|  | **STEPS** | **HAZARDS** | **Unmitigated** | **CONTROL MEASURES** | **Mitigated** |
| --- | --- | --- | --- | --- | --- |
| **C** | **L** | **R** | **C** | **L** | **R** |
|  | Planning | **Planning / Communication**Lack of knowledge/unfamiliar of the site | B | 3 | 8 | * Compliance with HSS 01 105 Putting People to Work
* Staff trained and competent for the site
* Pre-site surveys carried out.
* Pre-construction information pack provided from client.
* Review other historical documents where available
* Briefing at least 24hrs prior to works where applicable
* Engage with Client personnel for further information on local knowledge
 | B | 1 | 2 |
| Access / Egress to and from site | **Ground Conditions/Instability**Slips, trips, falls | C | 3 | 17 | * Use designated walkways where available.
* Use of client authorised access and egress points.
* Be aware of changing weather conditions.
* Mandatory UKPN Services approved safety footwear (provides support to the ankle, includes mid-sole protection, and has a protective toecap.).
* Site Briefing for all attending.
* Identify known hazards i.e. ballast, uneven ground.
* Good housekeeping / keep walkways clear
 | C | 1 | 4 |
| **Trespass / Unauthorised Entry**Security | E | 4 | 23 | * Ensure work area is secure.
* Access / Egress gates to be always locked.
* Adequate security measures in place e.g. CCTV or Site security
* Daily Site Security Check to be completed by Site Supervisor and where required paperwork completed
 | E | 1 | 10 |
| Working on or near electricity | **Electricity**HV Live Cables in adjacent troughs  | E | 4 | 23 | * Where applicable HV Assessor to complete HV Risk Assessment and brief to all in attendance
* Competent Person to be on site in accordance with Client specific requirements e.g. NR/L3/ELP/22001 - Procedure And Competence Requirements For Persons Undertaking Works In The Vicinity of High Voltage Cables
* Switch out HV Feeders where required
* Brief all staff on limits of protection
* Erect safety fence to demarcate site where there is requirement to do so
* Mechanical protection where required
 | E | 1 | 10 |
| **Electricity**Live Equipment | E | 4 | 23 | * Competent Person to be on site in accordance with Client requirements e.g. NR/L2/CTM/018 - Competence and Training in Traction Power Distribution
* Suitably competent person to access & supervise works within substations and compounds
* Brief all staff on limits of protection, tools and equipment e.g. the carrying of long objects
* Erect safety fence to demarcate the site
* Use authorised walking routes always
 | E | 1 | 10 |
| **Electricity**Disconnecting / connecting LV power supplies to equipment | E | 4 | 23 | * Only electrically qualified and competent personnel to carry out these activities
* Use of LV gloves where applicable.
* Isolate supplies in accordance with clients / UKPN Services requirements
* Isolation checks to be carried out prior to work commencing
* Staff to be briefed on the work and potential hazards prior to starting
* Only approved insulated hand tools to be used
 | E | 1 | 10 |
| **Electricity**Working adjacent to live equipment | E | 4 | 23 | * Competent Person to be on site in accordance with Client requirements e.g. NR/L2/CTM/018 - Competence and Training in Traction Power Distribution
* For Network Rail Projects - Level C/D Minimum to access & supervise works within substations and compounds
* Barriers and danger signs erected to maintain safety clearances.
* No working at height adjacent to live equipment
* Switch outs where required
 | E | 1 | 10 |
| **Electricity**Working on High Voltage equipment. | E | 4 | 23 | * Competent Person to be on site in accordance with Client requirements e.g. NR/L2/CTM/018 - Competence and Training in Traction Power Distribution
* Suitably competent person to access & supervise works within substations and compounds
* HV equipment to be isolated and earthed in accordance withthe approved Switching Schedule
* Screen and place Danger Notices on adjacent Live equipment
* In line with Client requirements e.g. NR/L3/ELP/21067 – Marking Out, Issuing and Cancelling High Voltage Permits to Work, Sanctions for Test and Circuit State Certificates
* Competent Person to brief points of isolation, clearly identifying equipment to be worked on and highlight exclusion zones from adjacent live equipment, prior to issuing Permit to Work
* Competent person to be in receipt of a Permit to Work
* Isolation checks to be carried out prior to work commencing
 | E | 1 | 10 |
| **Electricity**Testing/Commissioning Activity | E | 4 | 23 | * Competent Person to be on site in accordance with Client requirements e.g. NR/L2/CTM/018 - Competence and Training in Traction Power Distribution
* Competent person to access & supervise testing within substations and compounds
* Only trained competent persons to carry out testing and commissioning
* Personnel to be briefed on protection limits prior to any testing being carried out
* Isolation & Earth and a Sanction for Test to be issued for testing operational HV primary equipment
* Isolation and DC Certificate of Isolation to be issued when testing operational DC primary equipment
* Isolation checks to be carried out prior to work commencing
* Only calibrated and in date test equipment to be used
 | E | 1 | 10 |
| **Electricity**Jointing worksElectrocution disruption to services. HV cables only  | E | 4 | 23 | * The cable shall be isolated & earthed by a competent person and a Permit to Work Issued prior to work commencing
* Positive identification of cables by an Approved means must be completed.
* Only fully qualified and competent personnel to carry out jointing.
* PPE to be worn as stated within the RAMS – minimum client standards and Safe 6 as stated in the Daily POWA.
* Jointing in compliance with Jointing GTRAs (JLV/JHV)
 | E | 1 | 10 |
| **Electricity**Jointing worksElectrocution disruption to services. DC Cables Only | E | 4 | 23 | * The cable shall be isolated by a competent person prior to work commencing and DC Certificate of Isolation issued prior to work commencing
* Positive identification of cables by an Approved means must be completed.
* Only fully qualified persons to carry out jointing.
* PPE to be worn as stated within the RAMS – minimum client standards and Safe 6 as stated in the Daily POWA.
* Jointing in compliance with Jointing GTRAs (JLV/JHV)
 | E | 1 | 10 |
| **Electricity**Negative DC Termination works | E | 4 | 23 | * All staff briefed on possible potential differences between Negative busbar/cables and Earth
* Mandatory use of Insulated tools/gloves.
* Manual handling training
* Transfer one negative cable at a time always leaving one cable connected.
* Isolate DC Circuit Breakers to reduce the risk of return current
 | E | 1 | 10 |
| **Electricity**Working adjacent to live equipment | E | 4 | 23 | * Barriers and danger signs to be erected.
* No working at height adjacent to live equipment.
* Switch outs and isolations.
 | E | 1 | 10 |
| **Electricity**Interfacing with operational live equipment. Connecting cables (Anodes, Main DC Positives & Positive Track Feeders) | E | 4 | 23 | * Competent Person to be on site in accordance with Client requirements e.g. NR/L2/CTM/018 - Competence and Training in Traction Power Distribution
* Competent person to access & supervise testing within substations and compounds
* DC equipment to be isolated in accordance with the approved Switching Schedule or Rack Out Form
* Screen and place Danger Notices on Live adjacent equipment
* Full compliance with Client requirements e.g. NR/SP/ELP/21060 – Work on or near 650/750 V DC Traction Power Distribution Equipment (Including the Issue of Safety Documentation)
* Competent person to brief points of isolation, clearly identifying equipment to be worked on and highlight exclusion zones from adjacent live equipment, prior to issuing DC Certificate of Isolation
* Competent person to be in receipt of Certificate of Isolation
* Brief all staff on hazards and limits of work.
* Control access to modules / buildings containing live, operational equipment
* Only trained, experienced & competent personnel to carry out work
 | E | 1 | 10 |
| Working on or near rail infrastructure in the vicinity of track  | **Struck by Object**Movement of traffic | E | 4 | 23 | * Operatives trained and competent to work on or near rail infrastructure,
* Use authorised access points
* Compliance with rail operator site access requirements
* Brief all staff on limits of protection
* Brief the places of safety
* All work to be carried out according to client Standards
* Safe System of Work Hierarchy
* Safe Work Pack in place for all access/works on or near the line
* Controller of Site Safety /Site Warden in place for works on or near the line if required
* Fencing and barriers erected
* High visibility PPE worn correctly in accordance with clients standards and as stated in the daily briefing
 | E | 1 | 10 |
| **Struck by Object**Walking or working near to trackside  | E | 4 | 23 | * Brief all staff on limits of access.
* Erect safety fence to mark limits of site.
 | E | 1 | 10 |
| **Struck by object**Lifting operations impact the rail infrastructure/workforce | E | 3 | 21 | * All lifting operations planned and lift(s) classified in compliance with client requirements (e.g. ALO) and HSS 01 080 Planning and Competency Requirements for Lifting Operations
* Any Line Open (ALO) Plan if required (NR)
* Operator competence to be checked prior to lift
* Equipment certification to be checked prior to lift
* Check buried service drawings and undertake a CAT survey prior to rigging the lifting plant
* Lift Plan in place
* Permit to Lift issued
* Exclusion zone set up and monitored for all lifting plant operations
* Hard hats mandatory.
* Staff to stand clear whilst lifting operations in progress
* No lifting in strong winds
 | E | 1 | 10 |
| **Trespass / Unauthorised Entry**Trespass / vandalism | E | 4 | 23 | * Brief all staff on security requirements
* If required erect Heras fencing around materials.
* Ensure plant/materials are secured and made inoperable
* Ensure work area is secure
* Access / Egress gates to be always locked
* Adequate security measures in place
* Daily Site Security Check Sheet to be completed by Site Supervisor
* CCTV and/or on-site security to be utilised where required
 | E | 1 | 10 |
| **Micro-organisms**Discarded drug needles / sharps | D | 3 | 18 | * Staff briefed on hazard and the need to be vigilant (POWA)
* Create an exclusion zone around discarded needles and sharps
* Report to client for clean-up and report to AIRLine/clientreporting system
* GRL 44 Sharps Collection and Disposal
 | D | 1 | 9 |
| Working environment | **Noise** | C | 3 | 17 | * Work to be undertaken during normal weekday working hours unless specified by the client / UKPN Services
* Where required following an environmental survey a Section 61 application may need to be submitted
* Vehicles and plant to be switched off when not in use where practicable
* PPE - Ear protection to be worn as and when applicable
 | C | 1 | 4 |
| **Dusts, particles, mists** | D | 3 | 18 | * Potential for contact covered by project Safe System of Work
* Exposure to dust addressed in POWA
* Compliance with HSS 01 164 Respiratory Protective Equipment (RPE) Instruction, Use, Training and ‘Face Fit Testing’ to be carried out
* Equipment to be protected using appropriate dust sheeting
* Dust suppression (e.g. water)
 | D | 1 | 9 |
| **Chemicals**Items containing insulating oil | C | 4 | 19 | * Spill kits available on site
* Copy of the environmental plan, register, COSHH information and emergency procedures to be on site
* Suitable bunds used on site.
 | C | 1 | 4 |
| **Work Equipment**Vegetation clearance  | B | 5 | 16 | * Refer to ISA 06 Vegetation Clearance and Control on Private Networks.
* Clearly identify buried services.
* Appropriate ear defenders/plugs to be worn.
* Safety harness to be worn if necessary.
* All plant and equipment to be fit for purpose and be tagged and tested.
* Use hand saw only (not chainsaw).
* Fence/barrier area, post signage.
* Supervise the immediate area.
* Additional PPE – UKPN Services approved Full face visor, hearing protection
 | B | 2 | 5 |
| **Environmental**De-commissioning and commissioning equipment containing insulating oil | C | 4 | 19 | * Compliance with GRL 26 Managing Waste Materials
* A suitable number of spill kits available on site
* Copy of the environmental plan, register, COSHH information and emergency procedures to be on site
* PCB Test
* Waste Transfer Notes
* Disposal by an approved supplier
 | C | 1 | 4 |
| **Working on or near Water** | E | 3 | 21 | * Refer to GRL 09 Work On or Near Water.
 | E | 1 | 10 |
| Chemicals – Use and storage and contact with | **Chemicals**FireEnvironmental spillage | C | 4 | 19 | * COSHH materials lockable storage facility.
* Copy of the environmental plan, register and emergency procedures to be on site.
* COSHH assessments and data sheet must be available for any products used
* Refer to UKPN COSHH library - <https://cms.sypol.com/Loader/Loader.aspx>
* Segregated storage of flammable materials as per site specific fire risk assessment.
* Only client and UKPN Services approved substances to be used
* Fire Plan
* Fire extinguishers at the storage location and at prominent positions around site
 | C | 1 | 4 |
| **Chemicals**Personnel contamination from contact with Oil | C | 4 | 19 | * All personnel in contact with oil to wear disposable overalls.
* UKPN Services approved disposable gloves to be worn.
* Eye protection mandatory; type dictated by COSHH requirements. (Minimum of UKPN Services approved safety glasses).
* COSHH Data Sheet
* Eye wash station
 | C | 2 | 7 |
| **Chemicals**PCB Contaminated oil  | C | 4 | 19 | * Compliance with client standards and HSS 01 015 Management of Oil Filled Equipment Containing PCB.
* Details of assets containing PCB to be recorded and made available by asset owner.
* COSHH Data Sheet
* Oil filled equipment identified to be PCB contaminated shall be recovered and disposed of by specialist contractor/client appointed specialist.
* Presence of PCB reported via AIRLine.
 | C | 2 | 7 |
| **Spillage (Environmental)**Oil spill from removal / storage of waste oil | C | 4 | 19 | * Stored in bunded area, removed from site by competent contractor with consignment note.
* Copy of the environmental plan, register, COSHH information and emergency procedures to be on site
* Oil spill kits on site.
 | C | 2 | 7 |
| Deliveries to site | **Struck by object**Delivery of plant and material to and from site | D | 4 | 22 | * Delivery covered by project Safe System of Work / Project specific requirements.
* Contracted suppliers to meet Fleet Operator Recognition Scheme (FORS) requirements.
* Exclusion zone in place
* Banksman if required
 | D | 1 | 9 |
| **Struck by object**Movement of lorry | D | 4 | 22 | * Only trained & competent persons to use equipment.
* Mandatory use of Hi-Visibility clothing.
* Banksman in attendance during lorry movements.
* Setting up an exclusion zone.
 | D | 1 | 9 |
| Use of plant on site | **Work Equipment**Working within proximity of crane lorry | D | 4 | 22 | * Only essential personnel near crane and all personnel to be aware of their responsibilities prior to commencement of work.
* Lift Plan and Permit to Lift in place
* Hard hats mandatory for all lifting operations.
* Only trained & competent persons to use equipment.
* Mandatory use of Hi-Visibility clothing.
* Banksman in attendance during crane lorry movements.
* Setting up an exclusion zone.
 | D | 1 | 9 |
| **Work Equipment**Movement of plant on site | D | 4 | 22 | * All plant operators to be competent and fully trained.
* Signaller / banksman in attendance during plant movements.
* Barriers to be set up and signage to indicate the hazards of the working area.
* Hazards briefed to staff.
* ALO Assessment completed for Network Rail projects.
 | D | 1 | 9 |
| **Work Equipment**Use of mobile crane – communication failure | D | 4 | 22 | * 2-way radios to be used to communicate between crane operator – signaller / banksman.
* DET2 Radios to be used on NR Projects
* In the event of failure phones to be used to control lift
 | D | 1 | 9 |
| **Work Equipment**Inclement weather / high winds | D | 4 | 22 | * Refer to GRL 25 Working Outdoors.
* Weather conditions be monitored leading up to the works and assessed prior to the commencement of the shift.
* Cease work during inclement weather if practicable.
 | D | 1 | 9 |
| **Ground Conditions / Instability**Crane lifting – rigging out incorrect. Possible collapse | D | 4 | 22 | * Only fully qualified personnel to set up crane for lifting / positioning of equipment.
* Ground surveys, where required
* Lift Plan in place.
* Correct size mats and pads are used for outrigging.
* Survey site with charts for buried utilities and drainage.
 | D | 1 | 9 |
| **Manual Handling**Moving heavy equipment. | D | 4 | 22 | * Reference to be made to the relevant Manual Handling Risk Assessment.
* Manual handling awareness training
* Plan lift and walking route
* Use of mechanical lifting aids/team lifts
 | D | 1 | 9 |
| Use of small tools on site | **Work Equipment**Using impact drill to bolt/unbolt redundant equipment | C | 3 | 17 | * Plant and equipment vibration assessed
* Total time spent using vibrating equipment (HAV) is kept to a minimum.
* Maximum working time on HAV plant will not be exceeded
* Supervisor to brief operatives on equipment usage, shared usage to minimise exposure
* Appropriate eye and ear protection glasses/goggles & defenders/plugs to be worn
 | C | 1 | 4 |
| **Work Equipment**Use of hand & small Power tools. | C | 3 | 17 | * Refer to GRL 22 Use of Hand Tools (Power or Non-Powered)
* Use of correct tools for the job.
* Only trained & competent persons to use equipment.
* Total time spent using HAV equipment is kept to a minimum.
* Maximum working time on HAV plant will not be exceeded
* Supervisor to brief operatives
* Appropriate UKPN Services approved eye & ear glasses/goggles/visor & defenders/plugs to be worn
 | C | 1 | 4 |
| **Work Equipment**Use of chainsaws, hand saw and strimmers | D | 3 | 18 | * Refer to GRL 18 Arboriculture Work and Vegetation Clearance, including Felling of Utility Poles (Inc. mandatory PPE requirements)
* Exclusion zones in place
* All equipment to well maintained and fit for purpose
* Only trained & competent persons to use equipment.
* Refer to HSS 01 152 Competency Requirements for Arboriculture Work and Felling Utility Poles using Mechanically Driven Cutting Equipment
 | D | 1 | 9 |
| **Work Equipment** Using Battery powered hydraulic crimper | D | 3 | 18 | * Staff training
* Tool properly maintained, tested, calibrated and certified
* Workload shared between suitably trained staff
* Daily inspection of equipment to be documented before use
* Pump positioned away from work area.
* Appropriate PPE to be worn always
 | D | 1 | 9 |
| **Work Equipment**Cuts / injury from the use of hand and small tools | C | 3 | 17 | * Refer to GRL 22 Use of Hand Tools (Power and Non-Powered).
* Visual inspection prior to all usage
* If damage is seen the item MUST be quarantined and tagged to reflect this
 | C | 2 | 7 |
| Site task | **Buried Services**Hand Digging | D | 3 | 18 | * Refer to GRL 12 Excavation and Reinstatement
* Staff training
* Cable locating tool (i.e RD400) (Cable Avoidance Tool Survey)
* Permit to Dig.
* Buried services records to be confirmed on site.
* Competent person to complete HV Risk Assessment (HVRA)
* Where required switch out HV Feeder Cables
* Competent Person to Supervise works
* Refer to DSR 01 014 Excavating Near Electricity Cables - Digging
 | D | 1 | 9 |
| **Work Equipment**Cutting using a concrete saw | D | 3 | 18 | * Water used to suppress dust
* Eye protection to be worn
* FFP3 respiratory protection to be used
* Ear defenders to be worn
* Exclusion zones in place
* Copy of the environmental plan and emergency procedures to be briefed and on site
 | D | 1 | 9 |
| **Manual Handling**Moving heavy equipment incorrectly/or with an inappropriate number of personnel. | D | 3 | 18 | * Manual handling awareness training
* Plan lift and route
* Use of mechanical lifting aids/team lifts
* Toolbox Talks
 | D | 1 | 9 |
| **Work Equipment**Drilling/cutting. Flying swarf. Brick dust. Noise | D | 4 | 22 | * Refer to GRL 22 Use of Hand Tools (Power and Non-Powered).
 | D | 1 | 9 |
| **Work Equipment**Dismantling equipmentRemoving redundant cable terminations | D | 4 | 22 | * Refer to JLV 01 Installation of New and Removal of Old Electrical Equipment.
 | D | 1 | 9 |
| **Fire**Brazing/Tinning | E | 4 | 23 | * Compliance with client hot works standards and HSS 01 087 Hot Works Procedure
* Hot Works Permit
* Fire extinguisher at point of work
* Erect safety barrier around area of work.
* Brief all staff on hazards and limits of work.
* Fire watch to be appointed while work in progress
* Control of work in accordance to approved method statement
* COSHH data sheets to be kept on site
 | E | 1 | 10 |
| **Manual Handling**Cable pulling | D | 4 | 22 | * Manual handling training.
* Use of cable pulling equipment – socks, rollers
* Ensure size of cable pulling team is appropriate for the size of cable.
* Correct handling technique.
* Cable route assessed prior to pull – ground/weather conditions and the suitability of existing ducting routes.
 | D | 1 | 9 |
| Work at height (WAH) | **Working at Height**Persons falling | D | 4 | 22 | * Comply with HSS 01 067 Working at Height
* WAH Hierarchy and Risk Assessment
* Only trained and competent persons to work at height
* Whilst working at height a safety harness may be required to be worn and attached using an inertia reel lanyard in accordance with WAH hierarchy and risk assessment
* Fall arrest equipment to be suitable for the weight and stature of the wearer
 | D | 1 | 9 |
| **Working at Height**Using Steps/mobile scaffold | D | 4 | 22 | * Refer to work at height task risk assessments:
	+ FTR 14 Use of Scaffold Erected by Third Parties
	+ GRL 03 Work at Height – Use of Prefabricated Scaffold-Platform including Low Level Access Platforms
	+ GRL 04 Work at Height - Use of Step Ladders and Ladders Including Fixed Ladders
* Comply with HSS 01 067 Working at Height
* Compliance with client requirements, i.e. GRP equipment
 | D | 1 | 9 |
|  | **Additional Risks at a work sites / offices during and Epidemic/Pandemic** | **Micro-organisms****(Viruses, Bacteria etc.)** | E | 4 | 21 | * Comply with UK Power Networks alerts, bulletins and any Client requirements.
* Comply with HSS 01 165 Works in Potential Pandemic and Infectious Disease Exposure Areas
 | E | 1 | 10 |
| Produced by: UKPN Services TRMT | Signature: Lisa Sandle | Date: 11/02/2025 | Approved by: Chris Shackell | Signature: | Date: 11/02/2025 |
| C – Consequence L – Likelihood R – Risk  |
| **Specific PPE/Fit for Work requirements stated in the Control Measures are mandatory.****An On-site (Point of Work) Assessment or Dynamic Assessment must be undertaken for all tasks to confirm which items of Safe 6 to be used and any additional PPE/Equipment required as a result of the site conditions.** |

|  |  |  |  |
| --- | --- | --- | --- |
| **TRMT/SAT Attendees** | **Reason for Review** | **Actions Required** | **Details of changes** |
| Lisa SandleKath Rainbow | Periodic review(to remain annual) |  Brief to all rail staff | * Added reference to HSS 01 105 Putting People to Work and COSHH library (Sypol).
 |