteristics are understood resulting in serious operational incident.	Catastrophic	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operating trains in service - Conduct other drivers" in accordance with unit 4 (4.6 D). Requirements of Ops.SMS 3.1 (14) applied. All drivers issued with Professional Driving Handbook Section 1 Key Principle 4 applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.5 SBUD) and Ops SMS 3.5. Requirements of RU SMS 010 applied. Monitoring in place in accordance with Ops 3.1 (9- Continuous Assessment). ATP provided on DART. CAWS provided on running line, Module 4	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Appendix J - Lead Driver Assessment Form Professional Driving Handbook , Section 1 Key Principle 4. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU SMS 010 - Safety Critical Communications Safety Critical Communications Safety Critical Communications. RU-TC-100-V1.2-Day 28+Day 29
123	12/02/2015	Updated from V 7	Conducting other Driver	Driver does not clarify and confirm details before moving in response to special instructions and unusual moves resulting in serious operational incident.	Catastrophic	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operating trains in service - Conduct other drivers" in accordance with unit 4 (4.6 E). Requirements of Ops.SMS 3.1 (14) and , RU SMS 010 applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 5 applies. Briefings and assessment in accordance with Ops SMS 3.1 (10.5 SBUD) and Ops SMS 3.5. Monitoring in place in accordance with Ops 3.1 (9- Continuous Assessment). ATP provided on DART. CAWS provided on running line, Module 4	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Appendix J - Lead Driver Assessment Form Professional Driving Handbook , Section 1 Key Principle 5. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU SMS 010 - Safety Critical Communications Safety Critical Communications. RU-TC-100-V1.2-Day 28+Day 29
124	12/02/2015	Updated from V 7	Conducting other Driver	Conductor Driver does not take appropriate action if the driver fails to respond to instructions resulting in serious operational incident.	Catastrophic	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operating trains in service - Conduct other drivers" in accordance with unit 4 (4.6 F). Requirements of Ops.SMS 3.1 (14) and , RU SMS 010 applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 5 applies. Briefings and assessment in accordance with Ops SMS 3.1 (10.5 SBUD) and Ops SMS 3.5. Monitoring in place in accordance with Ops 3.1 (9- Continuous Assessment). ATP provided on DART. CAWS provided on running line, Module 4	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook , Section 1 Key Principle 5. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU SMS 010 - Safety Critical Communications Safety Critical Communications. RU-TC-100-V1.2-Day 28+Day 29
125	12/02/2015	Updated from V 7	Conducting other Driver	Conductor Driver does not advise driver when going through complex areas or unusual signalling sequences resulting in serious operational incident.	Catastrophic	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operating trains in service - Conduct other drivers" in accordance with unit 4 (4.6 E). Requirements of Ops.SMS 3.1 (14) and, RU SMS 010 applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 5 applies. Briefings and assessment in accordance with Ops SMS 3.1 (10.5 SBUD), and Ops SMS 3.5. Monitoring in place in accordance with Ops 3.1 (9- Continuous Assessment). ATP provided on DART. CAWS provided on running line, Module 4	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook , Section 1 Key Principle 5. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU SMS 010 - Safety Critical Communications Safety Critical Communications. RU-TC-100-V1.2-Day 28+Day 29

126	12/02/2015	Updated from V 7	Working trains in NIR infrastructure	Driver does not control speed to prevent TPWS brake demands resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operating trains in service - Working of trains on NIR Infrastructure" in accordance with unit 4 (4.7 A). Requirements of Ops.SMS 3.1 and Ops.SMS 3.3 applied, All drivers issued with Professional Driving Handbook, Section 3, (page 85) applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.5 SBUD), and Ops SMS 3.5. Monitoring in place in accordance with Ops 3.1 (9- Continuous Assessment). Random downloads taken from trains in accordance with Ops SMS 7.0. Promotion of Defensive Driver concept. Connolly only issue; covered during local training by DTE's.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 3. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form
127	12/02/2015	Updated from V 7	Working trains in NIR infrastructure	Driver does not avoid braking demands by stopping over AWS/TPWS equipment resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operating trains in service - Working of trains on NIR Infrastructure" in accordance with unit 4 (4.7 A). Requirements of Ops.SMS 3.1 and Ops.SMS 3.3 applied, All drivers issued with Professional Driving Handbook, Section 3, (page 85) applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.5 SBUD) and Ops SMS 3.5. Monitoring in place in accordance with Ops 3.1 (9- Continuous Assessment). Random downloads taken from trains in accordance with Ops SMS 7.0. Promotion of Defensive Driver concept. Connolly only issue; covered during local training by DTE's.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 3. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form
128	12/02/2015	Updated from V 7	Working trains in NIR infrastructure	Driver does not stop/ respond appropriately to TPWS/AWS failures resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operating trains in service - Working of trains on NIR Infrastructure" in accordance with unit 4 (4.7 C). Requirements of Ops.SMS 3.1 and Ops.SMS 3.3 applied, All drivers issued with Professional Driving Handbook, Section 3, (page 85) applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.5 SBUD) and Ops SMS 3.5. Monitoring in place in accordance with Ops 3.1 (9- Continuous Assessment). Random downloads taken from trains in accordance with Ops SMS 7.0. Promotion of Defensive Driver concept. Connolly only issue; covered during local training by DTE's.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 3. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form
129	12/02/2015	Updated from V 7	Working trains in NIR infrastructure	Driver does not ensure TPWS override is operated correctly when passing signals at danger with authority resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operating trains in service - Working of trains on NIR Infrastructure" in accordance with unit 4 (4.7 D). Requirements of Ops.SMS 3.1 and Ops.SMS 3.3 applied, All drivers issued with Professional Driving Handbook, Section 3, (page 85) applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.5 SBUD) and Ops SMS 3.5. Random downloads taken from trains in accordance with Ops SMS 7.0. Monitoring in place in accordance with Ops 3.1 (9- Continuous Assessment). Promotion of Defensive Driver concept. Connolly only issue; covered during local training by DTE's.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 3. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form
130	12/02/2015	Updated from V 7	Working trains in NIR infrastructure	Driver does not ensure TPWS is isolated during degraded operations resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operating trains in service - Working of trains on NIR Infrastructure" in accordance with unit 4 (4.7 E). Requirements of Ops.SMS 3.1 and Ops.SMS 3.3 applied, All drivers issued with Professional Driving Handbook, Section 3, (page 85) applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.5 SBUD) and Ops SMS 3.5. Random downloads taken from trains in accordance with Ops SMS 7.0. Monitoring in place in accordance with Ops 3.1 (9- Continuous Assessment). Connolly only issue; covered during local training by DTE's.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 3. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form
131	12/02/2015	Updated from V 7	Working trains in NIR infrastructure	Driver does not engage DRA when detained at a stop signal or at any time when leaving the cab resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operating trains in service - Working of trains on NIR Infrastructure" in accordance with unit 4 (4.7 F). Requirements of Ops.SMS 3.1 and Ops.SMS 3.3 applied, All drivers issued with Professional Driving Handbook, Section 3, (page 85) applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.5 SBUD) and Ops SMS 3.5. Random downloads taken from trains in accordance with Ops SMS 7.0. Monitoring in place in accordance with Ops 3.1 (9- Continuous Assessment). Connolly only issue; covered during local training by DTE's. CAWS provided on running line,	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 3. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form

132	12/02/2015	Updated from V 7	Working of Freight trains	Driver does not ensure train is marshalled correctly resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Working of freight trains" in accordance with unit 4 (4.8 A). Requirements of Ops.SMS 3.1 (11) applied. All drivers issued with Rule Book and apply Section H 2.2. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.5 SBUD). Monitoring in place in accordance with Ops 3.1 (9- Continuous Assessment). Module 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 1, Key Principle 4. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form
133	12/02/2015	Updated from V 7	Working of Freight trains	Driver does not ensure train is within weight load resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Working of freight trains" in accordance with unit 4 (4.8 B). Requirements of Ops.SMS 3.1 (11) applied. All drivers issued with Rule Book and apply Section H 2.2. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.5 SBUD) and Ops SMS 3.5. Monitoring in place in accordance with Ops 3.1 (9- Continuous Assessment). Module 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 1, Key Principle 4. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book, Section H (2.2)
134	12/02/2015	Updated from V 7	Working of Freight trains	Driver does not maintain correct speed resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Working of freight trains" in accordance with unit 4 (4.8 C). Requirements of Ops.SMS 3.1 (11) applied. All drivers issued with Rule Book and apply Section H 2.2. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. All drivers receive Working Timetable - speeds/train consist listed. Briefings and assessment in accordance with Ops SMS 3.1 (10.5 SBUD) and Ops SMS 3.5. Random downloads taken from trains in accordance with Ops SMS 7.0. Monitoring in place in accordance with Ops 3.1 (9- Continuous Assessment). CAWS provided on running line, Module 8.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 1, Key Principle 4. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book, Section H 2.2. Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form Working Timetable.
135	12/02/2015	Updated from V 7	Working of Freight trains	Driver does not drive with regard to characteristics of the train resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Working of freight trains" in accordance with unit 4 (4.8 D). Requirements of Ops.SMS 3.1 (11) applied. All drivers issued with Rule Book and apply Section H 2.2. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. All drivers receive Working Timetable - speeds/train consist listed. Briefings and assessment in accordance with Ops SMS 3.1 (10.5 SBUD) and Ops SMS 3.5. Random downloads taken from trains in accordance with Ops SMS 7.0. Monitoring in place in accordance with Ops 3.1 (9- Continuous Assessment). Covered in Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 1, Key Principle 4. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book, Section H 2.2. Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form Working Timetable.
136	12/02/2015	Updated from V 7	Working of Freight trains	Driver does not drive so as to limit stress on couplings resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Working of freight trains" in accordance with unit 4 (4.8 E). Requirements of Ops.SMS 3.1 (11) applied. All drivers issued with Rule Book and apply Section H 2.2. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.5 SBUD) and Ops SMS 3.5. Random downloads taken from trains in accordance with Ops SMS 7.0. Monitoring in place in accordance with Ops 3.1 (9- Continuous Assessment). Covered in Module 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 1, Key Principle 4. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book, Section H 2.2. Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form
137	12/02/2015	Updated from V 7	Working of Freight trains	Driver does not take action following a emergency brake application resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Working of freight trains" in accordance with unit 4 (4.8 D). Requirements of Ops.SMS 3.1 (11) applied. All drivers issued with Rule Book and apply Section H 2.2. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.5 SBUD) and Ops SMS 3.5. Monitoring in place in accordance with Ops 3.1 (9- Continuous Assessment). Covered in Module 8	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Appendix J - Lead Driver Assessment Form Professional Driving Handbook , Section 1 Key Principle 4. Rule Book, Section H (2.2) Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered

138	12/02/2015	Updated from V 7	Driving trains	On-line Fatalities / Incidents Post-Traumatic Stress	Minor	Procedures in place to relieve Driver from duty immediately in accordance with Ops SMS 2.1 (7) and Emergency Response Handbook,, Confidential Counselling Service Available detailed on Safety Notice Boards and in the Safety Statement. Chief Medical Officer advised of all major incidents and consultations arranged. Back to work Programme implemented for each staff member in accordance with Ops SMS 3.2 (7 & 8). Drivers observed booking on/off duty in accordance with Ops SMS 3.6 (7). Monitoring in place in accordance with Ops SMS 3.1 (10) Module 2	1	2	2	Negligible		DTE/Depot Controller/SM/ Station Controller / Traffic Coordinator/ Charge hand Driver		1	2	2	Negligible	DM/CMO			Emergency Response Handbook. Ops SMS 3.2 Driver Development and Support System. Appendix C - Development Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form
139	12/02/2015	Updated from V 7	Train Driving	Missiles thrown at train	Insignificant	Impact Resistant Windscreens fitted to all rolling stock. Toughened glass used on all rolling stock. Drivers briefed to report any trespassers on or near the railway line PWD attend area where trespass/stone throwing has been reported. Covered in Module 2	5	1	5	Tolerable		DTE		1	2	2	Negligible	DM			
140	12/02/2015	Updated from V 7	Train Driving	Exposure to Ultra Violet Rays.	Minor	Personnel issue of Sun Glasses to Locomotive Drivers as approved by C.M.O. and detailed in RU Op 02. Clothing/uniforms provides protection. Sun visors fitted to locos / cabs. Reporting structures in place. Covered in Module 4	1	2	2	Negligible				1	2	2	Negligible	DM			RU OP 02 Issuing of Prescription and Non Prescription Sunglasses for Train Drivers
141	12/02/2015	Updated from V 7	Train Driving	Driving cab ergonomics	Minor	Principles of ergonomic design applied to rolling stock. Reporting structures in place. All drivers issued with Professional Driving Handbook, Section 1, Key Principle 3 applied. Railway Undertaking Safety Policy Manual Handling and Ergonomic Risk Booklet applied. Covered in Module 4 & 8.	1	2	2	Negligible		DTE		1	2	2	Negligible	DM			Professional Driving Handbook, Section 1, Key Principle 3. Railway Undertaking Safety Policy Manual handling and Ergonomic Risk Booklet
142	12/02/2015	Updated from V 7	Train Driving	Exposure to Noise levels above 85 D.B. For prolonged period.	Minor	Noise suppression fitted to existing rolling stock. Hearing protection available to all train drivers. Occupational Audiometric Surveillance Programme in place with routine audiometry test conducted as part of Level 1 Medical Standard under the terms of Departmental-SMS-004 Policy & Principles for Selection, Training, Competence and Fitness and the 2007/59/EC European Train Driver Licence Directive Article 16'. Independent Noise Survey conducted 2017 and indicates that hearing protection must not exceed an attenuation of 20 SNR Personal issue of P.P.E. to Locomotive Drivers. (Ear Protection). The specification for loco drivers is for moulded ear plugs with a noise attenuation of 17 decibels or less. All locomotive drivers who are required to wear moulded ear plugs are required to undergo a hearing test by the medical department before commencing wearing them; this is to ensure that the attenuation provided by the ear moulded plugs does not impair their hearing to the detriment of their performance as a locomotive driver. Specialist Company contracted to measurer and supply moulded ear plugs. Hearing protection approved to EN352-1 or EN352-2 standards or equivalent. Alternative non moulded hearing protection PPE available through SAP and provided to train drivers as necessary. Alpha Sota L1 Defence SNR 19dB, 3M E-A-R Ultrafit 20 Ear plugs SNR 20dB, 3M Clear E-A-R 20 Ear plugs SNR 20dB Correct use of PPE included in SBUD Briefings. Notice posted in relevant H&S notice boards at drivers booking on/off points with guideline on how to use Non-moulded type PPE. Correct use and monitoring of Locomotive Drivers using P.P.E in accordance with Ops SMS 3.1 (9) and Ops SMS 3.6 (7). Reporting structures in place. Module 4 & 8	1	2	2	Negligible		DTE/Depot Controller/SM/ Station Controller / Traffic Coordinator/ Charge hand Driver		1	2	2	Negligible	DM			RU SMS 004 Policy and Principles for Selection, Training, Competence and Fitness of Safety Critical Staff Ops SMS. 3.6 - Booking on and off duty & communication of essential information - Train Drivers. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form R-7799-RGM-MI_Occupation noise assessment IE Train Drivers Issue 1. Hearing protection must be approved to EN352-1 or EN352-2 standards or equivalent.
143	12/02/2015	Updated from V 7	Train Driving through automatic wash facility.	Windows not secured resulting in exposure to detergents.	Minor	Requirements of Ops 3.0 applied in Driver Training. All train drivers issued with Train Driving Competence Standards Booklet and are monitored in relation to "drive and shunt trains in depots/sidings in Unit 3 (3.1 K). Local route risk assessments applied.	1	2	2	Negligible		DTE		1	2	2	Negligible	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure SPK-RU-TC-200-Week 2 SPK-RU-TC-300-Week 2 SPK-RU-TC-400-Week 2 SPK-RU-TC-500-Week 2
144	12/02/2015	Updated from V 7	Communicate safety related information by use of in-cab and lines side equipment	Driver does not operate in-cab and lines side phones correctly resulting in serious operational incident.	Catastrophic	Requirements of Ops.SMS 3.1 (12) and RU SMS 010 applied. All drivers issued with Rule Book and apply Section A (3), All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.4, 10.5) and Ops SM 3.5. Monitoring in place in accordance with Ops 3.1 (10.5). Module 2 & 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook , Section 1 Key Principle 4. RU SMS 010 - Safety Critical Communications Rule Book, Section A (3). Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered

145	12/02/2015	Updated from V 7	Communicate safety related information by use of in cab and lines side equipment	Driver does not commence an emergency call with the phrase "this is an emergency call" resulting in emergency situation escalating.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Communicate Safety related information by use of in cab and line side equipment" in accordance with unit 5 (5.1 B) Requirements of Ops.SMS 3.1 (12) and RU SMS 010 applied. All drivers issued with Rule Book and apply Section A (3), All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.4, 10.5) and Ops SM 3.5. Monitoring in place in accordance with Ops 3.1 (10.5). Module 2 & 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook , Section 1 Key Principle 4. RU SMS 010 - Safety Critical Communications Rule Book, Section A (3). Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered
146	12/02/2015	Updated from V 7	Communicate safety related information by use of in cab and lines side equipment	Driver does not ensure the correct person or department is contacted resulting in confusion and serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Communicate Safety related information by use of in cab and line side equipment" in accordance with unit 5 (5.1 C). Requirements of Ops.SMS 3.1 (12) and RU SMS 010 applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.4, 10.5) and Ops SM 3.5. Monitoring in place in accordance with Ops 3.1 (10.5). Module 2 & 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook , Section 1 Key Principle 4. RU SMS 010 - Safety Critical Communications Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered
147	12/02/2015	Updated from V 7	Communicate safety related information by use of in cab and lines side equipment	Driver does not establish reason for communication resulting in confusion and serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Communicate Safety related information by use of in cab and line side equipment" in accordance with unit 5 (5.1 D) Requirements of Ops.SMS 3.1 (12) and RU SMS 010 applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.4, 10.5) and Ops SM 3.5. Monitoring in place in accordance with Ops 3.1 (10.5). Module 2 & 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook , Section 1 Key Principle 4. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU SMS 010 - Safety Critical Communications Appendix 1 - SCC Assessment Sheet
148	12/02/2015	Updated from V 7	Communicate safety related information by use of in cab and lines side equipment	Driver does not relay information in an accurate, clear, brief manner resulting in confusion and serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Communicate Safety related information by use of in cab and line side equipment" in accordance with unit 5 (5.1 E). Requirements of Ops.SMS 3.1 (12) and RU SMS 010 applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.4, 10.5) and Ops SMs 3.5. Monitoring in place in accordance with Ops 3.1 (10.4). Module 2 & 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook , Section 1 Key Principle 4. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU SMS 010 - Safety Critical Communications Appendix 1 - SCC Assessment Sheet
149	12/02/2015	Updated from V 7	Communicate safety related information by use of in cab and lines side equipment	Driver does not ensure message is understood by repeating back massage resulting in confusion and serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Communicate Safety related information by use of in cab and line side equipment" in accordance with unit 5 (5.1 F). Requirements of Ops.SMS 3.1 (12) and RU SMS 010 applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. Random downloads taken and assessed by DTEs and feedback given to drivers. Briefings and assessment in accordance with Ops SMS 3.1 (10.4, 10.5) and Ops SMS 3.5. Monitoring in place in accordance with Ops 3.1 (10.5). Module 2 & 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook , Section 1 Key Principle 4. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU SMS 010 - Safety Critical Communications Appendix 1 - SCC Assessment Sheet Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form
150	12/02/2015	Updated from V 7	Communicate safety related information by use of in cab and lines side equipment	Driver does not use phonetic alphabet as required resulting in confusion and serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Communicate Safety related information by use of in cab and line side equipment" in accordance with unit 5 (5.1 G). Requirements of Ops.SMS 3.1 (12) and RU SMS 010 applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.4) - random downloads taken and assessed by DTEs and feedback given to drivers. Monitoring in place in accordance with Ops 3.1 (10.5). Module 2 & 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook , Section 1 Key Principle 4. RU SMS 010 - Safety Critical Communications Appendix 1 - SCC Assessment Sheet

151	12/02/2015	Updated from V 7	Communicate safety related information by use of in cab and lines side equipment	Driver does not use correct phrases when communicating resulting in confusion and serious operational incident	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Communicate Safety related information by use of in cab and line side equipment" in accordance with unit 5 (5.1 H). Requirements of Ops.SMS 3.1 (12) and RU SMS 010 applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.4) - random downloads taken and assessed by DTEs and feedback given to drivers. Monitoring in place in accordance with Ops 3.1 (10.5). Module 2 & 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook , Section 1 Key Principle 4. RU SMS 010 - Safety Critical Communications Appendix 1 - SCC Assessment Sheet
152	12/02/2015	Updated from V 7	Communicate safety related information by use of in cab and lines side equipment	Driver does not ensure understanding before terminating the communication resulting in confusion and serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Communicate Safety related information by use of in cab and line side equipment" in accordance with unit 5 (5.1 I). Requirements of Ops.SMS 3.1 (12) and RU SMS 010 applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings and assessment in accordance with Ops SMS 3.1 (10.4) - random downloads taken and assessed by DTEs and feedback given to drivers. Monitoring in place in accordance with Ops 3.1 (10.5). Module 2 & 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook , Section 1 Key Principle 4. RU SMS 010 - Safety Critical Communications Appendix 1 - SCC Assessment Sheet
153	12/02/2015	Updated from V 7	Communicate safety related information by use of in cab and lines side equipment	Driver does not switch off personal mobile phone when on the footplate resulting in distraction and serious operational incident.	Catastrophic	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Communicate Safety related information by use of in cab and line side equipment" in accordance with unit 5 (5.1 J). Requirements of Ops.SMS 3.1 (10) and RU SMS 010 applied. RU Mobile Device Policy issued. All drivers issued with Professional Driving Handbook, Section 1, Key Principle 4 applied. Monitoring in place in accordance with Ops SMS 3.1 (10). Module 2,3, 4,6,7,8 & 9	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form. RU Mobile Device Policy. RU SMS 010 - Safety Critical Communications Professional Driving Handbook, Section 1, Key Principle 4 RU-TC-100-V1.2-Day 28+Day 29 HF/NTS/Error Prevention
154	12/02/2015	Updated from V 7	Identify and rectify faults	Driver does not stop train in a convenient position and advise controlling signaller.	Critical	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Identify and rectify faults" in accordance with unit 6 (6.1 A). Requirements of Ops.SMS 3.1 (11), and Ops.SMS 3.3 applied. All drivers issued with Rule Book and apply Section H 3.6.4. Briefings carried out in accordance with Ops SMS 3.5 (8.7) and Simulated assessment biennially. Covered in Module 4 & 8.	1	4	4	Tolerable		DTE		1	4	4	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Rule Book, Section H (3.6.4)
155	12/02/2015	Updated from V 7	Identify and rectify faults	Driver does not ensure correct procedure is followed when requiring to work on the outside of the train.	Critical	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Identify and rectify faults" in accordance with unit 6 (6.1 B). Requirements of Ops.SMS 3.1 (11) and Ops.SMS 3.3 applied. All drivers issued with Rule Book and apply Section H 3.6.10. Briefings carried out in accordance with Ops SMS 3.5 (8.7). Covered in Module 4 & 8.	1	4	4	Tolerable		DTE		1	4	4	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Rule Book, Section H (3.6.10)
156	12/02/2015	Updated from V 7	Identify and rectify faults	Driver does not identify and rectify fault within his own responsibility resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Identify and rectify faults" in accordance with unit 6 (6.1 C). Requirements of Ops SMS 3.0 applied in training, and relevant traction manuals applied. Requirements of Ops.SMS 3.1 (11) and Ops.SMS 3.3 applied. Briefings carried out in accordance with Ops SMS 3.5 (8.7). Covered in Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops SMS 3.3 - Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form Faults Procedures and Brake Isolations on I.É Rolling Stock booklet . Relevant Traction Manuals. SPK-RU-TC-200-V1-Week 3+Week 4 SPK-RU-TC-300-V1-Week 3+Week 4 SPK-RU-TC-400-V1-Week 3 SPK-RU-TC-400-V1-Week 3

157	12/02/2015	Updated from V 7	Identify and rectify faults	Driver does not seek advice to identify and rectify faults resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Identify and rectify faults" in accordance with unit 6 (6.1 D). Requirements of Ops SMS 3.0 applied in training, Requirements of Ops.SMS 3.1 (11) and relevant traction manuals applied. Briefings carried out in accordance with Ops SMS 3.5 (8.7). Covered in Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Faults Procedures and Brake Isolations on I.É Rolling Stock booklet . Relevant Traction Manuals. SPK-RU-TC-200-V1-Week 3+Week 4 SPK-RU-TC-300-V1-Week 3+Week 4 SPK-RU-TC-400-V1-Week 3 SPK-RU-TC-400-V1-Week 3
158	12/02/2015	Updated from V 7	Identify and rectify faults	Driver does not apply relevant rules for the nature of the fault resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Identify and rectify faults" in accordance with unit 6 (6.1 E). Requirements of Ops SMS 3.0 applied in training. Requirements of Ops.SMS 3.1 (11) and relevant traction manuals applied. Briefings carried out in accordance with Ops SMS 3.5 (8.7). Covered in Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Relevant Traction Manuals. SPK-RU-TC-200-V1-Week 3+Week 4 SPK-RU-TC-300-V1-Week 3+Week 4 SPK-RU-TC-400-V1-Week 3 SPK-RU-TC-400-V1-Week 3
159	01/02/2022	Updated from V 7	Identify and rectify faults	Driver checking train for hot axle box does not adhere to instructions resulting in serious burns / personal injury	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Identify and rectify faults" in accordance with unit 6 (6.1 E). Requirements of Ops SMS 3.0 applied in training. Requirements of Ops.SMS 3.1 (11) and relevant traction manuals applied. All drivers briefed on 'Faults Procedures and Brake Isolations on I.É Rolling Stock' booklet. Instructions relating to the detection of Hot Axles on Rolling stock issued as Supplement to Weekly Circular 3497 and issued to all drivers. Briefings carried out in accordance with Ops SMS 3.5 (8.7). Covered in Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable				Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Faults Procedures and Brake Isolations on I.É Rolling Stock booklet. Relevant Traction Manuals. SPK-RU-TC-200-V1-Week 4 SPK-RU-TC-300-V1-Week 3+Week 4 SPK-RU-TC-400-V1-Week 3 SPK-RU-TC-400-V1-Week 3
160	01/02/2022	Updated from V 7	Identify and rectify faults	Driver fails to identify hot axle resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Identify and rectify faults" in accordance with unit 6 (6.1 E). Requirements of Ops SMS 3.0 applied in training. Requirements of Ops.SMS 3.1 (11) and relevant traction manuals applied. All drivers briefed on 'Faults Procedures and Brake Isolations on I.É Rolling Stock' booklet. Instructions relating to the detection of Hot Axles on Rolling stock issued as Supplement to Weekly Circular 3497 and issued to all drivers. Temperature strips fitted to Axle Boxes. Bearing Acoustic Monitors fitted to mainline track, capturing majority of rolling stock wheel profiles to detect potential defects. Briefings carried out in accordance with Ops SMS 3.5 (8.7). Covered in Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable				Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Relevant Traction Manuals. Faults Procedures and Brake Isolations on I.É Rolling Stock booklet. Instructions relating to the detection of Hot Axles on Rolling stock issued as Supplement to Weekly Circular 3497 SPK-RU-TC-200-V1-Week 3+Week 4 SPK-RU-TC-300-V1-Week 3+Week 4 SPK-RU-TC-400-V1-Week 3 SPK-RU-TC-400-V1-Week 3
161	12/02/2015	Updated from V 7	Identify and rectify faults	Driver does not take account of changes in operating circumstances resulting in serious operational incident	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Identify and rectify faults" in accordance with unit 6 (6.1 G). Requirements of Ops SMS 3.0 applied in training. Requirements of Ops.SMS 3.1 (11) and Relevant traction manuals applied. Briefings carried out in accordance with Ops SMS 3.5 (8.7). Covered in Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Relevant Traction Manuals. SPK-RU-TC-200-V1-Week 3+Week 4 SPK-RU-TC-300-V1-Week 3+Week 4 SPK-RU-TC-400-V1-Week 3 SPK-RU-TC-400-V1-Week 3
162	12/02/2015	Updated from V 7	Identify and rectify faults	Driver does not record faults in appropriate document resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Identify and rectify faults" in accordance with unit 6 (6.1 H). Requirements of Ops SMS 3.0 applied in training. Requirements of Ops.SMS 3.1 (11). All drivers issued with Rule Book and apply Section H 3.6.17. Briefings carried out in accordance with Ops SMS 3.5 (8.7). Covered in Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book, Section H (3.6.17). Relevant Traction Manuals. SPK-RU-TC-200-V1-Week 3+Week 4 SPK-RU-TC-300-V1-Week 3+Week 4 SPK-RU-TC-400-V1-Week 3 SPK-RU-TC-400-V1-Week 3

163	12/02/2015	Updated from V 7	Identify and rectify faults	Driver does not respond to unsolicited brake applications resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Identify and rectify faults" in accordance with unit 6 (6.1 I). Requirements of Ops SMS 3.0 applied in training. Requirements of Ops SMS 3.1 (11) applied. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment). Covered in Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book, Section H (3.6.17). Relevant Traction Manuals. SPK-RU-TC-200-V1-Week 3+Week 4 SPK-RU-TC-300-V1-Week 3+Week 4 SPK-RU-TC-400-V1-Week 3 SPK-RU-TC-400-V1-Week 3
164	12/02/2015	Updated from V 7	Identify and rectify faults	Driver does not respond to CAWS/ATP failures resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Identify and rectify faults" in accordance with unit 6 (6.1 J). Requirements of Ops SMS 3.0 applied in training. Requirements of Ops.SMS 3.1 (11) applied. All drivers issued with Rule Book and apply Section H 3.6.13 and General Appendix, Section J applied. All drivers briefed on 'Faults Procedures and Brake Isolations on I.É Rolling Stock' booklet. Covered in Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book, Section H (3.6.13) General Appendix, Section J. Faults Procedures and Brake Isolations on I.É Rolling Stock booklet SPK-RU-TC-200-V1-Week 3+Week 4 SPK-RU-TC-300-V1-Week 3+Week 4 SPK-RU-TC-400-V1-Week 3 SPK-RU-TC-400-V1-Week 3
165	12/02/2015	Updated from V 7	Follow procedures for assistance of failed trains	Driver does not establish the train is a failure, secure train or report location to signaller resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Follow procedures for assistance of failed trains" in accordance with unit 6 (6.2 A). Requirements of Ops SMS 3.0 applied in training. Requirements of Ops.SMS 3.1 (11) and Ops. SMS 3.5 applied. All drivers briefed on 'Faults Procedures and Brake Isolations on I.É Rolling Stock' booklet. Covered in Module 4 & 8.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Faults Procedures and Brake Isolations on I.É Rolling Stock booklet RU-TC-100-V1.2-Day 26
166	12/02/2015	Updated from V 7	Follow procedures for assistance of failed trains	Driver does not protect failed train resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Follow procedures for assistance of failed trains" in accordance with unit 6 (6.2 B). Requirements of Ops SMS 3.0 applied in training. Requirements of Ops.SMS 3.1 (11) and RU SMS 010 applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. Covered in Module 4 & 8.	1	5	5	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1 Key Principle 4. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form RU SMS 010 - Safety Critical Communications Appendix 1 - SCC Assessment Form. RU-TC-100-V1.2-Day 26
167	12/02/2015	Updated from V 7	Follow procedures for assistance of failed trains	Driver does not agree an understanding with all involved in the movement of the assisting train resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Follow procedures for assistance of failed trains" in accordance with unit 6 (6.2 C). Requirements of Ops SMS 3.0 applied in training. Requirements of Ops.SMS 3.1 (11) and RU SMS 010 applied. All drivers issued with Rule Book and apply Section H 3.5.10. Covered in Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Rule Book, Section H 3.5.10. Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form RU SMS 010 - Safety Critical Communications Appendix 1 - SCC Assessment Form. RU-TC-100-V1.2-Day 26
168	12/02/2015	Updated from V 7	Follow procedures for assistance of failed trains	Driver does not couple assisting train correctly and fails to carry out brake test resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Follow procedures for assistance of failed trains" in accordance with unit 6 (6.2 D). Requirements of Ops SMS 3.0 applied in training. Requirements of Ops.SMS 3.1 (11) applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Covered in Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 1, Key Principle 4. RU-TC-100-V1.2-Day 26
169	12/02/2015	Updated from V 7	Follow procedures for assistance of failed trains	Driver does not reach a clear understanding in relation to additional movements required resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Follow procedures for assistance of failed trains" in accordance with unit 6 (6.2 E & F). Requirements of Ops SMS 3.0 applied in training. Requirements of Ops.SMS 3.1 (11) and RU SMS 010 applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings and assessments in accordance with Ops SMS 3.1 (10) and Ops SMS 3.5. Covered in Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1, Key Principle 4. Ops. SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form RU SMS 010 - Safety Critical Communications Appendix 1 - SCC Assessment Sheet Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU-TC-100-V1.2-Day 26
170	12/02/2015	Updated from V 7	Follow procedures for assistance of failed trains	Driver does not carry out all movement in the correct manner resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Follow procedures for assistance of failed trains" in accordance with unit 6 (6.2 G). Requirements of Ops SMS 3.0 applied in training. Requirements of Ops.SMS 3.1 (11) and RU SMS 010 applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 4 applied. Briefings and assessments in accordance with Ops SMS 3.1 (10) and Ops SMS 3.5.. Covered in Module 4 & 8.	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1, Key Principle 4. Ops. SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form RU SMS 010 - Safety Critical Communications Appendix 1 - SCC Assessment Sheet Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered RU-TC-100-V1.2-Day 26

171	12/02/2015	Updated from V 7	Operating trains under degraded conditions	Driver does not clarify and confirm any unusual movements or special instructions resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operate trains under degraded conditions" in accordance with unit 7 (7.1 A). Requirements of Ops SMS 3.0 applied in training. Requirements of Ops.SMS 3.1 (9), RU SMS 010, and Ops SMS 3.6 (9) applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 5 applied. Briefings and assessments in accordance with Ops SMS 3.1 (10). Covered in Module 4 & 8.	1	5	S	Tolerable		DTE		1	5	S	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1, Key Principle 5. Ops. SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form RU SMS 010 - Safety Critical Communications Appendix 1 - SCC Assessment Sheet Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers
172	12/02/2015	Updated from V 7	Operating trains under degraded conditions	Driver does not drive train in accordance to changes in operational circumstances resulting in serious operational incident.	Critical	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operate trains under degraded conditions" in accordance with unit 7 (7.1 B). Requirements of Ops SMS 3.0 applied in training. Requirements of Ops.SMS 3.1 (9) and Ops SMS 3.6 (9) applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 5 applied. Briefings and assessments in accordance with Ops SMS 3.1 (10). Promotion of Defensive Driving concept. Covered in Module 4 & 8.	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1, Key Principle 5. Ops. SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form RU-TC-100-V1.2-Day 21
173	12/02/2015	Updated from V 7	Operating trains under degraded conditions	Driver does not take appropriate action in adverse weather resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operate trains under degraded conditions" in accordance with unit 7 (7.1 B). Requirements of Ops SMS 3.0 applied in training. Requirements of Ops.SMS 3.1 (9), Ops SMS 3.6 (9) and RU Op 21 - Winter Readiness applied. All drivers issued with Professional Driving Handbook, Section 1 Key Principle 5 applied. Briefings and assessments in accordance with Ops SMS 3.1 (10). Promotion of Defensive Driving concept. Covered in Module 4 & 8.	1	5	S	Tolerable		DTE		1	5	S	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1, Key Principle 5. Ops. SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers Ru Op 21 - Winter Readiness Ops SMS 7.0 - Train Data Recorders & Speed Checking of Trains Appendix A - OTDR Download Assessment Form RU-TC-100-V1.2-Day 21
174	12/02/2015	Updated from V 7	Operating trains under degraded conditions	Adverse weather and route not proved safe - Operational incident due to possibility that the permitted line speed may not address hazards introduced by the adverse weather conditions.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operate trains under degraded conditions" in accordance with unit 7 (7.1 D) Training in place in accordance with Ops. SMS 3.0 Procedures are in place in accordance with CCE -TMS-311 Irish Rail Weather Management Procedures which includes a specific section on Route Proving On receipt of a Met Éireann Weather Alert, IÉ Line Managers will, if deemed necessary, implement local plans to approve routes, secure key junctions, assets and stations. This is are done involving relevant RU and IM stakeholders. Agreed plans will also be relayed back to C.T.C. Duty Manager who will confirm plans are in place through the text alert system. This document contains guidelines on Route Proving Scenarios which included typical examples and additional requirements for controlling the risk. All drivers are issued with Rule Book and apply Section H 3.6.11 where the track is flooded. The requirements of CME-TMS-001 -008 Operations of IE Rolling Stock on Flooded Track will be implemented as will document CCE- TEB -2014 - 05 Guidance on Alerts and Service Restrictions during adverse weather events provides guidance on alerts and service restrictions during High Winds, Rain Alerts, Snow Alerts and High Temperature Alerts. Drivers will be advised via CTC on train radio and shed notices - Ops SMS 3.6 (9), as appropriate. Requirements of Ru Op 21 - Winter Readiness applied. Module 4	1	5	S	Tolerable		DTE		1	5	S	Tolerable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Professional Driving Handbook, Section 1, Key Principle 5. Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers RU Op 21 - Winter Readiness Rule Book, Section H 3.6.11 CCE-TMS-311 CME-TEB-001 CME-TEB-2014 CCE- TEB -2014 - 05 RU-TC-100-V1.2-Day 21
175	12/02/2015	Updated from V 7	Operating trains under degraded conditions	Driver does not take action in relation to the failure of signal post telephone or cab radio resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Operate trains under degraded conditions" in accordance with unit 7 (7.1 E). All drivers issued with Rule Book and apply Section M 3.4. Requirements of Ops.SMS 3.1 (9) applied. Monitoring in place in accordance with Ops SMS 3.1 (11).	1	5	S	Tolerable		DTE		1	5	S	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book, Section M (3.4)
176	12/02/2015	Updated from V 7	Evacuate from train depots, stations	Driver does not move train to an appropriate location e.g. Away from tunnel or viaduct.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Evacuate from trains, depots and stations" in accordance with unit 7 (7.2 A). Requirements of Ops.SMS 3.1 (9) applied. All drivers issued with Rule Book and apply Section H 3.6.4. Monitoring in place in accordance with Ops SMS 3.1 (11). Emergency Passenger cord override facility available on some traction types. Module 4	1	5	S	Tolerable		DTE		1	5	S	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book, Section H (3.6.4).
177	12/02/2015	Updated from V 7	Evacuate from train depots, stations	Driver does not carry out emergency protection appropriate to the situation.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Evacuate from trains, depots and stations" in accordance with unit 7 (7.2 B). Requirements of Ops.SMS 3.1 (9) applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 5 applied. All drivers issued with Rule Book and apply Section M 3.1. Monitoring in place in accordance with Ops SMS 3.1 (11). Module 4	1	5	S	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	S	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Professional Driving Handbook, Section 1 Key Principle 5 Rule Book, Section M (3.1).
178	12/02/2015	Updated from V 7	Evacuate from train depots, stations	Driver does not get emergency signal protection, before evacuating train.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Evacuate from trains, depots and stations" in accordance with unit 7 (7.2 D). Requirements of Ops.SMS 3.1 (9) applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 5 applied. All drivers issued with Rule Book and apply Section M 3.2. Monitoring in place in accordance with Ops SMS 3.1 (11). *Module 4*	1	5	S	Tolerable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		1	5	S	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Professional Driving Handbook, Section 1 Key Principle 5 Rule Book. Section M (3.2)

179	12/02/2015	Updated from V 7	Evacuate from train depots, stations	Driver does not obtain appropriate equipment and or assistance from other rail staff or passengers.	Critical	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Evacuate from trains, depots and stations" in accordance with unit 7 (7.2 E). Requirements of Ops.SMS 3.1 (9) applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 5 applied. Train Evacuation briefings carried out with all driver in accordance with Ops SMS 3.5 and Ops SMS 3.1 (10). Monitoring in place in accordance with Ops SMS 3.1 (11). Module 4	1	4	4	Tolerable		DTE		1	4	4	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Professional Driving Handbook, Section 1 Key Principle 5
180	12/02/2015	Updated from V 7	Evacuate from train depots, stations	Driver does not use a safe method to assist passengers from train.	Critical	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Evacuate from trains, depots and stations" in accordance with unit 7 (7.2 F). Requirements of Ops.SMS 3.1 (9) applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 5 applied. Train Evacuation briefings carried out with all driver in accordance with Ops SMS 3.5 and Ops SMS 3.1 (10). Monitoring in place in accordance with Ops SMS 3.1 (11). Module 4	1	4	4	Tolerable		DTE		1	4	4	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Professional Driving Handbook, Section 1 Key Principle 5 Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered
181	12/02/2015	Updated from V 7	Evacuate from train depots, stations	Driver does not conduct passengers to a position of safety.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Evacuate from trains, depots and stations" in accordance with unit 7 (7.2 G). Requirements of Ops.SMS 3.1 (9) applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 5 applied. Train Evacuation briefings carried out with all driver in accordance with Ops SMS 3.5 and Ops SMS 3.1 (10). Monitoring in place in accordance with Ops SMS 3.1 (11). Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Professional Driving Handbook, Section 1 Key Principle 5
182	12/02/2015	Updated from V 7	Evacuate from train depots, stations	Driver does not monitor the progress of passengers and fails to ensure their safety.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Evacuate from trains, depots and stations" in accordance with unit 7 (7.2 H). Requirements of Ops.SMS 3.1 (9) applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 5 applied. Train Evacuation briefings carried out with all driver in accordance with Ops SMS 3.5 and Ops SMS 3.1 (10). Monitoring in place in accordance with Ops SMS 3.1 (11). Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Professional Driving Handbook, Section 1 Key Principle 5
83	12/02/2015	Updated from V 7	Respond to emergency	Driver does not take appropriate action if an actual /likely obstruction is observed resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Respond to emergency situations" in accordance with unit 7 (7.3 A). Requirements of Ops.SMS 3.1 (9) applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. All drivers issued with Rule Book and apply Section H 3.6. Promotion of Defensive driving concept. Monitoring in place in accordance with Ops SMS 3.1 (11). Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book, Section H (3.6). Professional Driving Handbook, Section 1 Key Principle 4
184	12/02/2015	Updated from V 7	Respond to emergency	Driver does not report immediately any incident likely to effect the safety of trains or cab security resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Respond to emergency situations" in accordance with unit 7 (7.3 B). Requirements of Ops.SMS 3.1 (9) applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. All drivers issued with Rule Book and apply Section H 3.6. Promotion of Defensive driving concept. Monitoring in place in accordance with Ops SMS 3.1 (11). Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book, Section H (3.6). Professional Driving Handbook, Section 1 Key Principle 4
185	12/02/2015	Updated from V 7	Respond to emergency	Driver does not correctly report an obstruction on the line resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Respond to emergency situations" in accordance with unit 7 (7.3 C). Requirements of Ops.SMS 3.1 (9) and RU SMS 010 applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. All drivers issued with Rule Book and apply Section H 3.6. Promotion of Defensive driving concept. Monitoring in place in accordance with Ops SMS 3.1 (11). Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book, Section H (3.6). Professional Driving Handbook, Section 1 Key Principle 4 RU SMS 010 Safety Critical Communications
186	12/02/2015	Updated from V 7	Respond to emergency	Driver does not report any unauthorised persons or large animals with in the boundary fence resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Respond to emergency situations" in accordance with unit 7 (7.3 D). Requirements of Ops.SMS 3.1 (9) and RU SMS 010 applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. All drivers issued with Rule Book and apply Section H 3.6. Promotion of Defensive driving concept. Monitoring in place in accordance with Ops SMS 3.1 (11). Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book, Section H (3.6). Professional Driving Handbook, Section 1 Key Principle 4 RU SMS 010 - Safety Critical Communications

187	12/02/2015	Updated from V 7	Respond to emergency	Driver does not examine the line when instructed resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Respond to emergency situations" in accordance with unit 7 (7.3 E). Requirements of Ops.SMS 3.1 (9) applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. All drivers issued with Rule Book and apply Section H 3.6.8 Monitoring in place in accordance with Ops SMS 3.1 (11). Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix B - Safety Briefing Key Issues Covered Rule Book, Section H (3.6.8). Professional Driving Handbook, Section 1 Key Principle 4
188	12/02/2015	Updated from V 7	Respond to emergency	Driver does not take additional action when involved in a dangerous goods incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Respond to emergency situations" in accordance with unit 7 (7.3 F). Requirements of Ops.SMS 3.1 (9) applied. Drivers briefed on operation of Dangerous Goods trains in accordance with General Briefing on Carriage of Dangerous Goods by Rail. P.P.E supplied. Substance being carried identified with specific UN numbers. Monitoring in place in accordance with Ops SMS 3,1 (11). Module 8	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form
189	12/02/2015	Updated from V 7	Respond to emergency	Driver does not report line side fires or vandalism promptly.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Respond to emergency situations" in accordance with unit 7 (7.3 G). Requirements of Ops.SMS 3.1 (9) applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. All drivers issued with Rule Book and apply Section H 3.6. Promotion of Defensive driving concept. Monitoring in place in accordance with Ops SMS 3.1 (11). *Module 4*	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix B - Safety Briefing Key Issues Covered Rule Book, Section H (3.6). Professional Driving Handbook, Section 1 Key Principle 4
190	12/02/2015	Updated from V 7	Respond to emergency	Driver does not deal quickly and appropriately to on train fires.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Respond to emergency situations" in accordance with unit 7 (7.3 H). Requirements of Ops.SMS 3.1 (9) applied.. All drivers issued with Rule Book and apply Section M (3.2) refers. Train evacuation briefing notes briefed to drivers in accordance with Ops SMS 3.5. Monitoring in place in accordance with Ops SMS 3.1 (11). Module 2 & 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book, Section M (3.2). Professional Driving Handbook, Section 1 Key Principle 4
191	12/02/2015	Updated from V 7	Respond to emergency	Driver does not take appropriate action to broken rail or bridge strike resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Respond to emergency situations" in accordance with unit 7 (7.3 I). Requirements of Ops.SMS 3.1 (9) applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. All drivers issued with Rule Book and apply Section H 3.6. Promotion of Defensive driving concept. Monitoring in place in accordance with Ops SMS 3.1 (11). Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Rule Book, Section H (3.6). Professional Driving Handbook, Section 1 Key Principle 4
192	12/02/2015	Updated from V 7	Respond to emergency	Driver does not take action to an imperfect signal shown resulting in serious operational incident.	Catastrophic	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Respond to emergency situations" in accordance with unit 7 (7.3 J). Requirements of Ops.SMS 3.1 (9) applied. All drivers issue with Professional Driving Handbook, Section 1 Key Principle 4 applied. Signal Sighting committee in place to address issues regarding poor visibility of signals. Module 4	1	5	5	Tolerable		DTE		1	5	5	Tolerable	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 1 Key Principle 4
193	12/02/2015	Updated from V 7	Human Factors	Driver does not remain motivated and work within a safe system and act in a professional manner resulting in serious operational incident.	Catastrophic	Drivers trained in non technical skills / human factors / error prevention techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Human factor skills" in accordance with unit 8 (8.1 A). All drivers issued with Professional Driving Handbook, Section 2 (P. 61) applied. Requirements of Ops.SMS 3.1 (9) applied. Company promotion of Health & Wellbeing. RU SMS 021 Health and Wellness policy applied.	2	5	10	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal	PSM		2	5	10	Undesirable	DRU			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form RU SMS 021 Health and Wellness Policy Professional Driving Handbook, Section 2 RU-TC-100-V1.2-Day 28
194	12/02/2015	Updated from V 7	Human Factors	Driver does not identify hazards and operational risks and apply controls to reduce risks resulting in serious operational incident (SPAD/Collision/Overspeed).	Catastrophic	Drivers trained in non technical skills / human factors / error prevention techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Human factor skills" in accordance with unit 8 (8.1 B). All drivers issued with Professional Driving Handbook, Section 2 (P. 61) applied. Requirements of Ops.SMS 3.1 (9) applied. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment).	2	5	10	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	5	10	Undesirable	DRU			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 2 RU-TC-100-V1.2-Day 28

195	12/02/2015	Updated from V 7	Human Factors	Driver does not apply self checking skills to verify decisions resulting in confusion and serious operational incident including (SPAD/Collision/Overspeed)	Critical	Drivers trained in non technical skills / human factors / error prevention techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Human factor skills" in accordance with unit 8 (8.1 C). All drivers issued with Professional Driving Handbook, Section 2 - situational awareness applied. Requirements of Ops.SMS 3.1 (9) applied. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment).	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 2 RU-TC-100-V1.2-Day 28
196	12/02/2015	Updated from V 7	Human Factors	Driver makes assumptions and over-relies on experience resulting in confusion and serious operational incident including (SPAD/Collision/Overspeed).	Critical	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Human factor skills" in accordance with unit 8 (8.1 D). All drivers issued with Professional Driving Handbook, Section 2 - situational awareness applied. Requirements of Ops.SMS 3.1 (9) applied. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment.)	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 2 RU-TC-100-V1.2-Day 28
197	12/02/2015	Updated from V 7	Human Factors	Driver does not prioritise tasks to reduce distractions resulting in confusion and serious operational incident including (SPAD/Collision/Overspeed).	Catastrophic	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Human factor skills" in accordance with unit 8 (8.1 E). All drivers issued with Professional Driving Handbook, Section 2 - situational awareness applied. Requirements of Ops.SMS 3.1 (9) and Ops. SMS 3.3 applied. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment).	2	5	10	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	5	10	Undesirable	DRU			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 2 Ops SMS 3.3 - Route Knowledge Drivers Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form RU-TC-100-V1.2-Day 28
198	06/04/2022	RU SRG SPAD incident review	Human Factors	Driver does not maintain focus on primary task when approaching signal (i.e. looking away to retrieve or put something into divers bag) resulting in SPAD/Collision	Major	ATP provided on DART. CAWS provided on running line, Drivers trained in non technical skills / human factors / error protection techniques during initial training - Module 4,7 & 8. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Human factor skills" in accordance with unit 8 (8.1 F) and 'Stop trains at signals" in accordance with unit 4 (4.2 E). All drivers issued with Professional Driving Handbook, Section 2 - situational awareness applied. Requirements of Ops.SMS 3.1 (9) and Requirements of Ops. SMS 3.3 applied. Simulator assessment biennially. Monitoring and assessment in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment).	3	3	9	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		3	3	9	Undesirable	DRU			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 2 Ops SMS 3.3 - Route Knowledge Drivers Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form RU-TC-100-V1.2-Day 28
199	12/02/2015	Updated from V 7	Human Factors	Driver does not raise levels of awareness when approaching complex locations resulting in confusion and serious operational incident	Critical	Drivers trained in non technical skills / human factors / error protection techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Human factor skills" in accordance with unit 8 (8.1 F). All drivers issued with Professional Driving Handbook, Section 2 - situational awareness applied. Requirements of Ops.SMS 3.1 (9) and Ops. SMS 3.3 applied. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment).	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 2 Ops SMS 3.3 - Route Knowledge Drivers Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form RU-TC-100-V1.2-Day 28
200	12/02/2015	Updated from V 7	Human Factors	Driver does not identify and manage conflict of information resulting in serious operational incident.	Critical	Drivers trained in non technical skills / human factors / error prevention techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Human factor skills" in accordance with unit 8 (8.1 G). All drivers issued with Professional Driving Handbook, Section 2 - situational awareness applied. Requirements of Ops.SMS 3.1 (9) and Ops.SMS 3.3 applied. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment.	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 2 Ops SMS 3.3 - Route Knowledge Drivers Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form RU-TC-100-V1.2-Day 28
201	12/02/2015	Updated from V 7	Human Factors	Driver does not manage high work load situations or working under pressure situations resulting in confusion and serious operational incident.	Critical	Drivers trained in non technical skills / human factors / error prevention techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Human factor skills" in accordance with unit 8 (8.1 G). All drivers issued with Professional Driving Handbook, Section 2 - situational awareness applied. Requirements of Ops.SMS 3.1 (9) and Ops. SMS 3.3 applied. Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment).	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	PSM		2	4	8	Undesirable	DRU			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Professional Driving Handbook, Section 2 Ops SMS 3.3 - Route Knowledge Drivers Route Knowledge Drivers Route Record Card Route Characteristics Briefing Record Form Route and SPAD Risks Briefing Form RU-TC-100-V1.2-Day 28

202	01/02/2022	Updated from V 7	Human Factors	Driver does not correctly undertake examination of train for serious faults , e.g., hot axle box, resulting in serious operational incident (SPAD/Collision/Overspeed).	Catastrophic	Drivers trained in non technical skills / human factors / error prevention techniques during initial training. All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Identify and rectify faults" in accordance with unit 6 (6.1 E) and 'Human factor skills' in accordance with unit 8 (8.1B). All drivers issued with Professional Driving Handbook, Section 2 (P. 61) applied. Requirements of Ops SMS 3.0 applied in training. Requirements of Ops.SMS 3.1 (9 and 11) and relevant traction manuals applied. All drivers briefed on 'Faults Procedures and Brake Isolations on I.É Rolling Stock' booklet. Instructions relating to the detection of Hot Axles on Rolling stock issued as Supplement to Weekly Circular 3497 and issued to all drivers. Bearing Acoustic Monitors fitted to mainline track, capturing majority of rolling stock wheel profiles to detect potential defects. Briefings carried out in accordance with Ops SMS 3.5 (8.7).	1	5	5	Tolerable		DTE		1	5	5	Tolerable				Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Appendix C - Professional knowledge of infrastructure Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Faults Procedures and Brake Isolations on I.É Rolling Stock booklet. Professional Driving Handbook, Section 2 (P. 61) applied. Relevant Traction Manuals. RU-TC-100-V1.2-Day 28 SPK-RU-TC-200-V1-Week 3+Week 4 SPK-RU-TC-300-V1-Week 3+Week 4 SPK-RU-TC-400-V1-Week 3 SPK-RU-TC-400-V1-Week 3
203	12/02/2015	Updated from V 7	Carrying out Maintenance/Mechanical Operations under CME Instructions.	Contact with electrical parts - electrocution	Critical	All train drivers receive a copy of the Train Driving Competence Standards Booklet and are monitored in relation to 'Human factor skills" in accordance with unit 8 (8.1 B).	1	4	4	Tolerable		DTE		1	4	4	Tolerable	DM			Train Driving Competence Standards Booklet
204	12/02/2015	Updated from V 7	Locking off coach on ICR using shutters	Manual handling	Minor	All drivers issued with Professional Driving Handbook, Section 2 (P. 61) applied.	1	2	2	Negligible		DTE		1	2	2	Negligible	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Manual Handling Training carried out by a Certified Instructor. Ops. SSoW 9.3 included in Safety Statement which is briefed annually. Railway Undertaking Safety Policy Manual handling and Ergonomic Risk Booklet Ops. SMS 3.6 - Booking On and Off Duty & Communication of Essential Information – Train Drivers RU-TC-100-V1.2-Day 2 Manual Handling
205	12/02/2015	Updated from V 7	Locking off coach on ICR using shutters	Incorrect fitting of shutter - personal injury.	Minor	Requirements of Ops.SMS 3.1 (9) applied.	1	2	2	Negligible		DTE		1	2	2	Negligible	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Ops. SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Relevant traction manuals SPK-RU-TC-200-V1-Week 1
206	12/02/2015	Updated from V 7	Using Emergency Ladders	Manual handling	Minor	Monitoring in place in accordance with Ops SMS 3.1 (9 - Continuous Assessment).	1	2	2	Negligible		DTE		1	2	2	Negligible	DM			Ops SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Manual Handling Training carried out by a Certified Instructor. Ops. SSoW 9.3 included in Safety Statement which is briefed annually. Railway Undertaking Safety Policy Manual handling and Ergonomic Risk Booklet RU-TC-100-V1.2-Day 2 Manual Handling
207	12/02/2015	Updated from V 7	Using Emergency Ladders	Incorrect fitting of ladder - personal injury.	Minor	Drivers receive appropriate training in accordance with Ops SMS 3.0 and relevant traction manuals. Supporting training video in place on how to correctly conduct this task. Instructions contained in the Train Evacuation Booklet briefed to drivers in accordance with Ops SMS 3.5. Emergency exercises take place and staff can practice correct fitting of ladder.	1	2	2	Negligible		DTE		1	2	2	Negligible	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Ops SSoW 9.2 - Working at Height Tran Evacuation Booklet. Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Ops. SMS 3.1 - Competence Management Drivers Appendix G - Interim Review \Summary Assessment Record Form Appendix H - Unannounced Assessment Form Relevant traction manuals SPK-RU-TC-200-V1-Week 1 SPK-RU-TC-300-V1-Week 1 SPK-RU-TC-400-V1-Week 1 SPK-RU-TC-500-V1-Week 1
208	10/12/2018	Updated from V 7	Driving trains	Drivers does not observe and respond correctly to CAWS Upgrade Abnormality (wrong side failure) resulting in SPAD, derailment or collision.	Catastrophic	All train drivers are trained in accordance with Ops SMS 3.0 to obey the most restrictive signal. All drivers trained to report such incidents to CTC immediately and complete Driver Abnormal Occurrence report. Briefings in accordance with Ops SMS 3.5 include relevant incidents, investigations and outcomes. All drivers issued with Rule Book and apply Section H 3.6.13 and General Appendix, Section J applied. All drivers briefed on 'Faults Procedures and Brake Isolations on I.É Rolling Stock' booklet.	2	4	8	Undesirable	Introduction of ERTMS Level 1 will, in normal conditions, mitigate the risk of Overspeed, Collision/Derailment resulting from a SPAD and mitigate the risk from a buffer stop collision by reducing train speed to <10kmph on approach. The system provides speed supervision and Train Trip protection ensuring that the train stops before the end of the overlap (in most cases/ exception of very short overlaps) but cannot ensure that it is stopped before the signal.	DTE		2	4	8	Undesirable	DM			Ops SMS 3.0 - Driver Training Appendix A - Driver Training & General Professional Knowledge. Appendix B - Professional knowledge of rolling stock Ops SMS 3.5 - Safety Briefing Train Drivers Appendix B - Safety Briefing Key Issues Covered Rule Book Section J H (3.6.13) General Appendix Section J Abnormal Occurrence Report Form

SECTION H

OPERATION OF TRAINS

Not Used

1.0 PRINCIPLES

1.1 SAFETY

- safety must be the first consideration of everyone involved with the operation of trains

1.2 PUNCTUALITY

- every effort must be made to ensure punctual operation and prevent avoidable delays

2.0 GENERAL INSTRUCTIONS

2.1 RESPONSIBILITIES

2.1.1 Drivers

- the Driver is responsible for the proper working of the train throughout its journey

- the Driver must not start the train or restart from a platform or place where attaching/detaching has occurred without receiving the appropriate handsignal/indication from the Guard or Person in Charge

- where neither a Guard or Person in Charge is required to be provided, the Driver must check that it is safe to do so before starting or restarting

2.1.2 Guards

- the Guard is responsible for checking that it is safe for the train to start or restart and signalling to the Driver accordingly

- the Guard must assist the Driver during the journey if there is an emergency or incident

2.0 GENERAL INSTRUCTIONS

2.1.3 Persons in Charge

- where provided at a station, depot or yard, the Person in Charge must indicate to the Guard when work on the train is completed and it is ready to depart
- where a Guard is not provided, the Person in Charge is responsible for checking that it is safe for the train to start or restart and signalling to the Driver accordingly

2.1.4 Signalmen

- each Signalman must be conversant with the requirements of this Section H where they may affect the signalling of trains

2.2 WHEN A TRAIN MAY BE CONSIDERED SAFE TO START

A train may be considered SAFE TO START (as described in this Section H) only when the following requirements have been observed:

- the instructions for the working of the automatic brake are complied with and a brake test has been carried out where required by those instructions
- all vehicles appear safe to travel
- all couplings are properly connected
- all hand/parking brakes are fully released
- all doors are properly closed
- all doors at the ends of a passenger train are fitted where required and locked
- any passengers are cleared from a train (or vehicles) which is not in service

2.0 GENERAL INSTRUCTIONS

- all loads, including containers, are properly secured
- all loading or unloading equipment is disconnected and/or well clear
- the load, marshalling and formation of the train are in accordance with instructions
- the Driver has any necessary information concerning the load, length, speed and braking capability of the train
- the necessary head and tail lamps are provided
- any necessary train examination or watering or servicing has been completed

2.3 STARTING TIME OF TRAINS

2.3.1 Passenger trains

- must not leave any station before the advertised time

2.3.2 Freight trains

- may start before the booked time provided:
  - Operations Control has given permission, or
  - delays will not be caused to other more important trains
- this applies to any train not carrying passengers

2.4 THE "STATION WORK COMPLETE" SIGNAL

- this signal is given to indicate that:
  - any work on the train at a platform or in a siding is complete

2.0 GENERAL INSTRUCTIONS

- any required examination or servicing of the train has been undertaken
- all doors are closed and secured or, in the case of power operated doors, they are ready for closing
- the train is ready to leave (on closure of any power operated doors)

• this signal comprises:

- an arm raised above the head during daylight with normal visibility, or
- a white light held steadily above the head at other times, or
- where its use is authorised, a dispatch bat held above the head

2.5 THE "TRAIN READY TO START" SIGNAL

• this signal is given to the Driver to indicate that:

- station work is complete, as described above
- it is safe for the train to start

• this signal comprises:

- a green flag waved above the head in the case of a loaded or empty passenger train, or an arm held above the head in the case of a freight train - during daylight with normal visibility
- a green light held steadily above the head at other times

• this signal is, instead, given by use of the Guard/Driver bell communication whenever possible

2.0 GENERAL INSTRUCTIONS

2.6 REQUIREMENT FOR HEAD AND MARKER LIGHTS

2.6.1 On running lines

- the white marker lights at the front of the train must be illuminated at all times
- the headlight must be illuminated at all times except when stabled
- where a FULL/DIM headlight is provided, it must be dimmed during darkness when:
  - approaching signals
  - entering or standing at a station
  - approaching a passing train
  - picking up and/or setting down a Token
  - visibility is impaired by using the full beam
- this clause 2.6.1 also applies when a train is propelled in the right direction

2.6.2 In depots, yards and sidings

- the white marker lights at the front of the train must be illuminated during all movements
- the headlight must not be used, whether moving or stabled
- one red and one white (marker) light may be shown at both ends of a locomotive engaged in shunting duties

2.0 GENERAL INSTRUCTIONS

2.7 REQUIREMENT FOR TAIL LAMPS

- two red lights must normally be exhibited, by day or night, at the rear of the last vehicle of any train or movement when on a running line

EXCEPTION: red lights are not required to be exhibited on empty passenger trains stabled at platforms where specially authorised in the Iarnród Éireann General Appendix

- red lights must not be carried or exhibited at either end of any other vehicle

- during darkness or poor visibility, a red light must also be exhibited at the end of the vehicle facing any train approaching on the SAME line where:

  - vehicles are to be left standing on a running line, or

  - a train is to be shunted to an adjoining running line used by trains in the opposite direction; the headlight and marker lights must be extinguished

- red lights must not be left exhibited on stabled trains or vehicles in dead-end sidings facing trains approaching on an adjacent running line

- this clause 2.7 also applies when a train is propelled in the wrong direction except that a white light (only) must be exhibited at the leading end of the front portion of a divided train when propelled towards the rear portion

2.0 GENERAL INSTRUCTIONS

2.8 PROPELLING

2.8.1 What is meant by "propelling"

- a train or vehicles must be regarded as propelled when pushed by a traction unit

- a traction unit (including a multiple unit) or a push/pull train is ONLY regarded as propelled when pushed dead (i.e. with all vehicles unpowered, whether or not in working order) by another unit which is not operating in multiple with it

2.8.2 Authority for propelling

- a train or vehicle(s) must not be propelled on a running line except as follows:

  - where authorised in the General Appendix

  - within station limits

  - on a Track Circuit Block line, when making a shunting movement under the protection of signals and which will not require to proceed beyond more than one signal exhibiting a main aspect

  - when making a movement through points worked from a ground frame

  - when making a movement of a breakdown train

  - when clearing a disabled train or portion of it from the section

  - when the front portion of a divided train is to set back to the rear portion

  - when setting back from a point of obstruction

  - when setting back after overrunning a platform

  - when setting back after taking the wrong route at a junction

2.0 GENERAL INSTRUCTIONS

- when making a movement in connection with Single Line Working or working to and from a point of obstruction

- when making a movement of an Engineer's train towards, on or from a line under Absolute Possession

- a propelled movement must only be made in any of the above circumstances when absolutely necessary and it must be confined to the shortest practicable distance

2.9 TRACTION UNITS TO BE DRIVEN FROM LEADING CAB

2.9.1 Driving from the leading cab

- in the interests of safety of movements and personnel, traction units must be driven from the leading cab when moving on any line (including sidings)

- subject to the precautions specified in clause 3.5.14 being observed, a traction unit may be driven from other than the leading cab as shown below

- where the system bypass switch has been operated on an electric multiple unit train, it must only be driven from the leading cab

2.9.2 Authority for driving from other than the leading cab

- during a propelled movement

  - a traction unit may be driven from other than the leading cab if this allows a better view of signals or handsignals

- if the driving controls are defective in the leading cab

  - a traction unit may be driven from another cab but a multiple unit or push/pull train must, where possible, be driven from another forward facing cab

2.0 GENERAL INSTRUCTIONS

- the defective traction unit must be taken out of service (or remarshalled where a multiple unit train comprises two or more units) as soon as possible

- during a shunting movement

- a light locomotive (single or in multiple), a multiple unit or a push/pull train may be driven from other than the leading cab

- unless the movement is propelled or the driving cab controls are defective, the movement must ALWAYS be driven from the leading cab when:

  - within a maintenance/servicing/stabling siding or depot, or
  - entering a shed or building, or
  - proceeding onto vehicles, or
  - approaching buffer stops

2.10 MOVEMENTS ON LINES UNDER ABSOLUTE POSSESSION

2.10.1 Possession arrangements

- possessions are protected by Detonator Protection at each end and at junctions where other lines join the possession

- Detonator Protection comprises three detonators 20 metres (20 yards) apart and a red banner flag in daylight and clear weather, or a red light (showing in both directions) at all other times

- on single lines, possessions may be protected by the Token (where provided) instead of Detonator Protection

- work sites are indicated by double sided marker boards placed in the five foot

2.0 GENERAL INSTRUCTIONS

- two flashing red lights, vertically displayed, means ENTRANCE to a work site area

- two flashing yellow lights, vertically displayed, means EXIT from a work site area

2.10.2 Authority for movements

- authority for movements must be obtained from the person shown below:

MOVEMENT	AUTHORITY
Towards possession	Signalman
Entering or within possession	PICOP
Entering or within work site	ES
Leaving work site	PICOP
Leaving possession	Signalman

- this person is required to give this authority (and the necessary instructions) personally whenever practicable; otherwise, a suitable person will be used

EXCEPTION: the Driver must personally obtain the Signalman's permission before moving towards or leaving a possession

- the Person in Charge of the Possession (PICOP) is identifiable by a green armlet and the Engineering Supervisor (ES) in charge of a work site by a blue armlet

- only Engineer's trains are permitted to enter a possession

2.0 GENERAL INSTRUCTIONS

2.11 VEHICLES LABELLED FOR REPAIRS

- Movements of defective vehicles must be restricted according to the label which is applied:

LABEL	RESTRICTIONS
NOT TO GO (Red & White)	No movement is permitted, except: - within a station or sidings as authorised by Maintenance staff, or - where a YARD TO YARD (for repairs) Label is affixed
YARD TO YARD (FOR REPAIRS) (Red & Green)	Only a local movement (as specified) is permitted
CASUALTY REPAIR (White & Blue)	To complete any loaded journey Not to be reloaded To be worked empty to a specified repair shop
FOR REPAIRS (Green)	To complete any loaded journey Not to be reloaded To be sent for repairs
MAY BE HOME LOADED (Green endorsed)	May be reloaded to or towards a specified destination where repairs can be done
DEFECTIVE BRAKE (White endorsed in Red)	Not to be reloaded Brake lever to be secured 'OFF'

3.0 INSTRUCTIONS TO DRIVERS

3.1 BOOKING ON AND OFF DUTY

- you must book on at the rostered time and place
- when booking on, you must check the Notices posted for your attention
- before booking off, you must check when you must next report for duty
- when booking off, you must leave a full written report of any incident or irregularity

3.2 EQUIPMENT YOU MUST HAVE WITH YOU IN YOUR DRIVING CAB

- you must have:
  - a handlamp including red and white aspects (and spare battery and bulb)
  - a current Working Timetable
  - a key for signal telephone boxes
  - a carriage key
  - a signal post replacement key (where required)
  - an emergency kit when you are working a dangerous substances train
  - at least 10 detonators
  - two red flags
  - a track circuit operating device or clip
  - a supply of Authority Forms for Passing Signals at Danger

3.0 INSTRUCTIONS TO DRIVERS

- and when working a D.O. train:
  - a first aid kit
  - a watch showing the correct time
  - a gangway door key
  - a train manifest (where required)
  - a supply of Defective Door notices (where required)
  - a mobile telephone (where required)
- you must also have with you the relevant Notices for which you must sign

3.3 WHAT YOU MUST DO BEFORE STARTING THE JOURNEY

3.3.1 Examination of traction unit

- you must be satisfied that your traction unit is in proper order and correctly equipped
- you must carry out any laid down safety checks
- check that the following are provided as required and any seals, etc, are intact:
  - emergency ladders
  - fire extinguishers
  - track circuit operating devices

3.0 INSTRUCTIONS TO DRIVERS

3.3.2 Brake test

- when you are required to create air brake pipe pressure or vacuum, you will receive a handsignal given by moving an arm (or red light during darkness or poor visibility) vertically up and down above the shoulder

- alternatively, you will receive the necessary instructions verbally

3.3.3 Head and tail lamps, etc

- you must ensure that the required headlights and marker lights are exhibited and any destination blinds are correctly set and illuminated

- you must change the lights as necessary when your train reverses direction

- you must also ensure that the necessary tail lamps are provided at the rear of a light locomotive(s) or locomotive(s) assisting a train in rear

3.4 WHAT YOU MUST DO WHEN STARTING THE TRAIN

NOTE: this clause applies when:
- **starting the journey**
- **restarting from a station stop**
- **restarting after attaching or detaching**

3.4.1 Trains worked by a Guard

- you must receive the "Train Ready to Start" signal from the Guard before starting

- this may be relayed to you by the Person in Charge

3.0 INSTRUCTIONS TO DRIVERS

3.4.2 D.O. trains with power operated doors

- at a staffed platform, you will receive the "Station Work Complete" signal when the doors are ready for closing
- after the doors are closed properly, you must then receive the "Train Ready to Start" signal from the Person in Charge before starting
- at an unstaffed platform, you must check, before starting, that:
  - the doors are properly closed
  - it is safe for the train to start

3.4.3 Other D.O. trains

- you must receive the "Train Ready to Start" signal from the Person in Charge before starting

3.4.4 All trains

- when you have received the "Train Ready to Start" signal or you are satisfied it is otherwise safe to start, you must check that any signal applying to the movement is clear, before starting
- you must not move your train towards that signal to await clearance unless authorised by the Signalman or, when in a siding, by the Person in Charge

3.4.5 On starting away

- accelerate carefully
- when safe and practicable, look back to see that all is in order

3.0 INSTRUCTIONS TO DRIVERS

3.5 WHAT YOU MUST DO DURING THE JOURNEY

3.5.1 Where you must ride

- whenever the traction unit is in motion, you must be in the driving cab unless a competent person is present who has the requisite current traction and route knowledge
- on a light locomotive(s) or freight train without a brake van, the Guard will ride in the rear cab (of the leading locomotive) except where required to accompany you in accordance with the Rules

3.5.2 Observance of signals and speed restrictions

- you must obey all signals and speed restrictions applying to your train
- apply defensive driving techniques
- keep a good lookout and be alert for handsignals or any indication of something untoward

NOTE: you may disregard a blue/white chequered flag exhibited by a Lookout

- as far as practicable, make sure your train runs punctually
- reduce speed as necessary if signals are not visible at the usual distance because of fog or falling snow, etc.

3.0 INSTRUCTIONS TO DRIVERS

3.5.3 Efficiency of operations

- you must also have regard to the efficiency of operations and, when possible without detriment to timekeeping, you should:
  - accelerate and decelerate gently
  - maximise coasting with power shut off
  - avoid the unnecessary idling of diesel engines

3.5.4 Route knowledge

- if you are to work over any portion of line that you have not signed that you are conversant with, you must first obtain the services of a competent Conductor Driver
- the Conductor Driver is responsible for the safe working of the train and is required to:
  - drive the train if competent to do so, or
  - leave the driving entirely to you but give you the necessary instructions concerning signals, speed restrictions, etc to ensure safe working
- the Conductor Driver is also responsible for observing the requirements of Section K

3.5.5 Use of the horn

- you must sound the horn as a warning:
  - when passing a whistle board
  - frequently when approaching an AHB or LB level crossing where a whistle board is provided
  - when approaching or leaving a station where another train is standing on the next adjacent line or siding

3.0 INSTRUCTIONS TO DRIVERS

- when approaching and passing shunting operations on the next adjacent line or siding
- when entering or emerging from a tunnel
- frequently when in a long tunnel
- on starting if required to pass a signal at Danger
- when otherwise necessary

- you must also sound the horn as a warning to anyone on or near the line who may be endangered
- give a series of short urgent danger warnings if anyone does not acknowledge your warning and move clear or remains dangerously close to the line concerned
- both tones of a two-tone warning horn must be used to give warnings
- do not use the horn more than necessary for safe and efficient working, especially between 2300 and 0700 hours
- use the horn sparingly when people are nearby, or when in or entering a shed or building, unless someone is endangered

3.5.6 Stopping the train

- you must stop the train with care, taking into account all the conditions which are relevant
- observe stop markers where provided on platforms
- in dead-end platforms, where stop markers are not provided, you must stop the train at least 6 metres (6 yards) from the buffer stops

3.0 INSTRUCTIONS TO DRIVERS

- in sidings, avoid stopping foul of other sidings as far as practicable

- you must NOT stop the train where not booked to call in order to pick up or set down passengers or staff unless:

  - a Special Stop Order is issued, or

  - special authority is given

3.5.7 Train required to stop in section

- if an unscheduled stop is to be made in section, you must stop at the signal or signal box in rear of the section to enable the Guard to agree the arrangements with the Signalman

- after entering the section, you must not:

  - stop within the controls of an AHB or LB level crossing unless it is being locally operated, or

  - pass over any manned level crossing not protected by signals without first ensuring it is safe to do so, or

  - make any unsignalled wrong direction movement other than setting back through ground frame operated points

- on a single or bi-directional line, the train may return to the end of the section where it entered but only provided the Guard has obtained the Signalman's permission before the movement starts

- on a D.O. train, you must:

  - make the arrangements with the Signalman

  - keep in touch with the Person in Charge of an Engineer's train when working in the section

  - make sure the section is cleared by the time agreed

3.0 INSTRUCTIONS TO DRIVERS

3.5.8 Train entering a Token section

- you must be in possession of the Token (or have been shown it, if it is to be carried on another locomotive on your train) before entering a Token section unless:
  - Working by Pilotman applies, or
  - you are authorised to enter the section to assist a disabled train, or
  - you are authorised to enter a line under Absolute Possession
- when receiving the Token, you must immediately check that it applies to the section you are about to enter
- when picking up and/or setting down a Token by hand, the speed of a non-stopping train must not exceed 16 kmh (10 mph)

3.5.9 Train double headed in tandem

- if in charge of the leading locomotive, you are responsible for the observance of signals and the working of the brake
- if in charge of the second locomotive, you must:
  - observe signals as far as practicable
  - be alert for any signal given by the other Driver
  - apply the brake if necessary
- special care must be taken when starting

3.0 INSTRUCTIONS TO DRIVERS

3.5.10 Train assisted in rear

- this is permitted only in emergency or where specially authorised
- if in charge of the train locomotive, you must first agree with the other Driver a means of communicating (e.g. by handsignal or horn, etc) when you are ready to start or restart
- you must then use this means of communication to indicate to the other Driver when you have checked that any controlling signal is cleared and you are ready to start or restart
- if in charge of the assisting locomotive, you must not start or restart until the Driver of the train locomotive has indicated that it is safe to do so
- if either Driver needs to stop, three or more short blasts on the horn must be given as a signal to the other Driver to stop
- the Driver of the assisting locomotive must:
  - leave the train only at a signal with a telephone, or signal box, or where authorised by the Signalman by train-radio
  - tell the Signalman when having left the train
  - not pass any signal cleared for the train until replaced to Danger and cleared again

3.5.11 Train entered loop or passed clear of running lines

- if your train has not already passed the signal box, you must immediately tell the Signalman when it has arrived complete with tail lamps attached and is clear of the running line when:
  - it has entered a loop or siding, or

3.0 INSTRUCTIONS TO DRIVERS

- it is shunted clear of the running line on which it arrived

- you must obtain the necessary assurance from the Guard (where provided)

- this instruction does not apply on a Track Circuit Block line

3.5.12 Train to make a shunting movement

- where a Guard or Shunter is provided, the movement must be controlled as shown in Section J

NOTE FOR IRISH RAIL STAFF

A Shunter is <u>not</u> required where movements are Driver only operated, the Driver is driving from the leading end and there is no requirement to attach/detach vehicles using manual couplings

- where the train is not accompanied by a Guard or Shunter, you are entirely responsible for the safety of the movement

- on a running line, speed must not exceed what is appropriate for the controlling signal

- in depots, yards or sidings, speed must not exceed 8 kmh (5 mph)

- before passing over any hand points facing to the movement, you must check that they are correctly set and properly fitting

- before making an unsignalled movement over any worked points, you must obtain permission from the Signalman or Ground Frame Operator and check that the points are correctly set

- where necessary, you must tell the Signalman or Ground Frame Operator when the movement has passed clear of points which require to be moved

3.0 INSTRUCTIONS TO DRIVERS

3.5.13 Train to be propelled

- propelled movements on running lines are permitted only as shown in clause 2.8.2
- the movement must be controlled by the Guard or Shunter (or Person in Charge in the case of a D.O. train) riding in the leading suitable position in the train or being positioned on the ground
- you must ensure that any signals applicable to the movement are observed
- before starting, you must:
  - reach a clear understanding with the person controlling the movement as to how and from where it will be controlled
  - change the head and marker lights as necessary
- when starting, you must sound the horn
- during the movement, you must:
  - proceed cautiously, not exceeding the speed which will enable it to be stopped within the distance that the person controlling it can see to be clear
  - sound the horn when approaching a station or level crossing in addition to the normal requirements of clause 3.5.5
  - ensure it is safe to do so before passing over any level crossing
  - proceed with extreme caution when entering a dead-end or occupied platform line

3.0 INSTRUCTIONS TO DRIVERS

3.5.14 Train to be driven from other than the leading cab

- such movements (whether on a running line or siding) are permitted only as shown in clause 2.9.2
- the movement must be controlled by the Guard or Shunter (or Person in Charge in the case of a D.O. train) as shown in Section J
- if, however, the movement is to take place on a running line, you must observe the instructions in clause 3.5.13

3.5.15 Train moving on passenger platform line

- when there are two (or more) trains on a passenger platform line, you must not follow a departing train towards the platform starting signal until:
  - the departing train has passed beyond that signal and it has been replaced to Danger and cleared again, or
  - you are authorised by the Signalman to move towards that signal to await its clearance
- this also applies to a light locomotive which is to follow a departing train
- you must not make any setting back movement (or on a bi-directional or dead-end line, any movement in either direction), even for a short distance, unless:
  - the signal is cleared for the movement, or
  - the Signalman's permission is obtained (in which case, you must advise the Signalman when the movement is completed)

NOTE: this does not apply to movements simply to enable coupling or uncoupling

3.0 INSTRUCTIONS TO DRIVERS

3.5.16 Train to pass over level crossing operated by traincrew

- you must stop your train short of the crossing (or at the protecting signal or other designated place) to enable the Guard to alight and go to the crossing
- you must not pass over the crossing until authorised by the Guard
- you must not continue on the journey until the Guard has reopened the crossing to road traffic and rejoined the train

3.5.17 Engineer's train to enter or move within a possession

- you must not make any movement unless you or the Guard has obtained authority for the movement from the PICOP, ES or Signalman, as shown in clause 2.10.2
- you must not pass any signal at Danger within the possession unless authorised by the PICOP or ES
- when making a movement within a possession you must:
  - disregard the normal meaning of any signal showing a proceed aspect
  - observe the provisions of Section D
  - be alert for any handsignal requiring you to stop
- if the movement is detained other than within a work site, you must arrange for a red light to be exhibited at the front and headlights extinguished

3.0 INSTRUCTIONS TO DRIVERS

3.5.18 Engineer's train to load or unload materials

- the Guard will tell you when the Engineer's Person in Charge is to take control of movements involving loading or unloading materials and when such movements are finished
- before starting such movements, you must sound the horn as an acknowledgement and a warning
- you must maintain a uniform speed not exceeding 8 kmh (5 mph)

3.6 WHAT YOU MUST DO IF AN IRREGULARITY OR EXCEPTIONAL INCIDENT OCCURS

3.6.1 If you observe something which might endanger trains

- if your train may be endangered, you must stop immediately
- if other trains may be endangered, you must:
  - sound the horn
  - exhibit a red light or red handsignal towards approaching trains and, where provided, exhibit the emergency headlights
  - carry out the Emergency Protection procedure in accordance with Section M on the affected line(s)

NOTE: you must also do this whenever a cow, bull, horse, sheep or other large animal is within the boundary fence, even if not immediately endangering trains

3.0 INSTRUCTIONS TO DRIVERS

- in all circumstances, tell the Signalman by the quickest possible means unless you observe something not of immediate danger to trains, in which case tell the Signalman as soon as convenient

- when booking off, you must leave a full written report of any irregularity or incident

3.6.2 If your train is in distress

- if you cannot control the speed of your train or need to alert anyone to an emergency, give the "Train in Distress" warning

- do this by giving a series of long blasts on the horn and by using the emergency headlights (where provided)

- if you require the Guard to apply brakes, use the Guard/Driver communication system or give three or more short blasts on the horn

3.6.3 If your train explodes detonators

- if a detonator(s) is exploded together with a yellow handsignal waved slowly from side to side, you must understand that an emergency speed restriction has been imposed

- if a detonator(s) is exploded at a distant signal together with a yellow handsignal held steadily, you must:

  - understand that the next signal is at Danger

  - be prepared to stop at it

3.0 INSTRUCTIONS TO DRIVERS

- if a detonator(s) is exploded in any other circumstances, you must:

  - stop immediately

  - contact the Signalman and ascertain the circumstances

  - if this is not possible, proceed at extreme caution towards the obstruction or handsignal indicating what is required

EXCEPTION: **if a detonator(s) is exploded at a signal box or is exploded together with a red handsignal, you must NOT proceed until authorised**

3.6.4 If your train stops out of course

- in an emergency, try to avoid stopping on viaducts, in tunnels or where it may be difficult to deal with the emergency

- when stopping at a signal, try to avoid stopping a passenger train on bridges or viaducts without high parapets

- avoid stopping on or near catch or spring points, but if this happens, make sure it is safe to restart before doing so

- if you notice an unexplained brake application when in charge of a passenger train, you must ascertain from the Guard whether the Passenger Communication Apparatus (PCA) has been operated

- if the PCA is operated on a train where the stopping of the train remains under your control, you must stop at the first suitable location, as described above

3.0 INSTRUCTIONS TO DRIVERS

- you must, however, stop immediately if:
  - the PCA is operated when leaving a platform, or
  - there is any indication that the train may be derailed
- if in charge of a D.O. train, you must also ascertain the circumstances and observe the instructions in clause 4.6.8
- you must obtain the "Train Ready to Start" signal from the Guard or, in the case of a D.O. train, make sure it is safe to do so before restarting a passenger or empty coaching stock train at:
  - a station platform, or
  - signals, where detained an unusually long time, or
  - a location where there has been an accident or exceptional incident
- if in charge of a D.O. passenger train, you must keep passengers informed of delays
- if in charge of a freight train (or other train comprising screw-coupled vehicles), which has come to a sudden stop for any reason, you must check whether buffer locking or other damage has occurred before restarting
- after restarting any train which has stopped out of course on the approach to an automatic level crossing, you must approach cautiously and not pass over the crossing without first ensuring it is safe to do so

3.0 INSTRUCTIONS TO DRIVERS

3.6.5 If your train stops short at a platform

- you must obtain the Guard's permission to draw forward if any part of a passenger or empty carriage train is at the platform and the doors are not under your control
- otherwise, you may draw forward without further delay

3.6.6 If your train over-runs a platform

- you may only set back provided:
  - the over-run is less than 400 metres ($^1/_4$ mile), and does not include an automatic level crossing
  - you can obtain the Signalman's permission to do so
- where there is any other type of level crossing within the over-run, you must first make sure it is safe to set back over the crossing
- tell the Guard (where provided) what is to be done and whether you require any assistance
- the setting back movement must be:
  - driven from the leading end, if it comprises a multiple unit or push/pull train, or
  - conducted by the Guard or a competent person if a locomotive hauled train is to be propelled
- where it is not permitted or not possible to set back, you must inform Operations Control of the circumstances so that arrangements can be made for the passengers affected

3.0 INSTRUCTIONS TO DRIVERS

3.6.7 If your train is to pass over a level crossing where there is a failure or incident

- if told by the Signalman that there is a failure or incident affecting a level crossing, you must approach the crossing cautiously and be prepared to stop short of it

NOTE: this also applies where, because of a failure, it is not possible to warn the Crossing Keeper of the approach of trains at a crossing which is normally open to road traffic

- you must obtain authority to pass over the crossing from the Crossing Keeper (unless the protecting signal, where provided, is cleared) or Emergency Operator where you are told one is present

- otherwise, you must ensure it is safe to do so before the train passes over the crossing

EXCEPTION: if the failure or incident affects an AHB, AHB-D or LB crossing, and an Emergency Operator is not on duty, you must instruct the Guard (or competent person specially provided for this purpose on a D.O. train) to alight at the crossing and indicate when it is safe for the train to pass over the crossing

3.6.8 If instructed by the Signalman to examine the line

- make sure you clearly understand what is required

- arrange for the Guard or other employee to accompany you if:

  - it is during darkness or poor visibility

  - the portion of line affected is in a tunnel which is not illuminated

3.0 INSTRUCTIONS TO DRIVERS

- proceed cautiously over the portion of line concerned, prepared to stop short of any obstruction
- observe the Signalman's instructions
- observe the provisions of Section D if required to pass a signal at Danger
- after passing through the section, tell the Signalman whether the line is clear or anything else relevant

3.6.9 If a passenger falls from your train

- if you become aware that a passenger has (or may have) fallen from your train, you must stop immediately but try to avoid stopping the train in a tunnel or on a viaduct or other unsuitable place
- contact the Signalman by train-radio, if possible, and request assistance for the passenger and, where necessary, signal protection on the other line(s)
- if there is any delay in arranging the required signal protection, you must carry out Emergency Detonator Protection (in accordance with Section M) on the other line(s)
- the Guard will indicate when the train is ready to restart
- on a D.O. train, you must:
  - before restarting, ensure that the door from which the passenger fell is secured out of use
  - make a full note of the details of the door concerned and, if possible, obtain the name and address of any witnesses

3.0 INSTRUCTIONS TO DRIVERS

3.6.10 If you need to work on the outside of your train

- if you (or the Guard) need to work on or attend to the outside of your train because of a failure or irregularity, you must first be sure it is safe to do so
- if necessary, you must arrange with the Signalman for the passage of trains to be stopped on the adjacent line(s) before starting work and then place a track circuit operating device on the line(s) concerned to supplement the signal protection
- tell the Signalman when normal working may resume and remove the track circuit operating device(s)

REMINDER: do not climb above floor or solebar level on any vehicle on an electrified line unless an emergency isolation has been arranged

3.6.11 If your train encounters floods

- if the line is flooded, you will be so informed and told whether you may proceed at normal or reduced speed
- if you unexpectedly encounter flooding, you must reduce speed as far as practicable and tell the Signalman as soon as possible
- if trains may be endangered, you must observe the instructions in clause 3.6.1

3.0 INSTRUCTIONS TO DRIVERS

3.6.12 If a failure or irregularity occurs concerning ATP, CAWS, AWS or TPWS equipment

- traction units may be equipped with one or more of the following systems:
  - ATP (Automatic Train Protection)
  - CAWS (Continuous Automatic Warning System)
  - AWS (Automatic Warning System)
  - TPWS (Train Protection and Warning System)
- separate instructions are issued concerning the operation of these safety systems and the action you must take if there is a failure or irregularity when in service (or when entering service)
- you must observe those instructions whenever such a failure or irregularity occurs

3.6.13 If the Driver's Safety Device fails

- tell the Signalman and Operations Control as soon as possible
- arrange for the traction unit to be taken out of service immediately or as soon as possible
- arrange for a suitable employee to accompany you throughout any further movement
- break the seal of the safety control equipment in that person's presence
- demonstrate how to shut off power and apply the brakes
- observe the instructions in the Driver's Manual
- retain the broken seal and hand it in when booking off

3.0 INSTRUCTIONS TO DRIVERS

3.6.14 If the speedometer fails

- reduce speed enough to be certain of observing all speed restrictions
- tell the Signalman and Operations Control as soon as possible
- arrange for the traction unit to be taken out of service immediately, or as soon as possible

3.6.15 If the horn fails

- if it fails completely, tell the Signalman
- arrange for the traction unit to be taken out of service immediately, or as soon as possible
- proceed at reduced speed meanwhile
- if a partial failure occurs, arrange for the train to be taken out of service at the first suitable place without causing delay or cancellation

3.6.16 If serious wheel slip or wheel slide occurs

- if serious or prolonged wheel slip or wheel slide occurs, tell the Signalman so that the rails can be examined
- if slipping is severe, tell the Signalman immediately, stopping specially if necessary
- if serious wheel slip occurs, you must also arrange for the traction unit to be examined by the Maintenance staff as soon as possible

3.0 INSTRUCTIONS TO DRIVERS

3.6.17 If a vehicle defect occurs

- you must report any defects on your traction unit which arise in running in the log card and in the "Defects" book
- serious defects must be reported specially to your supervisor
- if you become aware of a defective vehicle on a D.O. train, tell the Maintenance Staff as soon as possible
- if those staff are not available and you have any doubt whether it is safe for the vehicle to continue its journey, you must:
  - tell the Person in Charge, if available, or
  - arrange for the vehicle to be detached from the train
- if the driving controls become defective in the leading cab, you must observe the instructions in clause 3.5.13

3.6.18 If a head or marker light fails

- provided the headlight is operative, the train may continue normally to the first place where it can be taken out of service without causing cancellation or delay
- if the headlight is inoperative, the train must be taken out of service immediately or it may proceed as shown below to the first place where it is practicable to be taken out of service:
  - speed not to exceed 32 kmh (20 mph) during darkness or poor visibility
  - frequent use of the horn to be made when approaching level crossings and places where persons are likely to be on or near the line

3.0 INSTRUCTIONS TO DRIVERS

- a white light (a handlamp, if necessary) to be provided if there is a complete failure of head and marker lights

3.6.19 If a tail lamp fails

- if one lamp fails, the train may continue but the defective lamp must be replaced as soon as possible
- if both lamps fail, you must arrange for a red light (a handlamp, if necessary) to be provided before the train continues

3.6.20 If a Track Circuit Assistor (TCA) fails

- you must comply with the following restrictions on the working of trains with a defective TCA:

defect on any vehicle

- must not enter service from a Maintenance Depot

defect not affecting first or last vehicle

- may continue normally in service
- must not re-enter service from a Maintenance Depot
- may re-enter service from any other location
- normal train signalling regulations apply

defect affecting first or last vehicle

- must be taken out of service as soon as possible
- must then only be worked to a Maintenance Depot for repair
- subject to special signalling regulations for all movements

3.0 INSTRUCTIONS TO DRIVERS

- if a defect occurs during the journey, you must:
  - tell the Signalman as soon as possible
  - check whether the first or last vehicle is affected and tell the Signalman accordingly
  - proceed as shown above, observing any instructions given by the Signalman
- if you need to stop specially to check which vehicle is involved:
  - continue at normal speed to the first suitable location
  - approach cautiously and do not pass over any automatic level crossing without first ensuring it is safe to do so
- if working a train (not in service) to a Maintenance Depot for repairs to a TCA on the first or last vehicle, you must tell the Signalman before the journey is resumed or starting from a siding

NOTE: reference to Maintenance Depot means a depot with the appropriate specialised equipment to repair TCAs

3.0 INSTRUCTIONS TO DRIVERS

3.7 WHAT YOU MUST DO WHEN LEAVING YOUR TRAIN

3.7.1 Leaving a train unattended

- you must not leave a traction unit unattended unless:
  - it is in accordance with the programmed working, or
  - another competent person is to take charge of it immediately, or
  - it is necessary to carry out the Rules, or
  - it is stabled in a siding, depot or authorised place, or
  - it is absolutely necessary

3.7.2 Securing your train

- when leaving your train, you must:
  - apply the hand/parking brakes
  - remove the forward/reverse key (where appropriate)
  - observe the appropriate instructions for the traction unit concerned

3.7.3 When relieved

- you must give the relieving Driver any information necessary concerning the train to ensure it continues safely on its journey
- this includes any defect or irregularity which may affect the working of the train

4.0 INSTRUCTIONS TO GUARDS

4.1 BOOKING ON AND OFF DUTY

- you must book on at the rostered time and place
- when booking on, you must check the Notices posted for your attention
- before booking off, you must check when you must next report for duty
- when booking off, you must leave a full written report of any incident or irregularity

4.2 EQUIPMENT YOU MUST HAVE WITH YOU ON YOUR TRAIN

- you must have:
  - a whistle
  - a watch showing the correct time
  - a handlamp with white, green and red aspects (and spare battery and bulb)
  - a red flag and a green flag
  - at least 10 detonators
  - a hand-portable radio (GDC compatible) (where required)
  - a current Working Timetable
  - a signal post replacement key (where required)
  - a lineside telephone box key
- and, when working a passenger train:
  - a carriage key

4.0 INSTRUCTIONS TO GUARDS

- a gangway door key
- a first aid kit
- a supply of Defective Door notices (where required)

- you must also have with you the relevant Notices for which you must sign

4.3 WHAT YOU MUST DO BEFORE STARTING THE JOURNEY

- before starting your journey or restarting after attaching or detaching vehicles, you must make sure it is safe to do so
- you must be sure that all the requirements of clause 2.2 are met except that the Driver is responsible for the headlights
- when you require the Driver to create air brake pressure or vacuum, you must give a handsignal by moving your arm (or red light during darkness or poor visibility) vertically up and down above your shoulder
- alternatively, you may give the necessary instructions verbally

4.4 WHAT YOU MUST DO WHEN STARTING THE TRAIN

- first, make sure that:
  - station work is complete
  - all doors (whether slam or power operated) are properly closed
  - it is safe for the train to start

4.0 INSTRUCTIONS TO GUARDS

and where practicable:

- any signal applying to the starting of the train has been cleared

- at a staffed platform where the Person in Charge is present, you must receive the "Station Work Complete" handsignal and must not close any power operated doors before this signal is received

- you may then give the "Train Ready to Start" signal to the Driver

- if you are working a train with a brake van, give this signal from the brake van where you are riding

- you may, however, give this signal from elsewhere if your duties on the train require it or you can obtain a better view of the train

- if you are to use a handsignal instead of the Guard/Driver bell, you must prearrange this with the Driver

4.5 WHAT YOU MUST DO DURING THE JOURNEY

4.5.1 Where you must ride

- you must normally ride in the most convenient brakevan when your duties do not require you to be elsewhere

- on a light locomotive(s) or freight train without a brakevan, you must ride in the rear cab (of the leading locomotive) except where you are required to accompany the Driver in accordance with the Rules

4.0 INSTRUCTIONS TO GUARDS

4.5.2 Brake vans on passenger trains

- unattended brake vans must be locked
- unauthorised persons must not be allowed in any brakevan

4.5.3 Being alert

- you must remain alert to the progress of the train
- you must keep passengers informed of delays
- if safe and practicable, look out when starting from stations and approaching dead-end platforms or terminals

4.5.4 Passing through the train

- where practicable, you must pass through the train from time to time to check that:
  - all is in order
  - the lighting, heating and air conditioning are working satisfactorily
  - aisles, gangways and doorways are clear of obstructions which might impede exit in emergency

4.5.5 Passenger trains making unauthorised stops

- you must not stop the train where not booked to call in order to pick up or set down passengers or staff unless:
  - a Special Stop Order is issued, or
  - special authority is given

4.0 INSTRUCTIONS TO GUARDS

4.5.6 Use of public address system

- where provided, use the system to give information about calling points and connections etc, when:
  - about to depart from principal stations
  - about to arrive at a station where the train is booked to call
- use the system, when practicable, to give information required in clause 4.5.7

4.5.7 Warning passengers about short platforms

- where practicable, tell passengers beforehand if the train cannot be fully accommodated at the platform
- say whether passengers should move along the train or wait until it is drawn forward

4.5.8 Train required to stop in section

- if the train is to make an unscheduled stop in section, you must agree with the Signalman before entering the section the time by which the line must be clear
- you must ensure that the section is cleared by the agreed time
- you must keep in touch with the Person in Charge of an Engineer's train when working in the section

4.0 INSTRUCTIONS TO GUARDS

- you must not authorise any unsignalled wrong direction movement unless:
  - the train is to set back through ground frame operated points where a signal is not provided, or
  - the train is to return to the end of the section where it entered on a single or bi-directional line, in which case you must obtain the Signalman's permission before the movement starts

4.5.9 Train to make a shunting movement

- you must control the movement as shown in Section J

4.5.10 Train to be propelled

- propelled movements on running lines are permitted only as shown in clause 2.8.2
- you must control the movement as shown in Section J
- before starting, you must:
  - reach a clear understanding with the Driver as to how and from where the movement will be controlled
  - arrange for the required head and tail lights to be provided; the Driver will change the locomotive lights as necessary
  - ensure that sufficient brakes are applied on the leading vehicles if the line is on a falling gradient and the automatic brake is not in use
- during the movement, you must:
  - keep a good lookout
  - observe signals

4.0 INSTRUCTIONS TO GUARDS

- warn anyone on or near the line
- where practicable, sound the horn as necessary
- handsignal to the Driver as necessary
- be prepared to apply the brake valve when riding in a vehicle
- check that it is safe to pass over any level crossing before indicating to the Driver accordingly
- alight and go to the crossing for this purpose if you are riding in the train in other than the leading vehicle

4.5.11 Train to be driven from other than the leading cab

- such movements (whether on a running line or siding) are permitted only as shown in clause 2.9.2
- you must control the movement as shown in Section J
- if, however, the movement is to take place on a running line, you must observe the instructions in clause 4.5.10

4.5.12 Train to pass over level crossing operated by traincrew

- you must close the crossing to road traffic and indicate to the Driver when it is safe for the train to pass over the crossing
- when the train has passed clear of the crossing, you must reopen the crossing to road traffic before restarting the train on its journey

4.0 INSTRUCTIONS TO GUARDS

4.5.13 Engineer's train to enter or move within a possession

- you must not signal to the Driver to make any movement unless authority has been obtained from the PICOP, ES or Signalman as shown in clause 2.10.2
- you must not signal to the Driver to pass any signal at Danger within the possession unless authorised by the PICOP or ES
- you must be alert for any handsignal requiring you to signal to the Driver to stop

4.5.14 Engineer's train to load or unload materials

- movements involving loading or unloading materials may be controlled by the Engineer's Person in Charge
- you must tell the Driver when this arrangement is to apply and when it is finished
- while it applies, you must assist the Person in Charge with the control of movements

4.6 WHAT YOU MUST DO IF AN IRREGULARITY OR EXCEPTIONAL INCIDENT OCCURS

4.6.1 If you observe something which might endanger trains

- if practicable, tell the Driver immediately
- otherwise, give the emergency bell signal (6 or more beats) on the Guard/Driver bell system
- if you cannot stop the train when you consider it necessary, exhibit a red handsignal to the Driver: when passing any employee on the lineside or signal box, station or yard, exhibit a red handsignal waved slowly from side to side

4.0 INSTRUCTIONS TO GUARDS

- if the circumstances do not justify stopping the train, report the details at the first suitable opportunity

4.6.2 If your train stops out of course

- make sure that passengers do not get out unless it is necessary

- you must make sure it is safe to restart and give the "Train Ready to Start" signal to the Driver if a passenger or empty coaching stock train stops out of course at:

  - a station platform, or

  - signals, where detained an unusually long time, or

  - a location where there has been an accident or exceptional incident

4.6.3 If your train stops short at a platform

- before drawing forward, the Driver is required to obtain your permission if any part of a passenger or empty coaching stock train is at the platform and the doors are not under the Driver's control

- you must not give this permission until safe to do so and you have warned any passengers who might be endangered

4.0 INSTRUCTIONS TO GUARDS

4.6.4 If your train over-runs a platform

- if a passenger or empty coaching stock train over-runs a platform where it is booked to call by not more than 400 metres ($^1/_4$ mile), the Driver will make arrangements in certain circumstances to set back
- the Driver will advise you when this is to be done, in which case you must give any necessary assistance
- you must also warn any passengers who may endanger themselves

4.6.5 If your train is to pass over a defective automatic level crossing

- if an Emergency Operator is not on duty at the crossing, the Driver will require you to alight at the crossing and indicate when it is safe to proceed
- you must take care not to give any signal which could be mistaken by a road user

NOTE: this applies at AHB, AHB-D or LB crossings

4.6.6 If you become aware of a defective vehicle

- tell the Maintenance staff as soon as possible
- if those staff are not available and you have any doubt whether it is safe for the vehicle to continue its journey, you must:
  - tell the Person in Charge, if available, or
  - arrange for the vehicle to be detached from the train

4.0 INSTRUCTIONS TO GUARDS

4.6.7 If a passenger falls from your train

- if you become aware that a passenger has (or may have) fallen from your train, you must immediately arrange for it to be stopped
- tell the Driver so that train-radio (or other means) can be used to arrange assistance for the passenger and, where necessary, signal protection on the other line(s)
- give the Driver any necessary assistance
- before restarting the train, you must ensure that the door from which the passenger fell is secured out of use
- you must make a full note of the details of the door concerned and, if possible, obtain the name and address of any witnesses

4.6.8 If the Passenger Communication Apparatus (PCA) is operated

- you must be alert for the operation of the PCA
- if you think the PCA may have been operated but not noticed by the Driver, you must, if necessary, stop the train by using your brake valve
- if the PCA is operated, you must ascertain by whom, from where and why
- if there is an emergency, you must make whatever arrangements are necessary as quickly as possible
- if the PCA has been misused, you must, if possible, obtain the names and addresses of those involved
- you must reset the PCA before the train continues its journey

4.0 INSTRUCTIONS TO GUARDS

4.7 WHAT YOU MUST DO WHEN LEAVING YOUR TRAIN

4.7.1 Relief arrangements

- you must not leave your train unless properly relieved by another Guard or authorised person unless:
  - it has arrived at its destination, or
  - you have to work another train immediately, or
  - you have to accompany the Driver while the locomotive runs round or is changed, or
  - you are leaving the train in accordance with the Rules

4.7.2 Heating and lighting

- you must switch off the heating and lighting in the brakevan unless it will be used again immediately

5.0 INSTRUCTIONS TO PERSONS IN CHARGE

NOTE: you must be currently certificated as competent to undertake duties concerning the starting of trains as shown in this clause 5

5.1 PROVISION OF GUARDS ON D.O. TRAINS

- you must arrange for the Driver to be told whenever a Guard is to be provided on a train which is booked to be worked without one

5.2 WHAT YOU MUST DO BEFORE AUTHORISING A D.O. TRAIN TO START ITS JOURNEY

- you must observe the instructions in clause 4.3 before a D.O. train starts its journey or restarts after attaching or detaching vehicles

- alternatively, you may permit a freight train to proceed provided you have a signed notification that those instructions have, instead, been carried out by a competent person, nominated to perform those duties on the train concerned

5.3 WHAT YOU MUST DO WHEN STARTING A TRAIN FROM A PLATFORM

5.3.1 Trains worked by a Guard

- you must give the "Station Work Complete" signal to the Guard when:

  - station work is complete

  - all doors are properly closed or, in the case of power-operated doors, they are ready for closing

- when the Guard has given the "Train Ready to Start" signal, you must relay this to the Driver where necessary

5.0 INSTRUCTIONS TO PERSONS IN CHARGE

5.3.2 D.O. trains with power-operated doors

- you must give the "Station Work Complete" signal to the Driver when:
  - station work is complete
  - the doors are ready for closing
- you must then check that:
  - all doors are properly closed
  - it is safe for the train to start
- you may then give the "Train Ready to Start" signal to the Driver

5.3.3 D.O. trains with slam doors

- you may give the "Train Ready to Start" signal for the Driver when:
  - station work is complete
  - all doors are properly closed
  - it is safe for the train to start

5.3.4 Where a signal applying to the starting of the train is provided

- where practicable, you must check that this signal has been cleared before giving any signal to the Guard or Driver concerning the starting of any train

5.0 INSTRUCTIONS TO PERSONS IN CHARGE

5.4 WHAT YOU MUST DO WHEN STARTING A TRAIN FROM A SIDING, ETC.

- you must tell the Guard when any work on the train is completed
- in the case of a D.O. train, you may give the "Train Ready to Start" signal to the Driver when:
  - work on the train is completed
  - the train is properly prepared
  - it is safe for the train to start
- clause 5.3.4 also applies