Risk Assessment - Working in Confined Spaces

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Assessment Approver: Kevin Jarvis

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Working in a loco firebox

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	High temperature or excessive heat leading to fatigue or collapse Entering a hot confined space	Volunteers, Staff & Contractors	1) CRITICAL - Substitution: Ensure that any surfaces that are to be touched are sufficiently cooled so as not to pose a risk of burns - Effective 2) CRITICAL - Engineering: Ensure that the dampers are fully open to create natural airflow - Effective 3) CRITICAL - Engineering: Internal firebox temperature to be constantly measured by equipment inside the firebox and monitored from outside of the confined space. - Effective 4) CRITICAL - Administrative: Maximum temperature of the air within the confined space < 35 degrees centigrade when measured at arms length from the fire hole door. - Effective 5) CRITICAL - Administrative: When firebox is at a temperature <40 but >35 degrees centigrade, entry times to not exceed 5 mins, with re-entry not allowed for 20 mins. - Effective 6) CRITICAL - Administrative: Person entering the confined space to be well hydrated before, during and after entry. - Effective 7) CRITICAL - PPE: Safety footwear, safety eyewear, heat resistant gloves and a dust mask should be worn. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Engineering: Consider use of endoscopes to avoid entry. - Effective 2) Administrative: Consider providing hydration aids and/or water etc. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a
Health and Safety	Asphyxiation and loss of consciousness Gas, fume, vapour or loss of oxygen	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: A 'Gas Test' of the atmosphere in the confined space must be carried out prior to entry of the confined space with a result of O2 content > 19.5% - Effective 2) CRITICAL - Engineering: The 'Gas Test' must be carried out from outside of the confined space. - Effective 3) CRITICAL - Engineering: Continuous monitoring of the atmosphere inside the confined space must be carried out throughout the task. - Effective 4) CRITICAL - Engineering: Ensure adequate natural ventilation is in place by whatever means is available - Effective 5) CRITICAL - Engineering: Ensure that the loco dampers are fully open to help natural air flow. - Effective 6) CRITICAL - Administrative: A 'Rescue Plan' must be in place. - Effective 7) CRITICAL - Administrative: A written 'Safe System of Work' needs to be in place. - Effective 8) CRITICAL - Administrative: A separate person acting as a 'Sentry' or 'Attendant' must be in place outside of the confined space to monitor the activity and to initiate the 'Rescue Plan' if required. - Effective 9) CRITICAL - Administrative: All staff involved must be suitably trained and competent. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Engineering: Consider the use of forced ventilation to increase airflow. - Effective 2) Engineering: Consider the use of a harness and lifelines to aid rescue - Effective 3) Administrative: For more complex activities a 'Permit to Work' should be issued. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a

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Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Toxic gases, fume or vapour Substances entering or present in the confined space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Confined space to be vented and purged as necessary before the work starts. - Effective 2) CRITICAL - Engineering: A toxic gas test must be carried out prior to entry and from outside of the confined space. - Effective 3) CRITICAL - Engineering: Remove all substances and work activities from the area around the confined space that could introduce toxic gases. i.e. petrol/diesel driven equipment, welding etc. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	1) Engineering: Consider the use of forced ventilation to increase airflow. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Score and Control Measure Notes. Risk is low but needs to be managed. Risk remains low.							
Health and Safety	Flammable substances or oxygen enrichment Substances entering or present in the confined space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Any compressed gas bottles or other storage devices to be kept outside and well away from the confined space. - Effective 2) CRITICAL - Engineering: Carry out continuous flammable gas monitoring in the confined space during the task. - Effective 3) CRITICAL - Administrative: Carry out a full COSHH assessment for any substances to be taken into the confined space. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Engineering: Consider use of spark proof tools. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a
Score and Control Measure Notes. Medium risk as welding often carried out in and around locos etc. Risk remains medium.							
Health and Safety	Electrocution Contact with live equipment or wiring whilst in a confined space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: All tools used in the confined space should be 110V or less. - Effective 2) CRITICAL - Engineering: All lighting to be used in a confined space should be 25V or less. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Health and Safety	Personal injury Cuts, bruises, burns, breaks, slips, trips and falls etc.	Volunteers, Staff & Contractors	1) CRITICAL - PPE: Wear hard hat or bump cap - Effective 2) CRITICAL - PPE: Wear safety footwear and eyewear, overalls, dust mask and gloves. - Effective	2 x 3 = 6 Medium - Risk to be minimised and controlled so far as is reasonably practical.	None	2 x 3 = 6 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a

Working in a loco smokebox

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Asphyxiation and loss of consciousness whilst in a confined space Gas, fume, vapour or loss of oxygen	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Ensure adequate natural ventilation is in place by whatever means is available - Effective 2) CRITICAL - Engineering: The smokebox door must remain fully open at all times. - Effective 3) CRITICAL - Administrative: A 'Rescue Plan' must be in place. - Effective 4) CRITICAL - Administrative: A written 'Safe System of Work' needs to be in place. - Effective 5) CRITICAL - Administrative: No Lone Working is allowed - Effective 6) CRITICAL - Administrative: All staff involved must be suitably trained and competent. - Effective 7) CRITICAL - Administrative: The work activity must be carried out from outside of the smoke box. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	1) Engineering: Consider the use of forced ventilation to increase airflow. - Effective 2) Administrative: For more complex activities including working with the door closed, hot work, or with the introduction of other hazardous materials or conditions the Confined Space Procedure must be followed and a 'Permit to Work' should be issued. - Effective	1 x 5 = 5 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 the large door being kept open at all times. Risk remains low.							
Health and Safety	Electrocution Contact with live equipment or wiring whilst in a confined space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: All tools used in the confined space should be 110V or less. - Effective 2) CRITICAL - Engineering: All lighting to be used in a confined space should be 25V or less. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Health and Safety	Flammable substances or oxygen enrichment Substances entering or present in the confined space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Any compressed gas bottles or other storage devices to be kept outside and well away from the confined space. - Effective 2) CRITICAL - Engineering: Carry out continuous flammable gas monitoring in the confined space both before entering and during the task. - Effective 3) CRITICAL - Administrative: Carry out a full COSHH assessment for any substances to be taken into the confined space. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Engineering: Consider use of spark proof tools. - Effective 2) Administrative: For more complex activities including working with the door closed, hot work, or with the introduction of other hazardous materials or conditions the Confined Space Procedure must be followed and a 'Permit to Work' should be issued - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a
Score and Control Measure Notes. Medium risk as welding often carried out inside locos etc. Risk remans medium.							
Health and Safety	Toxic gases, fume or vapour Substances entering or present in the confined space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Confined space to be vented and purged as necessary before the work starts. - Effective 2) CRITICAL - Engineering: A toxic gas test must be carried out prior to entry and from outside of the confined space and from inside during the task.. - Effective 3) CRITICAL - Engineering: Remove all substances and work activities from the area around the confined space that could introduce toxic gases. i.e. petrol/diesel driven equipment, welding etc. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	1) Engineering: Consider the use of forced ventilation to increase airflow. - Effective 2) Administrative: For more complex activities including working with the door closed, hot work, or with the introduction of other hazardous materials or conditions the Confined Space Procedure must be followed and a 'Permit to Work' should be issued - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Score and Control Measure Notes. Risk is low but needs to be managed. Risk remains low.							

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	High temperature or excessive heat within the confined space leading to fatigue or collapse Entering a hot confined space or heat entering a previously cool space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Temperature to be measured from outside of the confined space. - Effective 2) CRITICAL - Administrative: Maximum temperature of the air within the confined space < 35 degrees centigrade - Effective 3) CRITICAL - Administrative: When firebox is at a temperature <40 but >35 degrees centigrade, entry times to not exceed 5 mins, with re-entry not allowed for 20 mins - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Administrative: Consider limited 'on the job' time for higher temperatures. - Effective 2) Administrative: Consider providing hydration aids and/or water etc. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a
Score and Control Measure Notes. Medium risk as steam locos are, by design, hot. Risk remains medium.							
Health and Safety	Personal Injury Cuts, bruises, burns, breaks, slips, trips and falls etc.	Volunteers, Staff & Contractors	1) CRITICAL - Administrative: Staff to be trained and competent to work at height. - Effective 2) CRITICAL - PPE: Wear hard hat or bump cap - Effective 3) CRITICAL - PPE: Wear safety footwear and eyewear, overalls, dust mask and gloves. - Effective	3 x 2 = 6 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Administrative: For more complex activities including working with the door closed, hot work, or with the introduction of other hazardous materials or conditions the Confined Space Procedure must be followed and a 'Permit to Work' should be issued - Effective	3 x 2 = 6 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a

Working in an inspection pit underneath rolling stock

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Drowning Liquids or free flowing solids entering the confined space.	Volunteers, Staff & Contractors	1) CRITICAL - Elimination: Keep liquids and free flowing solids away from the pit so that they can not enter at any time. e.g. Running hoses and drain down of boilers and tanks etc. - Effective 2) CRITICAL - Engineering: Pits to be empty of liquids (rain/water etc.) and all drains and pumps to be in working order and utilised. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Health and Safety	Toxic gases, fume or vapour Substances entering or present in the confined space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Remove all substances and work activities from the area around the confined space that could introduce toxic gases. i.e. petrol/diesel driven equipment, welding etc. - Effective 2) CRITICAL - Engineering: Ensure that access/egress is available from both ends of the pit. If not, hot work or the introduction of flammable or toxic materials is not allowed. - Effective 3) CRITICAL - Engineering: Carry out a full COSHH assessment for any substances to be taken into the pit. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	1) Engineering: Consider alternative emergency exit arrangements - Effective 2) Administrative: Consider not allowing idling diesel engines to be located on adjacent tracks. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Flammable substances or oxygen enrichment Substances entering or present in the confined space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Any compressed gas bottles or other storage devices to be kept outside and well away from the confined space. - Effective 2) CRITICAL - Administrative: Carry out a full COSHH assessment for any substances to be taken into the confined space. - Effective 3) CRITICAL - Administrative: Use of flammable lubricants and cleaning agents to be strictly controlled so as to minimise fire and fume risk. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Engineering: Consider use of spark proof tools. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a
Score and Control Measure Notes. Medium risk as materials such as kerosene and other lubricants are used under hot locos on inspection pits. Risk remains medium.							
Health and Safety	Personal Injury Cuts, bruises, burns, breaks, slips, trips and falls etc.	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Be aware of the risk of scalds or burns from hot surfaces, steam, hot water, hot oil or other substances. - Effective 2) CRITICAL - Administrative: Staff to be trained and competent to work at height. - Effective 3) CRITICAL - Administrative: If access is restricted from one end only, only simple mechanical and inspection work is allowed. No hot work or flammables. - Effective 4) CRITICAL - Administrative: If 'ashing out' anyone in the pit must have clear and unobstructed access/egress from the end that they are working in. Do not allow the worker to become 'trapped' on the other side of the ash pile. - Effective 5) CRITICAL - PPE: Wear hard hat or bump cap - Effective 6) CRITICAL - PPE: Wear safety footwear and eyewear, overalls, dust mask and gloves. - Effective	3 x 2 = 6 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Engineering: Consider the introduction of a temporary emergency escape route (ladder) if one end of the inspection pit is blocked. - Effective	3 x 2 = 6 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a

Working in trenches or culverts

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	High temperature or excessive heat leading to fatigue or collapse Entering a hot confined space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Temperature to be measured from outside of the confined space - Effective 2) CRITICAL - Administrative: Maximum temperature of the air within the confined space < 35 degrees centigrade. - Effective 3) CRITICAL - PPE: Safety footwear, safety eyewear and gloves to be worn. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Administrative: Consider providing hydration aids and/or water etc. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a
Score and Control Measure Notes. High score due to fatality risk. Risk score remains the same.							

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Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Asphyxiation and loss of consciousness Gas, fume, vapour or loss of oxygen	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: A 'Gas Test' of the atmosphere in the confined space must be carried out prior to entry of the confined space with the result of O2 content > 19.5% - Effective 2) CRITICAL - Engineering: The 'Gas Test' must be carried out from outside of the confined space. - Effective 3) CRITICAL - Engineering: Continuous monitoring of the atmosphere with the confined space must be carried out throughout the task. - Effective 4) CRITICAL - Engineering: Ensure adequate natural ventilation is in place by whatever means is available. - Effective 5) CRITICAL - Administrative: A 'Rescue Plan' must be in place. - Effective 6) CRITICAL - Administrative: A written 'Safe System of Work' needs to be in place. - Effective 7) CRITICAL - Administrative: A second person acting as an 'Attendant' must be in place outside of the confined space to monitor the activity and to initiate the 'Rescue Plan' if required. - Effective 8) CRITICAL - Administrative: All staff involved must be suitably trained and competent. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Engineering: Consider the use of forced ventilation to increase airflow. - Effective 2) Engineering: Consider the use of a harness and life-line to aid rescue. - Effective 3) Administrative: For more complex activities a 'Permit to Work' should be issued. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a
Score and Control Measure Notes. Risk is medium but be aware of the risk of a fatality. Risk remains the same.							
Health and Safety	Electrocution Contact with live equipment or wiring whilst in the confined space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: All tools use in the confined space should be 110V or less. - Effective 2) CRITICAL - Engineering: All lighting to be used in the confined space should be 25V or less. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Health and Safety	Flammable substances or oxygen enrichment Substances entering or in the confined space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Any compressed gas bottles, or other storage devices to be kept outside and well away from the confined space. - Effective 2) CRITICAL - Engineering: Carry out continuous flammable gas monitoring in the confined space during the task. - Effective 3) CRITICAL - Administrative: Carry out a full COSHH assessment for any substances to be taken into the confined space. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Engineering: Consider the use of spark proof tools - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a
Score and Control Measure Notes. Medium risk but be aware of the risk of a fatality. Risk remains medium.							
Health and Safety	Toxic gases, fume or vapour Substances entering or present in the confined space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Confined space to be vented or purged as necessary before the work starts - Effective 2) CRITICAL - Engineering: A toxic gas test must be carried out prior to entry and from outside of the confined space and then continually through the task. - Effective 3) CRITICAL - Engineering: Remove all substances and work activities from the area around the confined space that could introduce toxic gases. i.e. petrol/diesel driven equipment, welding etc. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	1) Engineering: Consider the use of forced ventilation to improve airflow - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Score and Control Measure Notes. Risk is low but be aware of the risk of a fatality. Risk remains the same.							
Health and Safety	Personal Injury Cuts, bruises, burns, breaks, slips, trips and falls.	Volunteers, Staff & Contractors	1) CRITICAL - PPE: Wear safety footwear and eyewear, overalls and gloves. - Effective	2 x 3 = 6 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) PPE: Consider wearing a safety helmet or bump cap. - Effective	2 x 3 = 6 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a
Score and Control Measure Notes. Risk is medium. Risk remains medium.							
Health and Safety	Drowning or suffocation Liquids or free flowing solids entering the confined space	Volunteers, Staff & Contractors	1) CRITICAL - Elimination: Keep liquids and free flowing solids away from the confined space so that they can not enter at any time. - Effective 2) CRITICAL - Engineering: Confined space to be emptied of any liquids before the work starts and all pumps to be in working order and utilised. - Effective 3) CRITICAL - Engineering: Where workers are in a trench where there is a risk of collapse, shuttering should be used. Remember that workers will bend over in the trench so that their heads are below the top of the excavation. - Effective 4) CRITICAL - Administrative: Great care should be taken not to enter culverts or other water ways during times of high rainfall or water flow. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	1) Engineering: Consider the use of a tripod, harness and rescue line system. - Effective	1 x 5 = 5 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 nature of tasks undertaking but be aware of the risk of a fatality. Risk score remains the same.							

Working inside tanks and tenders

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Electrocution Contact with live equipment or wiring whilst in a confined space	Volunteers, Staff & Contractors	1) CRITICAL - Elimination: All lighting to be used in a confined space should be 25V or less. - Effective 2) CRITICAL - Engineering: All tools used in the confined space should be 110V or less. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a

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Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Health and Safety	Asphyxiation and loss of consciousness whilst in a confined space Gas, fume, vapour or loss of oxygen	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: A 'Gas Test' of the atmosphere in the confined space must be carried out prior to entry of the confined space with a result of O2 content > 19.5% - Effective 2) CRITICAL - Engineering: The 'Gas Test' must be carried out from outside of the confined space. - Effective 3) CRITICAL - Engineering: Continuous monitoring of the atmosphere inside the confined space must be carried out throughout the task. - Effective 4) CRITICAL - Engineering: A 'Rescue Plan' must be in place. - Effective 5) CRITICAL - Engineering: Ensure adequate natural ventilation is in place by whatever means is available - Effective 6) CRITICAL - Administrative: A written 'Safe System of Work' needs to be in place. - Effective 7) CRITICAL - Administrative: A separate person acting as a 'Sentry' or 'Attendant' must be in place outside of the confined space to monitor the activity and to initiate the 'Rescue Plan' if required. - Effective 8) CRITICAL - Administrative: All staff involved must be suitably trained and competent. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Administrative: Consider the use of forced ventilation to increase airflow. - Effective 2) Administrative: Consider the use of a harness and lifelines to aid rescue. - Effective 3) Administrative: For more complex activities a 'Permit to Work' should be issued. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Score and Control Measure Notes. Medium risk due to nature of tasks and frequency. Risk reduced with extra control measures.							
Health and Safety	High temperature or excessive heat within the confined space leading to fatigue or collapse Entering a hot confined space or heat entering a previously cool space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Temperature to be measured from outside of the confined space. - Effective 2) CRITICAL - Administrative: Maximum temperature of the air within the confined space < 35 degrees centigrade - Effective 3) CRITICAL - Administrative: When ambient temperature <40 but <>35 degrees centigrade, entry times to not exceed 5 mins, with re-entry not allowed for 20 mins - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Administrative: Consider providing hydration aids and/or water etc. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a
Score and Control Measure Notes. Medium risk due to the nature of the tasks involved. Risk remains medium.							
Health and Safety	Drowning Liquids or free flowing solids entering the confined space.	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: All means of entry for liquids or free flowing solids to be removed or isolated by means of locked valves, spades or disconnection. - Effective 2) CRITICAL - Engineering: Confined space to be empty of liquids and free flowing solids etc. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Engineering: Consider the use of a harness and lifelines to aid rescue - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Score and Control Measure Notes. Risk is medium due to frequency of tasks and materials involved. Risk reduced due to extra controls.							

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Health and Safety	Toxic gases, fume or vapour Substances entering or present in the confined space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Confined space to be vented and purged as necessary before the work starts. - Effective 2) CRITICAL - Engineering: A toxic gas test must be carried out prior to entry and from outside of the confined space and continually during the task. - Effective 3) CRITICAL - Engineering: Remove all substances and work activities from the area around the confined space that could introduce toxic gases. i.e. petrol/diesel driven equipment, welding etc. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	1) Engineering: Consider the use of forced ventilation to increase airflow. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Score and Control Measure Notes. Risk is low but needs to be managed. Risk remains low.							
Health and Safety	Flammable substances or oxygen enrichment Substances entering or present in the confined space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Any compressed gas bottles or other storage devices to be kept outside and well away from the confined space. - Effective 2) CRITICAL - Engineering: Carry out continuous flammable gas monitoring in the confined space during the task. - Effective 3) CRITICAL - Engineering: Carry out a full COSHH assessment for any substances to be taken into the confined space. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Engineering: Consider use of spark proof tools. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a
Score and Control Measure Notes. Medium risk as welding often carried out inside tanks. Risk remains medium.							
Health and Safety	Personal Injury Cuts, bruises, burns, breaks, slips, trips and falls etc.	Volunteers, Staff & Contractors	1) CRITICAL - Administrative: Staff to be trained and competent to work at height. - Effective 2) CRITICAL - PPE: Wear hard hat or bump cap - Effective 3) CRITICAL - PPE: Wear safety footwear and eyewear, overalls, dust mask and gloves. - Effective	3 x 2 = 6 Medium - Risk to be minimised and controlled so far as is reasonably practical.	None	3 x 2 = 6 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a

General confined space activities and controls to be applied

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Health and Safety	Asphyxiation and loss of consciousness whilst in a confined space Gas, fume, vapour or loss of oxygen	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: A 'Gas Test' of the atmosphere in the confined space must be carried out prior to entry of the confined space with a result of O2 content > 19.5% - Effective 2) CRITICAL - Engineering: The 'Gas Test' must be carried out from outside of the confined space. - Effective 3) CRITICAL - Engineering: Continuous monitoring of the atmosphere inside the confined space must be carried out throughout the task. - Effective 4) CRITICAL - Engineering: A 'Rescue Plan' must be in place. - Effective 5) CRITICAL - Engineering: Ensure adequate natural ventilation is in place by whatever means is available - Effective 6) CRITICAL - Administrative: A written 'Safe System of Work' needs to be in place. - Effective 7) CRITICAL - Administrative: A separate person acting as an 'Attendant' must be in place outside of the confined space to monitor the activity and to initiate the 'Rescue Plan' if required. They must have a mobile phone with a signal and also be aware of the nearest landline. - Effective 8) CRITICAL - Administrative: All staff involved must be suitably trained and competent. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Engineering: Consider the use of forced ventilation to increase airflow. - Effective 2) Engineering: Consider the use of a harness and lifelines to aid rescue. - Effective 3) Administrative: For more complex activities a 'Permit to Work' should be issued. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Score and Control Measure Notes. Medium risk due to nature of tasks and frequency etc. Risk remains low.							
Health and Safety	High temperature or excessive heat within the confined space leading to fatigue or collapse Entering a hot confined space or heat entering a previously cool space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Temperature to be measured from outside of the confined space. - Effective 2) CRITICAL - Administrative: Maximum temperature of the air within the confined space < 35 degrees centigrade - Effective 3) CRITICAL - Administrative: If the temperature in the confined space is >35 but <40, entry is allowed for 5 minutes maximum at a time. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Administrative: Consider very limited 'on the job' time for higher temperatures. - Effective 2) Administrative: Consider providing hydration aids and/or water etc. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a
Score and Control Measure Notes. Medium risk as steam locomotives are, by design, hot. Risk remains medium.							
Health and Safety	Drowning Liquids or free flowing solids entering the confined space.	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Confined space to be empty of liquids and free flowing solids etc. - Effective 2) CRITICAL - Engineering: Keep liquids and free flowing solids away from the confined space so that they can not enter at any time. i.e. Remove completely or use suitable isolation. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Health and Safety	Toxic gases, fume or vapour Substances entering or present in the confined space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Confined space to be vented and purged as necessary before work starts. - Effective 2) CRITICAL - Engineering: A toxic gas test must be carried out prior to entry and from outside of the confined space and then continuously when the entry is in progress. - Effective 3) CRITICAL - Engineering: From all substances and work activities from the area around the confined space that could introduce toxic gases. i.e. petrol/diesel driven equipment, welding etc. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	1) Engineering: Consider the use of forced ventilation to increase airflow. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a

Gloucestershire Warwickshire Steam Railway Plc
Risk Assessment for Working in Confined Spaces - Global

Type	Hazard Cause	Persons Affected	Control Measures	L S T Overall	Additional Control Measures	L S T Overall	Owner/Action
Score and Control Measure Notes. Risk is low but needs to be managed. Risk remains low.							
Health and Safety	Flammable substances or oxygen enrichment Substances entering the confined space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: Any compressed gas bottles or other storage devices to be kept outside and well away from the confined space. - Effective 2) CRITICAL - Engineering: Carry out continuous flammable gas monitoring in the confined space both before and during the task. - Effective 3) CRITICAL - Administrative: Carry out a full COSHH assessment for any substances to be taken into the confined space. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	1) Engineering: Consider use of spark proof tools. - Effective	2 x 5 = 10 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a
Score and Control Measure Notes. Medium risk as welding often carried out inside locos etc. Risk remains medium.							
Health and Safety	Electrocution Contact with live equipment or wiring whilst in a confined space	Volunteers, Staff & Contractors	1) CRITICAL - Engineering: All tools used in the confined space should be 110V or less. - Effective 2) CRITICAL - Engineering: All lighting to be used in a confined space should be 25V or less. - Effective	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	None	1 x 5 = 5 Low - Risk to be monitored to ensure it remains adequately controlled to an acceptable level.	n/a
Health and Safety	Personal injury Cuts, bruises, burns, breaks, slips, trips and falls etc.	Volunteers, Staff & Contractors	1) CRITICAL - Administrative: Staff to be trained and competent to work at height. - Effective 2) CRITICAL - Administrative: Attendant must carry a mobile phone with a signal and be aware of the location of the nearest landline. - Effective 3) CRITICAL - PPE: Wear hard hat or bump cap - Effective 4) CRITICAL - PPE: Wear safety footwear and eyewear, overalls, dust mask and gloves. - Effective	3 x 2 = 6 Medium - Risk to be minimised and controlled so far as is reasonably practical.	None	3 x 2 = 6 Medium - Risk to be minimised and controlled so far as is reasonably practical.	n/a

COSHH Assessments

There are no COSHH assessments associated with this risk assessment.

Reference Documents

- HSE Confined Spaces - A brief guide to working safely - HSE Confined Spaces - A brief guide to working safely
- HSE - Safe Work in Confined Spaces - Code of Practice - HSE - Safe Work in Confined Spaces - Code of Practice

Ends