Unit IG2: 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 IG2: 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*	Vital Company Ltd
Site location*	Lahore, Pakistan
Number of workers	800
General description of the organisation	The petroleum company Vital Company Ltd is based in Pakistan. Vital corporation Ltd. was founded as a private corporation to take over the operation of refining crude oil and supplying refined petroleum products. The company produces mineral turpentine, kerosene oil, jet petroleum, high speed diesel, light diesel oil, furnace fuel oil, liquefied petroleum gas (LPG), unleaded premium motor gasoline, and paving grade asphalts. Examples of operations include crushing, welding, excavation, mechanical maintenance, distillation, oil and gas purification, and working at heights. Heavy equipment used by the organization includes blade cutters, boilers, vacuum pumps, welding machines, filters, derricks, valves, portable rigs, drilling bits, drilling pipe, drilling motors and artificial lift services. There are three shifts for workers. The first shift runs from 8:00 am to 4:00 pm, the second from 4:00 pm to 12:00 am, and the third takes place from 12:00 am to 8:00 am. 400 employees work there in each shift. Most employees are seasoned and mature, ranging in age from 35 to 45.
Description of the area to be included in the risk assessment	The risk assessment will cover the Crude Distillation and Vacuum Distillation Section, the Gas Concentration Unit, the Visbreaking Unit, the Diesel Max Unit, the Naphtha Hydro treating Unit, the Maintenance Workshops and the Storage rooms.

Any other relevant information	The shift officer, area supervisors, the company manager, and the HSE team will be in charge of matters pertaining to health and safety at the oil and gas refineries.

* 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 competed 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; - what is already being done; and - any additional controls/actions that may be required.	I found several safety guidelines for risk management relating to oil and gas processing and refineries at the International Labour Organization (ILO), which has standards of measures for health and safety in all sectors and British health and safety organisation HSE. https://www.ilo.org/global/industries-and-sectors/oil-and-gas-production-oil-refining/lang--en/index.htm https://www.ilo.org/global/topics/safety-and-health-at-work/industries-sectors/WCMS_219028/lang--en/index.htm http://www.oil-gasportal.com/environmental-issues/hse-basic-concepts/ I discussed their health and safety plans with the plant manager and HSE administration in order to confirm any additional health and safety preparations. The plant took a very good approach to safety and health overall. The business had an HSE management structure and an efficient HSE program in place. There was a thorough HSE orientation plan in place for guests. The discovery of a number of areas of interest, however, led to violations of the Health and Safety law. Then, in order to learn more about how workers perform their jobs and the risks they face, I interviewed field supervisors, HSE inspectors, plant managers, and staff on-site in addition to conducting hazard inspections of the various regions. I have read the most current audit report, the compliance report, the accident records, the welfare services with poor health reports, and the accident and hazard report that occurs most frequently. I also referred to some of the HSE approved codes of practices for guidance documents for example for fire issues there I provide access to https://www.api.org/oil-and-natural-gas/health-and-safety/refinery-and-plant-safety/fire-protection

Part 2: Risk Assessment

Organisation name: Vital Company Ltd
Date of assessment: July 11, 2025
Scope of risk assessment: Crude Distillation and Vacuum Distillation Section, the Gas Concentration Unit, the Visbreaking Unit, the Diesel Max Unit, the Naphtha Hydro treating Unit, the Maintenance Workshops and the Storage rooms

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
Fire In Vacuum Distillation Section, there is a chance of a fire or an accident. Because to high temperatures, leaks, or the presence of oil vapours.	Workers, machinery and plant might be harmed. If a fire breaks out in an oil and gas refinery, it spreads quickly. As a result, a large number of fire fighters and extinguishers are required to keep the fire under control. The absence of firefighting equipment and extinguishers in the oil and gas industry raises concerns about fire spread and damage loss to personnel and plant.	1. Place a sign board at the plant's most risky locations. 2. Workers received fire-fighting training one month earlier. 3. Workers are fitted with personal protection equipment (PPE).	1. Ensure that the arrangements have an adequate supply of fire extinguishers of various sizes and weights. 2. Fire-fighting training should be given on a daily basis to both employers and personnel. 3. Schedule routine inspections of fire extinguishers. 4. Fire-fighting equipment and personnel are constantly on the lookout for some kind of fire. 5. Fire sensor alarms have been installed in the facility.	2 Weeks 2 Weeks 3 Weeks 1 Week 2 Weeks 3 Weeks	HSE Officer HSE Executive HSE Executive HSE Supervisor Area Supervisor

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. Execute proper housekeeping and eliminate flammable materials. 7. Constructed emergency evacuation path and assembly points to cope with in the event of a fire. 8. Provide healthy working procedures for operations that include the use of a naked flame.	 1 Month 1 Week	Area Supervisor Plant Manager HSE Manager
Slip and Trip Diesel and oil leaks on the road caused by the continuous movement of machinery, diesel vehicles, and containers causes slick sidewalks and roadways, causing tourists, pedestrians,	Workers, visitors, pedestrians might be harmed. Because of fuel and oil leaks or spills on sidewalks, pathways, and highways. There is a substantial risk of employees, tourists, and cars slipping and collapsing, resulting in head injuries, bone fractures, or lifelong disability.	1. Machines, containers, and vans should be maintained to avoid fuel and oil leakage. 2. Maintaining good housekeeping and removing oil from corridors. 3. The roads for pedestrians and cars are required by regulation to be cleaned and washed on a regular basis, but they are not in compliance.	1. Wash the slick roads and walkways on a regular basis and perform a risk assessment, including traffic control in the office. 2. Reduce the hazard as much as possible by simply barricading crowd to use that path. 3. Patch or replace the leaked section to prevent the spill of additional diesel or oil. 4. Closely inspecting the environment to avoid any oil.	3 Weeks 1 Month 1 Week 1 Week 2 Weeks	Plant Manager Plant Manager Area Supervisor HSE Manager HSE Supervisor

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
and employees to slide.			5. Arrangements to restrict worker access to specific locations and to prohibit illegal activities in the workplace 6. Lighting arrangements in the workplace to enable workers to see a slick surface for safe movement. 7. The walkways are monitored to ensure they are clear of obstructions. 8. Loaded trucks should have their own roads and gates.	3 Weeks 2 Weeks 1 Month	Finance Manager HSE Executive Finance Manager
Fire Welding work is taking place near the gas area, oil purification tanks, and pipe without sufficient inspection, a fire watcher, or necessary PPE.	Workers, machinery and plant might be harmed. There is a lot of high-risk activities going on. This activity need a work permit. Because the welding arc or fumes may fly during the job and fall into gases, oil vapours, or on the oil surface. This might result in a fire and explosion, resulting in	1. Competent workers appoint for working activity. 2. Fire extinguishers assign near the workplace. 3. Sign boards for danger was placed in the area. 4. Get permit to work for hot work activity.	1. Stop the welding activity if feel something unusual (Smell of gas, oil vapour or oily surface). 2. Proper inspect the working area before start activity. 3. Appoint a fire watcher for monitoring the welding activity. 4. Adequate ventilation in the workplace to avoid oxygen displacement or enrichment and the formation of flammable atmospheres.	3 days 1 week 1 Week 2 Weeks	HSE Officer HSE Officer HSE Manager Area Supervisor

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
	burn casualties and damage to machinery and property.		5. To expel fumes and contaminants from the welder's breathing space, use local exhaust ventilation systems. 6. Wear appropriate respiratory protective equipment. 7. There should provide proper training and knowledge about the hot work activity.	2 Weeks 1 Week 1 Week	Area Supervisor HSE Officer HSE Executive
Confined Space A worker in a crude oil tank was cleaning and scraping sludge while not wearing a safety vest or lanyard. Furthermore, there was no one outside the tank and there was	Worker in the confined space might be harmed. Worker at a disadvantage because of work without a suitable permission and no communication with him in the event of an emergency, poisonous impact on worker, fire burn or lack of oxygen and other welfare, and no protection in the event of an emergency	1. In the area, barricades and warning signs were erected. 2. Staff received confined space training one month earlier. 3. Humidity and atmosphere testing within the enclosed room when hot work is being performed	1. Call a halt to the job and instruct the workers to leave. A fitting belt and lanyard must be provided, and an attendant must be delegated. 2. Develop a confined space entry procedure and educate workers on it. 3. Monitoring must be done on a daily basis and adequate lighting provided. 4. To ensure accuracy, all records should be double-checked and signed by the worker and the standby man before use.	1 Week 1 Week 2 Weeks 3 Weeks	Plant Manager HSE Manager Plant Manager Area 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
insufficient lighting within.			5. The relevant authority shall issue a valid work permit. 6. Prepare oxygen cylinders in case of an oxygen shortage. 7. Arrangements have been made to evacuate an individual in the event of a foreseeable emergency, such as a crash. 8. Increase the amount of monitoring.	1 Month 1 Week 1 Week 2 Weeks	Permit issuer Plant Manager Area Supervisor HSE Officer
Hazardous Substance Workers were exposed to harmful gases and chemicals while repairing the gaseous and chemical tanks and towers.	Workers doing activity might be harmed. Workers were working without respirators on the tops of the containers and towers, as well as the chemical and gas tanks, and chemical vapours were flowing out of the top of the tower. These vapours and odours induce asthma, breathing difficulties, lung cancer,	1. The worker should be competent for working. 2. There was adequate lighting at the top to tankers. 3. Before start working activity the place was inspected by supervisor.	1. Reduce the amount of time you practise in order to prevent being exposed to toxic vapours and smell. 2. Have instruction on how to properly do work on the chemicals and gases tower. 3. Workers welfare should be monitored in order to detect health problems. 4. Try to do work at these conditions by engineering machinery beside manually.	2 weeks 1 Week 2 Weeks 2 Weeks	HSE Manager HSE Executive Plant Manager Area 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
	and respiratory infections.		5. Lone work should be stop for this type of working activities. 6. Have PPE, such as respirators, and perform a toolbox chat.	3 Weeks 2 weeks	Area Manager Plant Mnaager
Health Welfare and work environment Workers at a gas concentration plant, where boilers are used to filter gases and chemicals at extremely high temperatures. The boilers had a temperature of 280 degrees Celsius.	Workers working in gas concentration section might be harmed. Workers who labour in close proximity to hot boilers and boiler supplies are vulnerable to mental and physical strain. Working at high temperatures is tough, especially when breathing hot fluid used in boiler pipes and equipment. Staff may experience mental tiredness, nausea, low blood pressure, physical effort, and heat stroke as a result of it.	1. A source of drinking water is provided to prevent dehydration; non-portable water is also available in the office. 2. If the work is messy and requires possible pollution, simple hand washing and water showering facilities are provided. 3. Dressing rooms where employees can get out of their uniforms and dress properly for the job. 4. There are adequate seating options in the office, including stable seats with a backrest.	1. Have and mount a local exhaust fan in enclosed areas to prevent unnecessary heat. 2. Build a ventilation system to deliver fresh air in confined spaces. 3. Plans have been put in place for employees to rotate positions in order to minimise exposure time. 4. To minimise heat loss and prevent touch burns, heat-generating equipment should be mocked up by coating it with rubber mats. 5. A provision for adequate clothes that allows for unrestricted sweating. 6. Have emergency first aid supplies on hand in case of a heat stroke.	1 Week 1 Month 1 Week 3 Weeks 1 Week 2 Weeks	Finance Manager HSE Supervisor HSE Executive HSE Supervisor Area Supervisor First aider

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
			7. Mount sheets or partially enclose the portion of the system that is at high risk of heat radiation to avoid heat radiation.	1 Week	HSE Manager
Electricity Portable electrical equipment, general installations, and tangled bare electrical cables founded throughout workplace.	Workers, Visitors, and supervisors might be harmed. An electrical extension line that had been damaged was located, along with sockets that were bare and lacking a protective sheet; the extension lead was located on the floor underneath the bench. When an employee's foot accidentally comes into touch with a live plug, they are at significant danger of electrocution. Exposure can cause electric shock, muscle cramps, electric burns,	1. Electrical works have been completed. 2. Personal lighting can be provided by portable electrical devices. 3. Electric sign boards assigned in the workplace.	1. Remove the extension lead from the field. 2. As a substitution, an adequate, secure, and dependable extension lead should be given. 3. A survey should be conducted, and safe electrical boards placed in both areas to prevent the use of extension leads. 4. A monthly reliability inspection system on all electrical circuits should be introduced. 5. Residual current equipment should be mounted in key switchboards.	4 days 2 weeks 2 Weeks 3 Weeks 1 Month 3 Weeks	Area Supervisor Plant Manager HSE Supervisor HSE Executive Electrical Technician HSE 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
	nausea, exhaustion, limb pain, numbness, tingling, nervous system stress, memory loss, and persistent tremors.		6. All workers should be trained to report and identify electrical failure in machinery and the workspace. 7. All workers should be mindful of the emergency procedures in place in the event of an electrical incident.	1 Month	HSE Supervisor
Work equipment and Machinery An overhead conveyor carries machinery supplies, barrels and tanks of oil and gas, and bulky machines from one location to another. Conveyors that have	Workers, Pedestrian, machinery might be harmed. A 50-meter-long overhead conveyor with a harm edge cover transported machines and bulky machinery equipment for system modification and service, while staff worked directly underneath the conveyor without head or foot protection. This hazardous state increases the likelihood of an object falling, which can result in	1. The installation of warning signs in the workplace. 2. Employees are provided with personal protective devices (PPE). 3. Job supervision by a professional individual	1. Encircle or mark the area below the conveyor with a barricade. 2. Determine the location of a warning sign board for assigning of an overhead conveyer. 3. Employees should be provided with appropriate hard hats. 4. Prevent debris from falling to the floor by using fire nets or air bags. 5. Install a strong guard on the conveyor's sides to prevent the substance from falling.	1 week 2 weeks 2 Days 2 Weeks 1 Week 3 Weeks	Area Supervisor HSE Officer Plant Manager Finance Manager Mechanical engineer HSE Executive

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
missing protected by guardrails.	serious head injury, wounds, and even death.		6. Create and incorporate a visual inspection and safety scheme for conveyors.		
Noise Because of mechanical challenges and the nature of the equipment, high frequency sounds are produced at workplaces by visbreaking, vacuum pump, and drilling equipment during operation.	Workers, visitors, supervisors might be harmed. There is noise in the workstation as a result of the loud machine's operation. A high amount of noise penetration causes hearing loss. Tinnitus is caused by prolonged exposure to noises as a result of noise-induced hearing loss. It also has a social influence on the employees.	1. Workers rotation shift schedule to allow for enough rest time for workers. 2. Personal protective equipment (PPE) to workers, but they not pay attention need it when on the job. 3. Machines are operated in a systematic and preventative way.	1. Put up walls to keep noise-making instruments apart. 2. Replace the machine with one that is quieter and does the same purpose. 3.Measures to be taken in order to guarantee the availability of a health surveillance network 4. It is important to have good sealing. To hold the grinding machines and equipment locked in place, multi-class seals are used. 5. Perform a noise test using a noise metre to locate sites that emit high-frequency noise. 6. Limit the amount of time people are subject to noise. Workplace breaks are given in a timely manner.	1 Week 3 Weeks 2 Weeks 3 Weeks 3 Weeks 1 Week	HSE Supervisor Plant Manager HSE Manager Area Supervisor HSE Officer Area Supervisor

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
			7. Applying sound-absorbing material to the ground, roof, and/or walls to minimise reverberation-induced noise.	1 Month	Plant Manager
Working at height Working on scaffolding without full body harness which can cause fall of the person from height	Workers, pedestrians might be harmed. Working on scaffolding raises the possibility of falling from a tremendous height. Because of the lack of a full-body harness and other safety precautions. Multiple injuries, bone fractures, lifelong handicap, bruising, fractures, and death will be the result.	1. Workers receive training on working at heights and the care that must be taken. 2. Use harnesses that are suitable to the purpose of the job and encourage staff to go forward in strict discipline. 3. Routine inspections are performed to ensure that the legal requirements are followed, such as scaffolding inspections. 4. A capable supervisor look further deeply at the jobs of the workers	1. Provided full body safety harness to the workers. 2. Structure of scaffolding must be repaired or replaced to ensure safe and secure height work. 3. Safe working system must be developed and implemented for height work activities. 4. Check list system to ensure all protocols must be implemented. 5. Fall arrestor system also must be provided to increase protection from falling. 6. Instructions, information and training should be maintained of all workers. 7. Permit system should be introduced	1 week 2 weeks 1 Week 2 Weeks 3 Weeks 3 Weeks 2 Weeks	Plant Manager Maintenance staff HSE Manager Area Manager Finance Manager HSE Officer HSE Officer

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
			for work at height. 8. Supervision should be in place for all non-routine activities.	 2 Months	 Area Manager
Movement of people and vehicles in the workplace Oil fill trucks and containers use the same routes as other vehicles and pedestrians.	Workers, visitors, plant, vehicles and pedestrians might be harmed. Crude and oil fill tanks and trucks were travelling in areas where no safe, secure route for loaded vehicles and other mobile machinery was specified, and vehicle drivers were driving their vehicles very close to these vehicles and pedestrians, as well as in high risky areas; additionally, some of the drivers were overspeeding for crossover and driving above the speed limit, which may result in collision and vehicle	1. Created smooth and noticeable tracks, but also roads that produce obstructions. 2. All drivers must have a driver's licence; only drivers with a driver's licence are permitted to drive. 3. Permitted and registered loading vehicle entries 4. Just allow pedestrians to enter the cane section that needs immediate attention.	1. By risk evaluation, identify the category of individuals who may be at risk, such visitors, pedestrians, officers or other irrelevant person. 2. By erecting fences or screens, you can separate road and pedestrian paths. 3. Segregation routes for pedestrian and moving vehicles and loaded trucks should be placed. 4. Place sign boards to highlight the lane for just traffic use or for pedestrians or for loaded trucks. 5. Development of a truck repair programme, as well as adequate truck servicing to prevent mechanical failure.	1 week 2 Weeks 1 month 2 Weeks 3 Weeks	HSE Officer Finance Manager Finance manager Plant Manager Maintenance staff

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
	damage. This hazardous and high-risk job activity will increase the number of accidents, fractures or broken bones, lifetime handicap, financial losses, equipment destruction, and casualties.		6. Speed limit signage must be mounted, and drivers must be advised to strictly adhere to speed limit signs. 7. Organize an orientation training scheme for inexperienced drivers to provide them with knowledge and instruction on road routes and occupational driving hazards. 8. Make lightning protection provisions to prevent some sort of misjudgement. 9. Inspection of the truck prior to use.	2 Weeks 1 Month 1 Month 2 Weeks	HSE Manager HSE Manager Finance Manager HSE Officer

Part 3: Prioritise 3 actions with justification for the selection

Suggested word counts
Moral, general legal 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, general legal and financial arguments for ALL actions

Moral, general legal and financial arguments	**Moral:** The Vital Company Ltd is morally obligated to protect its workers. Because of their current working conditions, our employees come to work to make a living, not to run the risk of being ill or contracting diseases in the future. The lives of the employees as well as their friends and family may be significantly impacted by any accidents or injuries that take place. Our employees' mental health is greatly impacted by chronic illnesses and injuries. I suggest that those monitoring systems be given priority since this worker wants society to have safe working conditions. **Legal:** According to the ILO's Safety and Health Convention (C155), Vital Company Ltd is legally required to protect its employees. Regulators may take action against Vital Company Ltd in the form of compliance notifications, restriction notices (which halt all work on a certain activity), or improvement notices related to these operations. These exercises will restrict certification completion in all regions, with the local government taking steps to minimise work delays. If these operations cannot be finished as scheduled, the corporation would suffer severe financial losses. The company's reputation will be damaged if something goes wrong, and contract losses may ensue. Legal fees would be unaffordable, and compensation and civil litigation will very certainly be significant. Under the International Labour Organization's (ILO) Safety and Health Convention, Vital Company Ltd is required to safeguard its employees (C155) **Financial:**

	There are some financial reasons that an employer must have a secure work environment, safe facilities, and appropriate PPE, which are as follows. • The contractor is responsible for covering all emergency care, first aid, and hospital stays in the event of an injury. • In the event of an injury, the employer will cover the cost of defective machinery as well as sales damages. • If an injury occurs at the employer's office, he must pay workers' sick pay, cover overtime expenses to compensate for inventory losses, and so on. • In the event of an injury sustained on the job, the contractor will be sued by the authorities and subject to fines and legal fees. • In the event of a work-related injury, the additional insurance that the employer would have to charge the insurance providers would also be raised.

Justification for action 1

Action (Taken from column 4 of risk assessment)	Segregation routes for pedestrian and moving vehicles and loaded trucks should be placed. (Hazard Category : Safe Movement of people and vehicles)
Specific legal arguments	According to the International Labour Organization's Convention C167, in order to guarantee their safe operation, workplaces where cars are to be given must have enough and safe access and traffic routes. A significant injury can cost the company a lot of money in fines. It is morally unacceptable for employees to suffer injuries at work, and it is the employer's moral duty to provide a stable workplace with safe access and escape routes. According to the Pakistan Factory Act of 1934, the contractor must provide safe attacks and vehicle entries and provide sufficient provisions for the transit of vehicles.
Consideration of likelihood AND severity • types of injury or ill health • number of workers at risk	The **likelihood** of serious injury is **high** because oil fill trucks and containers travel the same routes as other cars and pedestrians, causing collisions between vehicles and pedestrians. Trucks and tanks carrying crude and oil were not following the safe, secure routes designated for loaded vehicles and other mobile machinery, and drivers were operating their vehicles in high-risk areas

• how often the activity is carried out • how widespread the risk is	and in close proximity to these vehicles and pedestrians. Some of the drivers were also exceeding the speed limit for crossover and drivability. There will be more accidents, fractures or broken bones, permanent handicap, monetary losses, equipment destruction, and casualties as a result of this dangerous and high-risk work activity. I set the category when suggesting the severity in following way: **Minimal:** no injury or damage happened. **Minor:** injury happened requiring the first aid treatment and/or unimportant damage to the equipment and machinery. **Major:** injury happened requiring the hospital treatment, requiring recovery time, and/or important damage to equipment and machinery. **Fatal:** injuring which causing disability or death, and loss of equipment, machinery or building. The severity of this hazard is set as a Major. Accidents cause saviour injuries that required medical treatment eg fractures or broken bones, lifelong disability. There are 40 workers working and near the routes and are at risk. Vehicle drivers also at risk. Oil fill trucks and containers are always use the same routes and activity carry out in three shifts on daily bases. The risk is present at the workplace routes and affect workers only that are working near the routes and walking on it.
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	Accident rates can be decreased by designating distinct routes for pedestrians, moving cars, and loaded trucks. Separate paths will reduce the number of pedestrian and vehicle injuries from collisions and damage to other vehicles. Accident-related losses will also be lessened, and a safe and healthy environment will be created. I've set a one-month deadline for finishing this. I granted this time since the plan manager will approve the action and authorise the creation of distinct routes. The action will maximum control the risk of accidents that happens due to not having separate

	roads and walkways for loaded trucks, pedestrians and visitors. Action with suitable controls can help to provide the fully control of the risk.

Justification for action 2

Action (Taken from column 4 of risk assessment)	Constructed emergency evacuation path and assembly points to cope with in the event of a fire. (Hazard Category : Fire)
Specific legal arguments	ILO C167 - Safety and Health in Construction Convention, 1988 (Article no 27,29) required that, Explosives shall not be processed, shipped, treated, or used unless under circumstances specified by national laws or regulations; only by a responsible officer who shall take the appropriate precautions to ensure that employees and other persons are not injured. A fire requires a source of ignition (heat), a source of fuel (something that burns), and oxygen to start. Employers (and/or building managers or occupiers) should conduct and maintain a fire safety risk evaluation. It follows the same structure as safety and health risk assessments and can be performed as part of a broader risk evaluation or as a standalone activity.
Consideration of likelihood AND severity • types of injury or ill health • number of workers at risk • how often the activity is carried out • how widespread the risk is	The **likelihood** of burn injuries is **high** because of the probability of a fire or an accident in Vacuum Distillation Section, the risk of burning injuries and accidents is substantial. Because to high temperatures, leaks, or the presence of oil vapours. The spread of a fire at an oil and gas refinery is rapid. To put out a fire, a large number of firefighters and extinguishers are required. The absence of extinguishers and firefighting supplies in the oil and gas area raises concerns about the spread of fires and the loss of property to employees and equipment. For the severity category, please refer to justification 1. Due to high levels of fire and explosion, this hazard has a major severity rating. Many people have fire burns and injuries that require immediate hospital treatment. Due to the constant high temperatures in the Vacuum Distillation Section and the fact that personnel work there in three shifts every day, thirty employees are at danger, and the general public is also at risk since fire can spread. The risk is present throughout the workplace because if fire create then it can be spread.

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	There will be less chances of burn injuries and a lower rate of burn injuries if emergency evacuation routes and assembly areas are built to handle a fire. By adopting assembly sites and emergency evacuation routes, workers will be in a safe location and the fire death rate will also drop. I've set a one-month deadline for finishing this. I'm hoping that the plant manager approved the budget and spoke with the area supervisor and plan management engineer to confirm this suggestion and set up a compliance plan. The actions will maximum control the burn injuries, disabilities and causalities that happens due to fire. Action with suitable controls can help to provide the fully control of the risk.

Justification for action 3

Action (Taken from column 4 of risk assessment)	Applying sound-absorbing material to the ground, roof, and/or walls to minimise reverberation-induced noise.(hazard Category : Noise)
Specific legal arguments	ILO R156 ILO Recommendation stated that, "An employer who conducts work that is likely to subject any worker to noise at or above a lower exposure action value shall conduct an appropriate and reasonable evaluation of the noise's health and safety risks, as well as determine the steps required to comply with these Regulations." ILO C148 International Labour Organisation ILO Convention 1977 states that, "No noise and vibration levels in the workplace must be held to a minimum, and the company must provide and retain adequate personal security devices."
Consideration of likelihood AND severity • types of injury or ill health • number of workers at risk • how often the activity is carried out • how widespread the risk is	The **likelihood** of loss of hearing or permanent disability of hearing is **high** because some mechanical problems and the high frequency noises produced by the machines themselves cause the visbreaking, vacuum pump and drilling equipment to emit loud noises while they are operating. High levels of noise penetration result in hearing impairment. Tinnitus, or noise-induced hearing loss, is the outcome of long-term exposure to sounds. It affects employees socially as well. Please refer to the severity category justification 1. This danger has been assigned a Major severity rating. Because owing to working maximum time in very loud noisy environment, people could need hospital treatment eg noise-induced hearing loss, tinnitus

	Twenty employees are at risk while working in the drilling machine, vacuum pump, and visbreaking sections. Noise exposure is always high in visbreaking, vacuum pump and drilling machines areas and workers are working in these areas in three shifts on daily bases. The risk is present in the visbreaking, vacuum pump and drilling machine section and affect workers only that are working in this area.
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	By adding sound-absorbing material to the ground, ceiling, and/or walls to minimise reverberation-induced noise, the volume of noise will be lowered, it will lessen echo and reverberation, better hearing sound, it will decrease health and health associated difficulties. Productivity will rise as a result, and a positive work environment will be created. Since I will be discussing it with the finance manager and HSE executives prior to authorising the budget, I have given it a one-month deadline to be finished. This is the task that I hope will take the longest to finish. The actions will maximum control the hazard that produces due to noise. The action will decrease the level of noise and reduce the health-related issues. Action with suitable controls can help to provide the fully control of the risk.

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**	As required under the organization's yearly risk assessment review, it will be examined on July 11, 2026. Prior to the scheduled date, the risk assessment may be re-examined in the event of a major workplace accident, changes to work processes, or the introduction of new technology.

How the risk assessment findings will be communicated **AND** who you need to tell	Risk area measures will be emailed to this meeting with follow-up, and I can schedule top management meetings with the HSE Manager, Plant Manager, and Finance Officer to discuss and decide on the risk evaluation intervention. I will also include a summary of the results and recommend that these conclusions be included in the agenda of meetings of the health and safety committee. The toolbox discussion will contain the main results of the risk evaluation, which I will send to all employees via email, post on a notice board in a prominent location, distribute newsletters, or post on the company intranet to all pertinent divisions. I will also provide advice on what actions to take.
How you will follow up on the risk assessment to check that the actions have been carried out	We are not on track, and what changes can be made to achieve our objectives. I will plan the warnings to go off every 15 days prior to the action's due date. I will consult with the relevant parties to ascertain the status of each section and the activities completed as part of the declaration process, whether or not the efforts are on schedule, and what motivations and obstacles stand in the way of finishing the business. I will also frequently meet with managers and employees to determine whether additional resources for the action are required for further improvement. Actions that are very overdue and late project completion will be referred to the employer via the responsible individual.