



## Product Acceptance Service

### Guidance Note - How to decide what needs product acceptance

## **Purpose**

The purpose of this document is to provide guidance on categories of typically approved items and also those items that do not require approval. These lists of items are non-exhaustive and additional guidance may be required from the Network Rail Product Acceptance Team or relevant Engineering function if items are not included.

The Network Technical Head of each Engineering function or delegate is responsible for deciding on the criticality of items within their asset ownership. If it is perceived that there is potential additional risk associated with a product or its use, an uncontrolled categorisation assigned within this document may be inappropriate. In these circumstances the Engineering function will determine the acceptance route and assessment criteria.

This document is intended to be read in conjunction with **NR/L2/RSE/100/05 – Product Acceptance and change to Network Rail operational infrastructure.**

All new items and changes to approved products or systems are required to be submitted via the Product Acceptance application form and will be assessed on receipt to determine their criticality, alignment against Engineering and Commercial strategy and/ or acceptance route.

## **Definitions**

**“Operational”** means any product / plant / equipment used to directly control, monitor, support and power the railway. In case of uncertainty the Product Acceptance team or relevant Network Rail Technical Authority or Network Rail Telecommunications (NRT) Engineering function shall be consulted.

**“Controlled”** means catalogue numbers for which Network Rail Engineering asserts control. For any items falling into this category, it is mandatory that the product acceptance process is followed as explained in **NR/L2/RSE/100/05** and this document.

**“Uncontrolled”** means catalogue numbers for which Network Rail Engineering asserts no control. Products in this category are low risk items that **do not** require acceptance or the submission of a Product Acceptance application. The issuing of uncontrolled numbers is managed by the Network Rail Catalogue Management Team within Route Services.

**“Controlled - Limited Criticality”** means that the item may be approved without further assessment on the basis that it is of low safety criticality proven to meet national standards (BSI's etc). These may be COTS products that are not going to be used in a way that differs from their originally intended use. It is mandatory that the product acceptance process is followed as explained in NR/L2/RSE/100/05 as these items require controlled catalogue numbers and may require certification if the asset owning function determines the need (i.e. for setting conditions of use in operational infrastructure environments).

This category is for products are used to support or provide low safety criticality services. Where these products are COTS, the Lead Reviewers will check their

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British or International standards which these products have declared compliant with to attain their CE or UKCA certifications, to make sure they align with Network Rail's intended use and deployment locations. Where these products are built to Network Rail's specifications, the Lead Reviewers will check compliance with the applicable Network Rail specification.

**“DFR”** means Design For Reliability (refer to standard NR/L2/RSE/0005 for further details).



Table of products to ascertain whether acceptance is required or not

Product Group	Asset Owning Discipline	Examples	Affected Engineering disciplines or other Business Functions											DFR	Comments				
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics			Occupational Safety	DFR Review		
1. Infrastructure components railway specific or for which there are no British or European Standards applicable	<b>SIGNALLING &amp; LEVEL CROSSINGS</b>	▪ <b>Train Detection system</b>																	
		- Track circuits (including Level crossings)	✓									✓			✓				
		- Axle counters	✓									✓			✓				
		- Treadles	✓									✓			✓				
		▪ <b>Lineside Signals, Indicators &amp; Signs</b>																	
		- Colour Light signals	✓									✓			✓				
		- Point indicators/Junction indicators/Route/ Speed indicators	✓									✓			✓				
		▪ <b>Point Operating Equipment</b>	✓								✓	✓			✓				
		▪ <b>Electronic &amp; Mechanical Interlocking systems</b>	✓									✓			✓				
		▪ <b>Signal Control Systems</b>																	
		- Signal Control Panel	✓									✓			✓				
		- IECC Signal Control & Indication equipment	✓									✓			✓				
		- Traffic Management Systems	✓									✓			✓				
		▪ <b>Train Describers, including Mechanical and Electronic</b>	✓									✓			✓				
- Transformers	✓					✓				✓			✓						

Product Group	Asset Owning Discipline	Examples	Affected Engineering disciplines or other Business Functions													DFR	Comments		
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety	DFR Review				
		- UPS's	✓				✓							✓					
		- TJ's (Transformer Rectifiers)	✓				✓							✓					
		• Train Protection systems																	
		- AWS & TPWS	✓											✓					✓
		▪ Event Logging & Condition Monitoring																	
		- Loggers	✓											✓					✓
		- Sensors	✓											✓					✓
		- Routers/ Switches	✓							✓				✓					✓
		▪ Location Cases																	
		- DIS Boxes	✓											✓					✓
		- Confined spaces/ restricted access cases.	✓																✓
		▪ Infrastructure specific relays																	
		- Miniature e.g. 930, 941, 966 F10	✓																✓
		- Large Plug-in B-Style	✓																✓
		- BR930	✓																✓
		- Sub Miniature cradle relays & PO 3000 relays for indications	✓																✓
		- Shelf Type relays	✓																✓
		- DCPI	✓																✓

Product Group	Asset Owning Discipline	Examples				Affected Engineering disciplines or other Business Functions								DFR	Comments	
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics			Occupational Safety
		<ul style="list-style-type: none"> <li>▪ Signs (As per specification of Group Standard)</li> </ul>		✓												
		<ul style="list-style-type: none"> <li>▪ VDU's and Ancillaries</li> </ul>														
		<ul style="list-style-type: none"> <li>- Commercial off the shelf products that meet specification</li> </ul>		✓												
		<ul style="list-style-type: none"> <li>▪ Signalling Cables</li> </ul>														
		<ul style="list-style-type: none"> <li>- Lineside Cabling</li> </ul>	✓									✓			✓	
		<ul style="list-style-type: none"> <li>- Internal Cabling                             <ul style="list-style-type: none"> <li>- Fibre Optic</li> <li>- Underground (zero smoke/ low halogen).</li> </ul> </li> </ul>	✓												✓	
		<ul style="list-style-type: none"> <li>- Ducting</li> </ul>	✓												✓	
		<ul style="list-style-type: none"> <li>▪ Level Crossing Equipment</li> </ul>														
		<ul style="list-style-type: none"> <li>- Barriers &amp; Booms.</li> </ul>	✓									✓			✓	
		<ul style="list-style-type: none"> <li>- Track Circuits</li> </ul>	✓									✓			✓	
		<ul style="list-style-type: none"> <li>- Train Detection Systems</li> </ul>	✓									✓			✓	
		<ul style="list-style-type: none"> <li>- Overlays</li> </ul>	✓									✓			✓	
		<ul style="list-style-type: none"> <li>- Cameras</li> </ul>	✓									✓			✓	
		<ul style="list-style-type: none"> <li>- Obstacle Detection Devices</li> </ul>	✓									✓			✓	
		<ul style="list-style-type: none"> <li>- Railway Specific Signs</li> </ul>	✓												✓	
	<b>TRACK</b>	<ul style="list-style-type: none"> <li>▪ Track components</li> </ul>														
		<ul style="list-style-type: none"> <li>- Rail (all types)</li> </ul>	✓												✓	

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			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety			DFR Review
		- Sleepers/ Bearers (all types)	✓													✓	
		- Ballast	✓													✓	
		- Fastening Systems - bolts - clips - Baseplates - Pads - Insulators	✓									✓				✓	
		- Joints - Mechanical - welded	✓													✓	
		- Buffer stops	✓													✓	
		- Non Standard Track -slab track, -Longitudinal sleepers.	✓													✓	
		▪ Monitoring And Measuring Equipment															
		- Inspection systems	✓									✓				✓	
		- Intelligent Infrastructure	✓									✓				✓	
		- Sensor Equipment	✓									✓				✓	
		- Measurement Tools - Laser - Amber recorder -Temperature recording	✓									✓	✓			✓	
		▪ Off Track															
		- Fencing		✓													

Product Group	Asset Owning Discipline	Examples				Affected Engineering disciplines or other Business Functions								DFR	Comments		
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics			Occupational Safety	DFR Review
		- Access		✓													
		- Crossing systems (i.e road panels)		✓													
		▪ Miscellaneous															
		- Petrol's			✓												
		- Oils			✓												
		- Lubricants	✓											✓	✓		
		- De-icers	✓											✓	✓		
		- Degreasers	✓											✓	✓		
		- Defoliant's	✓											✓	✓		
		▪ Track Drainage															Drainage products are assessed as per the requirements of NR Civil Engineering Std's
		- Pipes		✓												✓	
		- Connectors		✓												✓	
		- Catchpits		✓												✓	
		▪ Welding															
		- Thermic welding	✓										✓	✓	✓		
		- Alumino-thermic welding	✓										✓	✓	✓		
		- Arc welding	✓										✓	✓	✓		



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			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics			Occupational Safety	DFR Review
		- SkV-E Welding	✓										✓		✓		
		- Flash Butt Welding equipment	✓										✓		✓		
		▪ <b>Under-track Crossings (UTX)</b>	✓												✓		
	<b>S&amp;C (Switches &amp; Crossings)</b>	▪ <b>S&amp;C Systems</b>															
		▪ <b>Bearers</b>															
		- Concrete	✓													✓	
		- Timber	✓													✓	
		- Steel Hollow	✓													✓	
		- Bearer Joint Systems	✓													✓	
		- Under Bearer Pads.	✓													✓	
		▪ <b>Switches</b>															
		- Alternative Rail Steels	✓													✓	
		- Stretcher Bars	✓													✓	
		- Soleplates	✓													✓	
		▪ <b>Crossings</b>															
		- Cast Crossings (inc FBW)	✓													✓	
		- Part Fabricated Crossings	✓													✓	
		- Fabricated Crossings	✓													✓	

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			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics			Occupational Safety
		▪ Fastenings & Rail Support														
		- Pads, Insulators & Clips	✓												✓	
		- Baseplates	✓												✓	
		- Slide Baseplates	✓												✓	
		- Slab Track Systems	✓												✓	
		▪ POE														
		- Primary Drives	✓												✓	
		- Supplementary Drives	✓												✓	
		- Supplementary Detectors	✓												✓	
		- Drive & Connection Rods	✓												✓	
		- Support Plates for Above	✓												✓	
		▪ Rail (Other)														
		- Alternative Rail Steels	✓												✓	
		- Rail Joints (inc Insulated)	✓												✓	
		- Other Machined Rails	✓												✓	
		- Transition Rails	✓												✓	
		- Twist Rails	✓												✓	
		▪ Miscellaneous														
		- De-railer Assemblies	✓												✓	

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			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety	DFR Review			
		- Blanking Plates	✓														✓	
		- Drive Lugs	✓														✓	
		- S&C Gauges	✓														✓	
	<b>TELECOMS</b>	<p><b>Definitions for Telecoms assets:</b></p> <p><b>Trackside (on or near the line) telephones*:</b> Self-contained weatherproof telephone handsets, that are within 3 meters of the track. This would include SPT's, Points Zone phones, Ground Frame phones. Handsets in this category typically are used as parts of concentrator systems.</p> <p><b>Lineside equipment room telephones**:</b> Any telephone that is within the rail corridor, deployed within the railway boundary inside buildings including REBs (but does not come under categories trackside telephone or crossing telephone), example would be phones in Equipment Rooms, Sub Stations. This category includes handsets installed in buildings to support direct line and hotline applications (these are not the same as concentrator system application).</p> <p><b>Crossing telephones***:</b> All phones that are associated with a crossing for public use, this would include Occupational crossing, User works crossing, AHB Crossing. Handsets in this category typically are used as parts of level crossing telephone systems.</p> <p><b>Other operational telephones****:</b> Telephones (not covered in the other telephone categories) that can be used to make calls to and from individuals that are directly contributing to the running of the Operational Railway e.g. Signaller/ ECR staff/ Control Staff/Trackside workers.</p>																
		<p>▪ <b>Operational Telecoms</b></p>																
		- Trackside (on or near the line) telephones*			✓	✓								✓	✓			
		- Lineside equipment room telephones**		✓														
		- Crossing telephones***	✓			✓							✓	✓			✓	

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			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety	DFR Review			
		- PETS/KETS	✓														✓	
		- Concentrators for signallers and ECR applications	✓			✓							✓	✓			✓	
		- Voice Systems/Platforms/Solutions			✓													
		- Voice Media Gateway	✓										✓				✓	
		- Voice Recording equipment	✓										✓	✓			✓	
		- Other operational telephones****			✓													
		- Telephony switches for route control (ICC)	✓			✓	✓						✓				✓	
		- Transmission Networks, including network managers and associated with operational railway services (including SDH/PDH multiplexers, IP/MPLS Routers, Protocol Converters, SFP, xDS/DWDM/Modem equipment).	✓			✓	✓						✓				✓	
		- Synchronisation Equipment for Frequency and Phase synchronisation (including SSU, PRC, PRTC, T-GM)	✓			✓	✓						✓				✓	
		- Synchronisation Equipment for Time of Day synchronisation (including NTP servers)		✓														
		- Synchronized Ops floor Clocks			✓													

Product Group	Asset Owning Discipline	Examples	Affected Engineering disciplines or other Business Functions													DFR	Comments		
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety	DFR Review				
		<ul style="list-style-type: none"> <li>▪ <b>Telecoms Power</b></li> <li>- UPS (excludes associated battery) and DC Power Systems (AC or DC output, all products that are below 10kVA, single phase type)</li> <li>- Battery (for controlled UPS systems)</li> <li>- UPS small stand-alone</li> <li>▪ <b>Radio components</b></li> <li>- GSM-R</li> <li>- GSM-R Dispatcher Terminal</li> <li>- Antenna Systems (including: feeders, splitters, attenuators, filters, attenuators, connectors, arrestors, Telecoms eLoran and GNSS antennas)</li> <li>- Station Radios</li> <li>- Marine Radios</li> <li>- Wireless services (Wi-Fi, 4G/5G, microwave, excluding corporate Wi-Fi &amp; 4G/5G networks)</li> <li>- RETB</li> </ul>																	
			✓															✓	
					✓														
					✓														
			▪	▪	▪	▪	▪	▪	▪	▪	▪	▪	▪	▪	▪	▪	▪		
			✓			✓									✓			✓	
			✓			✓									✓			✓	
					✓														
				✓											✓			✓	
			✓			✓									✓			✓	

Product Group	Asset Owning Discipline	Examples				Affected Engineering disciplines or other Business Functions										DFR	Comments	
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety	DFR Review			
		- Radio Masts (monopoles, lattice towers, columns, antenna bracketry, Fall arrest system)		✓														
		▪ Operational CCTV system and components																
		▪ DOO Cameras	✓			✓							✓				✓	
		- DOO Monitors	✓			✓							✓				✓	
		- Non-operational non-station CCTV		✓														
		▪ Telecoms Infrastructure																
		- External Telecommunications cables (fibre, jumper wire and copper) terminations and ancillaries.	✓														✓	
		- Internal Telecommunications cables (fibre and copper) terminations and ancillaries, excluding copper jumper cables.		✓														
		- Copper jumper wires			✓													
		- Troughing	✓			✓	✓										✓	
		- Internal Cable containment products		✓														
		- Equipment housings, structures and enclosures			✓													

Product Group	Asset Owning Discipline	Examples	Affected Engineering disciplines or other Business Functions													DFR	Comments	
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety	DFR Review			
		- Telecoms logical security																
		- Firewall	✓											✓			✓	
		- Data Diodes	✓											✓			✓	
		- Telecoms REB access control locking systems (physical security)			✓													
		▪ Non-Operational Telecoms / SISS																
		▪ PA speakers (excludes sub-surface station use)		✓														
		▪ PA control system		✓														
		- Platform Clocks		✓														
		- Network equipment for SISS applications		✓														
		- CIS HMI		✓														
		- CIS Displays		✓														
		- CIS HMI		✓														
		- CCTV (VSS) system including cameras (excludes sub-surface station use)		✓														
		- CCTV (VSS) Cameras (sub-surface station use)			✓													
		- PA Speakers for Sub- Surface Station use.			✓													

Product Group	Asset Owning Discipline	Examples				Affected Engineering disciplines or other Business Functions								DFR	Comments		
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics			Occupational Safety	DFR Review
		- PAVA Systems including for Sub- Surface Station use.			✓												
		- CCTV (VSS) system – all components except cameras, for Sub- Surface Station use.			✓												
		▪ Station Management System for telecom applications		✓													
		- Help points		✓													
	<b>ELECTRIFICATION</b>	- Small Part Steelwork including Bolt, Adaptor Plate, Washer, Studs, Tie Rod, Spacer, Fixing clip, Nut, Clamping Plate, Retaining Cap		✓													
		▪ 25kV AC:															
		25kV Switchgear															
		- SMOS Assemblies	✓									✓			✓		
		- GIS Assemblies	✓									✓			✓		
		- Containerised AIS Assemblies	✓									✓			✓		
		- Traditional AIS Assemblies	✓									✓			✓		
		- 25kV Circuit Breakers	✓									✓			✓		
- 25kV Disconnectors	✓									✓			✓				
- Earth Switches	✓									✓			✓				



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			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety	DFR Review		
		- Motorised & Manual Switch	✓												✓		
		- Mechanisms	✓												✓		
		- Critical Sensors (position feedback, gas pressures)	✓										✓		✓		
		- 25kV fuses	✓												✓		
		- Surge Arrestors	✓										✓		✓		
		<b>25kV Auxiliary Equipment</b>															
		- Harmonic Filters & Passive Components (inductors, capacitors)	✓										✓		✓		
		- Power Quality Equipment (SVC's, SFC's etc)	✓										✓		✓		
		- Auto-tap Changers	✓												✓		
		<b>25kV Instrumentation</b>															
		- Protection Class Current	✓										✓		✓		
		- Transformers	✓										✓		✓		
		- Protection Class Voltage Transformers	✓										✓		✓		
		- Other Instrument Transformers	✓										✓		✓		
		<b>Single Phase 25kV Transformers</b>															
		- Power Transformers	✓										✓		✓		
		- Auxiliary Transformers	✓										✓		✓		

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			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics			Occupational Safety
		- Booster Transformers	✓									✓			✓	
		- Auto Transformers	✓									✓			✓	
		<b>25kV Power Distribution</b>														
		- 25kV Bushbars	✓									✓			✓	
		- 25kV Termination Assemblies (bushings, plugs & sockets)	✓												✓	
		- 25kV Cable	✓									✓			✓	
		- 25kv Cable Joints and Terminations	✓									✓			✓	
		- 25kV Sealing Ends	✓									✓			✓	
		- 25kV Cable Route Accessories (cleats, straps, hangers, trough, conduits etc)	✓												✓	
		- Red Bonds	✓									✓			✓	
		- Traction Return Current Bushbars	✓									✓			✓	
		- Return Screening Conductor & Associated Accessories	✓									✓			✓	
		- General Purpose Earth Cabling	✓									✓			✓	
		<b>Procedural Equipment</b>														
		- Live Line Testers	✓									✓			✓	
		- Safety Signage	✓												✓	
		- Portable Earth & Poles	✓									✓			✓	

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			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety	DFR Review		
		<b>Overhead Line</b>															
		- Contact Wire	✓														✓
		- Catenary Wire	✓														✓
		- Droppers & Jumpers	✓										✓				✓
		- Insulators	✓										✓				✓
		- Railway Specific OLE Wires	✓														✓
		- Neutral Sections	✓										✓				✓
		- Insulated Overlaps	✓										✓				✓
		- Section Insulators	✓										✓				✓
		- Sealing Ends	✓										✓				✓
		- Secondary Insulation	✓										✓				✓
		- Tensioning Equipment	✓										✓				✓
		- Support & Registration Equipment	✓										✓				✓
		- Conductor Beams & Associated Equipment	✓										✓				✓
		- APC Magnets & Equipment	✓										✓				✓
		<b>▪ DC TRACTION POWER:</b>															
		<b>DC Switchgear</b>															
		- Traditional AIS Assemblies	✓										✓				✓

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			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety		
		- Solid Insulated Switchgear Assemblies	✓									✓			✓	
		- Circuit Breakers	✓									✓			✓	
		- Disconnectors	✓									✓			✓	
		- Short Circuiting Devices	✓									✓			✓	
		- Motorised & Manual Switch Mechanisms	✓									✓			✓	
		- Controlled Track Isolators	✓									✓			✓	
		- Critical Sensors (position feedback, gas pressures)	✓									✓			✓	
		- Fuses	✓												✓	
		- Surge Arrestors	✓												✓	
		<b>DC Auxiliary Equipment</b>														
		- Impedance Bonds	✓									✓			✓	
		- Track Current Relays	✓									✓			✓	
		<b>DC Instrumentation</b>														
		- Protection Class Current Transformers	✓									✓			✓	
		- Protection Class Voltage Transformers	✓									✓			✓	
		- Other Instrument Transformers	✓									✓			✓	

Product Group	Asset Owning Discipline	Examples				Affected Engineering disciplines or other Business Functions								DFR	Comments	
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics			Occupational Safety
		<b>Transformers &amp; Rectifiers</b>														
		- Power Transformers & Rectifiers	✓									✓			✓	
		- Auxiliary Transformers	✓									✓			✓	
		<b>DC Power Distribution</b>														
		- DC Bushbars	✓									+			✓	
		- DC Cable (inc rectifier return cables)	✓									✓			✓	
		- DC Cable Joints & Terminations	✓									✓			✓	
		- DC Cable Sealing Ends	✓									✓			✓	
		- DC Cable Route Accessories (cleats, trough, conduit etc)	✓												✓	
		- Red Bonds	✓									✓			✓	
		- General Purpose Earth Cabling	✓									✓			✓	
		<b>Procedural Equipment</b>														
		- Live Line Testers	✓									✓			✓	
		- Safety Signage	✓									✓			✓	
		- Conductor Rail Shields	✓									✓			✓	
		- Portable Earthing & Straps	✓									✓			✓	

Product Group	Asset Owning Discipline	Examples				Affected Engineering disciplines or other Business Functions								DFR	Comments	
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics			Occupational Safety
		<b>Conductor Rail</b>														
		- Conductor Rail Connectors, Cable Terminations, Fishplates, Base Plates, Anchors	✓												✓	
		- Insulators	✓									✓			✓	
		- Baseplates	✓												✓	
		<b>▪ AC/DC INTERFACE &amp; SPECIFIC EQUIPMENT:</b>														
		<b>Interface Hardware</b>														
		- Isolation Transformers	✓									✓			✓	
		- Isolation Transformers Return Current Switches	✓									✓			✓	
		- Voltage Limiting Devices	✓									✓			✓	
		- Switch Contactor Suites	✓									✓			✓	
		- Non Linear Resistors	✓												✓	
		<b>▪ 3 PHASE HIGH VOLTAGE (&gt;1kV) AC:</b>														
		<b>Traction Power Switchgear</b>														
		- SMOS Assemblies	✓									✓			✓	
		- GIS Assemblies	✓									✓			✓	
		- Containerised AIS Assemblies	✓									✓			✓	
		- Traditional AIS Assemblies	✓									✓			✓	

Product Group	Asset Owning Discipline	Examples	Affected Engineering disciplines or other Business Functions														DFR	Comments
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety	DFR Review			
		- Circuit Breakers	✓												✓			
		- Disconnectors	✓												✓			
		- Earth Switches	✓												✓			
		- Motorised & Manual Switch Mechanisms	✓												✓			
		- Critical Sensors (position feedback, gas pressures)	✓												✓			
		- Fuses	✓												✓			
		- Surge Arrestors	✓												✓			
		<b>Non-Traction Power Switchgear</b>																
		- SMOS Assemblies	✓										✓		✓			
		- GIS Assemblies	✓										✓		✓			
		- Containerised AIS Assemblies	✓										✓		✓			
		- Traditional AIS Assemblies	✓										✓		✓			
		- Circuit Breakers	✓										✓		✓			
		- Disconnectors	✓												✓			
		- Earth Switches	✓												✓			
		- Motorised & Manual Switch Mechanisms	✓												✓			
		- Critical Sensors (position feedback, gas pressures)	✓												✓			
		- Fuses	✓												✓			

Product Group	Asset Owning Discipline	Examples				Affected Engineering disciplines or other Business Functions									DFR	Comments	
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety			DFR Review
		- Surge Arrestors	✓													✓	
		<b>Auxiliary Equipment</b>															
		- Harmonic Filters & Passive Components (inductors, capacitors)	✓									✓				✓	
		- Power Quality Equipment	✓									✓				✓	
		- Auto-tap Changers	✓									✓				✓	
		<b>Instrumentation</b>															
		- Protective Class Current Transformers	✓									✓				✓	
		- Protection Class Voltage Transformers	✓									✓				✓	
		- Other Instrument Transformers	✓									✓				✓	
		<b>Transformers</b>															
		- Power Transformers	✓									✓				✓	
		- Auxiliary Transformers	✓									✓				✓	
		<b>Power Distribution</b>															
		- Busbars	✓													✓	
		- Termination Assemblies (bushings, plugs & sockets e.g. pfisterer type, cable boxes)	✓													✓	
		- Cable	✓													✓	



Product Group	Asset Owning Discipline	Examples				Affected Engineering disciplines or other Business Functions									DFR	Comments	
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety			DFR Review
		- Cable Joints & Cable Terminations	✓													✓	
		- Cable Sealing Ends	✓													✓	
		- Cable Route Accessories (cleats, straps, hangers, trough, conduit etc)	✓													✓	
		- General Purpose Earthing Equipment	✓									✓				✓	
		<b>▪ PROTECTION CONTROL &amp; AUXILIARIES:</b>															
		<b>Protection Control &amp; Auxiliary Equipment</b>															
		- Protection Relay/ Intelligent Electronic Devices (inc but not limited to distance/ impedance, bay control, feeder, unit, transformer differential) for 3 Phase Applications	✓									✓				✓	
		- Protection Relay/ Intelligent Electronic Devices (inc but not limited to distance/ impedance, bay control, feeder, unit, transformer differential, frame leakage) For DC or 25kV Single Phase Applications	✓									✓				✓	
		- Phasor Measurement Units (PMUs)	✓									✓				✓	
		- Remote Terminal Units (RTUs)	✓									✓				✓	

Product Group	Asset Owning Discipline	Examples				Affected Engineering disciplines or other Business Functions										DFR	Comments	
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety	DFR Review			
		- SCADA Cabinets & Assemblies, Racks, Screens/ Monitors, System Routers, System VOIP elements	✓						✓								✓	
		- Processors & Firmware	✓														✓	
		- Analog & Digital IO Modules	✓														✓	
		- Switchgear Control Modules	✓														✓	
		- Power Supply Equipment	✓									✓					✓	
		- HMI Displays	✓														✓	
		- GPS Clocks & Associated Equipment	✓														✓	
		- Communications Modules (e.g. ethernet cards)	✓						✓								✓	
		- Modems	✓						✓								✓	
		- Elements	✓														✓	
		- Point to Point Controllers	✓														✓	
		- Remote Condition Monitoring Equipment	✓									✓					✓	
		- Asset Management Equipment (e.g. cable theft monitors)	✓									✓					✓	
		- Master Station Equipment	✓									✓					✓	
		- Workstations	✓														✓	
		- Control/ Operating System Software	✓														✓	

Product Group	Asset Owning Discipline	Examples	Affected Engineering disciplines or other Business Functions													DFR	Comments	
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety	DFR Review			
		- Configuration Software	✓														✓	
		- Configuration Management Tools	✓														✓	
		- Insulation Monitors	✓														✓	
		- Auto-reconfiguration Systems	✓														✓	
		- Fault Locators	✓														✓	
		- Equipment Interfacing to Intelligent Infrastructure	✓														✓	
		- Uninterruptible Power Supplies	✓														✓	
		- Batteries & Battery Chargers	✓														✓	
		- Building Services Equipment (LVAC, air conditioners, heating, ventilation etc)	✓										✓				✓	
		<b>▪ SIGNALLING POWER SUPPLIES:</b>																
		<b>Switchgear</b>																
		- FSP 01, 02, 03 or 04 Assemblies	✓										✓				✓	
		- 650V Switchgear for Class 1 Assemblies	✓										✓				✓	
		- 650V Switchgear for Class 2 Assemblies	✓										✓				✓	
		- 230 & 400V Three Phase Switchgear	✓										✓				✓	
		- LV AC Changeover Panels (e.g. for PSPs)	✓										✓				✓	

Product Group	Asset Owning Discipline	Examples				Affected Engineering disciplines or other Business Functions								DFR	Comments	
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics			Occupational Safety
		- Power Pedestals	✓									✓			✓	
		- Cabinets & Enclosures of Insulating Construction or for Outdoor use	✓									✓			✓	
		- General Purpose Cabinets, Enclosures & Cubicles for Indoor use	✓									✓			✓	
		- Distribution Feeder Soft-Start Equipment	✓									✓			✓	
		- Fixed-Charismatic Protective Devices	✓									✓			✓	
		- Transient Voltage and Surge Suppressors	✓									✓			✓	
		<b>Signalling Power Transformers &amp; Transformer Rectifiers</b>														
		- Transformers up to 10kVA for Signalling Loads	✓									✓			✓	
		- Transformers over 10kVA for Signalling Loads	✓									✓			✓	
		- Transformers for non-critical Applications	✓									✓			✓	
		- Transformer Rectifiers for Signalling Loads	✓									✓			✓	
		- Distribution Interface Transformer Assemblies	✓									✓			✓	
		<b>Signalling Power Cabling</b>														
		- Enhanced Unarmoured Cables	✓									✓			✓	

Product Group	Asset Owning Discipline	Examples				Affected Engineering disciplines or other Business Functions										DFR	Comments	
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety	DFR Review			
		- Cable Joints & Terminations for Enhanced Unarmoured Cables	✓														✓	
		- Conduit & Glands constituting part of the Insulation for Enhanced Unarmoured Cables	✓														✓	
		- Cable & Route Accessories (cleats, Trough etc)	✓														✓	
		- Bimetallic Cable Connectors, Crimps, Lugs	✓														✓	
		- Other 600/1000V Cables & Accessories	✓									✓					✓	
		<b>Other Signalling Power Components</b>																
		- Standby & Emergency Diesel Generator sets for Principal Supply Points	✓									✓					✓	
		- Mobile Generators for Emergency Repairs	✓									✓					✓	
		- Earth Electrodes & Associated Components	✓									✓					✓	
		- Earth Busbars	✓														✓	
		<b>RAIL HEATING:</b>																
		<b>DNO Supplies</b>																
		- Isolation Transformers	✓														✓	
		- Switchgear	✓														✓	
		- Enclosures	✓														✓	

Product Group	Asset Owning Discipline	Examples	Affected Engineering disciplines or other Business Functions													DFR	Comments
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety	DFR Review		
		<b>Conductor Rail Heating &amp; Points Heating</b>															
		- Cables	✓										✓			✓	
		- Heating Strips	✓										✓			✓	
		- Controllers	✓										✓			✓	
		- Transformers	✓										✓			✓	
		- Enclosures	✓										✓			✓	
		<b>▫ OTHER LV POWER SUPPLIES:</b>															
		<b>Switchgear</b>															
		- 230/400V Components	✓													✓	
		- Equipment & Assemblies CE Marked to the LV Directive & Conforming to BS EN 61439 General LV use			✓												
		- Fuses	✓													✓	
		- Over-voltage Devices	✓													✓	
		- Enclosures	✓													✓	
		<b>▫ ELECTRICAL POWER - OTHER:</b>															
		- Small Part Steelwork (SPS) including Bolt, Adaptor Plate, Washer, Studs, Tie Rod,		✓													

Product Group	Asset Owning Discipline	Examples				Affected Engineering disciplines or other Business Functions								DFR	Comments			
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics			Occupational Safety	DFR Review	
		Spacer, Fixing clip, Nut, Clamping Plate, Retaining Cap																
		- Operational Lighting		✓														
2 a	Non-railway specific infrastructure components conforming to British or European Standards	<b>SIGNALLING</b>	- Signalling equipment not covered by Group 1	✓											✓		Operational applications within the scope of the relevant British or European Standards and where in addition there are railway specific requirements or risks not covered by the British or European Standard.	
			- UPS (TPWS applications)	✓											✓			
		<b>TRACK</b>	- Railway ballast	✓											✓			
		<b>TELECOMS</b>	- Equipment to be used in sub-surface stations	✓											✓			
		<b>ELECTRIFICATION</b>	- HV Cables, Non-railway specific Earthing & Bonding components (e.g. cable terminations, red bond boxes)	✓												✓		
			- Electrification signage	✓												✓		
			- Battery Chargers and Batteries (including DC distribution and non-traction applications)	✓												✓		
			- Low Voltage (LV) -AC Panels	✓												✓		
			- 3-phase HV cabling, joints and terminations	✓												✓		
			- Cable route materials for Electrical power use i.e. Troughing	✓												✓		
	- UPS power supply conditioning equipment	✓												✓				
	- DNO cubicles	✓												✓				

Product Group	Asset Owning Discipline	Examples				Affected Engineering disciplines or other Business Functions								DFR	Comments				
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics			Occupational Safety	DFR Review		
		<ul style="list-style-type: none"> <li>- UPS (above 10kVA rated)</li> <li>- Electronic Protection Relays (EPR) for principle Supply Point (PSP) applications</li> <li>- Insulation Monitors</li> <li>- Non-railway specific overhead line conductors &amp; wires</li> <li>- Pilot Cables</li> <li>- Generators</li> </ul>	✓										✓				✓		
		<ul style="list-style-type: none"> <li>- Raise/lower Lighting columns</li> <li>- CCTV winches</li> </ul>			✓													✓	
		<b>PLANT</b>			✓													✓	
					✓													✓	
					✓													✓	
2	Operational applications within scope of the relevant British or European Standards (Excludes: Equipment to be used in a sub-surface station and telecoms operational cables, HV	<b>SIGNALLING</b>	- Mileposts		✓														
b		<b>ELECTRIFICATION</b>	- OLE Structure plates		✓														
			- Eyebolt for lifting Impedance Bond		✓														
			- Cable Identification sleeves		✓														
			- Low Voltage (LV) Signalling Power Supply cables		✓														
			- Power Distribution systems		✓														
			- Transformer Specific relays		✓														
			- Cable types to BS5467 and BS6724 (Cu or Al) either with additional marking or without		✓														
																		Operational applications within scope of the relevant British or European Standards  Note: HV Cables to BS Standards for subsurface station (also known as section 12 area) applications <b>do</b> require acceptance.	



Product Group		Asset Owning Discipline	Examples				Affected Engineering disciplines or other Business Functions								DFR	Comments	
				Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety	DFR Review	
	(>1kV) and DC traction feeder cables, signalling power supply transformers)		- 400V & 230V LV cabling		✓												
			- Earth cabling (below 1kV applications)		✓												
			- Lighting control kiosk and switchgear		✓												
3 a	Non-railway specific standard building materials conforming to recognised British or European Standards	<b>TRACK</b>	- Sealing Ring for Track Drainage		✓												Intended to be used as an alternative to a component that is already accepted under Group 1 or 2a product
		<b>S&amp;C SYSTEMS</b>	- A standard Bolt to replace a missing bolt in a point Assembly	✓											✓		
			- Washer for use on RT60 S&C	✓											✓		
3 b		<b>ELECTRIFICATION</b>	- Fuses	✓												✓	Any application not covered by 3a
		<b>VARIOUS</b>	- Screws, nails, cement, bricks, shovel, pliers, studs		✓												
4 a	Powered tools and equipment		- TI21 frequency selective meters	✓									✓			✓	Intended to be used on a Group 1 or 2a product that could be adversely affected if the tool or equipment is not fit for purpose
			- Simulators	✓												✓	
			- Rail drills	✓					✓		✓				✓	✓	
			- CAT scanning equipment	✓				✓		✓			✓			✓	
			- Rail stressing equipment	✓						✓		✓			✓	✓	
			- Test equipment			✓										✓	
			- Diagnostic tools			✓										✓	
	- Design tools			✓										✓			

Product Group	Asset Owning Discipline	Examples				Affected Engineering disciplines or other Business Functions								DFR	Comments				
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics			Occupational Safety	DFR Review		
		<ul style="list-style-type: none"> <li>- Data loggers and Condition monitoring equipment</li> <li>- Drop shunt boxes</li> <li>- Measuring Probe</li> <li>- Thermometers</li> <li>- Multimeters</li> <li>- Insulation testers</li> <li>- Protection relay injection test sets</li> <li>- Pressure test sets for cable/switchgear testing + accessories</li> <li>- Trip coil testers and TPWS meter</li> </ul>			✓											✓			
4 b	<b>PLANT</b>	<ul style="list-style-type: none"> <li>- Grinders (hand tool type &amp; pedestal)</li> <li>- Static Lamp</li> <li>- Total Station instruments (Theodolites)</li> <li>- Laser Scanners (scanning or mapping)</li> </ul>		✓														Proprietary equipment which is not railway specific or not covered by Group 4a	
		<ul style="list-style-type: none"> <li>- Thermometers, Multimeters and Insulation testers not intended for use on a Group 1 or 2a product</li> </ul>		✓															
		<b>SIGNALLING</b>	<ul style="list-style-type: none"> <li>- AWS S&amp;P indicator</li> </ul>	✓													✓		

Product Group		Asset Owning Discipline	Examples	Affected Engineering disciplines or other Business Functions													DFR	Comments		
				Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety	DFR Review				
5 a	Non-powered tools and equipment	<b>TRACK</b>	- Track gauge	✓													✓	Intended to be used on a Group 1 or 2a product that could be adversely affected if the tool is not fit for purpose		
		<b>ELECTRIFICATION</b>	- OLE Live Line indicator/testers/gauges/tools	✓															✓	
			- OLE Height & Stagger Gauges	✓															✓	
		<b>PLANT</b>	- lifting accessories when used on Group 1 or 2 products	✓												✓	✓		✓	
			- Non-proprietary insulated tools	✓												✓	✓		✓	
			- Tensionmeter	✓					✓								✓		✓	
			- OLE Height sticks	✓					✓								✓		✓	
- Insulated tools for use on or in the vicinity of DC Conductor Rail, Ladders used near live OLE	✓					✓							✓	✓	✓					
5 b		- DC Ramper		✓														Any application not covered by Group 5a  Generally, these do not require acceptance however section 5a will apply in cases where their use/application will directly affect the performance of the railway.		
		- Ratchet Podger Tools		✓																
		- Hand Tools (Hammers, screwdrivers, spanners, shovels).		✓																
		- Proprietary Laser Distance Measuring device		✓																
		- Measuring Wheels		✓																
		- Proprietary Lifting accessories e.g. Hooks, Chains Slings		✓																
- Insulated tools		✓																		

Product Group	Asset Owning Discipline	Examples				Affected Engineering disciplines or other Business Functions								DFR	Comments			
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics			Occupational Safety	DFR Review	
		- Torque wrench			✓													
		- Temporary pulleys		✓														
		- Ladders not being used near live OLE		✓														
		- Depot only Tools (mechanical & electrical)		✓														
	<b>VARIOUS</b>	- Personal Protective equipment (PPE)		✓														
		- Fencing		✓														
6 a	On Track Plant (OTP) - Road Rail Vehicles (RRV) and Rail Mounted Maintenance Machines (RMMM) and associated attachments	<b>PLANT</b>	<ul style="list-style-type: none"> <li>▪ <b>OTP (On Track Plant)</b></li> </ul>														Automated installation, maintenance, inspection or monitoring of a Group 1 or 2a product	
		- Sleeper Laying Machine	✓										✓	✓	✓	✓		
		- S&C unit lifting equipment	✓										✓	✓	✓	✓		
		- Mobile Flash butt Welder	✓							✓	✓	✓	✓	✓	✓	✓		
		- Sleeper Adjuster	✓							✓		✓	✓	✓	✓	✓		
		- Clipping Machine	✓							✓		✓	✓	✓	✓	✓		
		- Rail Lifter	✓							✓		✓	✓	✓	✓	✓		
		- RRV Attachments (Augers, Profile Blades, Ballast Excavator, Ballast Ploughs, Bowsers, Buckets, Ballast Plough, Cable Drum Carriers, Chains & Slings, Compactor Plates, Flails, Grabs, Hydraulic Breakers, Knuckle Boom	✓										✓	✓	✓	✓		

Product Group	Asset Owning Discipline	Examples				Affected Engineering disciplines or other Business Functions								DFR	Comments		
			Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics			Occupational Safety	DFR Review
6 b		Cranes, Piling Hammers & Heads, Quick Hitch, Ripper Tooth, Rotators, Scarifiers, Hand Tampers, Thimbles, Tilt Rotators, Trailers, Tree Cutting Head, Vacuum Lifter, Vacuum Excavator, Wood Chipper)															
		- MEWP Attachments	✓				✓						✓	✓	✓		
		- Tilting Wagons	✓										✓	✓	✓		
		- Rail Head Scrubbing Machine	✓							✓			✓	✓	✓		
		- Mobile Elevated Work Platforms (MEWP)	✓				✓						✓	✓	✓		
		- Powered trolleys	✓										✓	✓	✓		
		- RRV fitted with a flail (note: the flail is a Group 4b product)	✓							✓			✓	✓	✓		
		- Portable Road Rail Access Platform	✓							✓			✓	✓	✓		
- Track Access System	✓							✓			✓	✓	✓				
7	On Track Machines (OTM) and associated attachments.	▪ OTM (On Track Machines)															
		- Ballast Cleaners	✓						✓			✓	✓	✓			
		- Tampers	✓						✓			✓	✓	✓			
		- Rail Cutting Machine	✓						✓			✓	✓	✓			
		- Excavation Machine	✓						✓			✓	✓	✓			
		- Maintenance Machines (MMT)	✓						✓			✓	✓	✓			

Product Group		Asset Owning Discipline	Examples	Affected Engineering disciplines or other Business Functions													DFR	Comments
				Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety	DFR Review		
8	Manually propelled powered Equipment		<ul style="list-style-type: none"> <li>Manually propelled powered Equipment</li> </ul>															Intended to be used on a Group 1 or 2a product that could be adversely affected if the tool is not fit for purpose
			- Rail grinders	✓							✓		✓	✓	✓	✓		
			- Cutters	✓							✓		✓	✓	✓	✓		
			- Profile grinder	✓							✓		✓	✓	✓	✓		
			- Rail Head Cleaner	✓							✓			✓	✓	✓		
			- Track Jack	✓							✓			✓	✓	✓		
			- Rail Stressing equipment	✓							✓			✓	✓	✓		
			- Rail Clip remover	✓							✓		✓	✓	✓	✓		
			- Sleeper Replacer	✓							✓		✓	✓	✓	✓		
- Rail Welding Machine	✓							✓		✓	✓	✓	✓					
9	Manually propelled non powered Equipment		<ul style="list-style-type: none"> <li>Manually propelled powered Equipment</li> </ul>	✓												✓		
			- Hand trolleys	✓										✓	✓	✓		
			- iron man trolley	✓										✓	✓	✓		
			- rail skates etc	✓										✓	✓	✓		
10	Non rail mounted plant or machinery		<ul style="list-style-type: none"> <li>Non Rail Mounted Plant or Machinery</li> </ul>														Any plant or machinery used on and do not have the potential to infringe on or damage the infrastructure (but that is not rail mounted)	
			- Chippers			✓												
			- Dozers			✓												
			- Cranes			✓												

Product Group		Asset Owning Discipline	Examples	Affected Engineering disciplines or other Business Functions											DFR	Comments	
				Controlled	Uncontrolled	Controlled limited criticality	Signalling	Electrification	Plant	Telecoms	Track	S&C	EMC	Ergonomics	Occupational Safety	DFR Review	
			- Scaffold towers			✓											
			- Mower			✓											
1	Equipment fitted to a Group 10 product.		<b>-Equipment fitted to a Non Rail Mounted Plant or Machinery</b>														
1			- Lifting Beam	✓											✓	✓	
			- Crane Fork	✓											✓	✓	

Intended to be used on a Group 1 or 2a product that could be adversely affected if the equipment is not fit for purpose

**Abbreviations**

AWS = Advanced Warning system  
 CAT = Cable Avoidance tool  
 DC = Direct current  
 AC = Alternating current  
 CCTV = Closed Circuit television  
 CIS = Customer Information system  
 DCPI = DC Polar Moving Iron  
 DFR = Design For Reliability (refer to standard NR/L2/RSE/0005 for further details).  
 DNO = Distribution Network operator  
 DOO = Driver-only operation  
 FTN = Fixed Telecoms network  
 FPL = Facing Point Lock  
 GSM-R = Global system for Mobile railway  
 HV = High voltage  
 IC = Interoperable Constituent  
 IECC = Integrated Electronic Control centre  
 ISDN = Integrated Services Digital network  
 kV = Kilo volts  
 LV = Low voltage  
 OLE = Overhead Line equipment  
 OTM = On Track Machine  
 OTP = On Track Plant  
 PA = Public Address  
 PETS = Public Emergency Telephone system (PETS)  
 SCADA = Supervisory Control and Data acquisition  
 SkV-E = Welding process  
 S&C = Switches & Crossings  
 SISS = Station Information & Security Systems  
 SQA = Supplier Quality Assurance  
 TA = Technical Authority  
 TI21 = Type of track circuit  
 TPWS = Train Protection Warning system  
 VDU = Video Display unit  
 UPS = Uninterruptible Power supply (UPS)  
 VOIP = Voice Over Internet protocol  
 DWDM = Dense wavelength division multiplexing  
 SFP = Small Form-factor Pluggable (optical transceiver module)  
 DSL = Digital Subscriber Line  
 MODEM = Modulator-Demodulator