**Gloucestershire Warwickshire Steam Railway Plc**
**Risk Assessment for 1675 - Safety Review - Carriage and Wagon**

## Risk Assessment - 1675 - Safety Review

Reference No: CAR-45862-60
Version No: 1
Assessment Approver: Kevin Jarvis

The Management of Change assessment for the refurbishment of this vehicle identified that an RA was required to look at the H&S aspects of the project. A lot of the detail of the control measures is listed in the MoC but this RA compliments that.

Department: Carriage and Wagon
Date Of Assessment: 24 July 2025
Review Due Before: 24 July 2030
Lead Assessor: Kevin Jarvis
Team: Ian Stroud, Richard Budd, Richard Bates, Alan Nicholls, Neil Carr & Stuart Tyles.

## Operation of battery powered and fully refurbished RBR 1675

| Type | Hazard<br>Cause | Persons Affected | Control Measures | L S T<br>Overall | Additional Control Measures | L S T<br>Overall | Owner/Action |
|---|---|---|---|---|---|---|---|
| Health and Safety | Project impact on physical properties and components of the existing carraige<br>Project design error or misunderstanding | Everyone | 1) CRITICAL - Engineering: Ride height adjusted for new weight distribution - Effective<br>2) CRITICAL - Engineering: suspension checked with tolerance - Effective<br>3) CRITICAL - Engineering: Crash pillars replaced - Effective<br>4) CRITICAL - Engineering: Door locks removed, replaced and checked - Effective<br>5) CRITICAL - Engineering: Generator set will require oil change every 100 hours - Effective<br>6) CRITICAL - Administrative: Maintenance Exams completed - Effective | 1 x 3 = 3<br>Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level. | None | n n n | n/a |
| Health and Safety | Gas leaks<br>Incorrect or poor installation of existing and new equipment | Everyone | 1) CRITICAL - Engineering: Gas systems professionally fitted - Effective<br>2) CRITICAL - Engineering: All of the gas system, except the bottle changeover valve, is located outside of the vehicle - Effective<br>3) CRITICAL - Administrative: Annual inspection carried out in line with gas regulations - Effective<br>4) CRITICAL - Administrative: Bottle changing arrangements unchanged but should be less frequent - Effective | 1 x 3 = 3<br>Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level. | None | n n n | n/a |
| Health and Safety | Battery fire, explosion or malfunction<br>Wrong specification, poor installation, unsuitable equipment | Everyone | 1) CRITICAL - Engineering: Batteries tested and conform to European Rail mounted lithium batteries standard - Effective<br>2) CRITICAL - Engineering: Charging carried out overnight in a very similar fashion to what happens now. - Effective<br>3) CRITICAL - Engineering: Batteries located outside of the carriage in a ventilated box with explosion mitigation - Effective<br>4) CRITICAL - Engineering: Battery enclosure is force ventilated and thermostatically controlled - Effective | 1 x 3 = 3<br>Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level. | None | n n n | n/a |
| Health and Safety | Injury or incident caused by new kitchen equipment<br>Poor specification, unsuitable equipment | Everyone | 1) CRITICAL - Engineering: Professionally designed and installed equipment. - Effective<br>2) CRITICAL - Engineering: Restrained in position - Effective<br>3) CRITICAL - Engineering: Suitably labelled throughout - Effective<br>4) CRITICAL - Administrative: Training guides to be prepared for operating equipment and practice sessions held - Effective | 1 x 2 = 2<br>Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level. | None | n n n | n/a |
| Health and Safety | Impacted Operations<br>Lack of awareness, training or knowledge | Everyone | 1) CRITICAL - Engineering: Fire extinguishers present - Effective<br>2) CRITICAL - Administrative: Guards and RCS staff to be suitably trained - Effective | 1 x 2 = 2<br>Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level. | None | n n n | n/a |

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|---|---|---|---|---|---|---|---|
| Health and Safety | Electrical issues<br>Por specification, commissioning, design and function of new systems | Everyone | 1) CRITICAL - Engineering: Systems diagrams, operating instructiog guides to be issued. - Effective<br>2) CRITICAL - Administrative: Bespoke electrical control system design, installed, commissioned by electrical professionals using standard industry components.. - Effective<br>3) CRITICAL - Administrative: System to be EICR tested by a competent contractor - Effective | 2 x 2 = 4<br>Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level. | None | n n n | n/a |

## COSHH Assessments

There are no COSHH assessments associated with this risk assessment.

Ends