Risk Assessment - Use of D5310 without air tank certification

Reference No: DIE-45476-36
Version No: 1
Assessment Approver: Kevin 'Kev' Jarvis

D5310 is based at the Llangollen Railway and is a short term visitor to the GWSR primarily for the Diesel Gala. The host railway do not require air tanks to be inspected unlike the GWSR. This is within the law but not common in the sector. A certificate has been provided for the safe operation of the main air safety pressure relief valve.

Department: Diesel Loco
Date Of Assessment: 03 July 2024
Review Due Before: 08 July 2029
Lead Assessor: Kevin Jarvis
Team: Alex Raybould, Peter Smith & Tim Leverton.

Use of D5310 without air tank certification

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Injury or damage to equipment or infrastructure Unexpected catastrophic failure of a pressure vessel.	Everyone	1) CRITICAL - Engineering: Loco is fitted with a safety valve that protects from over pressurisation. This operates at approx 150 psi. - Effective 2) CRITICAL - Engineering: Normal operation cycles the main air pressure between approx 115 and 140 psi. - Effective 3) CRITICAL - Engineering: There are no air tanks in the loco cabs from where it is operated. - Effective 4) CRITICAL - Engineering: Each air tank is less than 250 'bar litres' so outside of the scope of the Regulations. - Effective 5) CRITICAL - Engineering: Failure mechanism unlikely to be a catastrophic explosion and more likely a pin hole. - Effective 6) Administrative: Loco has operated for many years with no issues. - Effective 7) Administrative: We have never had such a failure at the GWSR or are aware of a similar failure at another heritage railway. - Effective 8) CRITICAL - Administrative: Certification is not required under law as the loco air pressure tanks are not classified as 'receivers' and the loco is classified as 'Mobile' and as such outside of the scope of the Pressure Systems Regulations. - Effective 9) CRITICAL - Administrative: The owner has presented us with a certificate for the air safety pressure relief valve to prove that the air protection system is functioning. - Effective 10) CRITICAL - Administrative: The GWSR competent diesel engineer will carry out a Fitness to Run inspection to satisfy himself and the GWSR that the loco is fit for traffic. - Effective 11) Administrative: The loco will only be in service for a short time (4 days), hence reducing the risk - Effective 12) CRITICAL - Administrative: Crews will be instructed not to enter the engine room and or equipment room area unnecessarily when the air system is charged. - Effective 13) CRITICAL - Administrative: Crews to be instructed to change ends via the outside of the loco and not through the engine room. - Effective 14) CRITICAL - Administrative: The GWSR will instruct the Diesel competent engineer to pay particular visual attention to the air tanks and associated pipes. - Effective 15) CRITICAL - Administrative: Internal loco doors to be kept closed whilst in use - Effective	1 x 1 = 1 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	1) Engineering: Arrange for inspection and certification - Effective 2) Engineering: Arrange an internal visual inspection by GWSR staff. - Improvable 3) Administrative: Not use the loco - Rejected	1 x 1 = 1 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a

Score and Control Measure Notes.
Low risk due to unlikelihood of failure and separation of all persons from the pressurised equipment.
Risk remains low.

COSHH Assessments

There are no COSHH assessments associated with this risk assessment.
Ends

Appendix



Reference: UI-45476-882
5310 -