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## **Appendix 1**

# **Warehouse Condition Report**

# **For**



**August 2020**

*providing Independent Objective Expertise, Best Practice and International Experience in*

**PROCUREMENT**

**SUPPLY CHAIN**

**LOGISTICS**

**CUSTOMER SERVICE**

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## Introduction

This report contains a summary of findings from site visits to strategic stores at:  
SSE Port Caroline, Dundee  
SSE Tealing Substation,  
SSE Fanellen, Beaulieu.  
The visits were conducted on 15<sup>th</sup>/16<sup>th</sup> July 2020.

## Context

The report is written in the context of advice available within industry for the safe storage of heavy equipment and follows principally a risk-assessment based approach focusing on health & safety risk but also where apparent on risk to stock being held.

Within the type of environment visited the principle risk factors likely to cause injury are:

- musculoskeletal (back) injury, for example when manually moving stock from storage systems; manually moving heavy lifting accessories; manually unloading vehicles;
- slips and trips, for example: on poorly maintained floors in untidy work or storage areas, or when oil or water has been spilt on floors.
- falls from height, for example: on and from delivery vehicles or when accessing stock and storage systems
- being struck or crushed by moving stock, for example when it falls from a vehicle during unloading; when it moves unexpectedly on a vehicle during unloading; when it moves or falls during lifting or handling operations; when storage or containment systems fail;
- being struck by moving vehicles, for example: during vehicle reversing operations in delivery areas; when stock is being handled by fork-lift trucks in storage or processing areas;

The risks from these hazards may be compounded by other factors, for example:

- unsafe systems of work;
- inadequate measures to prevent falls when working at height;
- unsafe storage and containment of unstable heavy items (for example lifting attachments or stock items);
- use of inappropriate or poorly maintained lifting and handling equipment;
- incompatible storage and handling systems;
- poor instruction and training;
- lack of supervision;
- poor co-ordination of stock handling;
- poor working environment and/or poor housekeeping;
- overstocking of the storage system beyond its design capacity.

Additional hazards may be created by:

- maintenance work;
- work by contractors - both for the contractors themselves and others;
- the installation of new plant or the introduction of new materials;
- work outside ordinary working hours or normal day-to-day procedures.

Those at risk of injury could include:

- operatives;
- fork-lift truck drivers;
- delivery vehicle drivers;
- visitors;
- young workers;
- trainees;
- those who do a particular job only infrequently, for example stock-takers;
- agency workers;
- members of the public.
- intruders

Principle risks to stock are:

- theft and pilferage
- ingress of water and humidity
- deterioration due to weather exposure
- damage by vermin
- damage in handling
- damage by vehicle movement
- fire

## **Site Observations**

### **1: Carolina Port**

Carolina Port Store  
Stannergate Road  
Dundee  
DD1 3NA

Carolina Port is accessed via the eastern gate of Dundee Ports Authority. As such the site is subject to primary and secondary level security. Primary level security is achieved by Dundee Ports Authority security staff. A manned gatehouse and a well-maintained chain-link fence extend around the entire site. Secondary level security is achieved at the SSE store through the installation of the well-maintained and modern palisade fence. Therefore, it was felt that security at this site was of a good standard and there have been no recorded breaches of the facility.

The store itself consists of the former 132kv substation building of the dismantled Dundee power station. This building is the only tangible structure remaining from power station, the rest of the site having been utilised for the construction of various warehousing and grain drying facilities. This has resulted in the old site being split by palisade fencing and the construction of the warehousing and grain drying facilities in close proximity to this boundary. This leaves a gap of approximately 8 to 10 feet between buildings (See Figure 15).

The building itself is in very poor condition having been constructed in the late 1940s early 1950s. Throughout the building, areas are cordoned off due to the presence of significant

amounts of asbestos in the building's construction. (See Figure 2). Internally, cable ducting runs beneath the floor throughout the building leading to uneven surfaces and route-ways for vermin.

Whilst maintained and tested compliance with legislative requirements by SSE Property Services the electrical installation within the building originates from its original construction and is not to modern standards. (See Figure 3).

The storage facility stores a wide range of materials from small items such as PPE and toiletry stores through to 26ton cable reels stored externally.

Access to the storage area of the building is via a single roller shutter door which is not wide enough or high enough to accommodate goods vehicle access or the storage of large equipment. The design of the building does not allow for any overhead cranes for heavy spares and therefore these are located outside in all weather.

The internal structure of the building is punctuated by structural steelwork originally designed to carry substation power equipment but integrated into the structure of the building. Its removal to create usable overhead space would involve significant introduction of replacement structural steel to support the building frame.

Smaller items are stored internally in disused office space within the building (See Figure 1). These areas are clean and dry. But result in stock having to be manually handled through office doorways.

Additionally, one office is kept secure and used as a lifting equipment store.

The storage area was well ordered and managed with good levels of housekeeping. However, all stock was covered significant dust contamination from the outside hard standing and adjacent grain dryer (See Figure 4). Racking was in good condition and had been regularly inspected. Normal lifting operations are conducted by a standard industrial forklift truck.

Whilst there was no standing water within the warehouse facility, even in midsummer the warehouse atmosphere was damp. This had the result that dust had become caked to equipment. The damp atmosphere has also led to the degradation of packaging materials, resulting in their unsuitability for purpose and significant danger to personnel caused by packaging collapse during the lifting operations. This packaging degradation has resulted in the packaging in some instances itself being a damaging influence on the stored materials (See Figure 8).

The damp conditions had led to the rendering useless of hazardous goods material marking, leading to a requirement to remark such packaging prior to transport, in order to avoid the risk of legislative non-compliance. (See Figure 5).

Stock levels in the storage area were high leading to a requirement to move materials on multiple occasions in order to extract and place other items. This has the potential to result in increased level of damage and risk to personnel (See Figure 6).

Presently storage of drummed transformer oil is in an internal prefabricated bonded area. This in the future will be stored outside in a constructed bonded area in order to release more internal space.

Precautions have been taken in line with the advice on the reduction in spread of coronavirus.

Externally the yard area consists of a mixture tarmac, hard-core, type I rubble and concrete (See Figure 7).

There is not a large enough area of flat good quality surface to facilitate the safe unloading of goods vehicles using an industrial lift truck. Much of the yard is underlain by cabling trenches. Some of these and drainage channels have subsided leading to uneven surfaces. In some areas the capping slabs of the pipe trenches have either been removed or have broken. The yard area represents a significant hazard for slips, trips and falls. In many instances storage staff are required to lone work. This combination of slip, trip and fall hazards and lone working could have serious impact and represents a high level of risk.

Externally a modern pent roof shelter has been constructed for the storage of equipment. This appears to be in good condition and suitable for relocation.

Due to their large size and weight, pieces of equipment are stored outside. There was evidence of package degradation and general deterioration in the quality of this equipment. Cable-drums are stored externally.

External contractors are required to be brought in for all lifts of these pieces, not only for loading and unloading purposes, but on a periodic basis for drum rotation as part of maintenance to prevent metal memory problems.

Drainage to the site appears to be in poor condition, with efforts having been made using sandbags to prevent water ingress from drainage water from other areas of the dock. At high water conditions, caused by high tides and storm surges, water backs up the drains from the nearby River Tay and causes flooding (See Figure 12).

Structural steelwork and components are stored outside undercover, however there is evidence of this being affected by water (See Figure 9).

Some surrounding walls, which appear on the original construction, have significant levels of plant growth, suggesting damage to their structure, with the potential for collapse (See Figure 10).

Land immediately outside the gate and fence is owned by the Port Authority. Whilst port rules state that vehicles must not be parked in proximity to security fencing, goods vehicle trailers are regularly left adjacent to the security fence providing a potential means of access for intruders (See Figure 11).

Access to the site involves goods vehicles having to reverse, as no turning area can be accommodated due to the underground infrastructure. This is not good workplace transport safety practice and increases risk due to the inherent danger of reversing vehicles. Much of the yard area is unusable for the storage of heavy equipment due to its uneven surface and underground services.

Adjacent to one area of the boundary fence is a large store of fertilizer (See Figure 13). This has the potential to be a significant accelerant in a fire. Next to this fertilizer and again in close proximity to the storage building is a large pile of abandoned wooden pallets (See Figure 14). This represents a significant fire risk. The infestation of seagulls has led to the rapid growth of moss and bird droppings. Whilst these are regularly swept up, accumulations occur, again leading to fire hazard.

Immediately adjacent to the storage area is a large grain drying facility, with significant dust build-up. Conveyor belt and drying equipment motors face onto the fence and should there be a fire involving this facility is highly likely that it would spread to the SSE storage.

At regular points on the neighboring grain dryer equipment, graffiti was evident supporting

Republican extremist views and anti-British sentiments (See Figure 16). This could potentially give concern that criminal damage to the associated infrastructure may occur.

Part of the storage facility office block is unoccupied and barriered off from everyday use. This remains untouched from the closure of the substation and power station. This area has a number of hazards in relation to slips trips and falls. A number of unprotected edges exist leading to risk of falls from a significant height. High levels of asbestos usage are evident in the area. Because of its ageing condition it could also prove an attraction for the ingress of illegal urban explorers.

Whilst efforts have been made in terms of rodent control, areas of the site show evidence of rat infestation. The presence of such a large number of rats in the area gives rise to concern not only of the risk of damage to cabling and electrical installations, insulation and other materials but also to the risk of Leptospirosis for site staff.

## Health & Safety Risk Summary

Risk	Potential Outcome	Likelihood	Comments
Musculoskeletal (Back) Injury	Musculoskeletal Injury	Medium	Manual handling of some stock is required due the need to store it in disused office space
Slips and Trips	Death	Medium	All of the site has uneven floor and ground levels such as cable ducts and collapsed drainage.
Falls from Height	Death	Medium	Lifting operations externally and vehicle unloading will require an increased level of working from height during rigging and unloading operations.  Whilst normal working areas are safe, unused areas present a significant risk due to inadequate guarding. Access by unauthorized personnel could result in death
Being Struck or Crushed by Moving Stock	Death	High	The packaging of many pieces of stock has deteriorated to such an extent that it could fail during handling or even in storage leading to collapse and impact on personnel. Stock Handling takes place on uneven surfaces leading to increased levels of topple and overturning of stock and handling equipment.



Being Struck by Moving Vehicles	Death	Medium	Levels of vehicle movement on site are low, however reversing is required leading to increased risk
Vehicle Accidents	Death	Low	Site access is adequate using good quality access roads
Asbestos Contamination	Asbestosis/Mesothelioma-Death	Low	The site is old and asbestos has been used widely in its construction. There is the potential through building work to disturb this leading to site contamination and an unsafe working environment
Leptospirosis	Death/Liver Disease	Low	The area is infested by rats with droppings evident throughout the site.

### Stock Risk Summary

Risk	Potential Outcome	Likelihood	Comments
Inability to Access Stock in a Timely Manner	Extended Downtime	Low	Site access is adequate
Theft and Pilferage	Stock loss and extended down time. Failure of equipment in service	Low	Site Security is adequate with primary and secondary security
Ingress of Water and Humidity	Stock loss and extended down time. Failure of equipment in service	High	Whilst internal areas are dry, they are damp leading to packing deterioration. Externally held stock could be affected by flood water.
Deterioration due to weather exposure	Stock loss and extended down time. Failure of equipment in service	High	All stock is covered in wind-blown dust. External stock is subject to full weather exposure. Packaging has deteriorated leading to it becoming ineffectual for protection and handling.
Damage by Vermin	Stock loss and extended down time. Failure of equipment in service	High	The area is infested with rats and seagulls leading to external stock being coated in guano. Due to underground cable ducting rats have access to all internal areas.
Damage In Handling	Stock loss and extended down time. Failure of equipment in service	High	Due to packaging integrity failure, stock damage in handling is highly likely. High stock levels internally lead to

			multiple handling
Damage by Vehicle Movement	Stock loss and extended down time. Failure of equipment in service	Medium	Vehicle movements are low however multiple handling of stock leads to increased risk
Fire	Complete Inventory Loss	High	The close proximity of the grain drying facility (8-10 feet) plus the close proximity of fuel in the form of wooden pallets and accelerant in the form of fertilizer means that any fire has the potential to destroy the storage warehouse and the entire stock held. Heat and smoke damage would in all likelihood render external stock useless.
Criminal Damage	Stock loss and extended down time. Failure of equipment in service	Medium	The proximity of evidence of extremist support, points to an increased threat of damage to state related infrastructure.

## Compounding Factors

The lack of onsite lifting equipment results in the use of contractors, who whilst professionals are not familiar with the site and equipment.

High stock levels close to/in excess of capacity result in multiple handling operations, multiplying the safety risk and damage potential inherent in stock movement activities

Yard areas are uneven leading to poor working conditions for lifting and handling.

Work is required in all weather conditions and light conditions resulting in increased risk.

Stock is often unique and requires careful planning of storage and lifting operations.

A significant amount of lone working is required by stock supervisors

## 2: Tealing

Tealing Substation  
By Emmock Road  
Dundee  
DD3 0PY

The site is adjacent to the existing substation and is accessed via a winding and in part, single track road from the main A90. The last 500 m of the access is on concrete slab site road. This is single-track, with passing places and whilst flat is bounded on both sides by ditches and soft verges containing underground infrastructure. Adjacent to this road on one side runs an overhead power line. It could be conceivable that in poor weather conditions a heavy vehicle

may lose traction on this road and if carrying an over height transformer make contact with these powerlines. Generally, access is poor for heavy goods vehicles and whilst within 2 miles of the main trunk road system the road could easily be blocked by snow for long periods.

The storage area is immediately adjacent to the existing substation, with only a security fence separating the two. (See Figure 18). This creates a number of risks. In the first instance a catastrophic failure of the live substation equipment, which is a foreseeable event, could lead to the destruction or damage of the store equipment and to significant injury to personnel. Such an occurrence could potentially lead to severe disruption as failed equipment may conceivably destroy the failed equipment's own backup replacement.

The close proximity to live working also increases the risk of contractors inadvertently accessing the live side of the installation rather than the storage with all the risks of the live high-voltage facility.

Presently the storage area is also being used for car parking for contractors working on a substation project (See Figure 17). This results in a large number of personnel having access to the storage area with the opportunity for criminal damage and tampering with equipment (See Figure 24).

The equipment is stored in bunded areas, one of which will shortly be extended to accommodate extra equipment, as no more space is available.

The area is surrounded by a good quality palisade fence.

The storage area is bounded by a wooded area leading to leaf fall issues and potential of damage to equipment due to tree fall in gale conditions.

Being stored outside, both equipment and packaging deteriorates. This could lead to danger to both personnel and equipment when the stock is retrieved for use. (See Figure 20).

The stored equipment is regularly used as a location for nesting birds (See Figure 19). This has the potential not only to damage the equipment, should birds enter important components, but also the potential to cause a breach of the Environmental Protection Act 1981 and Wildlife and Countryside Act, should equipment need to be retrieved for use whilst the nests are occupied. The worst-case scenario could conceivably see a protected species taking up residence in a unique piece of equipment.

Constant maintenance of the area is required to remove pine needles and pine cones. There is evidence of moss and lichen growth on equipment. (See Figure 21 & 22).

Some pallets on which heavy equipment is stored appear to be rotting and collapsing leading to risk of collapse and damage to equipment and any personnel in the area (See Figure 20).

Storage conditions particularly for new equipment may negate any warranty arrangements provided by manufacturers.

There is currently no power available to the equipment in order to regularly power up the equipment and test. Historically a number of pieces of equipment retrieved from storage and put into use have failed.

Packing designed to protect vital control elements is deteriorating in the outside conditions. (See Figure 23).

There is no lifting equipment on site and therefore every movement involves the provision of

external lift facilities and contractors.

### Health & Safety Risk Summary

Risk	Potential Outcome	Likelihood	Comments
Musculoskeletal (Back) Injury	Musculoskeletal Injury	Low	All items are too heavy to be manually handled
Slips and Trips	Death	Medium	Low bund walls and the footings of equipment. Cause a trip hazard. The exposed area results in icy conditions in winter making operations hazardous.
Falls from Height	Death	Medium	Lifting operations externally and vehicle unloading will require an increased level of working from height during rigging and unloading operations.
Being Struck or Crushed by Moving Stock,	Death	High	The packaging and pallet mountings of many pieces of stock has deteriorated to such an extent that it could fail during handling or even in storage leading to collapse and impact on personnel.
Being Struck by Moving Vehicles,	Death	Medium	Levels of vehicle movement on site are high, with a construction roadway and contractor car parking within the storage location leading to increased risk
Vehicle Accidents	Death	Medium	Site access is poor using single track roads. The likelihood of collision is increased. Final access has the increased risk of soft verges and adjacent overhead powerlines

### Stock Risk Summary

Risk	Potential Outcome	Likelihood	Comments
Inability to Access Stock in a Timely Manner	Extended Downtime	High	Site access is poor and could be easily blocked in winter conditions or by road traffic collision.  A risk is caused my nesting

			<p>birds which under the Wildlife and Countryside Act 1981, Schedule 1 of which would make it an offence to interfere with any nesting wild bird.</p> <p>Should the bird be a protected species then even more stringent restrictions would be placed upon access to the stored equipment.</p>
Theft and Pilferage	Stock loss and extended down-time. Failure of equipment in service	Medium	Due to shared access and occupancy pilferage risk is increased
Ingress of Water and Humidity	Stock loss and extended down time. Failure of equipment in service	High	Whilst stock is designed for external use, its long-term storage can lead to water ingress and humidity build up in operational parts and control panels.
Deterioration due to Weather Exposure	Stock loss and extended down-time. Failure of equipment in service	High	All stock is covered in pine needles, moss and lichen.. External stock is subject to full weather exposure. Packaging has deteriorated leading to it becoming ineffective for protection and handling.
Damage by Vermin	Stock loss and extended down-time. Failure of equipment in service	Medium	Nesting birds may access operational parts and control areas.
Damage in Handling	Stock loss and extended down-time. Failure of equipment in service	High	Due to packaging integrity failure stock damage in handling is highly likely. High stock levels internally lead to multiple handling
Damage by Vehicle Movement	Stock loss and extended down-time. Failure of equipment in service	Medium	Vehicle movements are low however multiple handling of stock leads to increased risk
Fire/Explosion	Complete Inventory Loss	High	The close proximity of the substation could lead to the loss of stock should a catastrophic failure occur
Criminal Damage	Stock loss and extended down time. Failure of equipment in service	Medium	The shared occupancy of the site with contractor parking leads to increased risk of tampering and attack by disaffected personnel.

## Compounding Factors

The lack of onsite lifting equipment results in the use of contractors, who whilst professionals, are not familiar with the site and equipment.

High stock levels close to/in excess of capacity result in multiple handling operations, multiplying the safety risk and damage potential inherent in stock movement activities.

Yard areas are exposed leading to poor working conditions for lifting and handling.

Work is required in all weather conditions and light conditions resulting in increased risk.

Stock is often unique and requires careful planning of storage and lifting operations.

A significant amount of lone working is required by stock supervisors

## 3: Fanellan

Fanellan Store  
Kiltarlity  
Beauly  
IV4 7JP

The store was originally constructed as the bottling plant and initial storage facility for the Lovat Springs mineral water business. It was constructed in the early 1990s during the growth of mineral water sales in the UK. As such one of its primary functions was in the marketing of the product to major retailers. Hence, the location of the facility is aimed at promoting the image of pure Highland water and includes a large marketing suite (See Figure 26).

This site is rented by SSE having taken over the lease from Balfour Beatty on completion of the Beauly Denny 400 project. The lease involves the maintenance and upkeep of the site facility.

The location is approximately 4 miles from the nearest main road with the last 3 miles of the access on steep winding and in most places single-track road. Part of the access involves a single-track bridge over the River Beauly which would not be suitable for vehicles over the standard 44 tonnes. (See Figure 41).

The last mile of the access involves a steep climb through the wooded hillside. Overhanging trees on the approach route when in leaf lead to vehicles over 4m high coming into contact with branches. (See Figure 40). The route is also used by a large number of the logging trucks extracting timber from a nearby forest, coming down the hill loaded. This leads to occasional vehicle conflict on the narrow section of road. There is significant risk involved in this vehicular access due to collision or loss of traction resulting in vehicles going off the road. In autumn and wet weather, problems occur with vehicle traction caused by leaves. Even in relatively light winter conditions access for large vehicles can be impossible and the site can be inaccessible in heavy snow conditions for several days.

Access into the yard area involves large goods vehicles either reversing in or reversing out as there is limited turning, with this reversing activity undertaken on a gradient. (See Figure 36). This could result in instability of the load or vehicle, should the load have a high centre of gravity.

Lack of internal space has led to a large amount of equipment being stored outside. Approximately a third of the yard area is hard-core, leading to significant dust issues in the summer and making it unusable during icy winter periods of time, when hardpacked snow and ice leave the area dangerous for operations (See Figure 28).

Storage outside has led to the degradation of both stored materials and packaging. There was much evidence of packing materials now being unsuitable and dangerous for subsequent lifting (See Figures 31,32 & 33).

The principle issue with the site and storage warehouse is lack of space See Figure 37 & 38). This leads to regular multiple movement of stock in order to accommodate new inventory and access existing materials. Consequently, this leads to significant increase in risk of damage to sensitive equipment such as ceramics and also to all the inherent risks of any lifting operation.

The stores supervisor works for long periods of time as a lone worker and the site suffers from pure Internet connection and has large areas of mobile phone blackspots with no reception.

Security of the site is poor. Whilst the site is protected by remotely monitored CCTV, response to intruders would be via a verbal warning and notification of the local police. The site is to all intents and purposes open (See Figure 35). with only a gate over the yard vehicle access and a short run of cosmetic wooden fencing at the front of the building which is in poor condition (See Figure 30). There would be little to prevent intruders accessing the site to commit criminal damage or theft. Should these intruders be injured it would be difficult to defend the situation that SSE had done everything practicable to prevent their access into a dangerous environment. The major source of security seems to be the remoteness and the anonymous nature of the operation however a short search of the Internet reveals photographs of the site taken by members of the public and so-called urban explorers. See <https://www.geograph.org.uk/photo/2754792>

Much of the packaging material has been designed for internal storage using materials such as sterling board, osb board, hardboard and light plywood. This is proven unsuitable for outside storage.

Whilst there is no evidence of vermin infestation there is significant issue with wasps nesting in equipment packing cases and around the site leading to distraction danger for operatives and drivers. In an extreme case, a visiting operative, may be stung and should they suffer any form of reaction, the nearest accident and emergency department is in Inverness approximately a 45 minute drive.

Due to lack of internal space, multiple 20 foot ISO shipping containers are being utilised in the yard area for storage. The containers whilst in good condition, suffer from condensation sweating and again involve significant multiple handling of equipment to retrieve stock from the rear of the container, increasing likelihood of damage risk to personnel.

Lifting operations are undertaken utilising a standard industrial lift truck, with any other lifting involving contract lifts by external contractors. Some equipment stored inside is delivered by third party vehicles with lorry mounted cranes. Due to the low height of the building, lifting using these cranes is difficult, particularly with tall items stored vertically, as it is difficult for the crane to position itself directly above the lift. This potentially can lead to load swing causing impact damage to stock and personnel (See Figure 39).

The main storage area was designed for storage of carbonized soft drinks in polyethylene tri chlorate bottles. Hence, it has no natural light and high levels of ventilation to prevent degradation of that type of packaging and potential CO2 buildup. While suitable for that

operation this presents challenges to the current use, due to the cold damp atmosphere and the necessity for artificial lighting at all times (See Figure 39).

Much of the stock is held in crates and packaging designed for limited movement. The repeated movement of stock has caused damage and destruction of packing materials (See Figure 38). Because of the lack of space some materials intrude on traffic areas resulting in the increase of the likelihood of impact with moving vehicles and equipment.

Storage is double stacked when ideally it should be floor stored.

A tractor is held on site for snow clearance however cleared snow leads to a further storage issue as in recent years this has taken over six months to melt and release the area for normal operations.

## Health & Safety Risk Summary

Risk	Potential Outcome	Likelihood	Comments
Musculoskeletal (Back) Injury	Musculoskeletal Injury	Low	Little manual handling of some stock is required
Slips and Trips	Death	High	Part of the site has uneven ground conditions. Winter working is treacherous on outside surfaces.
Falls from Height	Death	Medium	Lifting operations externally and vehicle unloading will require an increased level of working from height during rigging and unloading operations.
Being Struck or Crushed by Moving Stock,	Death	High	<p>The packaging of many pieces of stock has deteriorated to such an extent that it could fail during handling or even in storage leading to collapse and impact on personnel. Stock handling takes place on uneven surfaces leading to increased levels of topple and overturning of stock and handling equipment.</p> <p>Low internal height in the building leads to complex lifting operations and an increased risk of load swing incidents.</p> <p>The high levels of stock occupancy lead to multiple handling operations increasing risk.</p>
Being Struck by	Death	Medium	Levels of vehicle movement on



Moving Vehicles,			site are low, however reversing is required leading to increased risk
Vehicle Accidents	Death	High	<p>Site access is poor. Significant risk is incurred by site staff in accessing the site in winter conditions.</p> <p>Vehicles handling stock are at significant risk of incident even in good conditions.</p> <p>Winter conditions make access to the site VERY DANGEROUS for goods vehicles due to steep hills and narrow roads.</p>
Wasp Infestation	Death/Anaphylactic Shock	Medium	The site has a significant issue with wasps. These regularly cause stings to staff and visitors. In conceivable circumstances this could result in the requirement for urgent medical intervention

### Stock Risk Summary

Risk	Potential Outcome	Likelihood	Comments
Inability to Access Stock in a Timely Manner	Extended Downtime	High	Site access is inadequate and impossible in winter conditions. It is conceivable that in severe conditions the site would be inaccessible for weeks. Even if site access was possible some stock stored externally would remain inaccessible due to ground conditions.
Theft and Pilferage	Stock loss and extended down-time. Failure of equipment in service	High	Site security is inadequate, relying principally on the site's remote location. Whilst most small stock items have little resale value, components and materials would be valuable on the scrap market. Removal of these items could cause destruction of stock
Ingress of Water and Humidity	Stock loss and extended down-time. Failure of equipment in service	High	Whilst internal areas are dry they are damp cold and suffer from condensation in winter. External storage is subject to full weather exposure leading to packing deterioration.
Deterioration due to	Stock loss and extended	High	External stock is subject to full

Weather Exposure	down time. Failure of equipment in service		weather exposure. Packaging has deteriorated leading to it becoming ineffective for protection and handling.
Damage by Vermin	Stock loss and extended down-time. Failure of equipment in service	Low	The area is infested with wasps with nesting in packaging and equipment
Damage in Handling	Stock loss and extended down-time. Failure of equipment in service	High	Due to packaging integrity failure, stock damage in handling is highly likely. High stock levels internally lead to multiple handling
Damage by Vehicle Movement	Stock loss and extended down-time. Failure of equipment in service	High	Vehicle movements are low however multiple handling of stock leads to increased risk. Restricted space in the warehouse leads to a likelihood of impact damage.
Fire	Complete Inventory Loss	High	Lack of surrounding property reduces fire risk, however the remote location and poor security leads to and increases risk of arson
Criminal Damage	Stock loss and extended down-time. Failure of equipment in service	High	Theft of items for scrap could cause loss and destruction of stock

## Compounding Factors

The lack of onsite lifting equipment results in the use of contractors, who whilst professionals are not familiar with the site and equipment.

High stock levels close to/in excess of capacity result in multiple handling operations, multiplying the safety risk and damage potential inherent in stock movement activities.

Yard areas are exposed leading to poor working conditions for lifting and handling.

Work is required in all weather conditions and light conditions resulting in increased risk.

Stock is often unique and requires careful planning of storage and lifting operations.

A significant amount of lone working is required by stock supervisors.

Poor mobile phone connectivity may lead to an inability to notify emergency situations.

The remote location would mean that intervention by emergency services in order to deal with any accident/injury, security breach or fire would be significantly delayed.

## Conclusions

Storage and handling systems are subject to the requirements of the:

- Workplace (Health, Safety and Welfare) Regulations 1997
- Provision and Use of Work Equipment Regulations (PUWER)
- Lifting Operations and Lifting Equipment Regulations (LOLER).

These state that storage areas must be safe to use and suitable for their intended purpose;

- stock should be stored and stacked so that it is not likely to fall or move and cause injury;

People working between, or close to, stored products may be exposed to significant risk of injury, for example if a stack collapses, or product moves or falls unexpectedly.

Storage systems should be designed and operated to:

- provide a safe place of work, which exposes workers to the minimum health and safety risks and keeps them away from areas of danger;
- minimise the amount of time that personnel spend in storage areas;
- minimise the risks to personnel from equipment or load failure;
- be provided with adequate access platforms, steps, ladders and handrails to allow safe access and exit for workers and to avoid the need for people to walk or stand on the stock itself;
- ensure that stock movement is always controlled and eliminate the risk of unintentional movement;
- take account of the effect of external influences on stock stability, for example weather or vibration;
- minimise the number of times stock has to be handled;
- be the most efficient and easy to use;
- reduce, so far as is reasonably practicable, the need for personnel to work within the racks, climb over them or climb over stock;
- incorporate arrangements for the safe storage of lifting accessories (for example C-hooks);
- be backed up by safe systems of work that are easy to manage and control;
- be regularly inspected and properly maintained.

It is clear, that at all 3 sites, there are some significant difficulties in meeting the requirements of the regulations.

The basic requirement that stock should be stored and stacked so that it is not likely to fall or move and cause injury, is not met due to the high volumes of stock held and deterioration of packing due to storage conditions. This risk is exacerbated by high stock levels resulting in multiple stock movements. Poor surface conditions for loading and unloading operations and the use of outside contractors further increases the safety risk.

Therefore, these facilities do not provide a safe place of work, which exposes workers to the minimum health and safety risks possible.

Stock in these facilities is further exposed to risk of damage by multiple movements. Risk of stock loss or damage is high due to factors such as criminal damage/theft and external catastrophe such as fire or explosion. Weather and environmental factors such as dust and vermin also have the potential to lead to stock degradation.

At Fanellan and Tealing, there is a significant risk of the stock not being available in a timely manner due to site inaccessibility caused by weather conditions or legal protection given to

nesting birds.

This situation is a direct result of the facilities not being designed for purpose, but having been locations available at an economical cost at the time of requirement. One is a disused building in need of demolition and re-development, another is effectively a car park and the final one is a mineral water factory. None has been designed as a storage location for large amounts of heavy equipment. Huge investment would be needed at each site to construct secure dry covered storage with suitable flooring and adequate lifting equipment giving enough volume to accommodate the stock levels. Even with such investment they would not be remotely ideal.

Carolina Port - the existing site would need complete redevelopment. The existing substation building would require demolition. Significant ground works would be required in order to attend to the residual underground infrastructure from the former usage as a power station. Drainage and flooding problems would need addressing. Even with such work, the dust and fire issues would remain.

Tealing - investment in covered storage, heavy lifting equipment and bunding would be required. Access issues and risk from the adjacent substation would still remain.

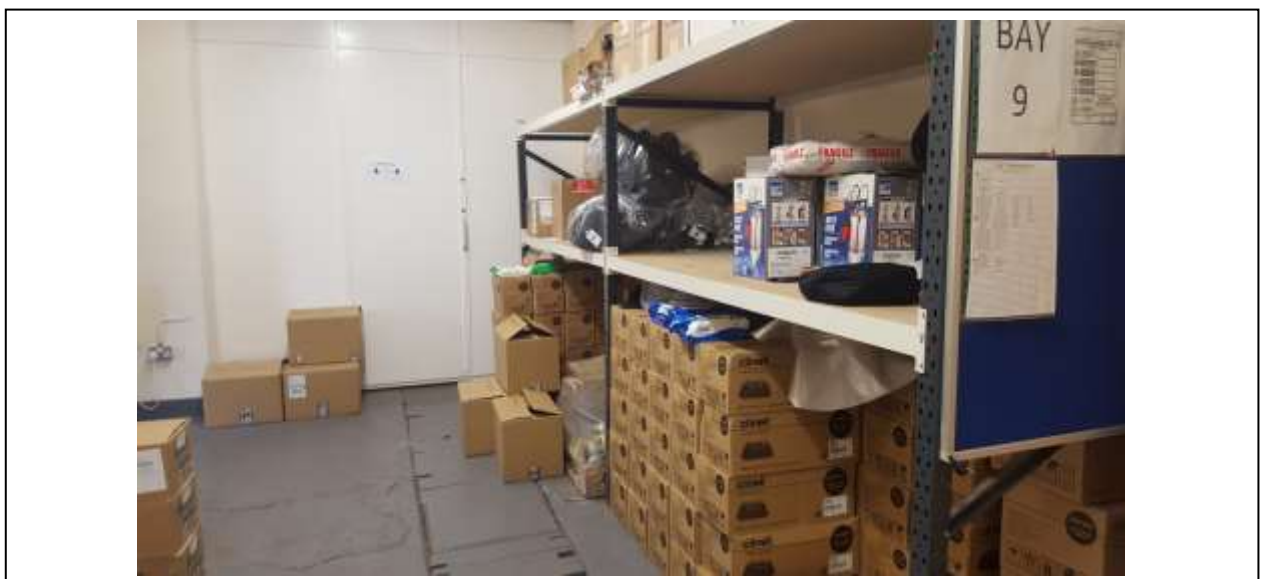
Fanellan - a rented site and without landlord approval no development could take place. Yard surfacing would be needed but the three principle factors would remain incurable:

- Lack of space - the site is not big enough to accommodate existing stock levels.
- Impracticality of installation of adequate lifting equipment - the roof is too low
- Inaccessibility of the site - the site is in the middle of countryside and only accessible by a narrow winding and steep country lane.

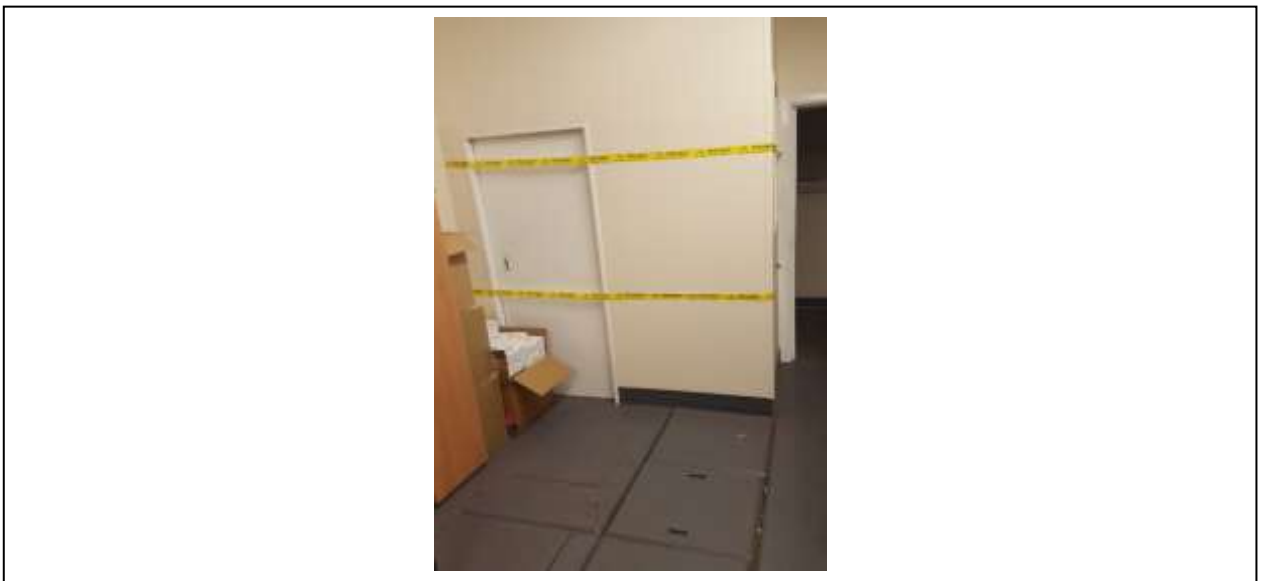
The view would therefore be that the safe, operationally sensible and cost-effective long-term approach would be to obtain fit for purpose storage in geographically strategic locations at the earliest opportunity to replace these facilities.

## Figures:

**Figure 1: Carolina Port-Storage of Small Items in Office**



**Figure 2: Carolina Port- Areas sealed off due to Asbestos**



**Figure 3: Carolina Port- Light Switches**



**Figure 4: Carolina Port- Internal Storage Showing Dust**



**Figure 5: Carolina Port: Moisture Effects on Labelling Internally**



**Figure 6: Carolina Port - High Stock Levels**



**Figure 7: Carolina Port - External Yard**





**Figure 8: Carolina Port - Degraded Packaging of Stock Held Inside**



**Figure 9: Carolina Port - Externally Held Steel Stock**





**Figure 10: Carolina Port – Boundary Wall**



**Figure 11: Carolina Port - Trailer Adjacent to Fence**



**Figure 12; Carolina Port - Evidence of Flooding**



**Figure 13: Carolina Port - Adjacent Fertilizer Storage**



**Figure 14: Carolina Port - Adjacent Pallet Storage**



**Figure 15: Carolina Port - Proximity of Grain Dryer**





**Figure 16: Port Caroline - Extremist Graffiti**



**Figure 17: Tealing - Storage Area/Carpark**



**Figure 18: Tealing - Proximity of Sub-station**



**Figure 19: Tealing - Nesting Birds**



**Figure 20: Tealing - Pallet Deterioration**



**Figure 21: Tealing - Lichen Accumulation**



**Figure 22: Tealing - Lichen Accumulation**



**Figure 23: Tealing – Packaging Deterioration**





**Figure 24: Tealing - Unexplained Damage**



**Figure 25: Fanellan - Overview from Marketing Suite Poster**





**Figure 26: Fanellan - Overview from Marketing Suite Model**



**Figure 27: Fanellan - Damaged Cable Reel**



**Figure 28: Fanellan - External Reel Storage**



**Figure 29: Fanellan - External Storage and Fence**



**Figure 30: Fanellan - Fence**



**Figure 31: Fanellan - Deteriorating Packaging**



**Figure 32: Fanellan - Deteriorating Packaging**



**Figure 33: Fanellan - Deteriorating Packaging**





**Figure 34: Fanellan - External Container Storage**



**Figure 35: Fanellan - Open Access to Site**



**Figure 36: Fanellan - Congested Vehicle Access**



**Figure 37: Fanellan -High Internal Stock Levels**



**Figure 38: Fanellan - High Internal Stock Level**



**Figure 39: Fanellan - Low Roof Height and Ventilation/Low Lighting Levels**



**Figure 40: Fanellan - Access Road**



**Figure 41: Fanellan - River Beaully Bridge**

