Annex B

Potential Consequences of Faulty Scissors Lifts

Type of Safety Devices / Structural Components	Potential consequences of failure to detect faulty safety devices or defective structural components
Audible alarm and flashing light	Persons working in the vicinity of the scissors lift may not be warned of the presence, operational movements and manoeuvres of the scissors lift.
Tilt sensor	This safety device prevents the scissors lift from being operated (in a raised or elevated position) or driven on sloping ground. If the tilt sensor is faulty and the scissors lift is allowed to be operated and raised on a sloping ground, the centre of gravity of the scissors lift will be shifted, making the scissors lift unstable and prone to toppling. Workers may be thrown out of the work platform of the scissors lift, resulting in serious injuries and possible fatalities due to falls from heights and the impact.
Pothole Protection	Failure of this device would allow the operator to continue driving the scissors lift with its work platform elevated even when it is on uneven ground (e.g. potholes). This may cause the scissors lift to topple over and collapse.
Emergency stop function	The emergency stop function is to allow workers to stop operations of the scissors lift in the event of an emergency such as during malfunction in circuitry controls. This function cuts energy supplied to the equipment, thus disabling all operations and functions of the scissors lift. With the malfunction of the emergency stop button, workers would not be able to stop unexpected manoeuvers in time from either the platform control console or base control. This could lead to unsafe situations such as workers being trapped between objects (i.e. entrapment hazard), or instability and toppling.
Emergency lowering system	Failure to detect a fault in the emergency lowering system will cause the inability to lower the work platform during an emergency situation that involves overhead entrapment of the work platform in confined areas or medical situation involving the worker within the work platform. This may prevent the timely rescue of the worker.
Structural defects	Failure to identify structural defects could potentially lead to buckling and/or failure of these components during usage. Defects (including those that started out as minor or small defects) could propagate over time leading to a sudden, catastrophic failure. The duration to failure depends on several factors such as loading cycle, applied loading, and environmental condition, which could vary between worksites and daily work activities. Failure of structural components could cause the work platform of the scissors lift to collapse or the

	entire equipment to topple over, during which the workers within could be thrown off leading to possible serious injuries and fatalities.
Securing devices, linkages and lock pins	Missing or defective securing devices, linkages or lock pins could result in failure of the scissors mechanism. In such a situation, the work platform could collapse from height, causing serious injuries or fatalities. Defective securing devices on the cantilevered work platform could lead to unexpected movements or dislodgment of the cantilevered section.
Hydraulic system	Leakages of hydraulic fluid from the system could lead to unexpected lowering of the work platform due to loss of hydraulic pressure holding the work platform when workers are working at height. This could lead to injuries to workers on the platform during the unexpected lowering of the work platform.
Tyres	Tyres provide the only contact between the scissors lift and the ground. A strong grip between the tyres and the ground ensures that the scissors lift does not slip or move uncontrollably when being manoeuvred or when workers are using it for work. Tyres also contribute towards the stability of a scissors lift and any tyre damage could reduce its stability.

Image of a Scissors Lift