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Cargo Surveys, Adjustments & Recoveries

CLAIMS AND RISK SOLUTIONS

Client	Wasteserv Malta EkoCentre Latmija Road Marsaskala, MSK 4613 Malta
Location of interest	Sant' Antnin Waste Treatment Plan, Latmija Road, Marsaskala
Type of Report	Occupational Health and Safety Audit
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Contact Persons	Mr Stefan Salomone – Senior Manager, Health & Safety
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DISCLAIMER

This report is compiled in good faith and is based on the information provided by the representatives of Wasteserv Malta. The information in this report was obtained verbally, through the provision of sample documentation and observation. The assessors disassociate themselves from any known or concealed information which was not forwarded to their attention during the risk assessment.

In compiling this report the assessors have relied on the information provided for its accuracy and completeness in forming an opinion and have taken steps to verify it were possible.

This report gives an opinion in respect of certain potential risk exposures, the quality of the control measures in place and also makes recommendations for risk improvement. While implementing these recommendations will reduce the risk, an element of risk shall still remain and therefore other actions may still be necessary.



Revision

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August 2018	First version	0



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1.0 Introduction

Resolve Consulting Limited was engaged to carry out an occupational health and safety audit to establish the approach being adopted by Wasteserv to manage occupational health and safety at the Sant Antnin Waste Treatment Plant in Marsaskala, with particular focus on fire safety management.

A site visit was held on the 28th August 2018 with Mr Stefan Salomone, Wasteserv Senior Manager – Health & Safety to familiarise ourselves with the environment and operations undertaken on site. During the visit, detailed discussions were held to understand and review health and safety policies, procedures and relevant records to be able to form an informed opinion on whether these are being effectively implemented.

Gaps and inconsistencies against the reference criteria noted in paragraph 2.0 have been raised and recommendations presented in paragraph 5.0 for consideration by Wasteserv.

2.0 Reference Criteria

The evidence gathered during the audit was compared against the following criteria:

- Chapter 424 of the Laws of Malta, Occupational Health and Safety Authority Act (ACT XXVII of 2000) and all respective regulations.
- British Safety Council Fire Safety Management Audit Specification, 2017

The documents listed above may be downloaded from the following links:

<http://ohsa.org.mt/home/legal/ohsauthorityactxxviiof2000.aspx>

<https://www.britsafe.org/audit-and-consultancy/audit/fire-safety-management-audit/>



3.0 Scope

The scope of this assignment covered the Sant Antnin Waste Treatment Plant in Marsaskala that consists of the following facilities:

- Reception Hall
- Mechanical Waste Treatment Plant consisting of both dry and wet systems
- Anaerobic digestion storage tanks
- Outdoor storage areas
- Administration Offices

4.0 Premises and Processes

4.1 Processes

The plant consists a Mechanical Treatment Plant where organic waste is separated to be made into compost. The Material Recovery Facility (MRF) is no longer in operation due to an extensive fire that effected the plant in 2017.

The Mechanical Treatment Plant was inaugurated in 2010 with the aim to recover organic waste from municipal solid waste (MSW). This plant currently consists of 3 main processes:

4.1.1 Dry Mechanical Treatment

This process is intended to mechanically separate the organic fraction from the municipal solid waste received which will at a later stage be used to produce digestate (soil improver) and biogas.

Other wastes streams are also extracted in this process such as metals and Refuse Derived Fuels (RDF), i.e. materials that cannot be recycled nor digested.

4.1.2 Wet Mechanical Treatment

The mechanical selection of organic waste taking place in the dry MTP usually contains other waste fractions like small pieces of plastics or broken glass. At the wet MTP, the selected organic waste is mixed with water and the bio-degradable waste starts to break down into pulp. This mixture is then put in a sandtrap which is a container where any material other than the pulp gets separated by density and floatation. Heavy objects such as broken glass will sink to the bottom whilst other material like bits of plastic will float to be brushed away by rotating pallets. The pulp is then extracted to be taken to the anaerobic digestion tanks to produce digestate and biogas.



4.1.3 Anaerobic Digestion

Anaerobic digestion is a series of processes in which micro-organisms break down biodegradable material in the absence of oxygen to produce digestate (a nitrogen rich soil improver) and biogas, with an average methane content of 55-60%.

The organic waste from the MTP that is mixed with water and converted into pulp, passes into the anaerobic digestion tanks. Due to the various bio-kinetic processes which take place within the digesters, the pulp is broken down to further reduce the organic fraction and digestate is produced. As a by-product of this process, methane and carbon dioxide is produced. The methane is used as a fuel in a Combined Heat & Power (CHP) machine to produce heat and electricity. The electrical energy is fed into the national grid and part of the heat energy generated throughout this part of the process is used to heat the neighbouring Inspire's indoor pool.

The substrate from the digesters is then de-watered. The water is reused in the wet mechanical treatment plant whilst the solids are composted.

4.2 Premises

The plant consists of the following main areas:

- a. Control room
- b. A reception area where incoming wastes are received.
- c. Treatment/processing area/s where wastes may be sorted, shredded, dried, sized, etc.
- d. Storage area/s where outgoing wastes are stored.
- e. Digester tanks
- f. Gas Storage
- g. Combine Heat & Power Machine

Image 1 provides an aerial view of the facility indicating the main site locations. Image 2 indicates a plan view of the waste reception and mechanical processing shed.

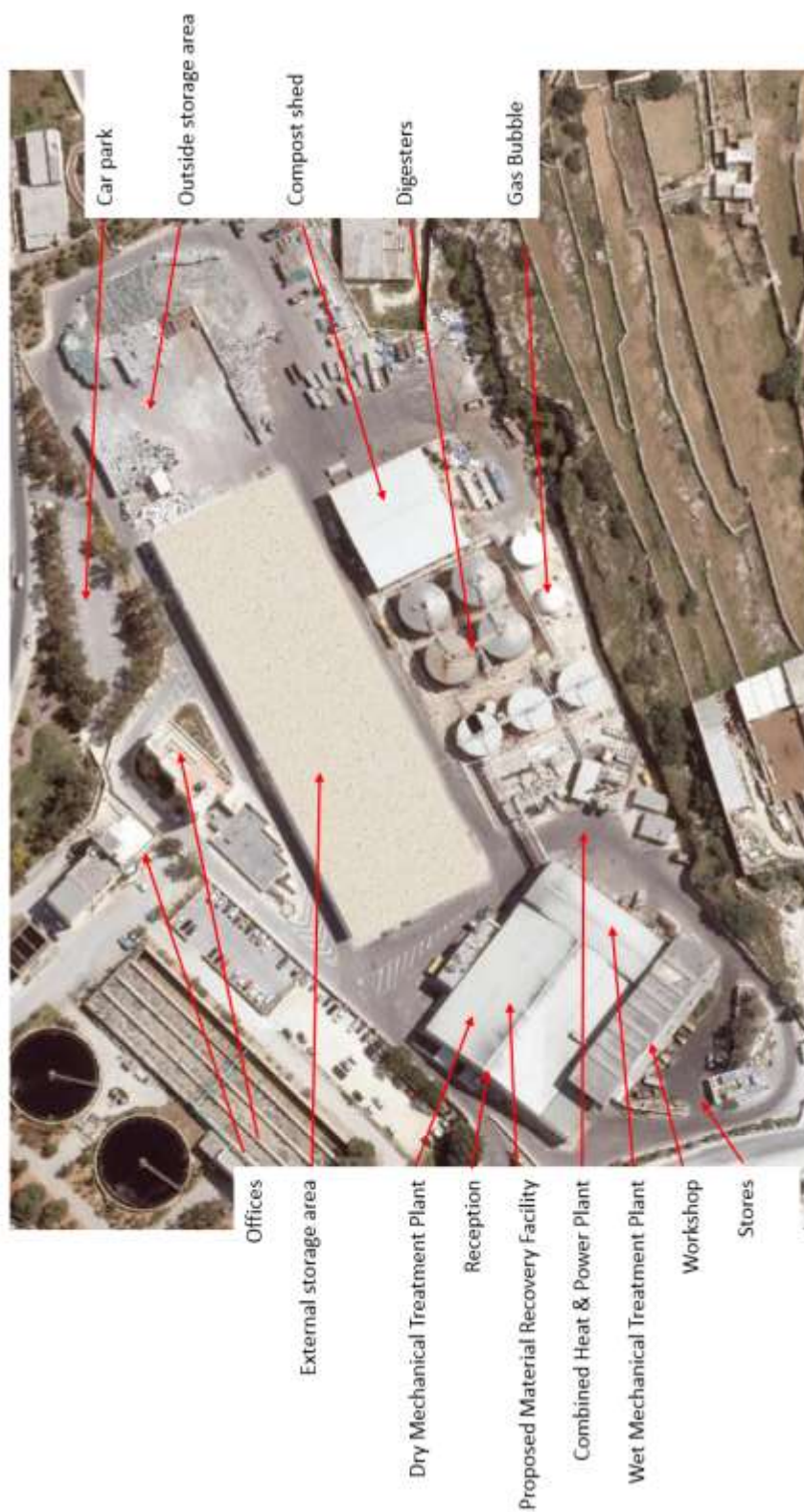


Image 1 – aerial view of the Sant Antnin Facility

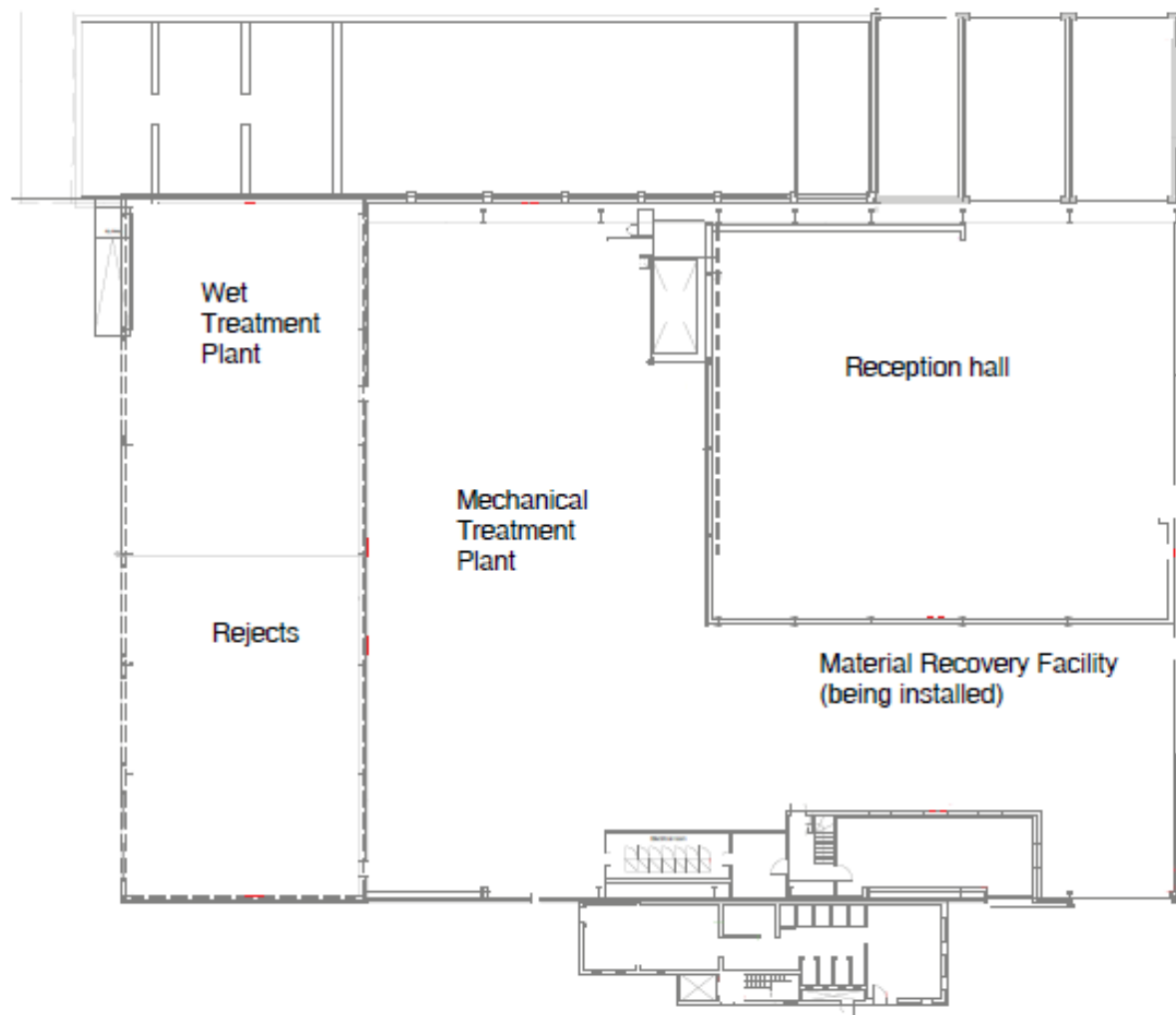


Image 2 - waste reception and mechanical processing shed

4.1.1 Reception area

Refuse trucks enter the facility via the main gate where the weight of the fully laden truck is recorded. These proceed to the main reception hall where the waste is unloaded. Waste received is visually inspected by Wasteserv personnel following which, by means of wheel shovels, is lifted and deposited in the bag opener for processing in the adjacent dry mechanical treatment plant. Refer to images 3 to 8.



Image 3 – Sant Antnin main gate



Image 4 – reception hall entrance



Image 5 – refuse collectors delivering and unloading waste



Image 6 – wheel shovel in operation



Image 7 – municipal waste in reception area



Image 8 – municipal waste in the area with the bag opener located at the far end.



4.2.2 Dry Mechanical Treatment

Waste from the reception hall passes to the dry treatment hall. Municipal waste drops on to a conveyor after the bags are opened mechanically. As the waste passes along the first conveyor, personnel pick up objects that might clog the magnetic separator positioned further on along the line. These materials are lifted off the conveyor using trash picker sticks and dropped into waste containers. Past the magnetic separator, the waste proceeds onto another conveyor where personnel pick up objects that might clog the drum screen. Portions of the waste exiting through the drum are transferred to the wet treatment plant for further processing.

The residual waste from the screening drum passes under another magnet for further separation. This is either deposited in the reject bins located in the adjacent hall where they are compacted and shipped out to the landfill or dropped into bins below the main machine for baling.

Refer to images 9 to 18.



Image 9 – bag opener



Image 10 – waste conveyor leading up to first magnetic separator



Image 11 – magnetic separator



Image 12 - drum screen



Image 13 – separator plant with the baler in the foreground



Image 14 - baler



Image 15 – municipal waste exiting the magnetic separator



Image 16 – waste collection skip under machine



Image 17 – rejects conveyor



Image 18 – waste rejects compactors

Within the dry mechanical treatment plant, works were underway to set up a new Material Recovery Facility consisting mainly of a bag opener and sorting table. Refer to images 19 to 21.



Image 19 – material recovery waste bag opener



Image 20 – sorting conveyor with drop chutes



Image 21 – View of material recovery facility



4.2.3 Wet Mechanical Treatment

During the assignment, the wet mechanical treatment plant was not operational due to ongoing maintenance works.

At the Wet Mechanical Treatment plant, the organic fraction is mixed with water in two pulpers. Floating material is removed by surface scrapers while denser materials, such as glass and grit sink to the bottom. These are removed from the bottom by screw conveyor. The separated materials are deposited in skips located outside Wet Mechanical Treatment plant.

The liquid portion of the waste, known as pulp, is pumped to the anaerobic digestion tanks to produce digestate and biogas. Refer to images 22 – 25.



Image 22 – wet mechanical treatment plant under maintenance



Image 23 - floatation tanks



Image 24 - wet mechanical treatment plant under maintenance



Image 25 – skips for collecting separated materials



4.2.4 Anaerobic Digestion

The pulp from the wet dry treatment plant is transferred into tanks having a volume of 2,400 cubic metres each. These measure 15 metres and 12 metres in height and diameter respectively. The first tank is the hydrolyser where organic waste is pumped from the wet MTP into the tank. This is left to be digested by anaerobic micro-organisms. During this process, the mixture is slowly stirred using an agitator which is fixed to the ceiling of the tank and hangs down to about 3 meters from the floor of the tank.

The slurry from the hydrolyser tank is then transferred into two other tanks (digester tanks 1, 2) where the slurry undergoes fermentation with the result that methane, carbon dioxide, hydrogen sulphide and carbon monoxide are produced. The slurry is then transferred to another tank, digester 3 for further fermentation.

Ferric chloride is added to neutralise the hydrogen sulphide and the biogas is transferred to the gas bubble where it is burnt as fuel for the combined heat and power plant. The substrate in the tanks is pumped into the aeration tanks. The water is removed from the mixture by centrifuge and is reused in the wet treatment plant. The solid residue is allowed to dry in an open shed where it is occasionally turned by wheel shovel to finally form compost.

Refer to images 26 to 32.



Image 26 – processing tanks



Image 27 – inside of tank



Image 28 – view of tank from inside



Image 29 – view of tanks from the internal road



Image 30 – compost shed



Image 31 – acid tanks



Image 32 – gas bubble



4.2.5 Storage Areas

Wastes generated from the dry and wet treatment plants and bales of waste product processed on site are stored in the open away from the offices, equipment and plant. Waste from civic amenity sites and bring in sites are sorted in these open areas.

Refer to images 33 to 37.



Image 33 – outdoor storage of processed wastes



Image 34 – waste storage containers



Image 35 – plastic waste bottles



Image 36 – outdoor storages



5.0 Audit Findings

5.1 Health and Safety Management

5.1.1 Organisation and Resources

Wasteserv has set up an occupational health and safety department consisting of one senior manager reporting directly to the Chief Executive Officer, one clerk and a health and safety leader per main operational site. An overview of the health and safety organogram is provided in image 37.

The Senior Manager is Mr Stefan Salomone and the health and safety leader for the Sant Antnin Facility is Mr Marco Camilleri.

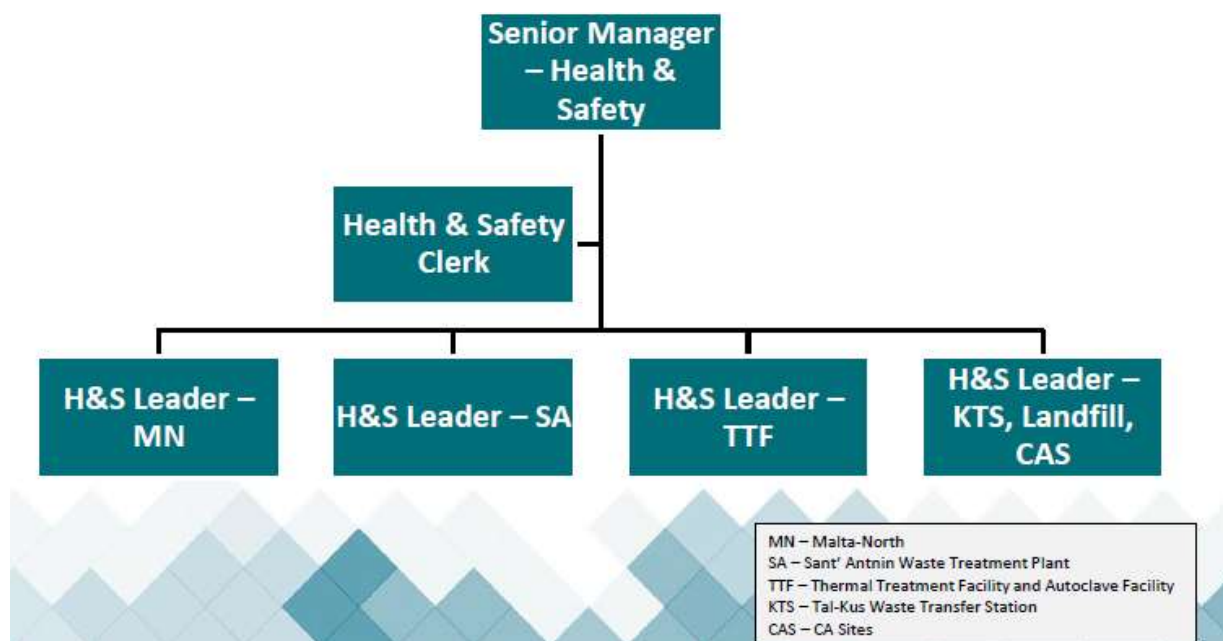


Image 37 – health and safety organogram

During the audit we were advised that this set up is quite recent and measures are in place to train the new health and safety site leaders to be able to manage the relevant health and safety aspects on site.

It was also reported that it is the intention, and work is currently underway, of Wasteserv to set up an occupational health and safety management system such as ISO 45000 throughout the various sites.



5.1.2 Provision of First Aid

Even though it was reported that a number of employees have been trained in the provision of first aid, there was no visible signage indicating and their identification on signage in the offices and/or the facility. First aid kits were observed in the offices, but none in the facility. An emergency shower is available in the tank farm area.



Image 38 – first aid kit in offices



Image 39 – emergency shower in the vicinity of the acid storage in the tank farm area

5.1.3 Work Equipment (Fixed Machinery and Heavy Plant)

The work equipment on site is extensive and includes numerous conveyors, compactors, magnetic separators, balers, wheel shovel tractors, bag openers, rotary sieve, weighbridge, etc.

A generic risk assessment has been carried out and this refers to work equipment, however the specific hazards and associated risks posed by the various machinery and equipment have not been documented in specific risk assessments.

The equipment is designed to incorporate fixed and interlocked guarding around rotating or moving parts to prevent personnel from coming into contact with them. However there were instances noted during the audit of missing fixed guards and open gates that are intended to prevent access to moving parts. Emergency stops and trip wires were also noted around machinery and along most conveyors.



Image 40 – safety gate noted to be left open



Image 41 – fixed guarding



Image 42 – missing guarding over conveyor



Image 43 – conveyor fixed guard in place



Image 44 – heavy mobile machinery on site



Image 45 – new machinery equipped with all guarding



Image 46 – new machinery equipped with all guarding and signage



Image 47 – fork lift truck

Daily inspection sheets are completed for mobile equipment by the health and safety leader. Lifting equipment are inspected and certified by an independent warranted mechanical engineer who has a 3-year contract with Wasteserv.

Lock-out/Tag-out Procedure (ADM HS03), dated 16/03/2016 applies. The procedure is currently being revised to reflect the latest organisational structure. Training on these procedures has been delivered by the Health & Safety department to relevant staff.

Scheduled preventive maintenance is carried out. In fact, at the time of the audit, the wet treatment plant and one of the tanks were under maintenance.

Maintenance of Wasteserv vehicles are maintained on site in an outside work area which is in dire need to upgrading (image 48, 49). This should be resolved once the workshop, currently under construction is complete.



Image 48 – outside mechanical workshop



Image 49 - outside mechanical workshop

5.1.4 Electrical supply, distribution and installation and electrical portable appliances

Electrical distribution boards and switchgear appeared to be in a fair condition. Routing of the permanent electrical installation is through or on appropriate cable containment, however the use of temporary extension leads on a permanent basis was noted. Three-phase electrical power sockets installed in the reception exhibited cable ties, thus suggesting that they are damaged. Signage indicating the electrical hazard is generally lacking.

The electrical installation was due to be inspected by a third party engineer at the end of August.

Refer to images 50 to 53.



Image 50 – distribution board in reception hall



Image 51 – damaged 3-phase power sockets



Image 52 – extension leads in use



Image 53 – damaged electrical lighting installation

5.1.5 Personal Protective Equipment

Personal protective equipment is provided to employees free of charge and noted to be in use. The type of equipment is chosen by the health and safety department and then issued from the site stores. Equipment in use is compatible with the hazards encountered on site.

Personal protective equipment to be worn when in the plant includes high visibility vests and safety shoes. Other personal protective equipment is provided and used depending on the hazards expected to be encountered during the works underway.

Signage indicating the mandatory use of personal protective equipment is displayed around the premises.

5.1.6 Health surveillance

To date, no health surveillance program is in place, however certain vaccinations are administered as per company doctor recommendations. Under local legislation, an employer is required to conduct health surveillance of his/her employees. Being exposed to chemicals, biological agents, physical agents such as noise and vibration frequently at work can lead to some people developing undesirable health conditions that are only evident after a long time.

It has been advised that Wasteserv is currently in the process of determining the different type of occupational hazards employees are exposed to with the company doctor. Once the extent of the health surveillance program is determined, Wasteserv plans to issue a tender to be able to address this shortcoming.



5.1.7 Vehicle and pedestrian segregation

Apart from Wasteserv vehicles (that include wheel shovel tractors, fork lift trucks and trucks), the premises are also attended by third parties. These mainly include refuse collection trucks delivering municipal solid waste and recyclable wastes in the reception hall.

The dry and wet mechanical treatment plants and the digestion areas are only frequented by workers that are involved in the activities. Pedestrians walking around the facility are obliged to wear high visibility vests at all times.

5.1.8 Hazardous Substances, including Biological Agents

Occupational hazards associated with waste handling include infections. These may occur particularly in the various handling halls and sorting areas due to:

- Skin and blood infections resulting from direct contact with the waste, and from infected wounds;
- Eye and respiratory infections resulting from exposure to infected dust, and;
- Intestinal infections that are transmitted by flies feeding on the waste

Staff have access to personal protective equipment such as gloves and dust masks to protect themselves from the waste.

Legionella bacteria may be present in hot and cold water systems present on site. Firefighting equipment, including hydrants and emergency showers are areas where legionella may exist. No legionella monitoring program is in place as yet.

Other hazardous substances, primarily vehicle related oils and lubricants are used by the mechanics' work area.

During the processing of organic waste, a number of different gases are released and these include methane, hydrogen sulphide and carbon monoxide. Under normal circumstances, personnel are not normally exposed to such gases.

Methane, which is highly flammable, is collected in the gas bubble and used as fuel. The hydrogen sulphide is neutralised with ferric chloride which is classified as corrosive. This product is stored on site in IBC tanks having a volume of 1000 litres each and placed on bunded pallets. Faded signage was noted. A spill kit is also available in the area of storage. No safety data sheet was readily available.

Refer to images 54 to 57.



Image 54 – ferric oxide IBC's



Image 55 – faded signage



Image 56 – spill kit



Image 57 – faded signage

5.1.9 Health and Safety Signage

Signage is provided around the premises and is in accordance with local legislation, however some more specific signage is desirable as in the case of emergency stops and trip wires, prohibition notices advising personnel not to climb into conveyors unless they have been locked out, location of hydrants, 'Ex' signage, pipe labelling, confined spaces, permit to work, hazardous chemicals outside dedicated stores, etc. Refer to images 58 to 61.



Image 58 – no signage on fire cabinet or electrical distribution board



Image 59 – manual call point sign missing



Image 60 – confined space entry, no permit to work signage



Image 61 – no labelling on pipework

5.1.10 Falls from height

Workplaces located at height are present on site within the mechanical waste treatment areas. These are accessible via raised walkways equipped with robust guard rails. There are instances where workers may need to work beyond the safety of the protected working platforms or walkways, such as working on top of rotary sieves and high level conveyors. In such cases, specific task based risk assessments are carried out.

Workers may also be exposed to falls from height when assessing cat ladders and elevated walkways located above the tanks. These walkways are equipped with guard rails.

Refer to images 13, 15, 20, 22 and 26 that show typical provisions in place.



5.1.11 Confined Spaces

A number of pieces of machinery and tanks are large enough for personnel to enter to carry out maintenance, inspection and cleaning. These are legally termed confined spaces and are covered by local legislation. These are not indicated with signage as confined spaces. A procedure covering confined space entry, including a written permit is in place.

5.1.12 Storage and Stacking

Wastes generated from the dry and wet treatment plants and bales of waste product processed on site are stored in the open away from the offices, equipment and plant. Waste from civic amenity sites and bring in sites are sorted in these open areas.

Refer to images 33 to 37.

5.1.13 Fire Safety and Explosion Management and Prevention

Fires safety at waste treatment plants needs to be managed appropriately. General ignition sources and causes of waste fires are varied and a few of these are listed below:

- Smoking in process areas and next to storage areas and/or not disposing of cigarettes in appropriate receptacles.
- Electrical faults, both in processing equipment and general electrical systems, such as lighting can be a source of ignition.
- Uncontrolled hot works such as welding, grinding, etc. by employees or third party contractors.
- Receipt of hot or hazardous materials and items in wastes such as hot ashes, lithium batteries, gas cylinders, flammable liquids, aerosols and self-heating wastes.
- Wastes accumulating next to mobile plant can pose ignition risks when they come into contact with hot exhaust systems.
- Poorly maintained mobile and fixed plant equipment having defective electrical systems.
- Defective fixed machinery such as misaligned moving or rotating equipment giving rise to heat induced by friction.

A number of passive and active fire prevention measures are installed at the facility. These are detailed in the subsequent paragraphs.

Due to the presence of methane, it is likely that an explosive atmosphere is created at some point in time. Thus, this area of the facility would fall under the ATEX directive which has been transposed into local legislation. One of the main requirements of this legislation is to prepare an explosion protection document. This is not available.



5.1.13.1 Compartmentation, Fire Separation and Smoke Venting

The three areas accommodating the dry mechanical plant, wet mechanical plant and the reception are not compartmentalised and any fire evolving in one area may spread to the other.

The baled waste is stored away from the buildings.

No smoke venting is installed.

5.1.13.2 Fire Detection and Fire Extinguishing Appliances

The facility is covered by a fire detection and alarm system. This consists of conventional heat and smoke detectors and fire beam system.

A dedicated water reservoir having an approximate volume of 125 cubic metres is available for firefighting activities. It is checked on a weekly basis by the Health and Safety Leader. The level is checked visually. There is also a meter which indicates the amount of water within the reservoir and an alarm is raised when the reservoir is half-empty. This is connected to a fire pump set consisting of 3 electric submersible pumps, one of which is a jockey pump. Pumps are supplied directly from the on-site sub-station. The fire pump supplies water to a fire hydrant main routed around the premises. Flat hose reels are available for use in the event of a fire. These were not readily available in the immediate vicinity of the fire pump.

Portable fire extinguishers are distributed around the facility. These are checked regularly by the site health and safety leader.

A three year maintenance agreement is in force with a local fire service company. This was signed in September 2017.

Refer to images 62 to 69.



Image 62 – smoke detection in processing shed



Image 63 – fire beams



Image 64 – sounders



Image 65 – unmarked fire cabinet



Image 66 – fire hydrant



Image 67 – fire hydrant



Image 68 – fire pump room



Image 69 – submersible fire pumps

5.1.13.3 Emergency exits, evacuation routes, manual call points and assembly points

Evacuation routes are defined and these lead directly to the outside. Whilst on site, these were observed to be freely accessible. Adjacent to exit doors are manual call points and directional and exit signs are evident on site. An assembly point is also designated.

5.1.13.4 Fire Training, Emergency Plan & Emergency Services

It was advised that an emergency response team has been set up to cover all shifts. These have attended advanced training consisting of safe use of fire extinguishers and the use of hose reels by the Civil Protection Department.

The emergency response plan is dated 22nd September 2015.

5.1.13.5 Risk Assessments

A Qualitative Fire Safety and Ventilation Risk Assessment and Report was carried out by an independent third party on the 16th January 2017.

A generic health and safety risk assessment was carried out by Mr Stefan Salomone, Wasteserv Senior Manager on the 26th February 2018.

In both cases, recommendations have been presented and are being followed up by Wasteserv.



6.0 Risk Improvement Recommendations

Item	Suggested Time Frame	Status
<p>6.1.1 Organisation and Resources</p> <p>As noted in paragraph 5.1.1, Wasteserv is in the process of gradually implementing an occupational health and safety management system in accordance with ISO 45000 across all of its sites. This internationally accepted standard is intended to enable companies to manage occupational health and safety risks and improve their approach to preventing injury, illness and as a consequence, minimise damage to property.</p> <p>The plan to roll out and implement this management system is to be communicated to the insurers as it would increase confidence in the way risks on site are being proactively managed throughout the organisation.</p>	<p>Plan to be submitted within 3 months</p>	
<p>6.1.2 Provision of First Aid</p> <p>It is understood that the number of qualified first aid personnel exceeds the minimum amount stipulated in local legislation. However, since the operation is a 24/7 operation, the insured is to ensure that the number of first aid personnel is sufficient to cater for the number of employees present on site at any one time, including during periods of sick leave, injury leave and vacation, shifts, etc.</p> <p>Signage indicating the identification and contact numbers of first aid personnel is to be clearly displayed.</p>	<p>Note</p> <p>1 month</p>	



Item	Suggested Time Frame	Status
6.1.3 Work Equipment (Fixed Machinery and Heavy Plant) The insured must ensure that all equipment is maintained according to a comprehensive maintenance and inspection plan and records of these maintained. All maintenance to machinery and equipment must also include electrical maintenance. Detailed plant and machinery risk assessments should be carried out and documented to determine the specific mitigatory measures in place to minimise injury through contact with moving parts. Safety arrangements on plant and machinery are to be checked daily to ensure that they remain effective at all times. Any deficiencies as those noted are to be rectified immediately. Safety stops, including trip wires are to be reviewed to ensure that they are within easy reach and not rendered unreachable due to poor workplace organisation.	3 months 6 months 1 month Note	
6.1.4 Electrical supply, distribution and installation and electrical portable appliances The results from the thorough maintenance and inspection carried out in August by the competent person shall be reviewed and addressed immediately. The inspection frequency of the fixed installation and that of fixed machinery shall be determined based on the results of the thorough maintenance and inspection carried out by the by competent personnel. Electrical panels should be kept locked and accessible only to authorised persons. A permit-to-work system should be implemented in case of work being carried out on live systems. Signs denoting electrical panels and high voltage are to be	3 months Not less than once every year 3 months	



Item	Suggested Time Frame	Status
<p>maintained on all panels located within the premises.</p> <p>Damaged light fittings, electrical power outlets and the elimination of electrical extension leads shall be addressed as soon as possible.</p>	1 month	
<p>6.1.5 Personal Protective Equipment</p> <p>Enforce use of personal protective equipment protection by visitors and workers. If necessary increase the amount of signage to encourage and inform personnel on the correct type of equipment to be used.</p>	Immediate	
<p>6.1.6 Health surveillance</p> <p>Personnel that are exposed to non-mechanical hazards at the facility are to be included in a health surveillance program. As a minimum, the following arrangements should be in place:</p> <ul style="list-style-type: none">- Pre-employment screening that includes a questionnaire about present or past health conditions - advise new employees about what to look out for and that they should report symptoms;- A questionnaire to be completed for all workers after employment at 6 weeks, 12 weeks (or similar intervals) and at least annually thereafter to enquire about any developing symptoms. The questionnaire must be administered by a responsible, trained person who must understand the purpose of the questionnaire, confidentiality requirements and what records must be kept;- Identify a named occupational health professional or company, who can advise on any adverse findings from the questionnaire and who can make arrangements for further investigation where necessary.	12 months	



Item	Suggested Time Frame	Status
<p>6.1.7 Vehicle and pedestrian segregation</p> <p>A documented Traffic Management Plan (TMP) is recommended. It is intended to define the arrangements to ensure that the risks involved in the movement of mobile plant and vehicles around the facility, and the interface with site personnel are identified and controlled as far as reasonably practicable.</p> <p>The key risks associated with mobile plant and vehicle operations on the site include personnel being run over, crushed or struck by mobile plant or vehicles and personnel being struck by something falling from mobile plant.</p> <p>A site layout plan indicating the location of safe pedestrian routes and vehicle routes, safe/unsafe work areas for pedestrians and emergency exit routes or refuge areas should be included. Specific rules for pedestrians and operators must be included due to vision limitations during operation of such equipment.</p>	6 months	
<p>6.1.8 Hazardous Substances, including Biological Agents</p> <p>The main exposures to workers is related to the presence of possible infectious diseases in the waste handled on site. Apart from the personal protective equipment already being provided, it is recommended that a health surveillance program as detailed in paragraph 6.1.6 is implemented.</p> <p>Also, since hot and cold water systems, hose reels, water storages, etc. are present on site, a legionella monitoring program should be implemented.</p> <p>Specific chemicals' risk assessments are to be carried out in accordance to local legislation. These should be reviewed at regular intervals to ensure compliance. Training is to be provided and to include awareness of the requirements of the legislation.</p>	12 months 6 months 3 months	



Item	Suggested Time Frame	Status
Keep stock of hazardous substances to a minimum to minimise the associated risk.	Ongoing	
Ensure that personnel are trained and kept abreast with any changes of the spill response plan.	3 months	
Maintain spill kits in areas where hazardous substances are handled.	Note	
6.1.9 Health and Safety Signage		
Maintain current signage and ensure that it is observed. Training on the significance of health and safety signage might need to be considered.	Note	
Review signage based on continuous assessment to ensure that sufficient information is available within the facility.	3 months	
6.1.10 Falls from height		
Walkways, elevated working platforms and other locations situated at height are to be subjected to routine maintenance to ensure that the guardrails provided remain robust.	Note	
Maintain safe systems of work for work beyond the safety of guardrails.	Note	
Access equipment are also to be included in the facility's maintenance program.	Note	



Item	Suggested Time Frame	Status
<p>6.1.11 Confined Spaces</p> <p>All the confined spaces within the facility are to be clearly denoted with signage and entry must be controlled.</p> <p>Maintain the confined space hazard assessment and control program should be formally implemented detailing:</p> <ul style="list-style-type: none">- The identification and assessment of all potential hazards that may exist at the beginning of the work as well as those that may develop because of the work activities.- The roles and responsibilities of each person or party involved.- A plan to eliminate or control all identified hazards.- Written work procedures.- Training program for all the workers that will enter into the confined spaces.- The establishment of an entry permit system for each entry into a confined space.- Development of an emergency plan complete with training and equipment in case an unforeseen situation occurs and an emergency response system.- Medical fitness requirements of staff entering confined spaces.- Etc.	<p>3 months</p> <p>Note</p>	
<p>6.1.12 Storage and Stacking</p> <p>The amount of baled and loose materials on site is to be kept to a minimum. Stack stability is to be monitored.</p>	<p>Note</p>	



Item	Suggested Time Frame	Status
<p>6.1.13 Fire Safety and Explosion Management and Prevention</p> <p>It is recommended that the insured implements a fire safety management system (level 1) as defined in BS 9999, Code of practice for fire safety in the design, management and use of buildings.</p> <p>In view of the presence of flammable gases, i.e. methane, an explosion document is to be prepared. This document shall contain the findings of a risk assessment of any work activity involving flammable/or explosive atmospheres. It may be incorporated or at least referenced in the Safety Statement, be part of other risk assessment documentation or included in the Safety Report for the facility.</p> <p>It must detail:</p> <ul style="list-style-type: none">• Technical or organisational measures so as to reduce or prevent the risk of explosions and measures used to mitigate the effects of an explosion.• The operation of early warning devices.• Training instruction and supervision given to workers who work in places where an explosive or flammable atmosphere may occur.• Operational procedures, maintenance, operation of permits to work, and co-ordination between employers.• Classified places where explosions may occur called hazardous zones and detail marking of areas as well as location.• Means of escape in the event of an explosion.• The properties of substances that present an explosion hazard.• Selection and use of suitable equipment for use in hazardous zones including certification and calibration documents.• Equipment used that is CE marked and in compliance the ATEX Directive 2014/34/EU that covers equipment and protective systems intended for use in potentially explosive atmospheres.• How often the EPD is reviewed and when is it due to be reviewed again.	<p>9 months</p> <p>6 months</p>	



Item	Suggested Time Frame	Status
6.1.13.1 Compartmentation, Fire Separation and Smoke Venting Maintain inspection of all fire doors, integrity of fire compartments and smoke extraction systems.	Note	
6.1.13.2 Fire Detection and Fire Extinguishing Appliances Maintain inspection of all detection equipment and all fire extinguishing equipment, i.e. fire extinguishers, hydrants, hose reels, etc. Flat hose reels are to be readily available next to the fire pump room or in other strategic locations. Improve housekeeping around hydrants.	Ongoing 1 month	
6.1.13.3 Emergency exits, evacuation routes, manual call points and assembly points Maintain clear and unobstructed access to emergency exits, evacuation routes, manual call points and assembly points.	Note	



Item	Suggested Time Frame	Status
<p>6.1.13.4 Fire Training, Emergency Plan & Emergency Services</p> <p>The current emergency response plan is to be reviewed to include the following:</p> <ul style="list-style-type: none">- Communication arrangements, such as named emergency contacts, key holders, incident controllers, etc. with their telephone numbers and likely response time (for out of hours).- Communications arrangements with neighbours/nearby premises which may be affected.- Hazardous and combustible materials on site, including wastes.- Specific hazards, such as gas cylinders, fuel stores, etc.- Normal number of people working on site and usual hours of work.- Fire-fighting equipment on site and where this is located, such as location of hydrants, fire extinguishers, hoses, etc.- Location/s and detail of any fixed fire systems on site, such as sprinklers.- Any other equipment on site which may be of use during a fire, such as heavy mobile plant which could be used to assist the Civil Protection.- Any specific environmental issues, such as drainage issues for firewater, etc.- The procedures, such as evacuation, firefighting and summoning the Civil Protection, which employees and others on site must follow in the event of a fire. <p>The accident/emergency plan should also include a map showing the</p> <ul style="list-style-type: none">- Layout of buildings (externally and internally, including fire exits and other access points).- Location of all stored wastes (externally and internally stored), what these wastes are, how much is in each storage area typically, etc., and noting any specific wastes which may pose specific hazards such as plastics.- Any locations where hazardous materials are stored on site (location of gas cylinders, chemicals, etc.)- Main access routes for fire engines and others and any alternative accesses.- Access points around the site perimeter to assist firefighting.	3 months	



Item	Suggested Time Frame	Status
<ul style="list-style-type: none">- Location of hydrants (on and off site) and water supplies.- Location of fire extinguishers, hoses and other fire-fighting equipment on site.- Location and layout of fixed plant (such as recycling plant and equipment), and where mobile plant is usually parked out of normal work hours.- Location of utilities isolation points, such as electricity and water. <p>The plan should also detail disaster recovery measures as appropriate including:</p> <ul style="list-style-type: none">- The removal of burnt material using appropriate and lawful disposal.- The safe re-commission of plant.- Salvage operations.		
<p>6.1.14 Risk Assessments</p> <p>Risk assessments done to date are to remain current and relevant. Recommendations made in the assessments are to be addressed and presented for review in the form of an action plan. The assessments need to be reviewed periodically.</p> <p>As noted under paragraph 6.1.3, detailed plant and machinery risk assessments should be carried out and documented to determine the specific mitigatory measures in place to minimise injury through contact with moving parts.</p>	<p>2 months</p> <p>6 months</p>	