



**Gloucestershire Warwickshire Steam Railway Plc**  
**Risk Assessment for RRV Operations in Tunnel - Permanent Way**

**Risk Assessment - RRV Operations in Tunnel**

Reference No: PER-45173-5  
Version No: 1  
Assessment Approver: Paul Fuller

RRV and trailer performing work activities in Greet tunnel with permanent way personnel on ground.

Department: Permanent Way  
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Review Due Before: 19 September 2026  
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**RRV and trailer movements into and around Greet tunnel**

| Type              | Hazard Cause   | Persons Affected                | Control Measures   | L<br>Overall   | S<br>T | Additional Control Measures  | L<br>Overall   | S<br>T | Owner/Action |
|-------------------|--|---------------------------------|--|--|--------|--|--|--------|--------------|
| Health and Safety | Personnel struck by RRV vehicle or trailer<br>Personnel working on or near track, unauthorized personnel, unseen personnel, poor visibility, uncontrolled vehicle, runaway trailer | Volunteers, Staff & Contractors | 1) CRITICAL - Elimination: RRV operators are trained and competent in vehicle use. - Effective<br>2) CRITICAL - Elimination: RRV maintained in good condition and fully certified - Improvable<br>3) CRITICAL - Elimination: RRV plant is checked daily and confirmed as fit for use by RRV operator prior to use. - Improvable<br>4) CRITICAL - Elimination: RRV and trailer have working white and red lights for visibility - Improvable<br>5) CRITICAL - Elimination: Banksman used to manage RRV vehicle movements - Improvable<br>6) Elimination: Communication headsets available to use between RRV operator and banksman to minimise risk of miscommunication - Effective<br>7) Elimination: RRV vehicle has LED floodlighting on the working boom to provide visibility of working area - Improvable<br>8) Elimination: Trailer to stay connected to RRV on running line and safety strop used to protect against broken towbar. - Improvable<br>9) Elimination: Lighting on vehicles and carried by personnel to be managed to prevent dazzling. - Improvable<br>10) CRITICAL - PPE: Personnel wearing hiviz clothing, protective boots, hard hats and gloves. - Improvable | 3 x<br>Medium - Risk to be minimised and controlled so far as is reasonably practical. | 4 = 12 | 1) Elimination: Generator and temporary lighting setup in tunnel work area to maximize visibility of personnel and vehicle. - Improvable<br>2) Elimination: Number of personnel working in the vicinity of the RRV vehicle minimised - Improvable<br>3) Elimination: Extra training given to personnel for working in confined tunnel conditions. - Improvable | 2 x<br>Medium - Risk to be minimised and controlled so far as is reasonably practical. | 4 = 8  | n/a          |
| Operations        | Tunnel structure impacted by RRV boom<br>RRV outside of loading gauge, movement into tunnel, unexpected movement of boom   | Volunteers, Staff & Contractors | 1) CRITICAL - Elimination: RRV operators are trained and competent in vehicle use. - Effective<br>2) CRITICAL - Elimination: RRV maintained in good condition and fully certified - Effective<br>3) Elimination: Use of electronic limits for boom height and slew on RRV to prevent boom moving outside of acceptable envelope within tunnel - Improvable<br>4) Elimination: Lighting on vehicles and carried by personnel to be managed to prevent dazzling. - Improvable  | 3 x<br>Medium - Risk to be minimised and controlled so far as is reasonably practical. | 2 = 6  | None   | 3 x<br>Medium - Risk to be minimised and controlled so far as is reasonably practical. | 2 = 6  | n/a          |
| Operations        | RRV or trailer derailment within tunnel<br>Poor track condition, movement over disconnected rail, poor vehicle maintenance   | Volunteers, Staff & Contractors | 1) CRITICAL - Elimination: RRV operators are trained and competent in vehicle use. - Effective<br>2) CRITICAL - Elimination: RRV maintained in good condition and fully certified - Effective<br>3) CRITICAL - Elimination: RRV plant is checked daily and confirmed as fit for use by RRV operator prior to use. - Effective<br>4) CRITICAL - Elimination: Banksman used to manage RRV vehicle movements - Effective<br>5) CRITICAL - Elimination: Track is inspected and maintained to standard suitable for 25mph running - Effective<br>6) Elimination: Communication headsets available to use between RRV operator and banksman to minimise risk of miscommunication - Effective<br>7) Elimination: Lighting on vehicles and carried by personnel to be managed to prevent dazzling. - Improvable  | 2 x<br>Medium - Risk to be minimised and controlled so far as is reasonably practical. | 3 = 6  | None   | 2 x<br>Medium - Risk to be minimised and controlled so far as is reasonably practical. | 3 = 6  | n/a          |

**RRV and trailer performing equipment lifts within Greet tunnel**



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| Type              | Hazard Cause   | Persons Affected                | Control Measures   | L<br>Overall   | S<br>T | Additional Control Measures  | L<br>Overall   | S<br>T | Owner/Action |
|-------------------|--|---------------------------------|--|--|--------|--|--|--------|--------------|
| Health and Safety | Personnel impacted by load or RRV boom during lifts<br>Unexpected motion, RRV unstable, unseen personnel, failure of lifting eqt., | Volunteers, Staff & Contractors | 1) CRITICAL - Elimination: RRV operators are trained and competent in vehicle use. - Effective<br>2) CRITICAL - Elimination: RRV maintained in good condition and fully certified - Effective<br>3) CRITICAL - Elimination: Lifting equipment is appropriately maintained and certified for use. - Effective<br>4) CRITICAL - Elimination: Lifting plan developed and reviewed and approved. - Improvable<br>5) Elimination: Personnel to be excluded form working area and limit personnel near to the load once suspended. - Improvable<br>6) Elimination: Communication headsets available to use between RRV operator and banksman to minimise risk of miscommunication - Effective<br>7) CRITICAL - Elimination: RRV and trailer have working white and red lights for visibility - Effective<br>8) CRITICAL - Elimination: RRV has LED flood lighting on boom to provide visibility of boom and load. - Improvable<br>9) Elimination: Lighting on vehicles and carried by personnel to be managed to prevent dazzling. - Improvable<br>10) CRITICAL - PPE: Personnel wearing hiviz clothing, protective boots, hard hats and gloves. - Effective | 2 x 4 = 8<br>Medium - Risk to be minimised and controlled so far as is reasonably practical.               | 8      | 1) Elimination: Generator and temporary lighting setup in tunnel work area to maximise visibility if personnel and vehicle. - Improvable<br>2) Elimination: Perform test with RRV within tunnel to see levels of visibility and communication systems are working well. - Improvable | 2 x 4 = 8<br>Medium - Risk to be minimised and controlled so far as is reasonably practical.               |        | n/a          |
| Operations        | Tunnel brickwork impact by RRV boom or load during lifts<br>Uncontrolled boom movement, equipment failure, unseen tunnel boundary, | Volunteers, Staff & Contractors | 1) CRITICAL - Elimination: RRV operators are trained and competent in vehicle use. - Effective<br>2) CRITICAL - Elimination: RRV maintained in good condition and fully certified - Effective<br>3) CRITICAL - Elimination: RRV has LED flood lighting on boom to provide visibility of boom and load. - Improvable<br>4) Elimination: Use of electronic limits for boom height and slew on RRV to prevent boom moving outside of acceptable envelope within tunnel - Effective<br>5) CRITICAL - Elimination: Banksman/crane controller used to manage RRV vehicle lifting activity - Effective<br>6) Elimination: Lighting on vehicles and carried by personnel to be managed to prevent dazzling. - Improvable   | 2 x 2 = 4<br>Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level. | 4      | None   | 2 x 2 = 4<br>Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level. |        | n/a          |
| Health and Safety | Personnel falling from height (trailer, wagon)<br>Personnel rigging loads on trailer/wagon   | Volunteers, Staff & Contractors | 1) CRITICAL - Elimination: Personnel trained in 'working at height' situations - Effective<br>2) Elimination: Ladders used to access wagons - Improvable<br>3) Elimination: Lighting on vehicles and carried by personnel to be managed to prevent dazzling. - Improvable  | 3 x 3 = 9<br>Medium - Risk to be minimised and controlled so far as is reasonably practical.               | 9      | None   | 3 x 3 = 9<br>Medium - Risk to be minimised and controlled so far as is reasonably practical.               |        | n/a          |
| Health and Safety | Personnel overcome by exhaust fumes<br>Exposure to exhaust fumes when working for long periods in tunnel                           | Volunteers, Staff & Contractors | 1) Elimination: Limit number of personnel working in the tunnel at any time - Improvable<br>2) Elimination: Limit the time personnel are working in tunnel with RRV / generator equipment - Improvable   | 3 x 4 = 12<br>Medium - Risk to be minimised and controlled so far as is reasonably practical.              | 12     | 1) Elimination: Provide some forced ventilation to prevent build up of fumes - Improvable<br>2) Elimination: Monitor fume levels with monitoring equipment and warning alarm - Improvable  | n n n  |        | n/a          |

### **COSHH Assessments**

There are no COSHH assessments associated with this risk assessment.

Ends