Unit NG2: Risk assessment

Declaration: By submitting this assessment (Parts 1 – 4) for marking I declare that it is entirely my own work. I understand that falsely claiming that the work is my own is malpractice and can lead to NEBOSH imposing severe penalties (see the NEBOSH Malpractice Policy for further information).

Important note: You must refer to the document 'Unit NG2: risk assessment – Guidance and information for learners and Learning Partners' while completing all parts of this assessment. Your Learning Partner should provide you with a copy, but it can also be downloaded from the relevant resources section for this qualification on the NEBOSH website.

Part 1: Background

You should aim to complete this section in 150 - 200 words.

Topic	Comments
Name of organisation*	
Site location*	Burnley, London
Number of workers	Eighteen (18).
General description of the organisation	XXX is a large corporation with annual revenue of circa Five (5) Billion (Australian Dollars), which supplies Network equipment in the UK, Europe and America and has over 14'000 employees worldwide. The Burnley branch started as a small hire centre that has grown to eighteen (18) members of staff, six (6) of which work in the main offices and are separate from the warehouse building and have their independent risk assessments. The branch runs from 08:00 to 18:00 hours, five days a week and shuts at the weekend. Lunch and break times are staggered to accommodate customers who visit the site. The Warehouse Manager has overall responsibility for the health, safety and welfare of staff at this branch. XXX Limited's training department provides health and safety training to the full-time staff. The Burnley branch provides Network equipment for the utilities and construction industry significant contracts, ranging from Self-Contained Breathing Apparatus (SCBA), generators, lifting equipment, and low voltage lighting. All maintenance and hire equipment for the utility industry is within the warehouse. The warehouse itself has twelve (12) members of staff (all male), twin shutter doors to outside for customer access and houses multilevel racking for storage and uses three forklift trucks for movement of heavy items and high access storage and a single load handling pallet truck for smaller loads.

	To one side of the main warehouse is a segregated workshop. Three (3) staff members are classed as respiratory technicians and dedicated to the area which holds the 'SCBA' Compressed Air Breathing Apparatus. Next to the workshop is the lower storage area where testing and storage of lifting equipment, lighting and gas detection units are maintained. A mezzanine floor at the back of the warehouse covers and provides access to a training area. The mezzanine floor access is by a metal staircase leading from the warehouse and is also used to store smaller items on racking. When not used for training, the confined space stores flat-packed cardboard boxes by the warehouse staff in the lower access doors, which leads onto the warehouse floor. Staff working activities include servicing and maintaining compressed air breathing apparatus, testing mechanical air movers, testing intrinsically safe electrical lighting systems, confined space access equipment, and gas detection units and supporting customers with equipment pickups and deliveries to and from customer vehicles.
Description of the area to be included in the risk assessment	This risk assessment will cover the warehouse, workshop and mezzanine floor area.
Any other relevant information	In addition to Network and sales, the Burnley branch is a registered 'Ofqual' training centre for the confined space industry, including entry and height work. During training sessions, the branch has up to Ten (10) adult learners and Two (2) Instructors visiting that have access to the mezzanine floor and training tunnels. Access to the tunnels by training delegates has an independent training risk assessment.

* If you're worried about confidentiality, you can invent a false name and location for your organisation but, all other information provided must be factual.

You should aim to complete this section in 100 - 200 words.
Note: this section can be completed after you have completed your risk assessment.

Outline how the risk assessment was carried out. This should include: • sources of information consulted; • who you spoke to; and • how you identified: - the hazards;	Before starting the risk assessment, I contacted the warehouse manager for permission to risk assess this location and to use him as a responsible person on the risk assessment. I advised him of what I was doing and any specific hazards I was aware of while walking through the warehouse. I also asked for an overview of the full scope of the warehouse's work and what the teams do. I then requested a copy of the accident book, which had a single finger cut logged, and I asked for sight of the existing risk assessment. I noted that the risk assessment was due for review in March 2017 and agreed that this risk assessment would form part of that review.

- what is already being done; and - any additional controls/actions that may be required.	I used a table on the mezzanine floor training area and then opened the HSE website on my laptop and opened a book named the 'Introduction to Health and Safety at Work' book by Phil Hughes – Ed Ferrett. This location gave a much greater view of the areas being assessed and allowed me to start with hazards within sight and hearing and whether control measures were in place for the current warehouse tasks. I continually referred to the HSE website and book resources for areas that required further information, such as The Control of Substances Hazardous to Health Regulations 2002, EH40 relating to diesel fumes from vehicles and The Control of Noise at Work Regulations 2005. During this research, I requested information on whether any staff members complained of sickness, headaches, and other illnesses. I took my lists of hazards identified and spoke with the warehouse teams. I asked if they knew of any additional specific areas of concern, things they believed were dangerous, and suggestions for a safer environment. I then made further notes. I noted an uncontrolled release of compressed air during this walk, which was then acknowledged for assessment. The Control of Noise at Work Regulations 2005 (legislation.gov.uk) The Control of Substances Hazardous to Health Regulations 2002 (legislation.gov.uk) EH40/2005 Workplace exposure limits (hse.gov.uk)

Part 2: Risk Assessment

Organisation Name: RAMBO Networks
Limited Date of assessment: 20/12/
Scope of risk assessment: Utilities Warehouse, Workshop and Mezzanine floor area.

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within …)	Responsible person's job title
NOISE The uncontrolled release of compressed air from a self-contained breathing apparatus cylinder.	Three (3) SCBA staff and eight (8) additional warehouse staff, Warehouse training centre visitors and Instructors. - Uncontrolled release of compressed air from a cylinder can create impact peak 'Sound Pressure Levels (SPL) above 140 dB(C), which is very likely to result in short- and long-term noise-induced hearing loss. This noise level will also make talking and shouting impossible to hear and will stop emergency instructions from being heard. An uncontrolled release of compressed air can cause	• Annual in-house safety training is in place and covers noise control. • Ear protection is available but not enforced. • Earplugs are made available from a single wall-mounted dispenser that was empty at inspection. • Noise hazard signage is located at the workshop entrance. • First Aid Kit and Defibrillator are available and stored within the workshop.	1. A pneumatic muffler device must be purchased and placed onto cylinder outlets for all pressure release activities. 2. All cylinders must be attached to the central compressor, and overpressure bleed valves will be used until muffler devices are purchased. 3. A noise assessment must be completed, and noise assessment training is to be arranged for a minimum of two warehouse staff members. 4. Arrange for purchase and replenishment of earplug dispensers. 5. Correct hand, eye and ear protection must be supplied and enforced in its use during all pressure release activities.	1 Week 1 Day 2 Weeks 1 Week 1 Day	Warehouse Manager Warehouse Manager Occupational Health Manager/ Warehouse Manager Warehouse Manager Warehouse Manager

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within …)	Responsible person's job title
	eye injuries and blindness due to dust particle disturbances and possible blood vessel skin damage.		6. Arrange a health surveillance programme for three (3) dedicated SCBA staff and consider the remaining eight (8) additional warehouse staff. 7. Develop a safe system of work for the pressurising and de-pressurising of compressed air cylinders.	6 Months 2 Weeks	Occupational Health Manager Warehouse Manager
MANUAL HANDLING The lifting of heavy equipment, specifically the fall arrest tripod rescue systems, have an offset centre of gravity when carried and are top-heavy.	Twelve (12) warehouse staff. - Manually lifting heavy equipment are likely to cause upper or lower back pains and other musculoskeletal injuries. Warehouse staff are specifically at risk from lifting tripod fall arrest systems from ground level due to their length, weight and offset centre of gravity.	• Annual in-house Manual handling training is in place for all warehouse staff, although there are no specific instructions on heavy items with offset centres of gravity. • Safety boots and gloves are supplied for manual handling purposes. • Load handling equipment (pallet truck) is available, and staff have had training in its use, although some staff choose not to use it. • First Aid Kit and Defibrillator are available and stored within the workshop.	1. Load handling equipment (pallet truck) use is required to transport all fall arrest, rescue tripod systems and other heavy items. 2. All fall arrest, rescue tripod systems will require a two-person lift at all times when transferring from load handling equipment to storage locations 3. Rearrange racking and storage for all fall arrest rescue tripod systems to be stored in an upright position for ease of handling. 4. Carry out a full review of manual handling training appropriate for the equipment within the warehouse, including heavy objects.	1 Day 1 Day 1 Week 3 Months	Warehouse Manager Warehouse Manager Warehouse Manager Senior Quality Assurance Training Manager

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within …)	Responsible person's job title
HAZARDOUS SUBSTANCES Inhalation of vehicle diesel exhaust fumes which contains Carbon Monoxide (Co), Nitric Oxides (NO2) Sulphur Dioxide (SO2) and hydrocarbons.	Twelve (12) warehouse staff, warehouse Ten (10) training centre visitors and Two (2) Instructors. - Diesel exhaust fumes from customer pickups and drop-offs are drawn into the warehouse. Diesel is classified as carcinogenic and may cause significant long term health risks such as lung cancer and other types of respiratory disease such as asthma.	• The warehouse doors are kept open during customer visiting to vent the warehouse.	1. The construction of a purpose-built vehicular weather-protected canopy to the rear of the warehouse with a one-way traffic route for drop off and pick up of orders and fork truck access. 2. Arrange an area for vehicles to remain outside the warehouse for drop off and pick up of orders, vehicle engines are off, and a completed safe system of work for external working is required 3. All vehicle engines are to be switched off for the entire duration after parking within the warehouse while '**Point 2 Above**' is applied. 4. Internal XXX hire fleet extraction fans must be used by warehouse staff at each vehicle pickup station until arrangements have been made for vehicles to remain outside. '**See Point 2 Above'**. 5. All extraction fan power cables will be protected with a residual current device (RCD) and industrial 'Cable Covers' are to be fitted at all times to prevent trips or other damage to electrical components.	12 Months 4 Weeks 1 Day 2 Days 2 Days	Utilities Director Warehouse Manager Warehouse Manager Warehouse Manager Warehouse Manager

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within …)	Responsible person's job title
			6. Consideration is to be given to the implementation of a health surveillance programme.	6 Months	Occupational Health Manager
HAZARDOUS SUBSTANCES Various chemicals are used when cleaning respiratory equipment, specifically **'INCIDIN RAPID'** respiratory equipment disinfectant containing Ammonium Chloride and Benzyl Chloride	Three (3) SCBA Respiratory Equipment Technicians. - 'INCIDIN RAPID' contains both Ammonium Chloride Benzyl Chloride and Glutaraldehyde, which can cause acute toxicity, severe eye damage, burns, and skin corrosion. This product is also carcinogenic and asthmagen, which may cause occupational asthma and other cancers.	• Warehouse staff, on joining the company are given training of health and safety responsibilities which includes the control of substances hazardous to health. • Safety goggles and respiratory face shields are supplied and used. • Disposable gloves are supplied and used. • All substances used by the workshop team that are hazardous to health are locked in control of the Substances Hazardous to Health (COSHH) cabinet within the workshop area. • Although the taps are worn and do not identify hot/ cold water, a hand	1. Contact respiratory equipment manufacturers for suggested non-toxic cleaning alternatives and Implement when found. 2. Protective disposable aprons must be supplied and worn when handling hazardous substances. 3. Arrangements are to be made to dispose of soiled gloves and aprons properly. 4. Install a first aid sterile eyewash station within the workshop location. 5. Change the taps on the water basin to identify hot from the cold for handwashing safety purposes. 6. Consider the implementation of a health surveillance programme.	2 Weeks 1 Week 2 Weeks 1 Week 2 Weeks 6 Months	Warehouse Manager Warehouse Manager Warehouse Manager Warehouse Manager Warehouse Manager Occupational Health Manager

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within …)	Responsible person's job title
		wash basin is supplied within the workshop area. • First Aid Kit and Defibrillator are available and stored within the workshop.			
SAFE MOVEMENT OF PEOPLE AND VEHICLES IN THE WORKPLACE The falling from the mezzanine floor into the confined space training unit.	Twelve (12) warehouse staff. - The mezzanine floor has an open training unit access point with insufficient protection from falling. Falls from any height at work can result in broken bones, back injuries, other serious injuries or death.	• There is currently plastic warning tape stuck on the mezzanine floor identifying the training unit access point and protected by a single traffic cone. • A single free-standing plastic chain link safety barrier protects the area from entry by warehouse staff. • A Confined Space warning sign is provided and visible at the plastic chain link safety barrier • First Aid Kit and Defibrillator are available and stored within the workshop.	1. The training unit access point must be protected with an appropriate lockable cover, where the training team can only authorise its removal. 2. The training area must be segregated from the racking area and protected by a permanent barrier and self-closing access gate. 3. Consideration must be given for the mezzanine storage racking to be moved from the immediate area to stop the need for warehouse staff to be within the vicinity of the training access point. 4. The warehouse manager is to Inform all warehouse staff of the hazard and not enter the training access area at any time.	2 Weeks 1 Month 2 Months 1 Day	Senior Quality Assurance Training Manager Senior Quality Assurance Training Manager Warehouse Manager Warehouse Manager

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within …)	Responsible person's job title
SAFE MOVEMENT OF PEOPLE AND VEHICLES IN THE WORKPLACE Collisions with moving warehouse vehicles (Fork truck).	Twelve (12) Warehouse staff, Ten (10) Training centre visitors, Two (2) training instructors. - The potential for people exiting from lower doors of confined space training unit into warehouse and warehouse staff moving in the vicinity of the Confined space may cause risk of collisions with forklift trucks as no barriers, or suitable pedestrian walkways have been added. Collisions of this type can be very traumatic, cause serious injuries, death along with post-traumatic stress to those involved.	• There are yellow-painted pedestrian walkways from the workshops into the warehouse, although none are at the training location below the mezzanine floor as this is a new structure. • Forklift truck signage is in place throughout the warehouse and all warehouse entrances. • Armco beam barriers are in place throughout the warehouse to protect walls and racking from collisions, although none are currently in the vicinity of the training location. • Forklift does display a warning beacon at all times when being used. • The forklift truck is annually maintained with daily inspections before use • All Forklift drivers are trained and resit their qualifications every three (3) years.	1. A painted pedestrian walkway with Armco barriers shall be installed from the confined space lower access doors to the mezzanine floor stairwell to separate the training unit from the warehouse permanently. 2. All flat-packed cardboard boxes must be removed from the confined space lower doors and stored appropriately elsewhere to stop unnecessary access. 3. All training visitors and instructors are supplied with and required to wear high visibility vests during training activities. 4. Confined space training scenarios must be developed where the lower access doors are not required to be used other than in real emergencies until **point 1 above is completed**. 5. A training course timetable must be provided to the Warehouse Manager to enable warehouse teams to be updated when training is run. 6. As part of their training induction process, all training visitors and instructors receive a safety briefing, specifically on	2 Months 1 Day 1 Week 1 Month 1 Week 1 Day	Warehouse Manager and Senior Quality Assurance Training Manager Warehouse Manager Senior Quality Assurance Training Manager Senior Quality Assurance Training Manager Senior Quality Assurance Training Manager Warehouse Manager

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within …)	Responsible person's job title
		• First Aid Kit and Defibrillator are available and stored within the workshop	warehouse safety and staff movements. 7. Implement 'Work-Related Stress and Mental Health awareness during annual health and safety training.	6 Months	Occupational Health Manager
HEALTH, WELFARE AND WORK ENVIRONMENT Sanitary Conveniences have a foul smell, are insufficient in numbers and of poor cleanliness within the warehouse.	Twelve (12) warehouse staff. Up to Ten (10) Training centre visitors and Two (2) training instructors. - There is currently a single wash basing used for drinking water and a single urinal. Staff are at risk from streptococcus, hepatitis 'A' virus, staphylococcus, and other organisms that may cause severe illness to infrequent cleaning regimes.	• A single urinal is used within the warehouse with a single washbasin. • Sanitising is carried out by warehouse staff using liquid bleach products, although this is not enforced. • Liquid bleaches are locked within the Control Of Substance Hazardous to Health (COSHH) cabinet within the workshop area. • Protective gloves and eye protection are available when using chemicals. • First Aid Kit and Defibrillator are available and stored within the workshop	1. Upgrade sanitary facilities from a single urinal to a larger multi-use urinal space (Minimum 600mm wide) to accommodate staff members, training staff and warehouse visitors. 2. Installation of a second washbasin is required to maintain sanitary standards. 3. Consideration is to be given for a disabled access cubicle toilet to be built and installed with a locked door to accommodate both future disabled and female staff or visitors. 4. A dedicated drinking water station is to be installed within the workshop area for staff to use. XXX already have a contract in place for the offices 5. Establish clear responsibility to maintain cleanliness within current and upgraded sanitary	6 Months 6 Months 6 Months 2 Weeks 2 Weeks	Utilities Director Utilities Director Utilities Director Warehouse Manager Warehouse Manager

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within …)	Responsible person's job title
			facilities (Consider external contract cleaning company).		
SLIPS AND TRIPS Slipping on metal stairs leading to the mezzanine floor.	Twelve (12) warehouse staff. Ten (10) Training centre visitors and Two (2) training instructors. - Slipping on wet or dirty stairwells may result in bruises, broken bones, severe injury and even death.	• Warehouse staff, on joining the company are given training of health and safety responsibilities which includes measures to reduce slips, trips and falls. • Hazard signs are in place to identify slippery surfaces. • Safety boots are supplied to warehouse staff and worn during working hours. • First Aid Kit and Defibrillator are available and stored within the workshop	1. Non-slip surfaces and reflective edging must be provided and installed on the warehouse staircase. 2. Slip hazard signage must be installed at the bottom and top of stairwells. 3. Consider external contract cleaning company for daily warehouse cleaning tasks, including cleaning stairs.	1 Month 2 Weeks 2 Weeks	Warehouse Manager Warehouse Manager Warehouse Manager

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within …)	Responsible person's job title
ELECTRICITY 240 Volt extension cables from the warehouse laid across the training unit floor and above the access hatch are likely to be damaged, broken or cut.	Ten (10) Training centre visitors and Two (2) training instructors - Extension leads are to be used for a minimum period only as exposure to electrical wires on crushed or cut cables can cause electrical shock, burns or death. Flailing electrical leads may result in tripping or falling and bruises, broken bones, severe injury and even death.	• The electrical supply circuits within the warehouse are all protected with appropriate electrical safety residual current devices (RCD). • An annual programme of electrical inspections and maintenance is in place throughout the entire warehouse. • First Aid Kit and Defibrillator are available and stored within the workshop.	1. Arrangement for an electrical survey and installing an extra-low voltage permanent electrical system into the confined space training unit is required. 2. Replace the 240 Volt extension system for a 110 Volt, Portable Appliance Tested (PAT) extension system until **point one (1) above** is achieved. 3. All extension leads, when used, must have a suitable residual current device (RCD) installed. 4. Extension leads must be removed from doorways, and cable protection mats are to be used at all times where there is a trip hazard. 5. The 110 Volt extension lead is to be unplugged and removed from the training unit area at all times when not in use.	3 Months 1 Day 1 Day 1 Day 1 Day	Senior Quality Assurance Training Manager Senior Quality Assurance Training Manager Senior Quality Assurance Training Manager Senior Quality Assurance Training Manager Senior Quality Assurance Training Manager

Hazard category and hazard	Who might be harmed and how?	What are you already doing?	What further controls/actions are required?	Timescales for further actions to be completed (within …)	Responsible person's job title
WORK EQUIPMENT AND MACHINERY Bench grinder in use within the workshop area.	Twelve (12) Warehouse staff. - The bench grinder has high speed moving parts that can cause severe eye and hand injuries from abrasive wheel debris and destruction. This type of equipment can also cause excessive vibration that may result in hand, arm vibration syndrome, which affects the nerves and blood vessels, causing irreparable damage.	• All warehouse staff have been trained in the use of abrasive wheel equipment. • Ear, eye and respiratory protection are supplied and used. • There is a requirement for loose clothing to be tied back and sleeves buttoned or rolled up. • Protective guards are in place and monitored for damage and replacement. • Abrasive wheel replacement is carried out by trained personnel to manage vibration levels. • Abrasive wheel equipment is hard-wired with wall isolation safety switches installed.	1. Workshop aprons must be supplied for use when abrasive wheels are in use. 2. Consider Hand Arm Vibration monitoring to establish if the vibration levels are above the exposure action values. 3. Consider a noise assessment to be completed, and training is to be arranged for a minimum of two warehouse staff members 4. Regular cleaning must be implemented for the grinder, benches and surrounding floor areas of materials and dust waste.	1 Week 2 Weeks 2 Weeks 1 Day	Warehouse Manager Occupational Health Manager/ Occupational Health Manager Warehouse Manager

Part 3: Prioritise 3 actions with justification for the selection

Suggested word counts
Moral and financial arguments for all actions: 300 to 350 words
For EACH action:
Specific legal arguments: 100 to 150 words
Likelihood AND severity: 75 to 150 words
How effective the action is likely to be in controlling the risk: 100 to 150 words

Moral and financial arguments for ALL actions

Moral, general legal and financial arguments	**Actions to be prioritised:** 1. A pneumatic muffler device must be purchased and placed onto cylinder outlets for all pressure release activities. 2. The construction of a purpose-built vehicular weather-protected canopy to the rear of the warehouse with a one-way traffic route for drop off and pick up of orders. 3. A painted pedestrian walkway with protective barriers is installed from the confined space lower access doors to the mezzanine floor stairwell to separate the training unit from the warehouse permanently. XXX Burnley has a moral duty of care to take all reasonable action to ensure that accidents and injuries against employees do not occur when pursuing financial profit and business gain. Incidents and accidents at work must be reduced, and where possible, mitigated in their entirety, including pain and suffering. Persons who have lost their hearing, crushed by a fork truck, diagnosed with cancer due to inhaling carcinogens at work or suffers from occupational astham is prohibitively intolerable in modern society. No person chooses or deserves to work in an environment where injuries or accidents occur. Many of the accidents at work also manifest into mental health issues and extended family concerns for the victims and those who have witnessed the incident as it occurred. It is socially unacceptable for anyone at XXX to be injured or killed, and the social impact will be devastating for everyone involved.

	There is also a requirement and moral responsibility for XXX to owe a common law duty of care to the public, visitors and contract staff. The financial costs and expenses to XXX from both criminal liability convictions and civil claims can be extreme, and only a portion of them will be recoverable through the companies employers liability insurance. These expenses can be crippling to any business. Even a corporation as large as XXX will feel the impact of a substantial criminal fine being heard within magistrates or crown court and where a civil claim settlement is heard within the County Court or High Court. Civil and criminal courts can decide on costs relevant to the case being heard within their specific courts. Criminal law, which deals with statute compliance, based on 'beyond a reasonable doubt, and a civil wrong (tort), based on the 'balance of probabilities, would both be found in all three (3) of the prioritised actions if investigated. The costs to XXX may include Health and Safety Executive (HSE) inspectors instructions, investigations and fines involving prohibition notices and improvement notices relating to the additional hazards identified. Other costs involve in-house investigations, staff sickness costs, training of new staff, medical expenses, court costs and costs of negative public perceptions against the company itself, which may further result in a loss of business. This list of costs is not definitive, and the accurate scale of total loss will be dependent on the incident that has occurred.

Justification for action 1

Action	**NOISE** A pneumatic muffler device must be purchased and placed onto cylinder outlets for all pressure-release activities.
Specific legal arguments	XXX has not carried out an appropriate risk assessment concerning regulation 3 of the Management of Health and Safety at Work Regulations 1999 or considered health and safety arrangements under regulation 5(1) of the Management of Health and Safety Regulations 1999, nor have they followed any general principles of prevention set out in Schedule 1 to the Management of Health and Safety Regulations 1999.

	XXX has not complied with regulation 6 (2) of the Control of Noise at Work Regulations 2005 and has not ensured that technical and organisational control measures that are reasonably practicable are in place to reduce the noise upper exposure action levels to as low a level as possible. Ear protection is available but also not enforced. It is also clear that XXX has not completed a noise assessment for this activity which is entirely necessary due to how XXX allow the cylinders to be emptied. Regulation 5 (2) (c) of the Control of Noise at Work Regulations 2005 and guidance note L108 5(2) Paragraph 40. Allowing staff to release the compressed air uncontrolled is highly likely to cause severe ear damage and permanent hearing loss. By failing to implement control measures in this instance, an HSE Inspector would likely issue an immediate prohibition notice with prosecution as there is sufficient evidence for a realistic conviction and is in the public interest. There is also a civil (Tort) by way of long term hearing loss of an employee. The Management of Health and Safety at Work Regulations 1999 (legislation.gov.uk) The Management of Health and Safety at Work Regulations 1999 (legislation.gov.uk) The Control of Noise at Work Regulations 2005 (legislation.gov.uk) HSE Guidance on the control of noise at work regulations (L108)
Consideration of likelihood AND severity	The likelihood of a member of staff sustaining a hearing impairment is highly likely due to the extreme levels of noise created when uncontrolled air is released from a compressed air cylinder. Peak sound pressure levels of 140dB (c) have been identified as similar to that of a military jet fighter taking off. The staff members within the warehouse have ear protection available but are not forced to wear it and are exposed to the full peak pressure levels. These noise levels can cause immediate hearing damage and long-term issues such as presbycusis among engineers. Visitors to the warehouse and other warehouse team members within the vicinity are also at risk. They are very likely to be affected by these noise levels. The likelihood of long-term hearing loss is also very high, with the extreme severity being equal across the entire warehouse team.
How effective the action is likely to be in controlling the risk. This should include: • the intended impact of the action;	By applying the air mufflers to release air pressure at a controlled speed through a honeycombed material, it is intended that they will reduce the sound levels substantially. Therefore, the likelihood of hearing damage is significantly reduced. Ear protection is still recommended to further reduce the 'sound pressure at ear' levels.

• justification for the timescale that you indicated in your risk assessment; and • whether you think the action will fully control the risk.	Mufflers are an off-the-shelf purchase item from companies that supply compressed air cylinders, and XXX has access to many of these companies throughout the United Kingdom. Therefore, the one (1) week timescale, I believe, is appropriate, which allows sufficient time for ordering, receipt, instruction and implementation of these devices. After implementing the mufflers, there will still be a residual risk of sound pressure, which the enforcement of ear protection can further control. A noise assessment will also be undertaken within two (2) weeks to establish if further control may be required.

Justification for action 2

Action	**HAZARDOUS SUBSTANCES** The construction of a purpose-built vehicular weather-protected canopy to the rear of the warehouse with a one-way traffic route for drop off and pick up of orders and fork truck access.
Specific legal arguments	The Control of Substances Hazardous to Health 2002. Regulation 7(1) states a legal duty for a business to ensure that preventative measures protect employees from being exposed to hazardous substances. Where the exposure cannot be prevented, adequate controls should be in place using reasonably practicable measures. XXX is currently not providing any reasonably practicable control measures to prevent any warehouse staff or training centre learners from being exposed to Diesel Fumes that contain Carbon Monoxide (Co), Nitric Oxide (NO2), Sulphur Dioxide (SO2) and hydrocarbons. Diesel is also known to be carcinogenic to humans. XXX already possesses gas detection units within the warehouse building for utility contracts but has not utilised the same to verify workplace exposure limits (WEL) set within EH40/ 2005. As these control units are available and to hand with trained and competent personnel who can use them, XXX is negligent in their inactions to control the risks. Carbon monoxide depletes the human body of oxygen, affecting the brain, heart, and other vital organs, resulting in severe illness and death. Nitric Oxide can cause Cyanosis (methemoglobinemia), pulmonary.

	oedema and poor coordination of muscles. Sulphur dioxide is also poisonous to the body and can induce asthma. Diesel fumes are believed to cause acute occupational asthma. Considering work (Occupational) related asthma, reporting of Injuries Diseases and Dangerous Occurrence Regulations (RIDDOR) Regulation 8 (e) Asthma caused by work activities is reportable to the Health and Safety Executive (HSE) on a diagnosis. The Control of Substances Hazardous to Health Regulations 2002 (legislation.gov.uk) The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (legislation.gov.uk)
Consideration of likelihood AND severity	There is a very high likelihood that warehouse staff will exceed their worktime exposure limits for Carbon Monoxide (CO) and Sulphur Dioxide (SO2) due to the inhalation of diesel fumes EH40 and become ill in a short space of time. It is also highly likely that long-term occupational asthma and other medical complications will be developed. Asthma can cause severe respiratory failure by the closing of airways. This can be fatal in some people and debilitation for life in many others. Therefore, the severity of the illness to the warehouse staff and training teams is extreme.
How effective the action is likely to be in controlling the risk. This should include: • the intended impact of the action; • justification for the timescale that you indicated in your risk assessment; and • whether you think the action will fully control the risk.	XXX will have little difficulty funding the construction of a vehicle canopy. It is intended that by moving the vehicles outside of the warehouse into the fresh air, along with engines to be switched off, the risk to warehouse and training teams is substantially lower with a probability of zero. The traffic movement in a one-way direction will also reduce the hazards of vehicles moving in different directions. The weather canopy will ensure staff and visitors remain dry, reducing slippery surfaces. The timescale provided has been set to twelve (12) months as planning permission for such a canopy. Developing the one-way system, including fork truck roads, barriers and safe work methods, will require appropriate planning. By completing the action, the likelihood of exceeding work exposure limits within the open air is negligible. Furthermore, the natural difference in air pressure between the top and bottom surface of the canopy will result in natural air movement even on days with no wind. Therefore, the risk will have been controlled. Consideration has been given to the time scales set; therefore, additional control measures 2 – 5 are in place to prevent exposure until the external programme of external works is completed.

Justification for action 3

Action	**SAFE MOVEMENT OF PEOPLE AND VEHICLES IN THE WORKPLACE** A painted pedestrian walkway with protective barriers must be installed from the confined space lower access doors to the mezzanine floor stairwell to separate the training unit from the warehouse permanently.
Specific legal arguments	Although XXX does have protected walkways within the warehouse, none have been installed at this location. The specific regulations for this risk are the Workplace (Health, Safety and Welfare) Regulations 1992 Regulation 17(1). Every workplace shall be organised in such a way that pedestrians and vehicles can circulate safely. Currently, pedestrians have access to the warehouse from the confined space lower training doors with no safe route or barriers protecting them from the forklift used within the warehouse. The movement of forklift trucks within a warehouse poses significant risks to pedestrians, and regulation 17 (2) states that the traffic route shall be suitable for persons or vehicles using them and regulation 17 (3) (a) (b) (c) relating to suitable measures. XXX is required to separate pedestrians from any areas operated by forklift trucks in a reasonably practicable manner that is possible to achieve with barriers and a walkway. Failure to provide this protection for their employees and training staff could result in severe injury or death. Due to the size and weight of forklift trucks, injuries would likely be extreme. This would be reportable to the health and safety executive with a Reporting of Injuries Diseases and Dangerous Occurrence Regulations, 4 - 5 for non-fatal injuries and regulation 6 for work-related fatalities. In this instance, the impact both morally and financially on XXX would be extreme. The Workplace (Health, Safety and Welfare) Regulations 1992 (legislation.gov.uk)
Consideration of likelihood AND severity	The likelihood of a collision when moving from an unprotected doorway directly into a warehouse with a moving forklift truck is very high. This is due to the persons exiting the door not being able to view the warehouse and the forklift driver not knowing when someone will come through the door into the warehouse. Due to the weight of a forklift truck, the injuries will likely be broken bones, amputations of limbs, crushing or death. Therefore the severity is classed as extreme in this instance.
How effective the action is likely to be in controlling the risk. This should include: • the intended impact of the action;	The walkway, protected by a suitable fork truck protection barrier system, is intended to provide adequate protection and segregation between the warehouse staff, training staff and the forklift truck. By completing this, XXX will have complied with their moral duties to protect their work staff from harm at work.

• justification for the timescale that you indicated in your risk assessment; and • whether you think the action will fully control the risk.	The timescale has been given two (2) months. The installation of protective barriers and marked walkways is not an extremely difficult task, and XXX has their construction teams who will carry out this task in a reasonably short space of time. However, a period will be required for purchase and delivery of the equipment needed and a survey. I believe two (2) months is entirely adequate within XXX. The action, when completed, will provide adequate control as the barriers installed will be designed to stop a forklift from crashing through them. In addition to this, the barriers and walkway will provide a clear route of travel that does not impede the forklift route at any time and, therefore, will reduce the likelihood of collision substantially.

Part 4: Review, communicate and check

Suggested word counts for each section:

- Planned review date or period and reasoning for this: 50 - 100 words
- How the risk assessment findings will be communicated and who needs to know the information: 100 - 150 words
- Follow up on the risk assessment: 100 - 150 words.

Planned review date/period with reasoning	I will set the review dates for Twelve (12) months from the assessment date as XXX has a general business policy to review their risk assessments within the same twelve (12) month review period.
How the risk assessment findings will be communicated AND who you need to tell	The findings of this risk assessment will, in the first instance, be discussed with the utility director, who has been tasked with several actions on this risk assessment. This will allow me to discuss each action with a rationale to ensure there is an agreement that the warehouse manager and senior IQA training manager can finance the measures in full. The risk assessment will be provided to all persons named on the risk assessment for dissemination to their staff and to gain agreement and signatures that the assessment will be complied with.
How you will follow up on the risk assessment to check that the actions have been carried out	Each action date will be recorded on an electronic calendar for checking on completions. All actions will be noted every seven (7) days to ensure any concerns or difficulties can be addressed in good time and assistance provided where necessary. All actions that are Three (3) months or more will be noted once per month. Any Actions that appear to be struggling with completion dates will be revisited to identify further support required to fulfil the risk assessment requirements.

	Periodic non-calendar checks will be carried out without notification on all completed tasks to maintain compliance.