DARNLEY ISLAND FREEZER ELECTRICAL AND MECHANICAL REPORT

Item 3.3
The tenderer is to allow for a licensed electrician from a registered business to attend site and carry out a detailed inspection of the site. The electrician is to prepare a detailed report on what work will be required for the operation of the facility in accordance with the requirements of AS.3000, this is to include the switchboard. The report is to be forwarded to the Superintendent through the successful tenderer within 48 hours of the inspection.

Item 3.4
The tenderer is to allow for a qualified mechanical tradesperson from a registered business to attend the site and carry out a detailed inspection of the refrigeration equipment. He/she is to prepare a detailed report on the condition and age of the equipment. The report is to be forwarded to the Superintendent through the successful tenderer within 48 hours of the inspection.

INSPECTION SITE DETAILS

The details contained in this report relate to the freezer and sorting/filleting area and associated rooms and equipment of the Darnley Island Freezer, located at Lot 92 Darnley Island QLD 4875.

Site inspection took place on Friday 13 March 2020.

QUALIFIED INSPECTOR DETAILS

Name:	Michael Burns	Company:	Remote Technical Services
Qualifications:	Electrical/Refrigeration mechanic	Electrical contractor licence	84167

Freezer Room	The rooms are constructed out of coolroom panel which is at the end of its serviceable life. The ceilings top colourbond layer has rusted away and there has been a layer of composite aluminum sheet placed over most of the top of the ceiling to stop water ingress. There has been multiple penetrations from previous refrigeration unit which have since been removed. A prop has also been installed due to the poor roof condition. There is 5kw air conditioning unit in the filleting room, which acts to cool the room and remove excess moisture. This isn't designed for the conditions or application but works at present. There is 2 x sliding chiller doors for entry to the filleting room and 2 x doors to both freezer rooms. These doors use tracks and roller wheels that may need to be replaced. Due to the location and the prevailing SE breeze, the cool room exterior panels are in poor condition. The floor of the rooms is a concrete slab poured after the rooms have been erected. Filleting room is in good condition. In the snap room, some of the concrete is breaking up and may need replacing or re-sealing	 
Short term recommendations	**Cool panels**	Some of the existing panel sheets need external sheets to be installed over existing sheets.
	Ceiling	Re-sealing of silicone on all joints.
	Doors	Replacement of door seals, rollers and heater on trim.
	Floor	Re-seal of concrete.
	External panels	Some of the existing panel sheets need external sheets to be installed over existing sheets.
Long term recommendations	Coolroom panels, ceiling, doors-panels are reaching the at the end of their workable life and need to be replaced.	

Refrigeration Units	**Snap Freezer Unit:** When running is able to maintain -20 degrees. Outdoor condensing unit and snap evaporator is approximately 12 months old. The snap condensing unit has 3 x condenser fans which sit horizontally making them prone to seizing up and failing. The snap has had previous rodent damage and had to be raised to try and prevent further damage. Inside the snap condensing unit, there is a refrigerant pipe mount which needs to be replaced. **Large Freezer Unit:** Outdoor condensing unit is approximately 12 months old and when running is able to maintain -20 degrees. Large freezer evaporator is an older unit and has (repairable) heater faults.	 
Short term recommendations	**Snap Freezer Unit:**	Regular maintenance is recommended.
	Large Freezer Unit:	Spare fans should be kept on site.
Long term recommendations	**Snap Freezer Unit:**	Replacement of unit recommended if building is replaced.
	Large Freezer Unit:	Replacement of units recommended if building is replaced.

Electrical	There is a main switchboard on a pole, which has 2 x Ergon meters in it. One meter is for the freezer room and associated room/office. The other meter is for the fuel bowser on the other side of the road. There is also a distribution board on the side of the freezer room and another distribution board inside the office. Most of the electrical conduits have been re-run on the external wall once the aluminum sheets were placed. Inside, there are 2 x refrigeration controls placed above the door of the corresponding rooms. There is electrical cable running to both doors for heaters and two heated explosion ports. Both explosion ports and door trim heater are in poor electrical condition and should be replaced ASAP. Lighting is achieved by x 6 fluorescent lights in the filleting room, x2 fluorescent in each freezer room and LED battens on the exterior of the building. Inside lights are controlled by weatherproof switches between the freezer doors. Outside a weatherproof switch next to the entry sliding door controls the exterior lights. There is an electrical junction box between the door, which is broken and needs to be replaced. Of the 6 lights on the filleting room, 2 x aren't working and some have evidence of water ingress. The light switch for the freezer room is taped off as it trips the lighting circuit if turned on. On the junction box between the doors there is weatherproof switches which turn off the controls for each freezer room. This has the potential to be confused with light switches and may be mistakenly turned off. Ideally all the lights should be LED battens and should be fully sealed with silicon to reduce the chance of water ingress. Sometimes this is hard to achieve due to the conditions the lights are used in. Also running multiple circuits can reduce one light tripping all lights in an area. In the office, the distribution has previously been changed and all circuits have been put onto RCD safety switches. – office electrical units were in better order with all circuits operational.	  
Short term recommendations	Replacement of junction box between rooms, removal of control switches on junction box More circuits should be installed to separate circuits and reduce nuisance tripping of lights	
Long term recommendations	As above, however is building is replaced, new electrical should be installed.	

CONCLUSION

Overall, given that the building is a commercial operation and due to the condition of the building, realistic life expectancy is 12-18 months. After this, it is recommended that the facility be totally knocked down and replaced.
Given that the building will need to be operational for the short term, it is recommended that the refrigeration and associated electrical equipment are given a regular maintenance program which includes 3 monthly inspection which may pick up any repairable faults before they cause an operational problem. It is also recommended to stock likely spares to reduce any downtime of freezer operations if a fault occurs.