



Infrastructure Projects

Southern



Southern Shield Charter

28 January 2016





**EVERYONE HOME SAFE
EVERY DAY**

Contents

ABOUT THIS DOCUMENT.....	3
Issue record	3
Implementation	3
Endorsement.....	4
Safety Leadership Team.....	4
1. INTRODUCTION TO SOUTHERN SHIELD	5
1.1 Background	5
1.2 The SLT	6
1.3 Steering Group.....	6
1.4 Working Groups	7
2. PURPOSE AND IMPLEMENTATION OF THE CHARTER	8
2.1 Charter's purpose	8
2.2 Companies agreeing implementation	8
3. COMMUNICATION	9
4. THE AGREED CHARTER	10
4.1 Air Fuses	10
4.2 Non-Technical Competencies.....	10
4.3 Learning and Communication	10
4.4 Safe by Design.....	11
4.5 Reverse Parking	11
4.6 Gloves.....	11
4.7 Fleet Operators Registration Scheme (FORS)	12
4.8 Track access and isolation protocol.....	12
Safe system of work packs (SSOW).....	13
Signage 13	
4.9 Door closers	14
4.10 Eye protection	14
4.11 Working at height	14
4.12 DC isolations (strapping).....	15
4.13 Safety in substations	15
4.14 Time Out Take Five	16
5. RECOMMENDED BEST PRACTICE	17
5.1 Close call packs	17
5.2 Platform safety barriers	17
.....	19
APPENDICIES.....	19

APPENDIX A – TRACK ACCESS AND ISOLATION	20
1. Track Access and Isolation Protocol	20
APPENDIX B – WORKING AT HEIGHT	22
1. Working at Height – Hierarchy of Methods	22
1.1 Hierarchy for selection Methods for Working at Height	22
1.2 Basis of Hierarchy.....	22
1.3 Collective Protection vs Individual Protection	22
1.4 Assessment Criteria.....	23
1.5 Records of Approval	23
2. Southern Shield Working at Height Hierarchy and Selection.....	24
3. Records of System Selection	26
4. Working at Height Hierarchy of Approaches	27
4.1 Collective Avoidance	27
4.2 Collective Prevention	27
4.3 Individual Protection	32
4.4 Collective Minimisation	33
4.5 Individual Minimisation.....	33
APPENDIX C – DC ISOLATIONS	36
1. DC Isolations Protocol – Strapping	36
1.1 Compliance.....	36
2. Protocol Process	36
2.1 Implementation and Equipment	36
3. DC Isolations – Strapping Protocol Summary.....	41
APPENDIX D – SAFETY IN SUBSTATIONS.....	44
1. Safety in Substations Matrix.....	44
APPENDIX E – TIME OUT TAKE FIVE.....	46
1. What is a ‘Time Out Take Five’?	46
2. Background	46
3. When does a ‘Time Out Take Five’ happen?.....	46
4. Format.....	47
5. Before	47
5. During	48
6. After	48
7. Observation Form	48
GLOSSARY	50

ABOUT THIS DOCUMENT

Issue record

Issue	Date	Comments
1	8 May 2014	Produced post meeting 1
2	13 May 2014	Produced post meeting 1
3	14 July 2014	Produced post meeting 4
4	25 September 2014	Produced post meeting 5
5	4 December 2014	Produced post meeting 8
6	29 October 2015	Produced and issued across IP Southern
7	28 January 2016	Updated and re-issued on 1 February 2016

Implementation

The Southern Shield Charter applies to everyone who works in Infrastructure Projects Southern Region.

Endorsement

This Charter is owned and endorsed by the Safety Leadership Team and the Southern Shield Steering Group.

Safety Leadership Team

The following members of the Safety Leadership Team fully endorse the safety initiatives in the Southern Shield Charter:

Safety Leadership Team	
Regional Director IP Southern	
RDD Wessex	
RDD Anglia	
RDD South East	
RE Director Siemens	
AM Wessex Capacity Alliance	
MD Volker Fitzpatrick	
MD Osborne	
MD McNicholas	
MD BCM Construction	
MD Costain	
MD HVMS	
MD BAM Nuttall	
IP Programme Director	

1. INTRODUCTION TO SOUTHERN SHIELD

1.1 Background

The Southern Shield is a collaborative forum, which was set up in response to a tragic accident at Saxilby in 2012 when Scott Dobson was killed in a collision with an oncoming train. The forum examines processes, plant, design and culture to see where improvements can be made to eliminate accidents and incidents to ensure that everyone working in the IP Southern region gets Home Safe Every Day.

The aim of each initiative contained in the Charter is to:

- Prevent fatalities or life changing injuries
- Go beyond the baseline requirements of the Lifesaving Rules, Standards and legal requirements
- Provide a level playing field for all parties working in the Southern Region so that excellent safety is never sacrificed for commercial advantage.



The Southern Shield combines the knowledge and experience of members of Network Rail and key partners in the supply chain, including BAM Nuttall, Costain, Colas Rail, Osborne, Volker Fitzpatrick, HVMS, McNicholas, BCM Construction, Siemens and Wessex Capacity Alliance. Southern Shield is made up of the Safety Leadership Team (SLT), Steering Group and Working Groups.

1.2 The SLT

The SLT is made up of Directors of Network Rail and the supply chain and they are responsible for looking at cultural and behavioural changes that can be made across the Southern Region to increase safety. Each member of the SLT has made a personal commitment to improve safety across the Southern Region.

<i>Safety Leadership Team members</i>		
• Regional Director Southern	• AM Wessex Capacity Alliance	• MD Costain
• Head of Safety and Sustainable Development	• MD Volker Fitzpatrick	• MD HVMS
• RDD Wessex	• MD Osborne	• Head of Communications - IP Southern
• RDD Anglia	• MD McNicholas	• MD BAM Nuttall
• RDD South East	• MD BCM Construction	• Principal Health and Safety Manager - IP Southern
• RE Director Siemens		

1.3 Steering Group

The Southern Shield Steering Group is responsible for the implementation of new safety initiatives across the Southern Region. Anyone can suggest a new safety initiative to the group who will then decide whether to take this forward. To suggest a new initiative speak to a member of the Steering Group or email SouthernShield@networkrail.co.uk.

<i>Steering Group Members</i>		
• Head of Safety and Sustainable Development - IP Southern	• Delivery Director – Osborne	• Programme Manager – Siemens
• Southern Shield Co-Ordinator	• Programme Manager – IP Southern, Anglia	• Head of Operations – BCM
• Principal Construction Manager – IP Southern	• Programme Manager – IP Southern, South East	• Principal Health and Safety Manager – IP Southern
• Framework Director – Costain	• Programme Manager – IP Southern, Wessex	• Section Manager – UK Power Networks
• Project Director – Volker Fitzpatrick	• Operations Manager – BAM Nuttall	• Lead Delivery – Wessex Capacity Alliance
• Rail Director – HVMS	• Senior Operations Manager – McNicholas	• SLT member on a rotating basis
• Communications Executive - IP Southern	• Safety Improvement Specialist – IP Southern	

1.4 Working Groups

The Working Groups progress each new initiative and agree 'best practice' actions. Once agreed these are included within the Southern Shield Charter and become business as usual. As working groups close, new working groups are established to take forward new initiatives. Anyone in the Southern Region can volunteer to join a working group if they have the relevant knowledge and experience. If you are interested in joining a working group please email Southernshield@networkrail.co.uk with details of the group you would like to join and any relevant knowledge and or experience you have.

<i>Working Group initiatives</i>	
<ul style="list-style-type: none"> • SS01 – FATIGUE 	<ul style="list-style-type: none"> • SS08 – ANGLIA SIX PACK <ul style="list-style-type: none"> - Programme - Planning - Life Saving Rules - Behaviours and Communication
<ul style="list-style-type: none"> • SS02 – SAFE ACCESS 	<ul style="list-style-type: none"> • SS10 – HEALTH AND WELLBEING
<ul style="list-style-type: none"> • SS04 – DC ISOLATIONS <ul style="list-style-type: none"> - DC Isolations - Substations - Electrification training 	<ul style="list-style-type: none"> • SS11 – WORKING AT HEIGHT
<ul style="list-style-type: none"> • SS06 – CULTURE CHANGE 	<ul style="list-style-type: none"> • SS13 – SAFE USE OF PLANT
<ul style="list-style-type: none"> • SS07 – TOOLS AND EQUIPMENT 	<ul style="list-style-type: none"> • SS14 – CLOSE CALL REPORTING
	<ul style="list-style-type: none"> • SS15 – PPE

2. PURPOSE AND IMPLEMENTATION OF THE CHARTER

2.1 Charter's purpose

The Southern Shield Charter consists of the initiatives that have been agreed by the Southern Shield Steering Group. They are to be implemented across the Southern Region. The Charter will be communicated in accordance with the Southern Shield Steering Group Engagement Plan and will be re-issued whenever the Charter is updated.

2.2 Companies agreeing implementation

Network Rail IP Southern along with the following Tier 1 suppliers and their supply chain have agreed to implement this Charter:

<i>Companies implementing the Charter in the Southern Region</i>		
• BAM Nuttall Ltd	• High Voltage Maintenance Services (HVMS) Ltd	• Vokerfitzpatrick Ltd
• BCM Construction	• McNicholas Construction Services Ltd	• Wessex Capacity Alliance
• Costain Ltd	• Siemens	• Geoffrey Osborne Ltd
• UK Power Networks (UKPN)	•	

3. COMMUNICATION

The Southern Shield Charter will be communicated via a number of channels, as shown in the matrix below.

<i>Southern Shield Charter Launch</i>				
	Frontline staff	Tier 2/3 Managers	Tier 1 Managers	Network Rail Staff
Southern Shield Events	✓			
The Shield Analogue and Digital	✓		✓	✓
Home Safe	✓	✓	✓	✓
Briefing Notes			✓	✓
Tier 1 Supplier Communications	✓	✓		
Posters	✓			
Safety Truck	✓			
Toolbox Talks	✓			



EVERYONE HOME SAFE
EVERY DAY

4. THE AGREED CHARTER

4.1 Air Fuses

Air fuses are to be a first choice means of protection on all pneumatic systems in use on sites within the Southern Region. Where not reasonably practicable use of whip checks is also acceptable.

Why was this introduced? There is evidence of major accidents within the industry and on major projects within Network Rail whereby compressed air hoses or pipes have whiplashed and caused major injuries to Operatives; for example an Operative was struck on the head on the King's Cross project.



4.2 Non-Technical Competencies

All Contractors will ensure leadership and communication competencies of safety critical staff through one-to-one assessments.

Why was this introduced? Close Calls and incident investigations show that COSS's with stronger communication and leadership skills are better able to prevent misunderstandings that could lead to serious incidents when working on the track.



4.3 Learning and Communication

Principal Contractors will issue a safety alert within their organisation when significant accidents or incidents occur. This alert will be cascaded by the IP Southern Communications Team to the supply chain for onward communication. Send to Andrew.kay@networkrail.co.uk

Why was this introduced? These alerts were introduced as the most effective way to share details of accidents and incidents, as a way of preventing similar occurrences across the Southern Region.





**EVERYONE HOME SAFE
EVERY DAY**

4.4 Safe by Design

Annotation of design drawings to show significant risks including Lifesaving Rules on design drawings. All Designers must use an aide memoire for risk assessing the design.

Why was this introduced? Significant hazards and associated risks need to be identified by the Designer during the development of the design. It is the Designers duty to utilise the ERIC principles (Eliminate, Reduce, Inform, Control) in relation to managing hazards and associated risks.



Drawings are broadly and frequently used on site to plan work, so are an ideal medium to inform people of potential significant hazards and associated risks and how they could be controlled.

4.5 Reverse Parking

Reverse parking is to be undertaken on all worksites and offices. Principles of 'First Move Forward' to be adopted across the Southern Region.

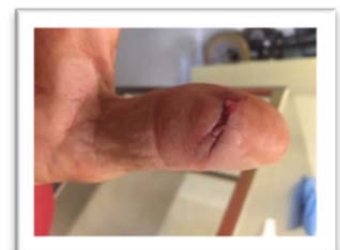
Why was this introduced? When arriving into a car park, drivers can see the path to reverse into a parking space more clearly and pedestrians are already staying clear of the car when it starts to reverse. When reversing out of a space, visibility is worse and pedestrians, particularly children, are less aware that the car will move and so may walk behind it. To prevent accidents, your first motion when you set off in your car should be forward.



4.6 Gloves

EN388 Cut Index 5 gloves to be issued to all site teams to improve cut resistance for general purpose gloves. This does not remove the requirement to risk assess appropriate PPE for specific tasks that require a more specialist glove.

Why was this introduced? Statistics show that a significant number of accidents and incidents in the Southern Region are hand and finger injuries, which could be prevented by wearing better gloves.





**EVERYONE HOME SAFE
EVERY DAY**

4.7 Fleet Operators Registration Scheme (FORS)

Principal Contractors and supply chain - FORS to be applied inside and outside of London, with a view to attaining Bronze level by the end of April 2016, Silver by the end of April 2017 and Gold by the end of 2018. All new suppliers to be FORS registered.

Why was this introduced?

Evidence shows that a disproportionate number of cyclist fatalities involve construction vehicles.



4.8 Track access and isolation protocol

All trackside activities carried out by contractors working in the Southern Region will be undertaken in compliance with the Southern Shield Track Access and Isolation Protocol.

Why was this introduced? The Track Access and Isolation Protocol was introduced following a serious safety incident in the Southern Region when 11 operatives mistakenly walked along an open line.

The primary purpose of this protocol is to get our people to always use the Safe Systems of Work with the lowest risk level. As the risk level of each Safe System of Work increases, the level of approval required also increases.



Where activities have to be undertaken on the railway the protocol introduces additional mitigation measures (over and above the Rule Book and Network Rail Standards) to make sure that the activities are performed with the least amount of risk. The full Track Access and Isolation Protocol can be found at APPENDIX A and on Safety Central - [Track Access and Isolation Protocol](#)

The Track Access and Isolation Protocol also includes the following:

Safe system of work packs (SSOW)

A SSOW pack requires the COSS to document how they have understood the track layout

Why was this introduced? This is in response to numerous incidents where staff entered the wrong area for a line block.



Signage

Signs are to be erected before the main works commence at every rail access point indicating line direction and speed. Network Rail commit to funding the price of the safety signage if not provided within the existing contract.

Why was this introduced? The signage initiative was introduced following a number of incidents where workgroups mistakenly accessed open lines. Incident investigations found the root cause to be lack of information on the track layout at access points – this led to various temporary signs going up. The signage initiative was put in place to ensure accurate and complete information was available at all track access points.





**EVERYONE HOME SAFE
EVERY DAY**

4.9 Door closers

All new welfare facilities to be fitted with door closers on all external doors. All current welfare facilities to have door closers fitted retrospectively.

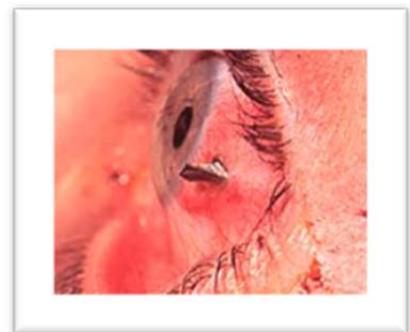
Why was this introduced? A number of hand and finger injuries are caused by external doors slamming shut in high winds. For example: An operative was standing in the site office doorway with a broom in his hand. A gust of wind closed the door and the Operative instinctively attempted to hold the door open while holding the broom in his hand. The main impact was taken by the broom which saved the operative from suffering a more serious injury.



4.10 Eye protection

Appropriate eye protection must be worn whilst working on the Southern region Infrastructure. Where eye protection is deemed unnecessary a risk assessment has to be documented and available to view.

Why was this introduced? Thousands of people are injured each year from work-related eye injuries that could have been prevented with the proper selection and use of eye protection. Southern Shield requires the provision and use of appropriate eye protection whenever necessary to protect against chemical, environmental, radiological or mechanical irritants and hazards.



4.11 Working at height

Methods for working at height will be selected according to a hierarchy of methods, with preference being given to the lowest risk method. Use of higher risk methods will require sign off by senior staff. Some methods are agreed to be banned altogether, such as use of stilts.

Why was this introduced? Following a number of working at height incidents in the Southern Region, investigations revealed that access systems are often selected according to familiarity rather than on the basis of minimising risk. The Hierarchy of Methods can be found at APPENDIX B.



4.12 DC isolations (strapping)

All isolation strapping activities carried out by contractors working in the Southern Region will be undertaken in compliance with the Southern Shield Isolation Strapping Protocol.

(where the contractor is the lead for the worksite)

Why was this introduced? As a result of a number of isolation strapping incidents (one involving serious injury to a strapping operative) a DC Third Rail Isolation strapping protocol has been produced to reduce the risk to the strapping operatives.

The protocol details the process for planning and implementing DC isolations (with respect to strapping). The protocol is only applicable where IP Southern is responsible for the Worksite and for providing the engineering supervisor and strapping operatives.



The document defines the process for:

- Planning isolation activities with respect to strapping
- On the day/night implementation protocols
- Equipment, PPE and competency requirements for strapping teams.

The protocol can be found at APPENDIX C.

4.13 Safety in substations

All activities carried out by contractors on the Southern Region, in or around DC traction locations will be undertaken following the Southern Shield Safety in Substations Matrix.

Why was this introduced? The Safety in Substations Matrix was introduced following three serious electrical flash overs involving our staff in 2014.

The Matrix sets out the level of competence required to manage activities in these high risk environments. This is to be applied in line with the current standards for working at these locations and must be used in the planning of activities to ensure that the correct level of competence and management is employed. The Matrix must also be used to identify and protect any equipment still electrically alive and operational.



The Safety in Substations Matrix can be found at APPENDIX D.



**EVERYONE HOME SAFE
EVERY DAY**

4.14 Time Out Take Five

A Time Out Take Five is a pause in the work that is being undertaken to allow the team to reassess the working environment and any risks or hazards that are present. They can be called by anyone, anytime throughout the shift and always take place at the point of work.

Why was this introduced? People often believe that delivery and performance take priority over safety. Particularly during possessions, they believe that the focus is on getting the job done as quickly as possible in order to hand back the railway on time or even early. This can lead to 'short cuts' being taken and safety being compromised.

Time Out Take Fives may be called by anyone at any time if they think that there is a need to take a step back from the task in hand and review the way the team is working.



The full briefing document can be found at Appendix E.

5. RECOMMENDED BEST PRACTICE

5.1 Close call packs

The use of standard Close Call packs will be adopted across the Southern Region in agreement with the following contractors: Volker Fitzpatrick, C Spencer, HVMS and McNicholas. All other contractors working within the Southern Region will continue to use their own Close Call reporting systems.

Why was this introduced? Reporting Close Calls is vital to improving safety. The more Close Call data that is received the smarter we can become in preventing accidents. The aim of this initiative is to make it easier for everyone to report a Close Call.



5.2 Platform safety barriers

The use of Heras fencing as a platform safety barrier to be avoided where possible.

Why was this introduced? Heras fencing is found to be unstable and there have been incidents of it blowing onto the operational railway, with the potential for injuring people and stopping trains. Although this type of fencing is not banned in the Southern Region, there should be a clear risk assessment made to justify the use of heras fencing rather than other types.



Alternative barriers are available and use of these over Heras fencing is recommended:

Siteguard - [Manwood Group](#)

- Integral toe board
- No trip hazard on public or site side
- Protection against plant
- Greater stability allowing sheeting or acoustic barriers to be mounted on it





**EVERYONE HOME SAFE
EVERY DAY**

Boarder barriers – BBS2000 - [Border barriers](#)
Water filled barriers with mesh top panels.

- Integral toe board
- No trip hazard on public or site side
- Protection against plant
- Greater stability
- Solid panel options





EVERYONE HOME SAFE
EVERY DAY

APPENDICES



APPENDIX A – TRACK ACCESS AND ISOLATION

1. Track Access and Isolation Protocol

The Track Access and Isolation Protocol was introduced following a serious safety incident in the Southern Region when 11 operatives mistakenly walked along an open line.

The primary purpose of this protocol is to get our people to always use the Safe Systems of Work with the lowest risk level. As the risk level of each Safe System of Work increases, the level of approval required also increases.

Where activities have to be undertaken on the railway the protocol introduces additional mitigation measures (over and above the Rule Book and Network Rail Standards) to make sure that the activities are performed with the least amount of risk.

IP Southern - Track Access (Safe System of Work) and DC Isolation Protocol

	Definition	Risk			Risk Level	Approval	Additional Safeguards	Safe System of Work	DC Isolation (Test before Touch at Point of Work)
		Trains	DC Electrified Lines	Location (i.e. could work on wrong line)					
Off-Track (1)	No requirement to go on or near the line – use of video footage, photographs, etc	No	No	No	0	Principal Contractor	None	Use of technology which avoids the need for people to be on or about the line	
Off-Track (2) (Non-Trackside or High street Environment)	Activities more than 3m from nearest running line (or 1.25m on a platform) or in a High Street Environment	No	No	No	1	Principal Contractor	S1, S2a, S3, S4, S5a & S6 (Only when applicable)	<p>Safeguards</p> <p>All Safe Systems of Work</p> <p>S1 - Every COSS* to be named and appointed more than 5 days prior to working at location.</p> <p>S2a – For Risk Levels 1 and 2 where the COSS* is new to the site or has not visited there in the last 6 months the COSS* must visit the access point(s) prior to the work shift in daylight in order to familiarise themselves with the area, to verify the SSOW Plan and to check that the access points are adequately marked. (For the avoidance of doubt the COSS is not required to go on or near the line to undertake this).</p> <p>S2b - For Risk Levels 3 and 4 where the COSS* is new to the site or has not visited there in the last 3 months the COSS* must visit the access point(s) prior to the work shift in daylight in order to familiarise themselves with the area, to verify the SSOW Plan and to check that the access points are adequately marked. (For the avoidance of doubt the COSS is not required to go on or near the line to undertake this).</p> <p>S3 - Every access point to be checked for labelling before any work (including surveying) is undertaken at the location, and labels fixed, where necessary, before any work (including surveying) is undertaken.</p> <p>S4 - Every SSOW Pack to have photographs showing the location of work, access points and routes to the site of work, annotated with the direction of trains, etc.</p> <p>S5a – For Risk Levels 1 and 2 the SSOW Pack must be verified by the COSS* at least a shift in advance of the work. If the pack is not verified at least a shift in advance then work should not be permitted to proceed.</p> <p>S5b – For Risk Levels 3 and 4 the SSOW Pack must be verified by the COSS* at least a shift in advance of the work. If the pack is not verified at least a shift in advance then work must not be permitted to proceed.</p> <p>S6 - Use of technology to be provided to assist as briefing aids i.e. tablets, video footage.</p> <p>Possessions</p> <p>P1 - Appointed PICOP and Engineering Supervisor</p> <p>P2 - Use of detonators and stop boards at the possession limits</p> <p>P3 - Use of worksite marker boards if there are engineering trains or On-Track Plant within the Possession.</p> <p>Line Blockages – When work will take place on the blocked line</p> <p>LB1 - Red Flag or light placed on the approach to the site of work if the work will affect the safety of any approaching train, or a group is working as detailed in Handbook 8.</p> <p>LB2 - Where the work will affect the safety of the line (as detailed in Handbook 7) then additional protection arrangements must be provided as detailed in Handbook 8.</p> <p>LB3 - Where work will not affect the safety of the line but operatives will be working on the track then the use of Line Blockages with additional protection arrangements (as detailed in Handbook 8) should be considered before Line Blockages without additional protection arrangements utilising the following hierarchy:</p> <p>a) Signal Disconnection</p> <p>b) T-COD – Where work will be undertaken at a location for more than a week then the use of a Self Diagnostic T-COD (i.e. ZKL3000) must be considered before use of a standard T-COD (currently accepted for use on non-DC lines only)</p> <p>c) Single Line Staff or Token</p> <p>d) Detonator Protection</p> <p>Line Blockages – When work will not take place on the blocked line</p> <p>LB4 - Where the work will affect the safety of the line (as detailed in Handbook 7) then additional protection arrangements must be provided as detailed in Handbook 8.</p> <p>• Black text indicates Rule Book and Network Rail standard requirements</p> <p>• Red Text indicates IP Southern "Mandatory" requirements</p> <p>• Green text indicates IP Southern "Good Practice" requirements</p>	<p>Safeguards</p> <p>Note – DC Isolation only available with Possession or Siding Possession</p> <p>IS1 - COSS (or Person in Charge of Siding Possession) on receiving the Conductor Rail Permit confirms that traction current has been isolated as required by using a live line tester to test the conductor rail at the point of work on all lines that are believed to be isolated.</p> <p>IS2 - COSS documents in SSOW Pack that conductor rail at point of work has been tested and confirmed as isolated.</p> <p>IS3 - All the workgroup sign the SSOW Pack to confirm that they have observed the test being undertaken, and that the traction current has been isolated at the point of work.</p> <p>IS4 - Where there is a partial isolation (i.e. some lines are not isolated) then the COSS must:</p> <p>a) For work that will be on site for more than a shift place a physical non-conductive barrier or an approved technological system that provides a warning to prevent anyone straying towards the none isolated area;</p> <p>b) For work that will be on site for less than a shift provide a responsible person (with a minimum of Site Warden competence) to warn anyone who is approaching near the none isolated area.</p> <p>Note that this charter currently only applies to Non-electrified and DC Electrified Lines. An updated version which applies to AC Electrified Lines is being developed</p>
Off-Track (3) Physical Barrier (<3m but >1.25/2m** from running line)	Activities in the cess more than 1.25/2m**, but within 3m, from nearest running line with a physical barrier and the adjacent line open	No	No	No	1	Principal Contractor	S1, S2a, S3, S4, S5a & S6		
Off-Track (4) Line Block & Site Warden (<3m but >2m from running line)	Activities in the cess more than 2m, but within 3m from nearest running line with a Site Warden and a Line Blockage of the adjacent line	No	No	No	2	Principal Contractor	S1, S2a, S3, S4, S5a & S6 LB4		
Off-Track (5) Site Warden (<3m but >2m from running line)	Activities in the cess more than 2m, but within 3m from nearest running line with a Site Warden	Yes	Yes	No	3	Network Rail Programme Manager	S1, S2b, S3, S4, S5b & S6		
On-Track (1) Safeguarded (with full isolation)	All lines at site of work blocked with a Possession and Worksite AND isolation	No	No	No	1	Principal Contractor	S1, S2a, S3, S4, S5a & S6 P1 to P3 IS1 to IS4		
On-Track (2) Fenced (with partial isolation)	Some lines open but working within a Possession, Worksite AND Isolation behind a fence	No	No	No	1	Principal Contractor	S1, S2a, S3, S4, S5a & S6 P1 to P3 IS1 to IS4		
On-Track (3) Safeguarded (with no isolation)	All lines at site of work blocked with either Line Blockages or Possession and Worksite (without isolation)	No	Yes	No	2	Principal Contractor	S1, S2a, S3, S4, S5a & S6 P1 to P3 or LB1 to LB4		
On-Track (4) Fenced (with no isolation)	Some lines open but working within a Line Blockage behind a fence with no isolation	No	Yes	No	2	Principal Contractor	S1, S2a, S3, S4, S5a & S6 LB1 to LB4		
On-Track (5) Site Warden (with isolation)	Some lines open and working with Site Warden protection within a Possession, Worksite AND Isolation	Yes	Yes	Yes	3	Network Rail Programme Manager	S1, S2b, S3, S4, S5b & S6 P1 to P3 IS1 to IS4		
On-Track (6) Site Warden (with no isolation)	Some lines open and working with Site Warden protection within a Possession, Worksite or Line Blockage and no isolation	Yes	Yes	Yes	3	Network Rail Programme Manager	S1, S2b, S3, S4, S5b & S6 P1 to P3 or LB1 to LB4		
On-Track (7) Equipment Warning	Protection not afforded by the Signaller; reliance based on use of ATWS, TOWS or LOWS	Yes	Yes	Yes	4	* Access Only – IP Route Delivery Director	S1, S2b, S3, S4, S5b & S6		
On-Track (8) Lookout Warning	Protection not afforded by the Signaller or Equipment Warning Systems; reliance only on the use of Lookouts	Yes	Yes	Yes	4	* Working – IP Regional Director	S1, S2b, S3, S4, S5b & S6		

NOTE – The terms "Off-Track" and "On-Track" are not related to terms within the Rule Book. They are to differentiate between the risk of working on an actual rail line and working near to a rail line i.e. in the cess. This protocol does not change the requirements of the Rule Book i.e. working on or near the line

* COSS also includes, where applicable, Individuals Working Alone (IWA) and Protection Controller (PC)
** See Handbook 7 regarding distances required for specific types of fencing

Issue 1 – 9 October 2014

APPENDIX B – WORKING AT HEIGHT

1. Working at Height – Hierarchy of Methods

1.1 Hierarchy for selection Methods for Working at Height

Introduction

The following matrix provides a series of options that are to be worked through when assessing safe systems for working at height. It is intended that an assessment is undertaken at an early stage by working through a matrix of alternative access scenarios. Additional assessments will also be required at subsequent stages where significant change has occurred.

When considering the most appropriate method for a particular task it is intended that it is selected from as high up the hierarchy as practical i.e. the top ranking methods being considered the means of providing the safest system of work.

It should be noted that whilst considering working at height this includes potential access into and falls into open excavations, shafts etc. A significant number of the methods detailed within this document are applicable to these situations and use of the hierarchy to select methods to provide access/egress arrangements and protection against falls in excavation is appropriate.

1.2 Basis of Hierarchy

Requirements of the Working at Height Regulations 2005 lead to the following hierarchy for determining methods for working at height.

- | | |
|----------------------------|--|
| a) Avoid working at height | Can the work be undertaken without working at height; can parts of the work be carried out at low level? |
| b) Prevention of falls | Collective edge protection, individual fall prevention |
| c) Minimise falls heights | Provide fall break barriers |
| d) Individual working | Working off ladders, podiums etc. |

1.3 Collective Protection vs Individual Protection

Collective Protection A safe system of work that provides protection to all operatives alike. These measures do not require the person working at height to act in order to be effective.

Individual Protection Individual protection using harnesses and lanyards. These measures require an individual to act in order to be effective

The use of Collective Protection measures is considered preferable to the use of Individual Protection.

1.4 Assessment Criteria

When considering what provision is to be made for access, presuming that working at height is required, the following criteria should be addressed:

- Height at which work is to be carried out
- Area to be covered by work site i.e. highly localised or wide spread
- Duration of the work
- Frequency of the work
- Complexity of the work
- External influences and effects on stakeholders
- Level of residual risk resulting from the proposed safe system
- Cost effectiveness of the proposed safe system
- Time scales for assembly, use and dismantling access system
- Access to and around the work site
- Skill set required to establish a safe working environment
- Establishing a safe site for third parties e.g. hoarding, barriers, lookouts etc.

1.5 Records of Approval

The reasons for selecting a particular method from the hierarchy should be recorded on the enclosed record.

This record also details levels of approval for the various methods, with an escalating level of approvals being required for the use of systems with higher levels of perceived risk.

This hierarchy is for use by all parties in considering the most appropriate method for working at height, but it should be noted that the responsibility for selection and approval of the specific method used remains with the Principle Contractor for the work.

Whilst the use of this document should be referred to within the Construction Phase Plan for the project, the actual method selected for use should be recorded within the Work Package Plan for the works.

2. Southern Shield Working at Height Hierarchy and Selection

Rank	Protection System(s)	✓ / X	Comment/Approval Required	Rank	Protection System(s)	✓ / X	Comment/Approval Required
1	Avoid requirement for working at height		No Risk	18	Fall restraint system - harness and fixed length lanyard to avoid leading edge		Project Manager and CRE
2	System scaffold with stairs		Site Manager and CRE	19	Fall restraint system - harness and short retractable lanyard to avoid leading edge		Project Manager and CRE
3	Traditional scaffold with stairs		Site Manager and CRE	20	Rope access techniques		Project Manager and CRE
4	System scaffold with ladders		Site Manager and CRE	21	Fixed safety nets		Project Manager and CRE
5	Traditional scaffold with ladders		Site Manager and CRE	22	Fall arrest soft-filled mats		Project Manager and CRE
6	Fixed safety decking		Site Manager and CRE	23	Fall arrest airbags		Project Manager and CRE
7	Static Mast Climber elevated work platforms		Site Manager and CRE	24	Fall arrest system - harness and retractable block (inertia reel)		Project Manager and CRE
8	Mobile scissor lift elevated work platform		Site Manager and CRE	25	Fall arrest system - harness and energy absorption lanyard		Project Manager and CRE
9	Mobile "Cherry-picker" elevated work platform		Site Manager and CRE	26	Working from stepladders		Project Manager and CRE
10	Fixed height podium steps		Site Manager and CRE	27	Working from alloy ladders		Not to be used for working without Director Level Sign-off*
	Personal Vertical "Genie" lift		Site Manager and CRE	28	Working from fibreglass ladders		Not to be used for working without Director Level Sign-off*



**EVERYONE HOME SAFE
EVERY DAY**

12	Static Proprietary Access Towers		Site Manager and CRE	29	Working from timber pole ladders		Not to be used for working without Director Level Sign-off*
13	Staging and trestles with handrails		Site Manager and CRE	30	Staging & Trestles without handrail		Not to be used
14	Demarcation of safe zones to prevent access to leading edge		Site Manager and CRE	31	Stilts		Not to be used
15	Fall proof covers to fragile roof areas		Site Manager and CRE				
16	Proprietary edge protection		Site Manager and CRE				
17	Scaffold edge protection		Site Manager and CRE				

Key

	Access and ground conditions to be considered		Temporary works design and CRE/TWC sign-off required		NOT TO BE USED		DIRECTOR LEVEL SIGN-OFF REQUIRED *or equivalent
	Anchorage to be considered						



**EVERYONE HOME SAFE
EVERY DAY**

3. Records of System Selection

Contract	
-----------------	--

Operation	
------------------	--

Selected System	Rank	Justification for selection of method chosen and significant reasons for rejection of alternatives

Method Selected By (Signature)	Name	Company/Role	Date
		Site Manager/Project Manager	

Method Approved By (Signature)	Name	Company/Role	Date
		CRE (Construction)	

Method Approved By (Signature)	Name	Company/Role	Date
		Director Level	



**EVERYONE HOME SAFE
EVERY DAY**

4. Working at Height Hierarchy of Approaches

4.1 Collective Avoidance

Avoid requirement for working at height



PROS:

Removes risk of falling from height

CONS:

Not always practical to implement

4.2 Collective Prevention

System Scaffolding access to stairs



PROS:

Provides direct access route to works
Provides low risk working environment in relation to working at height
Potentially safer to erect than tube and fitting scaffold

CONS:

Costly and time consuming to implement
Specialist required to install, modify and remove
Less flexible than tube and fitting

Tube and Fitting Scaffold access with stairs



PROS:

Provides direct access route to works
Provides low risk working environment in relation to working at height
Flexible form allows adaptation to complex environments

CONS:

Costly and time consuming to implement
Specialist required to install, modify and remove



**EVERYONE HOME SAFE
EVERY DAY**

System Scaffold Access with Ladders



PROS:

Provides low risk working environment in relation to working at height
Potentially safer to erect than tube and fitting scaffold

CONS:

Costly and time consuming to implement
Residual risk in use of access may be viewed as unacceptable
Specialist required to install, modify and remove
Less flexible than tube and fitting.

Tube and Fitting Scaffold Access with Ladders



PROS:

Provides low risk working environment in relation to working at height
Flexible form allows adaptation to complex environments

CONS:

Costly and time consuming to implement
Residual risk in use of access may be viewed as unacceptable
Specialist required to install, modify and remove

Fixed Safety Decking



PROS:

Complete protection for personnel and materials
Can be used as working platform

CONS:

Specialist required to install
Expensive to install and hire
Time consuming to install and dismantle



**EVERYONE HOME SAFE
EVERY DAY**

Static Mast Climber Mechanical Elevated Work Platform (MEWP)



PROS:

Provides flexible access to plain faced work site
Stable platform

CONS:

Requires fixings to structure
Inflexible and not suited to complex applications
Potential for mechanical failure or operator error
Trained operator required

Mobile Scissor Lift Mechanical Elevated Work Platform (MEWP)



PROS:

Provides flexible access to work site
Stable platform

CONS:

Requires good ground level access
Potential for mechanical failure or operator error
Trained operator required

Mobile Cherry Picker Mechanical Elevated Work Platform (MEWP)



PROS:

Provides flexible access to work site
Flexible form can achieve access to hard to reach locations

CONS:

Requires good ground level access
Potential for mechanical failure or operator error
Trained operator required



**EVERYONE HOME SAFE
EVERY DAY**

Fixed Height Podium Steps



PROS:

Provide greater protection than standard step ladders

CONS:

Provides fixed height access

Bulky to move around confined working area

Personal Vertical Genie Lift



PROS:

Provides flexible working platform height

CONS:

Require good ground level access

Potential for mechanical failure or operator error

Trained operator required

Static Proprietary Access Tower



PROS:

Flexible to install and use

CONS:

Can be unstable if incorrectly installed

Trained installer required



**EVERYONE HOME SAFE
EVERY DAY**

Staging and Trestles With Handrails



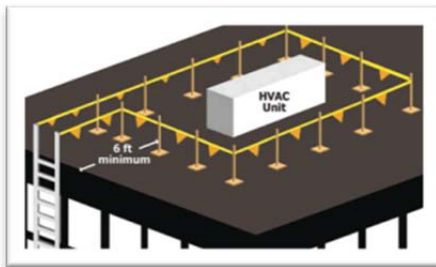
PROS:

Flexible to install and use

CONS:

Can be unstable if incorrectly specified or installed
Slow to erect and move

Demarcation of safe zones via physical barrier to prevent access to leading edge



PROS:

Easy to install low tech solution

CONS:

Limits capacity to work in areas adjacent to leading edge

Fall proof covers to fragile roof areas



PROS:

Low tech solution to potential risk from fragile roofs

CONS:

Installation leads to own working at height challenges

Proprietary Edge Protection



PROS:

Ease of installation when used in appropriate locations
Off the shelf proprietary solution therefore limited design required

CONS:

Fixing can be an issue for nonstandard solutions



**EVERYONE HOME SAFE
EVERY DAY**

Scaffold Edge Protection



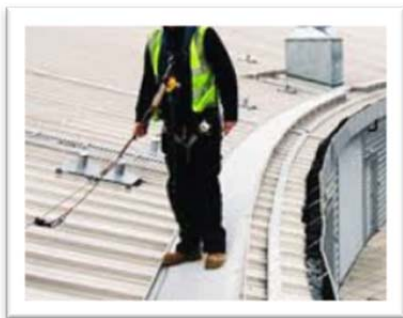
PROS:
Flexibility

CONS:
Can look untidy
Needs design
A specialist required to install, modify and remove

4.3 Individual Protection

Fall Restraint System

Harness and fixed length lanyard to prevent access to leading edge



PROS:
Easy to install if anchor point available

CONS:
Very limited range of movement

Fall Restraint System

Harness and short retractable lanyard to prevent access to leading edge



PROS:
Easy to install if an anchor point is available

CONS:
Limited range of movement.
Unsuitable for complex environments with multiple obstructions

Rope Access Techniques



PROS:
Effective access to inaccessible sites with minimal set up time

CONS:
A specialist is required to install and operate



**EVERYONE HOME SAFE
EVERY DAY**

4.4 Collective Minimisation

Fixed Safety Net



PROS:

Can combine fall protection and debris protection
Flexible

CONS:

A specialist is required to install.
Last resort for protection

Fall Arrest Soft Filled Mats



PROS:

Ease of installation
Quick to move between tasks

CONS:

Large area required to utilise
Bulky for storage and handling

Fall Arrest Airbags



PROS:

Flexible for varying jobs and applications

CONS:

Slow to inflate
Reliant on compressor to inflate
Compressor required to run continuously to maintain inflation

4.5 Individual Minimisation

Fall Arrest System



Harness and retractable block (inertia reel)


PROS:

Easy to install if anchorage point available
Wider range of movement than fixed lanyard


CONS:


Injury could still occur during fall
Inertia reel is bulky and heavy to carry around site
Rescue required following a fall from height




<i>Fall Arrest System</i>	<i>Harness and energy absorption lanyard</i>
	<p>PROS: Easy to install if an anchorage point available Wider range of movement than a fixed lanyard Lightweight</p>

4.6 Ladders




<i>Step Ladder</i>	
	<p>PROS: Lightweight and extremely easy to move</p> <p>CONS: Can be made unstable easily. Even footing required</p>

<i>Alloy Extension Ladder</i>	<i>NOT TO BE USED FOR WORKING WITHOUT APPROVAL FROM CONSTRUCTION DIRECTOR OR EQUIVALENT</i>
	<p>PROS: Lightweight and easy to move</p> <p>CONS: Unstable if not tied to structure. Three points of contact at all times so limited material handling whilst using ladder</p>

<i>Fibreglass Ladder</i>	<i>NOT TO BE USED FOR WORKING WITHOUT APPROVAL FROM CONSTRUCTION DIRECTOR OR EQUIVALENT</i>
	<p>PROS: Nonconductive</p> <p>CONS: Unstable if not tied to structure Three points of contact at all times so limited material handling whilst using ladder Most expensive ladder option</p>



**EVERYONE HOME SAFE
EVERY DAY**

Timber Pole Ladder		NOT TO BE USED FOR WORKING WITHOUT APPROVAL FROM CONSTRUCTION DIRECTOR OR EQUIVALENT
	PROS: Cheap Robust and hardwearing Fixed lengths are available to suit every job	
	CONS: Unstable if not tied to a structure. Three points of contact at all times so they are limited material handling whilst using ladder Relatively easily damaged	
Staging and Trestles without Handrail		NOT TO BE USED
	PROS: Flexible to install and use	
	CONS: Can be unstable if incorrectly specified or installed Slow to erect and move	
Stilts		NOT TO BE USED
	PROS: Cost effective Ease of movement between work sites	
	CONS: Unstable. Hard to use without experience	

APPENDIX C – DC ISOLATIONS

1. DC Isolations Protocol – Strapping

1.1 Compliance

This protocol is mandatory and must be complied with on all Network Rail IP Southern projects:

- Implementation date: 1 November 2015
- Full Compliance date: 1 February 2016 (including all training for strapping teams under DC Isolations Protocol (Strapping)).

2. Protocol Process

2.1 Implementation and Equipment

Strapping Team Structure.

Each strapping team will consist of the following staff with the prescribed competencies listed below:

a. **COSS**

Who is responsible for establishing and maintaining the SSOW for the SO. The COSS will oversee the SO and ensure the works are undertaken safely. The COSS will not undertake any strapping themselves, however must hold a strapping competence to be able to understand the correct and safe sequence for placing straps.

Required competencies:

1. COSS (endorsed with COSS CRP LLT)
2. Level B. Required so that the COSS has an understanding of how the SO. should be working safely. Also to be issued with DC Isolation familiarisation handbook.
3. Emergency First Aid.

b. **SO**

They are responsible for placing short circuiting straps.

Required competencies:

1. Strapping (Level B).
2. Emergency First Aid.

SSOW Pack and Briefing of Strapping Teams

- c. The COSS for each Strapping Team will be issued with a SSOW pack at least one shift prior to the planned works (as required by [NR/L2/OHS/019](#)). Where possible this will be a hard copy however an e-mailed copy will be acceptable for agency staff where it is not possible or practical to get them a hard copy ahead of the possession. The Agency (or PC if issuing the pack) will ensure that an acknowledgement is received from the COSS that the pack has been verified (by e-mail or text). The Principal Contractor will put in place a process for checking that the COSS has received and verified the SSOW Pack prior to the shift being undertaken.

Where the proposed COSS has not advised that the SSOW Pack has been received and verified (in accordance with NR/L2/OHS/019) works will not be permitted to proceed until this has been received. Also in accordance with Southern Shield Track Access and Isolation Protocol the COSS must be named 5 days prior to the planned work and have suitable local knowledge.

The SSOW pack must contain a suitable schematic diagram of the strap locations and must be specific to the SSOW for the strapping (e.g. not a generic SSOW for the works being undertaken in the worksite). The diagram must identify where the straps are located relative to the access points being used by the strapping team.

- d. Immediately prior to the start of the worksite/isolation the ES will:
- Check the COSS and SO's competencies.
 - Check the SO's equipment and prevent the use of any defective equipment.
 - Where not already provided the ES will hand the COSS a hard copy of the SSOW pack (hard copies of the SSOW pack to be provided to the ES by the Principal Contractor).
 - Brief (face to face) the COSS and SO on the:
 - i. SSOW pack.
 - ii. Location of the access point.
 - iii. Location of the strapping point relative to the access point.
 - Check that the COSS and SO have understood the briefing by asking searching questions.
 - If necessary take the COSS and SO to the access point and provide clear direction as to where the strapping point is (walking to the point if necessary).

ES Attendance of PICOP Briefings

The ES for the first shift (the shift in which the worksite and isolation are taken) must attend the PICOP briefing (face to face briefing). Where this is not possible the PC may send another ES or their Possession Planner to the PICOP briefing as long as the person attending briefs the first shift ES (face to face). This briefing must be recorded and signed for by the ES.

ES Attendance at White Board Meetings

For worksites designated as complex (definition – Complex strapping arrangements at junctions also RED ragged worksites, worksites with multiple engineering train movements), the ES must attend the Principal Contractors 'White Board' meeting ahead of the planned works to ensure that:

- The ES is aware of all issues and planned works within the worksite and any critical activities or late changes.
- The Principal Contractor is aware of any issues the ES may have.

Assistant ES

To assist the ES in ensuring that they have adequate time to sufficiently brief strapping teams and COSS's, establish the worksite/isolation and issue CRP's, an additional Engineering

Supervisor will be provided on the initial shift of the possession to support the ES under the following circumstances:

- e. When there are excessive strapping teams required
- f. When the worksite is deemed as complex (e.g. RED RAG, engineering train movements, high numbers of conductor rail permits etc.).

ES Local Knowledge

The ES must have local knowledge of the area in which they are working as below:

- For complex areas – within the last three months.
- For non-complex areas – within the last six months.

Where the ES does not have local knowledge of the area the ES is to undertake a site visit ahead of the possession to establish where the access points are and where the strapping points and marker boards are relative to each access point.

The ES is to record evidence of this site familiarisation by taking photographs which can then also be used to brief the strapping teams.

Provision of Equipment for SO

- g. Responsibility for provision of strapping equipment for SO:
 - All equipment used by SO is to be provided to the SO by their Primary or secondary Sponsors. SO are not to use their own equipment. The Sponsor is responsible for:
 - i. Controlled issue of strapping equipment to all SOs.
 - ii. Replacement of defective equipment.
 - iii. Annual documented inspection / testing of equipment.
 - iv. Traceability of equipment and quarantine of defective equipment.
 - Principal Contractors may on some sites maintain a small supply of spare equipment (or with an on call manager) in the event that equipment brought to site by a SO is found to be defective.
 - Any defective equipment brought to site is to be confiscated by the ES and given to the Principal Contractor (and raised as a close call).
- h. Traceability
 - All equipment issued to SO (by either the Primary Sponsor or the Principal Contractor) will be tagged/labelled with the minimum details below:
 - v. Unique ID number
 - vi. Primary Sponsor or Principal Contractor name
 - vii. 'Checked by' name
 - viii. Date of next inspection

Minimum Equipment to be used by Strapping Team

The table below identifies the minimum equipment to be held by a strapping team

<i>Equipment required</i>			
Ref	Item	Quantity	Comment
1	Wire Brush	1	
2	Electrical Gauntlets	1 pair	Two pairs preferable
3	Short Circuit Bar	1	
4	Short Circuit Straps (3 leg)	1 - 6	Depending on number required for isolation as B2 form
5	Live Line Tester and Proving Unit	1	Spare battery to be held
6	Dry Towel	1	To dry equipment prior to use if raining.
7	Bag to carry equipment	2	One for each member of the team
8	Hook Switch Pole (switching only)	1	If required for duties
9	Non-conductive Paddle or insulated shovel (for removing ballast under rails for short circuit straps)	1	
10	Emergency Electrical first aid kit (including burn gel treatment pack)	1	Fully stocked
11	Safety Goggles	1	For use with the Wire Brush
12	Flame retardant overalls	1	SO and COSS
13	SSOW pack	1	
14	IPS SO's quick reference guide'	1	
15	Mobile phone	1	Preferably two

Principal Contractor Supervision

The Principal Contractor **MUST** have a Supervisor onsite at all times including during the taking of the worksite/isolation to support and check the safe delivery of the isolation.

The PC's representative onsite will be responsible for:

- a. Confirming that all the required strapping teams are onsite
- b. Confirming that the ES has adequately briefed the strapping teams
- c. Confirming that the strapping teams have a clear understanding of where the access points are and where the straps are to be placed relative to the access.



- d. Confirming that the ES has checked the SO's equipment and resolved any issues with missing or defective equipment. PC representative to quarantine any defective equipment and raise a close call.
- e. Confirming that the COSS for the strapping team has a suitable SSOW pack for the location they are working.

Quick Reference Guide

To assist the SO in ensuring that they comply with the requirements of their training, industry best practice and the requirements of this protocol, the SO will be required to carry a copy of the 'IPS SO's quick reference guide'.

Use of technology and access applications

Strapping teams (and COSS's) must always use the supplied SSOW pack as the primary source of information for finding accessing and strapping locations. However strapping teams will be encouraged to make use of various IT applications to assist in track access and orientation. Particularly the use of:

- a. On:trac – Access Points.
- b. Omnicom – Track locator.

However the apps should only ever be used to assist the strapping team in orientation, with the SSOW pack remaining the primary source of information.

Assurance Checks

Supervisory and management staff must periodically use an approved 'assurance and inspection checklist' to ensure that strapping teams are working in accordance with their training, standards and this protocol.

Principal Contractors must ensure that a minimum of one assurance inspection is undertaken and documented per ten PC ES managed worksites.

Missing Mileage posts and markers

Missing mileage posts and chainage marks can prevent strapping teams from correctly orientating themselves. Where it is identified that mileage posts and chainage markers are missing a close call is to be raised. Each occurrence is to be advised to the IPS NWR Project Manager who will advise NWR Maintenance and request that the posts/markers are re-established as soon as possible.

Flame retardant Overalls

All members of the strapping team (SO and COSS) must wear flame retardant overalls when applying straps in DC areas.



EVERYONE HOME SAFE
EVERY DAY

3. DC Isolations – Strapping Protocol Summary

Strapping Team



Strapping Team to consist of 1 COSS and 1 Level B Strapping Operative:

- COSS – COSS (DC), Strapping Level B, Emergency First Aid, to be issued with DC Isolation familiarisation handbook.
- Strapping Operative – Strapping Level B, Emergency First Aid.

The COSS MUST NOT undertake strapping duties. The COSS is to establish Safe System of Work and ensure straps are placed at the correct location.

Safe System of Work Pack and Briefing



The COSS must be issued with a SSOW pack at least one shift in advance and verified as required by NR/L2/OHS/019 (e-mail acceptable). The briefing pack is to include marked up drawings with strap positions, access points, B2 Form and other details.

Prior to start of isolation the ES will hand a hard copy of SSOW pack to COSS (provided by the Principal Contractor) and briefing (face to face) COSS/Strapping Operative on access point location and strapping positions. The ES will take Strapping Team to access/strap location if necessary or if complex.

ES Meeting Attendance



The first shift ES MUST attend the PICOP Meeting (face to face). If this is not possible a deputy may attend but the deputy must undertake a face to face briefing with the first shift ES (recorded).

For complex worksites the first shift ES must attend any PC's white board meeting. during the first shift', however it must say 'the first shift ES Must attend

Assistant ES



An Assistant ES will be provided to support the ES on the first shift where the work load is high, such as:

- Complex worksite using 6no or more strapping teams.
- When the ES is dealing with RRV's, train movements and/or a high number of Conductor Rail permits (agreed with PC at the T-10 Planning Meeting).



**EVERYONE HOME SAFE
EVERY DAY**

ES Local Knowledge



The ES must have local knowledge of the site of work as below:

- Complex areas – within the last three months
- Non-complex areas – within the last six months

The ES **MUST** obtain local knowledge by a site visit prior to the planned works (must identify access points to be used by the Strapping Team).

Provision of Strapping Equipment



All strapping equipment **MUST** be provided to the Strapping Operative by either their Primary Sponsor or secondary sponsor.

All equipment to be labelled with a unique ID & inspection date expiry. The ES **MUST** check that all equipment is in good condition and remove from use any defective equipment. On certain sites the Principal Contractor will hold spare equipment.

Minimum Strapping Equipment. All strapping Teams must hold all the equipment identified in the equipment list identified in section 1.8 of the Protocol.

Principal Contractor Supervision



The Principal Contractor **MUST** have a Supervisor onsite during the taking of the worksite/isolation to support and check the safe delivery of the isolation.

Quick reference Guide



The Strapping Operative and COSS will be issued with a quick reference guide to act as an aid memoire for the safe placing of DC straps.



**EVERYONE HOME SAFE
EVERY DAY**

Use of Technology and Apps



Strapping teams (and COSS's) must always use the supplied SSOW pack as the primary source of information for finding accessing and strapping locations. However strapping teams will be encouraged to make use of various IT applications to assist in track access and orientation. Particularly the use of:

- On:trac – Access Points
- Omnicom – Track locator (note accuracy limitations for GPS locator)

Assurance Checks



Supervisory and management staff must periodically use an approved 'assurance and inspection checklist' to ensure that strapping teams are working in accordance with their training, standards and this protocol. Principal Contractors must ensure that a minimum of one assurance inspection is undertaken and documented per ten Principal Contractor managed worksites (where the PC provides the ES).

Missing Marker Posts and Mileage Signs



Where a member of staff identifies any missing mileage posts or chainage markers they **MUST** be reported to the ES and Principal Contractor. This will be reported as a close call and Network Rail will arrange their replacement.

Flame Retardant Overalls



All Strapping Operatives and the COSS **MUST** wear Flame Retardant Overalls when undertaking strapping duties.



APPENDIX D – SAFETY IN SUBSTATIONS

1. Safety in Substations Matrix

The purpose of this guide is to help the planning and briefing of all trades when working in or around railway traction equipment.

CRE and Site Manager/Supervisors are to ensure that Level A, B or D personnel have the correct category of competence.

		Types of Work	Competence of person setting up safe system	Minimum competence required for Person in Charge	Risk Assessment carried out by whom?	Mandatory processes/procedures to be followed	Suggested 'Best Practice' / control measure to be adopted
Risk Level	5	HOT SITES	Level D	Level D	CRE	WPP/TBS/Hot Site Procedure	
	5	Accessing live equipment (anything with a voltage)	Level A	Level D	CRE	WPP/TBS	Working clearances to be noted
	5	Working above DC circuit breakers	Level D	Level D	CRE	ALWAYS SWITCHED OFF - WPP/TBS	Avoid designs with cable containment above circuit breakers
	5	Working within Raft compounds	Level A	Level D	CRE	WPP/TBS	Working clearances to be noted
	4	Working above or adjacent HV circuit breakers	Level A	Level D	CRE	WPP/TBS	Working clearances to be noted
	4	Vegetation clearance within raft compounds	Level D	Level D	CRE	WPP/TBS	Distances from live equipment to be identified and maintained
	4	Decommissioning of redundant equipment	Level A	Level D	CRE	WPP/TBS	Working clearances to be noted
	4	Bypassing stages of the electrical system during construction works	Level A	Level D	CRE	WPP/TBS	Working clearances to be noted
	3	Installation of new equipment	Level D	Level D	CRE	WPP/TBS	
	3	Removal of Redundant Equipment	Level D	Level D	CRE	WPP/TBS/Decommissioning procedure	Identification of all electrical feeds
	3	Installing cables - lv domestic wiring	Level D	Level D	CRE	WPP/TBS	
	3	Installing cables - lv control wiring	Level D	Level D	CRE	WPP/TBS	
	3	Terminating cables - HV	Level A	Level A	CRE	WPP/TBS	Working clearances to be noted
	3	Terminating cables - DC	Level A	Level A	CRE	WPP/TBS	Working clearances to be noted
	3	Core drilling walls, demolishing, excavating - works to substation building	Level D	Level D	CRE	WPP/TBS	
	3	Wet trade works (use of water)	Level D	Level D	CRE	WPP/TBS	
	2	Delivery of new equipment	Level D	Level D	CRE	WPP/TBS	
	2	Intrusive surveys	Level B	Level D	CRE	WPP/TBS	
1	Non-Intrusive surveys	Level C	Level C	CRE	WPP/TBS		

APPENDIX E – TIME OUT TAKE FIVE

1. What is a ‘Time Out Take Five’?

A Time Out Take Five is a pause in the work that is being undertaken to allow the team to reassess the working environment and any risks or hazards that are present. Time Outs can be planned into the works programme or unscheduled and called by any member of the team who has a concern and wants to take a step back from the task in hand. Time Outs can take as little or as long as needed to resolve any outstanding issues. The overarching objective is that ***if it can't be done safely, don't do it.***

2. Background

People often believe that delivery and performance take priority over safety. Particularly during possessions, they believe that the focus is on getting the job done as quickly as possible in order to hand back the railway on time or even early. This can lead to ‘short cuts’ being taken and safety being compromised. However as long as the task is delivered on time and no major safety incident has occurred, then there is often no comeback on the team or the methods that were used. This leads to the widespread perception that safety is less important than delivery.

The Safety Leadership Team wants to change this perception and show that safety and performance can go together. Through planning or by empowering anyone to call a five minute time out during works, this gives the team an opportunity to take a step back from the task in hand and review the way they are working. For example: Is the task being done correctly and safely? Is the working environment clear of hazards? Do we have the right tools, competencies and plans and permits? How can we improve the way we are working? The fact that the task takes a little longer to complete but is carried out safely will always be fully supported by the Safety Leadership Team.

3. When does a ‘Time Out Take Five’ happen?

Prior to any planned works the requirement for and arrangements and timings for Take five Time Out will be planned. Where necessary they will be built into the works programme and suitable time allowed for them. However, ***a Time Out Take Five may be called by anyone at any time if they think there is a need to take a step back from the task in hand and review the way the team is working.***

Time Outs could occur:

- | | |
|---|--|
| 1 | During a specific task to assess the effectiveness of the briefing and the planned controls. Also to check that there are no issues influencing the effectiveness of the planned works |
| 2 | At key planned milestones within a programme of activities |
| 3 | Could be ad hoc if the person in charge believes one is necessary |
| 4 | Could be called by any individual within the planned works if they believe that one is necessary or beneficial |



Time Outs will NOT be:

- 1 Scheduled based on time (e.g. at set time intervals or around a maximum period of elapsed time)
- 2 A set number per shift, per day or per week
- 3 Linked to rest breaks and will be kept separate

4. Format

A Time Out Take Five will occur within possession related work as well as normal daytime non possession working (e.g. will be part of all planned works)

- 1 A nominal five minute time out (although the time out can take as little or as long as required)
- 2 Each Time Out would be one of the following as the site conditions dictate:
 - A geographical area.
 - A specific working group(s) or team
 - All those involved in a specific activity
 - An individual (e.g. an IWA)
- 3 Always to be undertaken at the site of work so that risks around the staff involved can be reviewed
- 4 Facilitated by a Supervisor/Team Leader/Site Manager and not by a Senior Manager
- 5 Only happens when it is safe to do so
- 6 Everyone in the gang/team is to be involved
- 7 Observations are to be recorded. All observations from staff are to be anonymous (unless individual wishes their name to be given) and are made with no blame attached
- 8 Observations would normally be about the task an individual is undertaking. However, it could also be about another team's task or any other conditions around the site of work
- 9 Time must always be allowed for the planned Time Outs

5. Before

Time Out Take Fives will be built into the works programme and suitable time allowed for them. **Remember**, a Time Out Take Five may be called by anyone at any time if they think there is a need to take a take a step back from the task in hand and review the way the team is working.

At the start of the Time Out the facilitator (Supervisor, Team Leader or Site Manager) will explain:

- Why – why the Time Out is required
- What – what we want to achieve from the Time Out
- But **not the HOW**. This will be achieved by the team during the Time Out

5. During

During the Time Out the facilitator will ask the site team to:

- Consider if they are working safely
- Is there anything they could be doing to work safer?
- Identify any additional hazards
- Where appropriate the team will rectify any issues (e.g. housekeeping issues and site tidiness)
- Where necessary works will be suspended (either to allow issues to be dealt with, re-briefings to occur or where this is not possible works will be suspended until it is safe for work to resume)
- All staff will be asked to complete an observation card. You can use the observation card in Section 5 or whichever card each company uses. Where weather conditions do not allow for a card to be completed the facilitator may wish to make a voice recording or notes on a phone/tablet

6. After

At the end of the working shift the manager will:

- Give feedback to the staff on the issues raised - ***We said, we did***
- At the end of shift the Site Manager will collate all the observation cards and create a '***We said, we did***' board to highlight to the next shift issues that have been identified and actions that have been taken
- Where necessary a Close Call will also be raised
- The details obtained from the Time Out Take Fives will be collated and analysed for trends that will allow action plans to be developed to deal with any specific areas.

7. Observation Form

You can print and use the observation form overleaf your company does not already have its own form:



**EVERYONE HOME SAFE
EVERY DAY**

Description. What is the improvement opportunity, hazard or observation?

Name (Team leader or individual) _____

Location _____

What did you do? How did you resolve or quarantine the problem?

Actions and comments by manager

Name _____ Is this closed out? Yes/No. Are there any follow up actions required? Yes/No



**EVERYONE HOME SAFE
EVERY DAY**

GLOSSARY

Abbreviations

COSS	Controller of Site Safety
CRE	Contractors Responsible Engineer
CRP	Conductor Rail Permit
ES	Engineering Supervisor
IPS	Infrastructure Projects Southern
NWR	Network Rail
PC	Principal Contractor
PICOP	Person In Charge of Possession
SO	Site Operative
SSOW	Safe System of Work
WPP	Work Package Plan