Wednesday 31 January 2024

OIA IRO-537
Name: [redacted]
Email: [redacted]@hotmail.com

Kia ora [redacted]

Official information request for the Seaview Wastewater Treatment Plant Environment Management Plan.

Thank you for your official information request dated Monday 27 November 2023.

We have considered your request in accordance with the Local Government Official Information and Meetings Act 1987 (the Act) and determined that we are able to grant your request in full.

The information you have requested is enclosed in our email to you. Please note that some information has been redacted in accordance with Section 7(2)(a) of the Act as it is personal about private individuals.

Please note that the plant's environmental management plan is part of a bigger document titled "Contract Management Plan for the Wastewater Treatment Plant Services Contract (Porirua, Moa Point, Western, and Seaview) ("WWTP Contract") Encapsulating Veolia's Health & Safety Plan and Quality & Environmental Management Plan".

Our subject experts have extracted the environmental portion of the document **"OIA IRO-537 Environmental Management Plan – Extracted Pages"** and other relevant documents. Please see those relevant documents listed below with an explanation as to how they relate.

A document that details the operation and maintenance of the plant's ventilation and air pollution control equipment is titled **"OIA IRO-537 – UPCP-70 Odour Control – People in Images redacted in accordance with 7(2)(a)"**

A copy of the environmental management plan (EMP) objectives referred to on page 30 of the **"OIA IRO-537 Environmental management plan – Extracted Pages"** is titled **"OIA IRO-537 – Copy of Wellington Region Environmental Management Objectives Plan 2022".**

A copy of the environmental risk register referred to on page 30 of the **"OIA IRO-537 Environmental management plan – Extracted Pages"** is titled **"OIA IRO-537 – Copy of Wellington RWWTP Environmental Aspects Impacts Register 2023 (3)"**

You have the right to seek an investigation and review by the Ombudsman of this decision. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

Ngā mihi,

[redacted]

[redacted]

Group Manager, Network Management Group

Summary: *Foul air is contained around odourous plant and processes. The foul air is drawn from the enclosed area by fans and blown into a bark biofilter for treatment.*

Process Overview

Successful operation of the Seaview Wastewater Treatment Plant requires compliance with the air discharge consent WGN 950162(01). In particular clause 6 of the consent states:

"…., there shall be no discharges to air that are obnoxious, dangerous, offensive or objectionable at or beyond the boundary of the property. These discharges include odour and dust."

The function of the odour control system is to take foul air from the source and treat it in a biofilter so that offensive or objectionable odour is not discharged beyond the boundary of the site. The ventilation system also controls flammable gas emissions at some locations and ensures compliance with the Hazardous Area Classification.

Odorous air from the following sources is collected by a common duct system and treated in a six-cell biofilter.

- Tradewaste pump station (TWPS)
- Milliscreen process equipment
- Inlet channel and primary settleing tanks / channels / sumps/ scum pump stations
- Return liquor pump station
- Gravity thickener and Grit Plant
- Sludge blend tank
- Centrifuges and dewatered cake conveyors
- Emergency sludge bins when in use
- Dryer

Foul air from the TWPS and milliscreen equipment is drawn into two fixed speed fans that were originally set to run in automatic in a duty/assist configuration and are located within the milliscreen building. These fans discharge the foul air into the void above the screened effluent channel.

The main site fans draw the foul air from the site sources and the screened effluent channel and discharge it directly into a plenum connected to the biofilters. The site fans were also to operate on automatic in a duty/assist configuration. The site duty fan has a variable speed drive and the assist is a fixed speed fan.

However normal operation was amended so that, one milliscreen fan and the duty site fan were also running. And in the event that a low vent rate occurs in critical plant, as determined by flow switches, the assist fans would be manually started, instead of the fans starting up in automatic on low flow. However these flow switches have been found to be so unreliable that all fans are now set in manual mode and operated from the site SCADA. The operating speed of the site fan on VSD control is manually set, and the Milliscreen and site fan duties are changed weekly.

The system is designed so that foul air can be pulled at a rate of around 12 air changes per hour during maintenance conditions. Under normal conditions the flow rate is around 60% of this figure. If access is required into enclosed areas then the assist fans are manually started.

The fans were interlocked such that when starting the site assist fan the milliscreen assist fan will automatically start. This would only occur if the fans are in Automatic mode.

Manual dampers are located on all branch lines near the connection to the main duct for balancing airflows and isolating sections of the system. Individual odour sources, such as each milliscreen, are also fitted with dampers, 12mm NPT pressure tappings are provided on each side of the damper to assist commissioning.

For all situations, other than removing a fan for maintenance, fan operation will be continuous. In automatic and in the event that one fan fails the standby/assist fan will start automatically, if in manual mode the standby/assist fan should be started as soon as possible .Rotating the fans from duty to standby/assist mode is a manual operation. In the event that one of the fans is removed for service it will be necessary to shut the ventilation system down for a short period while the faulty fan is removed or replaced. Fan operation is controlled by the site control system

A continuously recording pressure indicator is provided in the biofilter plenum.

Non-return dampers, capable of fully closing under gravity and being locked in the fully closed position, are installed below each fan.

The dryer foul air is also treated in the common biofilter. The drier foul air is blown directly into the biofilter plenum from a fan located in the dryer hall.

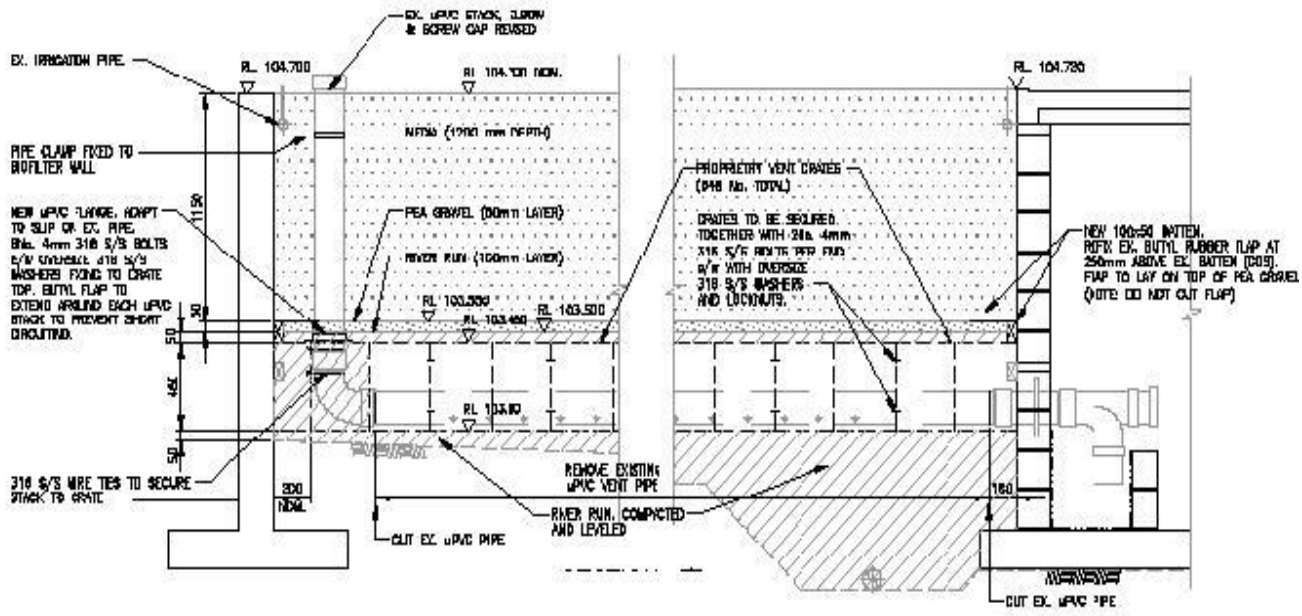
Potable water is used for irrigation of the biofilter. Irrigation is automatic. Manual override is possible via the SCADA.

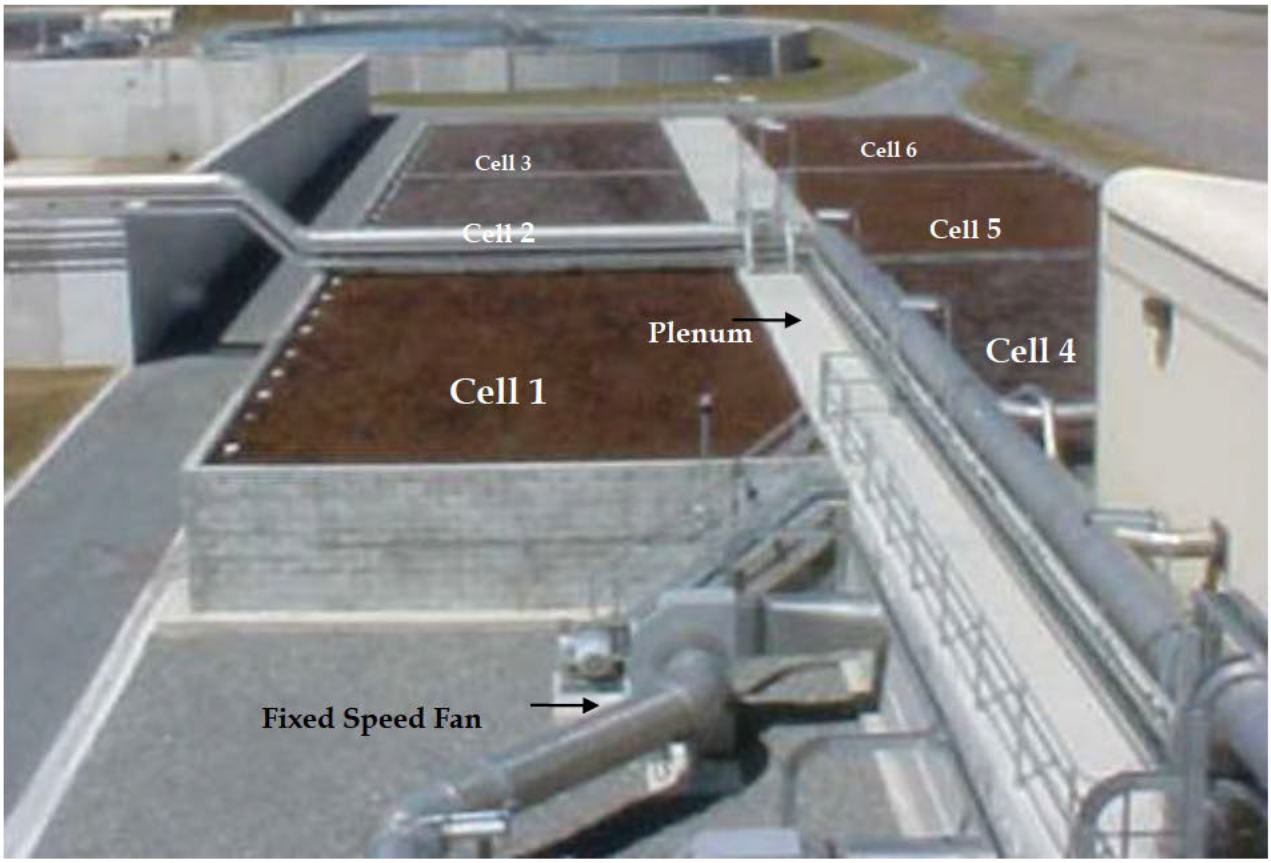
Biofilter leachate drains under gravity to the return liquors pump station.

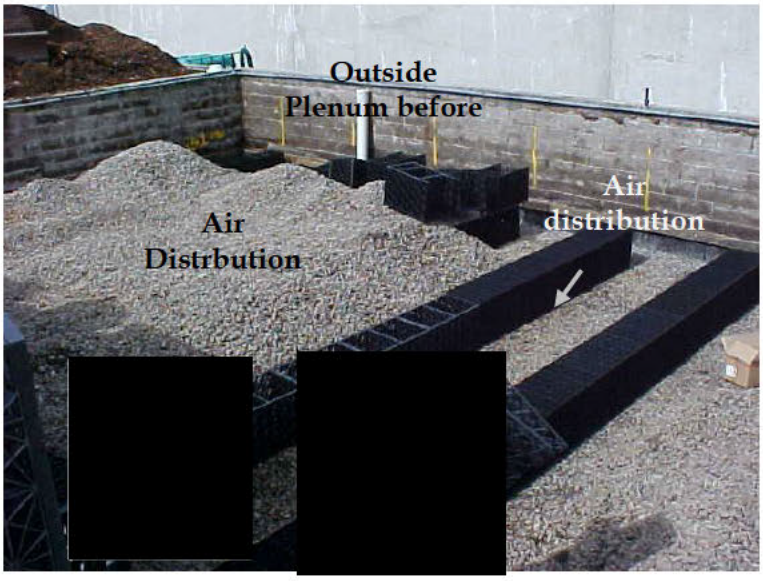
Unit Process Physical Information

The biofilter is designed to contain the normal site foul air flow of 43,000 m^3/hr for 90 secs and has a surface area of 850m2, and a bed depth of 1.2m. The biofilter is made up of 6 equal size cells.

Air is blown into a 2m X 2m plenum by 2 site fans. 9 pipes per cell extend from the plenum and discharge into plastic crates housed in a rock bed under the bark. Air flows through the pipes and into the rock bed via the crates. The air then slowly moves up through the bark bed and is treated enroute to atmsophere. A detail of the bed cross section is given below. Photos are provided over the page. There is a spray system which serves to remove the dust from the dryer air stream and other process areas. This water and any overflow from the isolation troughs drains to the return liquors via a sump at the Southern end of the plenum.



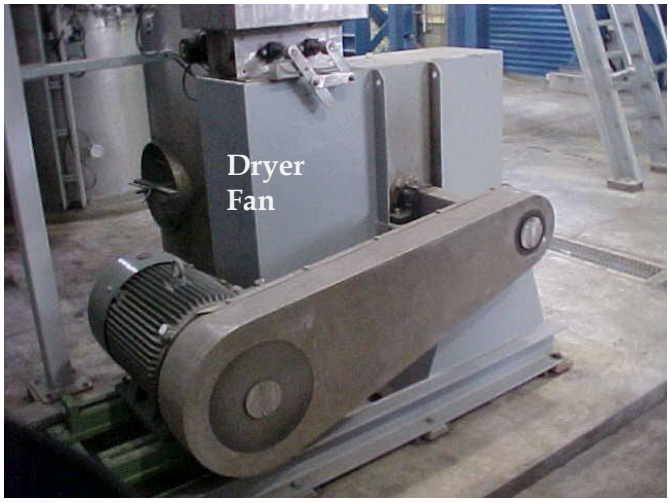

Cell 3
Cell 6
Cell 2
Cell 5
Plenum
Cell 4
Cell 1
Fixed Speed Fan


Outside
Plenum before
Air
distribution
Air
Distrbution


Air flow

The 2 site fans are Aerotech MVX 270 and each is driven by a 37 kW motor. One of the fans has a variable speed drive, (Danfos VLT 5000 unit) which is housed in the MCC room. The other fan is fixed speed. The design operating point for each fan is 3.6m3/s at 3600Pa. Refer photo of fans below.

The millsicreen fans are New York Blower (NYB) 188 class 111. The operating point for each fan is around 1.8m3/s at 2000Pa. Refer photo above and close up below.



The dryer fan is an Aerotech MVM 270 driven by a 30 kW variable speed motor. The design operating point is around 3.5 m^3/s at 300 Pa. Refer Photo above.

Operational Parameters

Fan dutys should be rotated regularly.

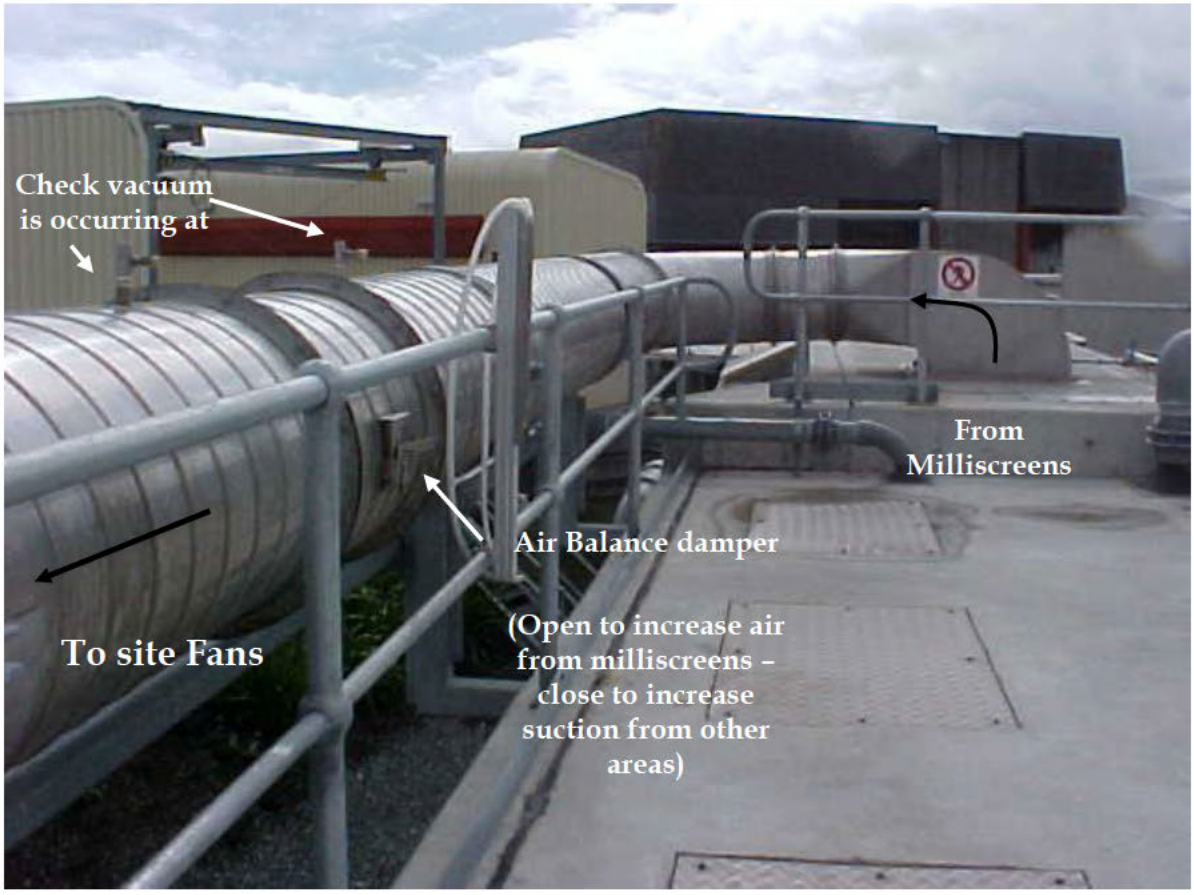
Fans will need to be run in parallel if covers are lifted off odourous areas for maintenance.

Irrigation requirements should be monitored. Irrigation should be reduced during wet spells and increased during dry and/or windy spells. The dampness if the bark should be inspected during shift walk around.

Individual cells can be isolated if maintenace is required as detailed below.

Monthly pH and moisture tests of the bark media should be monitored and trended on OP10. Decreasing moisture should be addressed by adding more water or possibly adding a lime product. Dropping pH should be monitored – note that pH is most likely affected by moisture content and the amount of air flowing through the bed. The pH will tend to drop over time as sulfer oxidising bacteria produce sulfuric acid. Once the pH is below 4 there will be less variation in which bacteria can grow, so odours not containing sulfer such as amines (fishy odours) will not be removed as effectively. PH adjustment should be made only if biofilter leachate is below 3 and surface media below 5. The product used should be carefully selected, as too fine a product can result in the media binding together and causing the backpressure to increase. Irrigation should be increased to aid the breakdown of the lime. Cells should not be left offline for too long.

The amount of air being blown from the milliscreen fans affect the site fan performance (more air from milliscreen fans reduces the amount drawn off the PST's, centrifuges, e.t.c). The air flow from the milliscreens can be adjusted by moving the position of the damper bewteen the two systems (see photo below). A vacuum should always be felt up and downstream of the damper for the system to operatre effectively – check by opening valves on duct and feeling for suction.



Performance Monitoring

The main performance monitoring task is to watch the biofilter back pressure. The fans will start to top out (i.e. won't push air through the bed) if the back pressure exceeds 2500 Pa. Action should be taken prior to this. This may require bed replacement or remedial work (such as lifting and cleaning the rock media).

Check odour fans for back flow through assist fan (fan motor rotating in reverse) if observed inform plant supervisor.

Drain Biofilter internal troughs as required, shift engineer will normally routinely drain every Saturday dayshift.

The plenum can be flushed to remove solids build up by turning on the isolation water valves for cells 3 & 4. The troughs will overflow onto the plenum floor, and should drain to the return liquors.

Calculations and Record Keeping

Monthly pH and moisture readings collected should be trended in Op10.

Control Parameters

Air extraction rates and line velocities should be periodically checked

Targets

Parameter	Units	Minimum	Maximum
Back Pressure	Pa	500	2000
Moisture	%	55	65
pH (300mm from surface)	pH	4.5	6.5

Common Problems

The centrifuges are the most odourous units on site. If there is difficulty extracting air from them check the odour extraction ducts for blockage.

Foaming in the return liquor pump station can cause odours. Stop centrifuges ASAP and knock down foam with sprays.

Short circuiting can occur due to uneaven settling of the biofilter media. The beds will need to be turned over to rectify this.

Alternate Modes of Operation

Use the portable odour blaster to provide back-up to odour control when carrying out odourous work

Relation to Other Process Units

Air is drawn off many areas as discussed in the process overview section. Access to confined spaces may require adequate ventilation. (Refer to site Heath and Safety manual).

Backup power to the VSD fan (FN 70-01) is provided by an on-site generator. This generator starts automatically when the power to MCC 1 fails.

Leachate from the biofilter flows back to the return liquors pump station.

Potable water is supplied from the city main, via a back flow preventer.

Procedure for Routine Biofilter Line Cleaning/ Isolation

Each of the 6 biofilter cells can be isolated by filling a concrete trough inside the biofilter plenum up with water. The water covers the inlet to the PVC pipe preventing air flowing into it.

The valves for supplying water to the trough and draining the trough are located in a concrete manhole on the western side of the biofilter, near the road. There are three manholes, each has filling valves for two biofilter cells. Refer Figure 1.

For all three manholes, the most northern valves fill and empty the biofilter cell on the eastern side of the biofilter plenum, and the southern most isolate the most western cell.

Opening the water supply valve, which feeds water to the trough, isolates the cells. When the trough is nearly full (takes a few minutes) the filling check valve is opened. The water feed line should be closed when water flows out of the filling check valve. Open the trough drain valve to bring the biofilter cell back into service, refer Figure 1. Refer to Figure two for a layout of the valves in the manholes.

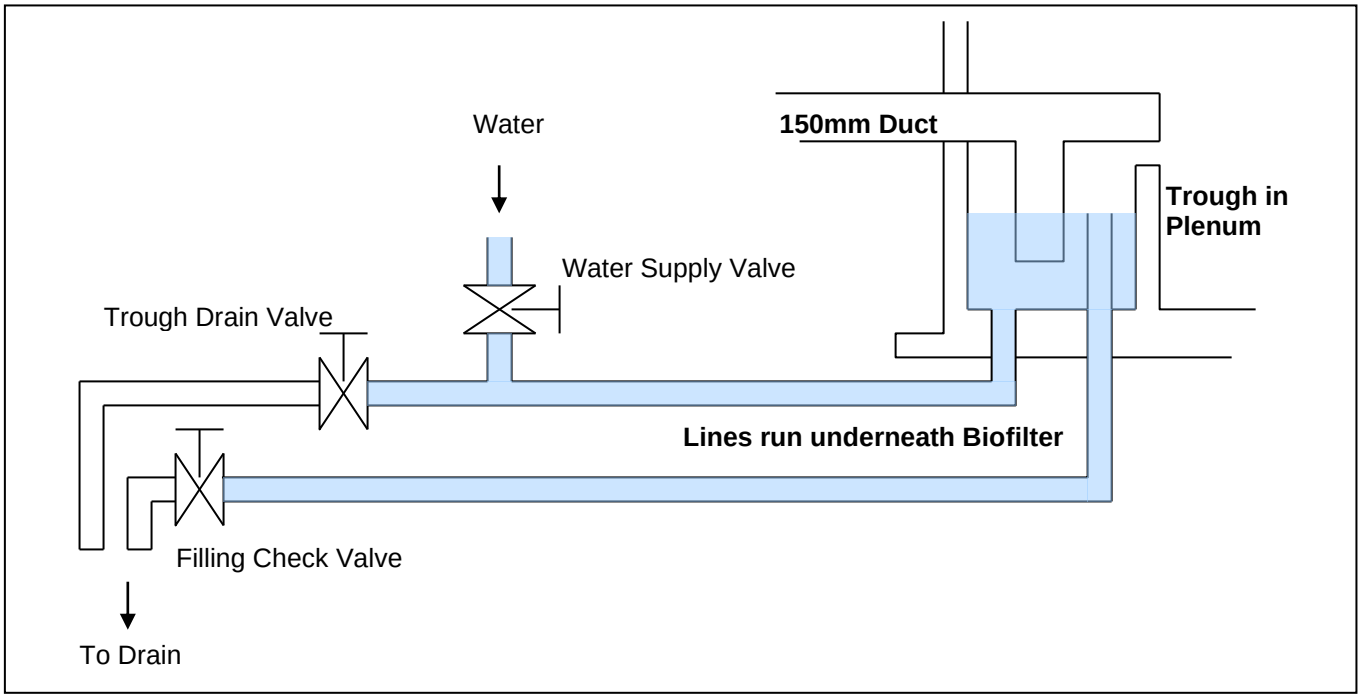


Figure 1 Schematic of the isolation trough system

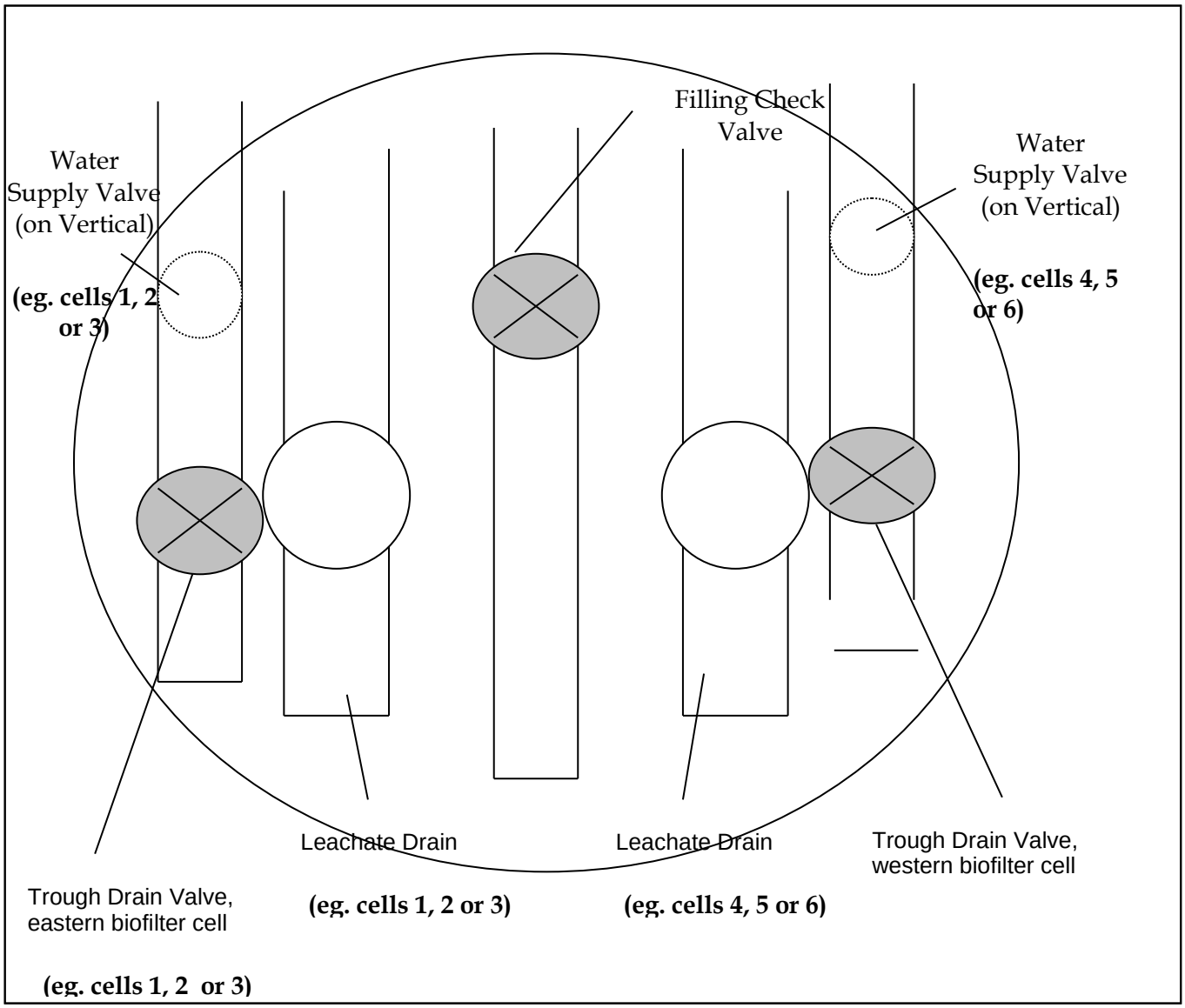


Figure 2: Layout of valves in Manhole

ISOLATION PROCEDURE

1. Advise Shift Engineer that the lines on a particular biofilter cell are to be flushed.
2. Isolate only 1 cell at a time
3. Isolate cell by closing and opening the appropriate valves (refer figure 2)
   a. Ensure trough drain valve is closed
   b. Open the water supply valve slowly

c. Wait a few minutes for the trough to fill

d. Open the Filling Check Valve slightly. Leave open until water consistently flows out

e. When water flows out of the filling check valve, close both the filling check valve and the water supply valve

4. Empty the isolation troughs to bring the cell back on line:

a. Open the trough drain valve until water stops flowing out.

b. Check the clarity of water coming out of the trough, it may give an indication to the extent of build up in the ducts

c. Close when finished

5. Advise Shift Engineer operation is complete

SAFETY

1. Be wary of odorous air in manholes when actuating valves. Do not climb in manhole or put head in manhole.

2. Watch for vehicles when on roadway

OTHER CONSIDERATIONS

1. Minimise the amount of time air flows out of the drain valve or filling check valve to help control odours on the site.

QUICK QUIZ

Please answer the following questions on Odour Control. Circle best answer(s) where appropriate:

1. The air discharge consent for the plant requires the following

    a. No detectable odour at the boundary

    b. No offensive odour on-site

    c. No offensive odour at the or past the boundary

    d. All of the above

2. On a walk around you notice odour by the centrifuge room. What could be the cause?

    a. Foaming in the RL pump station wet well

    b. Blocked odour extraction ducts on the centrifuge

    c. Spilled blended sludge on the ground

    d. All of the above

3. The Wellington Regional Council notices an objectionable odour at the boundary. What is the impact on HVWS?

    a. The staff bonus is reduced

    b. It's a public relations disaster

    c. The GM gets very stressed

    d. All of the above

4. There is water leaking from sealed openings and seeping out from around the biofilter, also the isolation troughs seem to be filling for no apparent reason, what could be the problem?

    a. The plenum drain is blocked

    b. Too much irrigation water to the biofilter beds

    c. The backpressure is too high

    d. There is a broken pipe in the system

Contract Management Plan

for the

Wastewater Treatment Plant Services Contract (Porirua, Moa Point, Western, and Seaview)

("WWTP Contract")

Encapsulating Veolia's
Health & Safety Plan
and
Quality & Environmental Management Plan

Environment

Veolia is committed to ensuring minimal environmental impact and, wherever possible, environmental impacts are identified through the hazard/near miss notification system.

Veolia sets annual measurable targets and objectives aimed at improving environmental and quality performance which is managed through an Environmental Management Plan (EMP). These targets are reviewed at the National Operations Meeting and Operational Management Meetings.

The EMP for the Porirua, Moa Point, Western and Seaview WWTPs can be found here.

Through the Environmental Management process (Environmental Policy, Assets and Impact Registers, Risk Assessments, EMPs), Environmental Management Procedures have been developed such that they consider all identified potential risks and responsibilities under the Environmental Laws and plan for managing these risks and in line with the Veolia Sustainability Policy.

Environmental Aspects and Impacts

Environmental Risk Register Registers lists the aspects and impacts for the Wellington Contracts and are found here:

- WWTP Contract Aspects and Impacts - Porirua/Moa Point/Western/Seaview WWTP

Energy Management

Veolia, in line with the Sustainability Policy is committed to conserving resources and minimising consumption of energy. This is achieved through efficiency, research and innovation.

Residuals and Biosolids Management

The residual and biosolids management requirements and controls are detailed in the Residuals and Biosolids Management standard.

Grit Screening

Preliminary treatment occurs by removing extraneous material in the wastewater such as sticks, cardboard, paper towels, and non-biodegradable (predominantly inorganic) waste. These screenings will be disposed of in accordance with local regulations/requirements.

Sludge

Veolia will manage all sludge transfer pumping equipment, conveyance facilities, storage and thickening facilities at all WWTPs, and meet the required consent and contract conditions.

Disposal of Product to Landfill

Disposal of residual or biosolids to landfill must be in accordance with local regulations. The quantity disposed via landfill must be recorded and reported monthly to meet environmental performance reporting requirements and will meet consent conditions.

Residuals from WWTPs will be disposed of at the following landfills:

- Residuals from Porirua WWTP will be disposed of at the Spicer Landfill
- Residuals from Moa Point and Western WWTP will be disposed of at the Southern Landfill
- Residuals from Seaview WWTP will be disposed of at the Silverstream Landfill.

Residuals and Carbon Emissions Reduction Plan

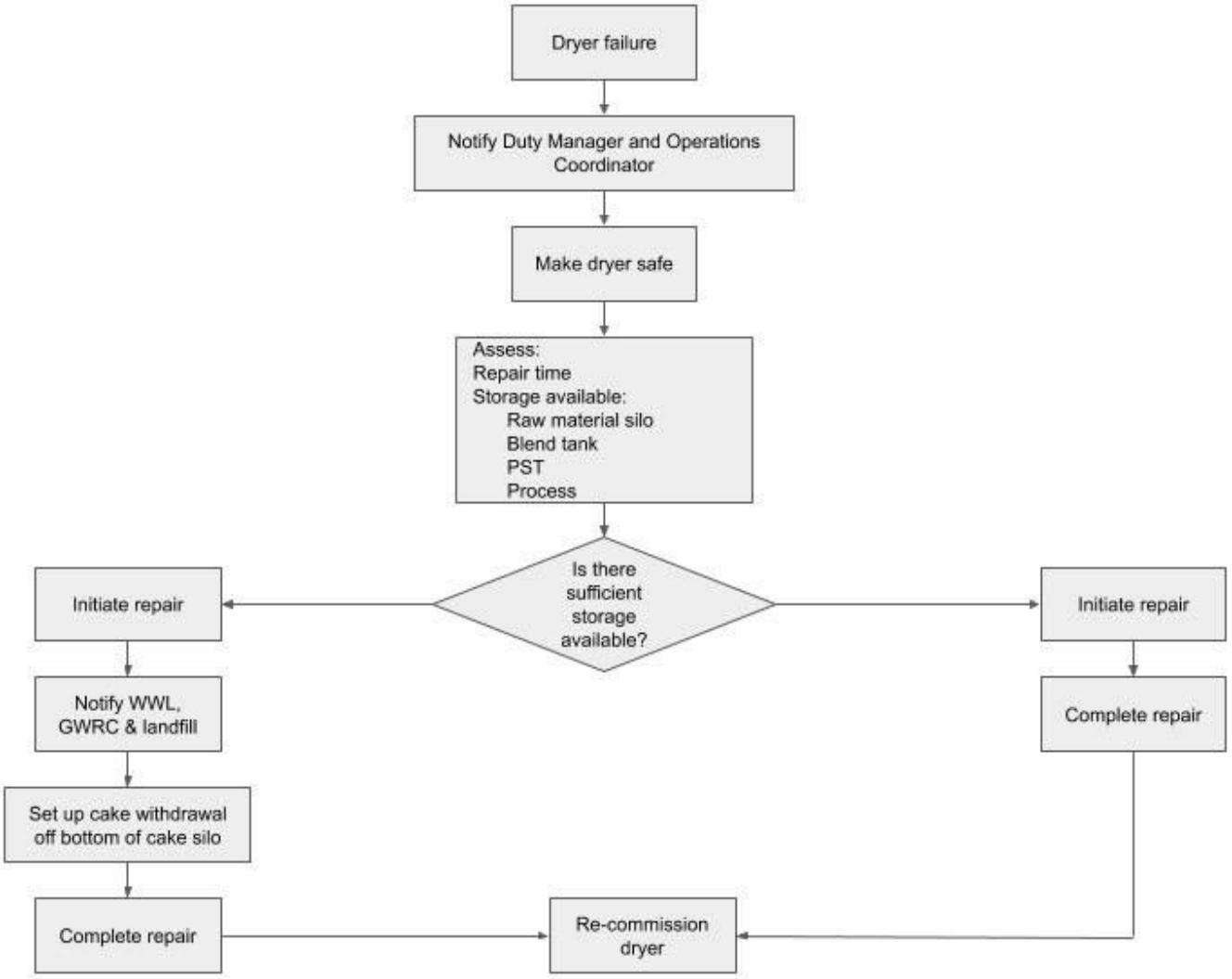
Veolia will, in conjunction with Wellington Water prepare and maintain a plan for reducing the volume of residuals and carbon emissions for each WWTP under the WWTP Contract.

Dryer

At the Seaview WWTP, the sludge is further processed by a dryer. The operation of the dryer carries a number of risks as outlined below:

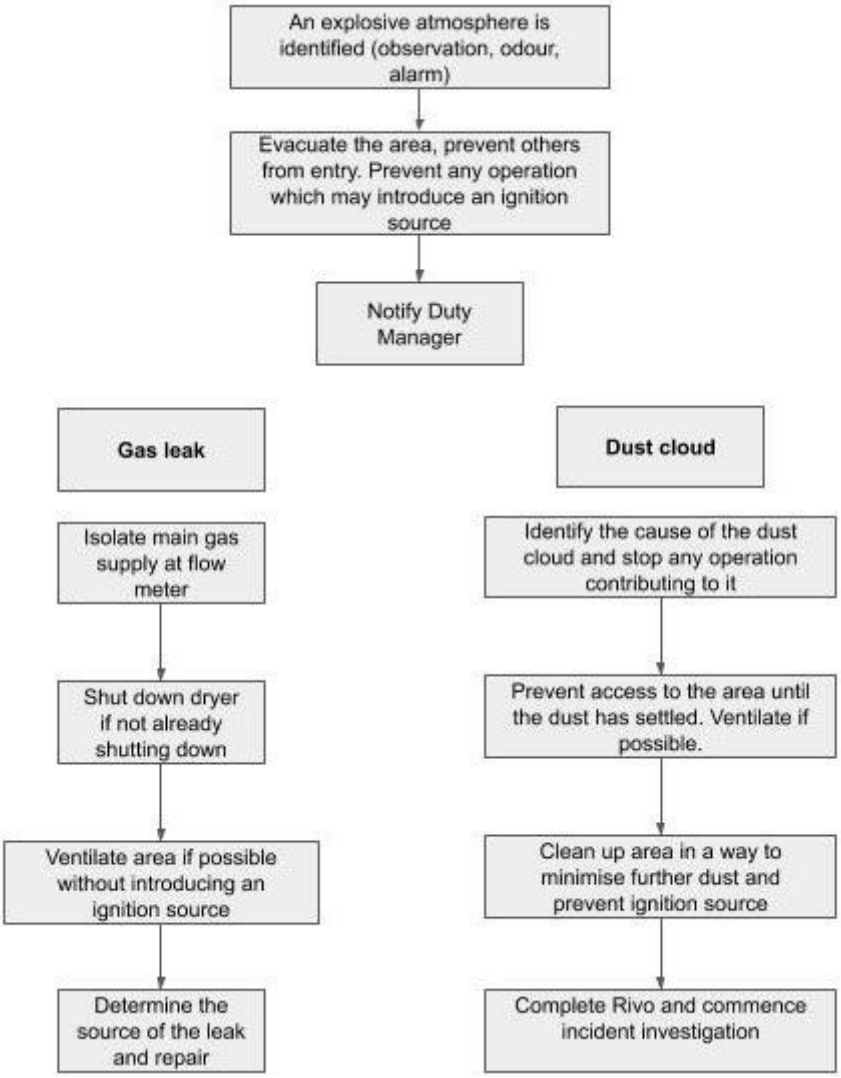
- Equipment Failure
- Rapid expansion of gas
- Fire
- Chemical
- Mitigating Measures:
- Routine maintenance
- Fire suppression system
- Rupture disks
- Nitrogen system

Should the dryer fail (for any reason), the following response flow chart is to be followed:

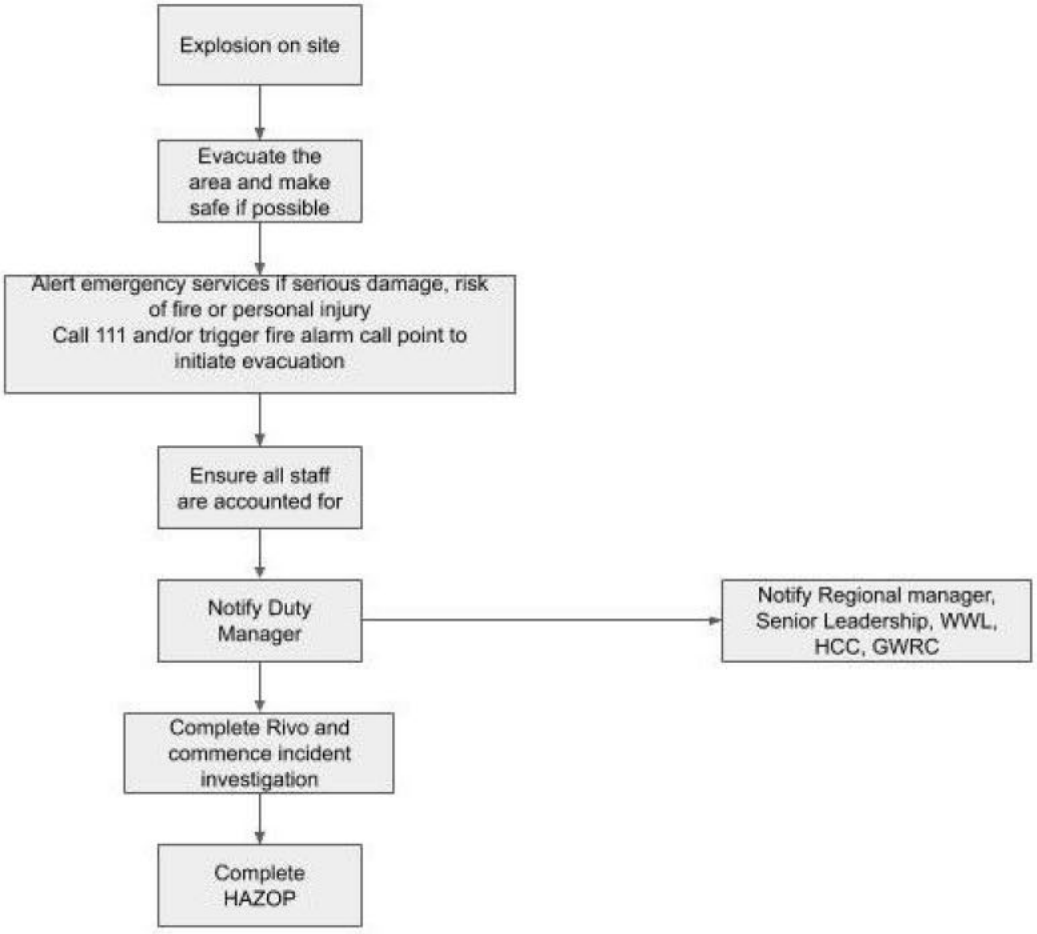


For operational purposes, the entire dryer building is classed as a potentially explosive atmosphere. Signage at all entrance ways warns of potential explosive risk and precautions around ignition sources. Only authorised personnel are allowed entry.

In the event of an explosive risk being identified or an event occurring, the following emergency response flow chart is to be followed:



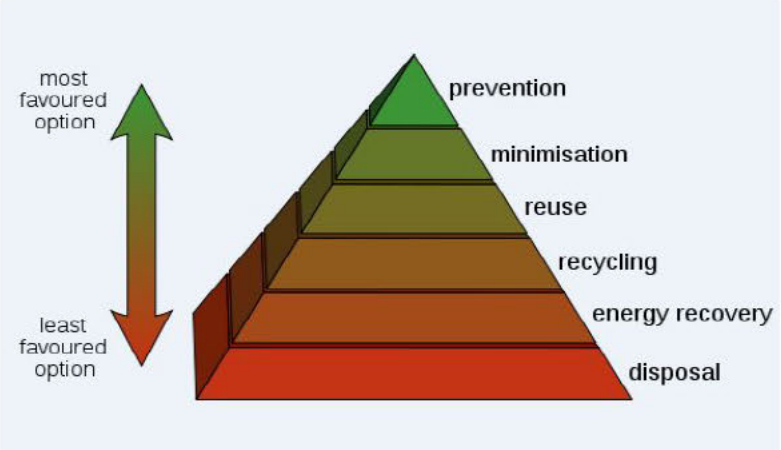
In the event of an explosion on site, the following response flow chart is to be followed:



Waste Management

Waste Management and Minimisation take place in accordance with the Sustainability Standard and the Environmental Management Procedure.

This includes demonstration of a commitment to waste minimisation, recycling and safe and efficient waste disposal in compliance with environmental legislation using the 3 Rs hierarchy philosophy of REDUCE, RECYCLE, REUSE.



All liquid waste streams generated during operation of the Wellington Contracts are discharged in accordance with the regional guidelines.

Site Stormwater Management and Monitoring

The operation of each WWTP has the potential to impact on the local waterways so all chemicals used, and waste generated are handled and stored in such a way that pollutant discharges to stormwater are prevented as much as possible.

Air Quality and Odour Management and Monitoring

The potential for air quality and odour issues to occur during operation is always present. Any WWTP plant, pump station or network has the potential to be an odour source. For this reason all odour complaints will be entered into Rivo and are investigated and managed in accordance with the procedure Investigating An Odour Report.

For all WWTP sites, the requirements of their "discharge to air" consents must be adhered to prevent objectionable odours that may be generated from:

- Screenings
- Primary settlers
- Aeration ponds
- Sludge treatment

Weather information is also recorded at most WWTP sites and can aid the identification of possible odour sources.

Noise Management and Monitoring

The Wellington Contract includes noise monitoring and mitigation to ensure compliance with industrial noise exposure limits of 85 dB(A) at 1 metre.

Daytime deliveries and contractor works will be requested where practical and the noise impacts of scheduled activities will be considered during planning.

Noise impacts from the operation and maintenance of the Wellington Contract will be monitored and minimised as appropriate.

Flora and Fauna

Veolia will manage the local flora and fauna within all the treatment plants within the contract requirements and ensure continued biodiversity.

Environmental Monitoring

Environmental Compliance Monitoring

Compliance with all environmental regulatory and project specific criteria is a priority. Specific compliance obligations are detailed in CS-VUE.

Detailed sampling and analytical methods are defined in the relevant procedures and work instructions. These will be in-line with relevant contractual requirements and industry standards.

Environmental non-compliances will be managed in accordance with the Emergency Response Manual and associated plans incidents and Continual Improvement procedure for systematic non-compliance.

Monitoring is undertaken to address the requirements of relevant resource consent conditions and applicable regulatory requirements.

In addition, some aspects of environmental monitoring and checks are included in the daily operator rounds and collected on plant log sheets or entered into the Operational Data Management (ODM) system.

All sampling strategies and protocols undertaken as part of the monitoring program will be conducted in line with industry best practice. Sampling will be performed by operators/maintainers and contractors in accordance with the Wellington Contracts quality management systems. All analysis for compliance reporting will be performed in an IANZ registered laboratory.

People Management - Induction and Training

Veolia Learning Framework

In line with the Learning and Development policy Veolia has a comprehensive and innovative learning and development framework, which fosters a learning culture that in turn grows the capability of managers and employees to build a motivated, engaged and high performing workforce. Refer to Learning and Development Standard for details.

The framework is a combination of corporate and operational specific training programs and includes:

- Induction
- V-Learning (on-line learning modules)
- Competency based learning
- Compliance training
- On the Job Training
- Role-specific training (external and internal)

Learning Culture

Veolia embraces a learning culture that is consistent with how employees learn best as:

- 70% of learning takes place on the job through job tasks and special projects
- 20% comes through guidance and demonstration from peers, subject matter experts, supervisors and managers, while
- 10% of learning comes as a result of formal learning programs.

Effective knowledge transfer is critical to staying abreast of advances in technologies, taking advantage of past experiences and using the knowledge and experience of the company as a whole to avoid and resolve problems at individual sites.

Knowledge transfer within and between Veolia's sites is achieved through a number of means.

- Veolia's Global Centres of Excellence (Technical, Treatment, Asset, SHEQ etc.)
- Inter-site operator transfers and visits
- Technical sessions
- Technical Library
- Regional and local conferences and events

- Lessons learnt activities

Induction

Prior to commencement of employment, it is a requirement that all employees shall undertake mandatory and appropriate Veolia site-specific inductions and training, which includes:

- Veolia NZ Onboarding;
- Veolia ANZ SHEQ Induction;
- Veolia High Risk Management Standards;
- Drug and Alcohol Management;
- Veolia Code of Conduct;
- Veolia diversity and Inclusion;
- Chemical Awareness;
- Asbestos Awareness;
- Emergency Management;
- Plant Safety;
- Manual Handling;
- Wastewater Hygiene Induction; and
- All required Client/Site Specific Inductions.

Training

In line with the Learning and Development Policy Veolia has a comprehensive and innovative learning and development framework, which fosters a learning culture that in turn grows the capability of managers and employees to build a motivated, engaged and high performing workforce. The Veolia Learning and Development Procedure sets out the process.

Veolia will develop and maintain a formal training program, including refresher training, to ensure all workers are fully trained in their area of responsibility or activity and have a suitable understanding of the other processes at the Wastewater Treatment Plants. This information will be kept on a formal training register. Veolia's online training portal Tableau, will be used in conjunction with the site training register.

The training register for the WWTP Contract can be found here

Seamless Operation

To ensure seamless operation of the WWTPs, Veolia will offer the availability of training to Wellington Water personnel so that, if necessary, Wellington Water can step in and operate and manage the WWTPs competently at short notice and with minimal inconvenience.

On The Job Training

All Veolia employees will undergo extensive training on any plant and equipment they are expected to use or operate.

Veolia utilises our Record of Experience process to track employees' progress towards becoming fully capable to operate plant and equipment. All time spent while being supervised on specific plant and equipment is logged and tracked.

Compliance Training

Veolia employees will complete mandatory compliance training including;

- Veolia High Risk Management Training
- Alwayssafe Culture training
- Workplace first aid
- National Certificate in Water Treatment (Wastewater strand) (Level 4) or previous National Certificate in Wastewater Treatment (Level 4)
- Confined Spaces - US 18426, 17599, 25510 (where required)
- Certified Handler Competency Course US 20645 (where required)
- Chemical Handling & Spill Management US 21467, 20733
- Height safety US 23229 (where required)

Training Evaluation and Records

Veolia maintains a training database, which stores information regarding training requirements, training providers, training due/refresher information, and completed courses. Training attendance forms, assessments records and copies of certificates are maintained and managed through Bridge LMS.

Fitness for Work

The Health Surveillance Procedure provides guidance to assess the general health and wellbeing of employees and promote minimum health (physical and mental) standards for employment eligibility and continual performance. Veolia maintains an alcohol and drug-free work environment and all employees are expected to meet the minimum requirements of presenting as Fit for Work (FFW).

The policies and procedures outlining the requirements for health and fitness of employees include:

- Workplace Health and Safety Policy;
- Fitness for Work Policy;
- Drug and Alcohol Procedure;
- Health Surveillance Procedure; and
- Hygiene and Infectious Diseases Procedure.

Health Surveillance

All workers with Veolia undergo annual health surveillance in accordance with Veolia's procedure Health Surveillance

The health surveillance program is an identified control measure aimed at potentially reducing risks from various activities performed on all Veolia contracts such as;

- Confined space works
- Use of hazardous substances/chemicals
- Noise
- Manual handling activities
- Biological health risks

Examples of health surveillance records include audiograms, biological monitoring results, exposure monitoring results, functional test results (e.g. lung function testing), occupational history, medical history, whether personal protective equipment is selected, used and maintained correctly at work.

Where workers may be exposed to potentially harmful biological organisms and contaminants, monitoring for biological hazards, may be appropriate, based on the outcome of the risk management process.

Seasonal vaccines such as flu vaccines will be made available annually for workers if they wish to receive these.

All employee vaccinations are provided at company expense and records will be kept on personal files with Veolia's Human Resource department.

Always Safe Interactions - Leadership Engagement

The Always Safe Interaction program underpins the Always Safe Charter by facilitating a process of assessing a task or work situation through observation, discussion, reinforcement of positive aspects, and correction of negative aspects. The key objective of the Always Safe Interaction is to raise employee safety awareness, recognise good work practices, and where applicable, agree and communicate safer work practices.

Always Safe interaction findings and actions shall be entered into the RIVO system.

Measurement, Monitoring And Reporting

Veolia measures and monitors its business performance to:

- Determine conformance with product and service requirements
- Determine conformance with and monitor the effectiveness of the management system requirements
- Determine conformance with contractual, regulatory and other compliance requirements, and assess client perceptions of Veolia's performance
- Monitor performance against Business Plan objectives and targets
- Monitor financial performance
- Assess the level of risk associated with a particular product, process or activity
- Assess suitability and performance of the equipment and processes that monitor or control operational performance.

Control of Monitoring and Measuring Devices

Where monitoring and measuring devices are used to provide evidence of conformity of product to determined requirements, these devices will be calibrated in accordance with the Control of Inspection, Measuring and Test Equipment procedure and manufacturer's recommendations. Records of calibration will be maintained on the Calibration Report or the site specific sheet.

Equipment to be calibrated will be listed on the Measuring Equipment register and the calibration status of the device will be clearly communicated.

The measuring equipment register for the WWTP Contract
- Porirua, Western, Moa Point and Seaview can be found here

If the results of a calibration are not satisfactory (if the required accuracy is not reached) or if an item of testing equipment is out of service, the equipment shall be removed from use and marked out of calibration / for repairs. Moreover, the Contract Manager shall estimate the accuracy of the results given by the faulty testing equipment before the defect was discovered.

Reporting and Analysis of Data

Operational data is collected and stored by Veolia for reporting and analysis. This data is expected to include:

- Raw Wastewater quality data
- Quality Control Point Data throughout the plants
- Finished Wastewater Quality Data

- Laboratory data (external & internal)
- Chemical Usage Data
- Power Consumption Data
- Flow Data

The data collected will be regularly interrogated by Process Engineers to identify any emerging trends, and to develop improved operating protocols and avoid potential process issues.

Formal monthly reports are prepared using the available plant and laboratory data as per Monthly Client Report Templates.

Sampling

Veolia will fully monitor all aspects of the performance of the Wastewater Treatment Plants in accordance with the resource consent conditions. Testing procedures shall be performed in accordance with the latest edition of Standard Methods for the Examination of Water and Wastewater published by the American Public Health Association. All testing and sampling shall be performed by suitably trained Contractor Personnel.

Veolia will ensure that all flow-proportioned composite samples shall run from 0900 hours to 0900 hours and results shall be recorded for the previous day (i.e. the composite sample collected at 0900 on 10 March is recorded as the sample for 9 March).

A laboratory services contractor, on behalf of Veolia, will retain in cool storage 24 hour flow proportioned 2-litre samples of both Influent and Effluent for a period of 7 days. These samples shall be made available for independent testing on request by Wellington Water from time to time.

Whenever the Effluent quality exceeds any of the percentile limits given in the conditions of the relevant discharge consent, the Contractor shall provide a report to the Wellington Water Contract Manager giving a detailed explanation of the factors causing the poor performance and advising what actions have been or should be taken to address the problems. This report shall be provided within two days of obtaining the analytical results.

The Contractor shall provide quarterly reports on compliance to the Greater Wellington Regional Council as required by the resource consents. These reports will be provided to the Wellington Water Contract Manager for review prior to submission to Greater Wellington Regional Council.

Veolia will ensure all samples are collected and recorded on the Veolia Chain of Custody Record as per the Veolia Sampling Procedure.

Incident, Emergency, Crisis and Business Continuity Preparedness and Response

Approach to the Incident, Emergency, Crisis and Business Continuity Management

Veolia operates a business where a major incident, emergency or crisis could lead to public health, safety or environmental issues, potential substantial liability claims, media attention and reputational damage. One of the main objectives of Veolia's business management system is to identify potential risks and develop and maintain measures to manage them.

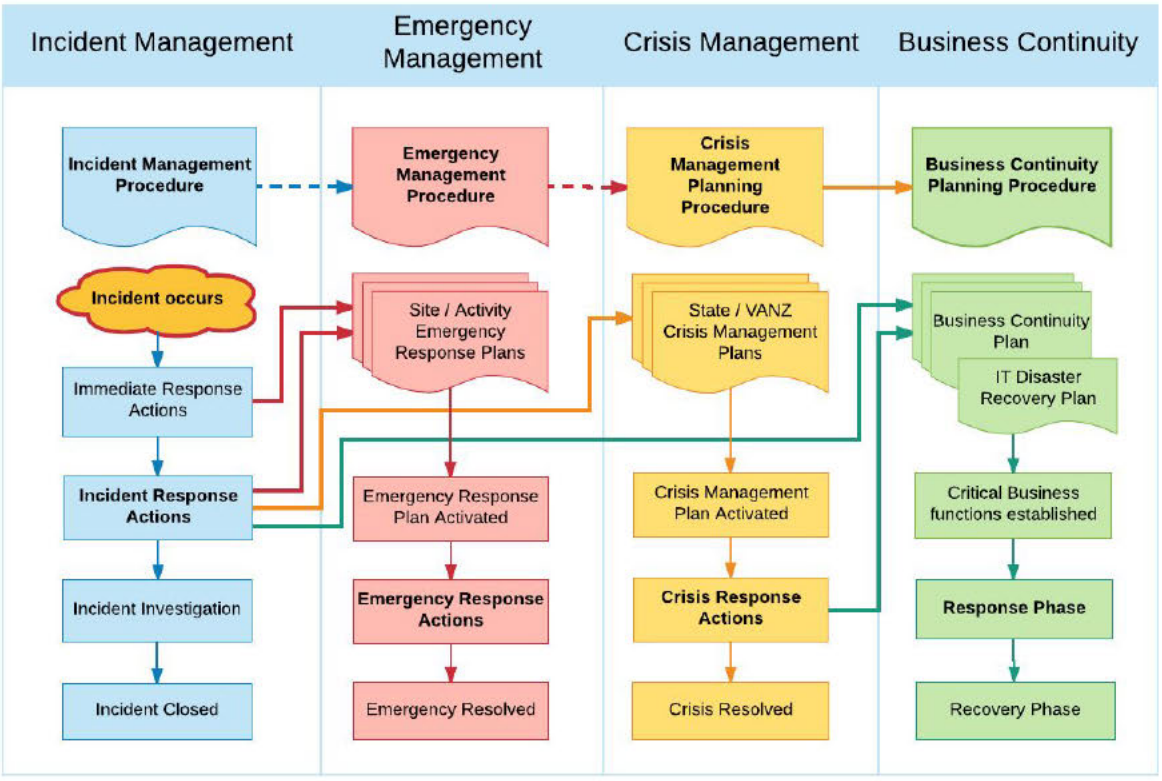
The key principles of Veolia's approach to crisis and incident management include:

- Risk Analysis - The identification of hazards and risks that could impact the various customers, community, environmental and operational implications.
- Prevention – The planning and documentation of prevention and mitigation activities for all major hazards, and allocation of responsibility for their implementation.
- Preparedness – The development, implementation and review of specific incident management plans and processes to manage identified risks, the training of staff, and establishment of facilities to ensure the company can respond effectively to an incident.
- Response – The issue of warnings and establishment of processes for effective notification of incidents, and mobilisation of resources to combat the incident or threat.
- Recovery – The return to normal operations, management of debriefs, and implementation of lessons learnt from the response process.

The following priorities are adopted when combating an incident / crisis:

- Protection of human life and welfare
- Protection of the environment
- Protection of Veolia's and our clients assets, commercial arrangements, reputation, and image.

Incident/Emergency/Crisis/Business Continuity - Relationship Diagram



Incident Management

All incidents shall be reported immediately. Forms shall be provided to all supervisors and employees to facilitate the reporting of incidents and should be completed at the time of the incident.

Completed incident forms shall be entered into RIVO within 48 hours of initial report.

Investigations should be undertaken to the appropriate level to ascertain the root cause(s) of the incident and identify any appropriate corrective or preventive actions to prevent re-occurrence as outlined in the following procedures:

- Incident Management Procedure; and
- SHEQ Reporting and Performance Monitoring Procedure.

Injury/Occupational Illness	Any physical or psychological harm which occurred as a result of an unplanned work related event.
Environmental Incident	An unplanned event resulting in damage to the environment.
Security/Crime Incident	Any event resulting in security breach or crime.
Property Damage	Any event resulting in damage of Veolia or third party property.
Motor Vehicle Incident	Any event involving either a Veolia motor vehicle or third party vehicle.
Quality Event	Any event resulting in an effect to the quality of business.

Operations Incident Log

Veolia will create and maintain an Operations Incident Log that shall record the following data, and where the incident has a customer focus, also be reported to Wellington Water's Customer Hub:

- Date and time of first logging;
- Source of information (name, address and telephone number if from a member of the public);
- Description of incident or service call, and any potential customer or member of public effects;
- Potential effect on the environment;
- Potential health and safety effects;
- Identification of assets affected;
- Priority classification and any change to classification resulting from further information;
- Details of response required;
- Details of response action taken;
- Details of resources used in response;
- Date and time when resolved;
- Details of notification of resolution to source of information, if a member of the public; and
- Details of parties notified, form of each notification and time of each notification.

Crisis and Emergency Preparedness and Response

Emergency Response Plan

An Emergency Response Plan has been developed to:

- Reduce the risk of incidents occurring
- Reduce the impact of incidents on personnel, clients and customers, the community, the environment, assets & systems, and
- Promote and support the maintenance of effective incident management processes.

The ERP provides guidance to the Operations Team on the correct response to an incident that occurs on, or near to, the operating facility. The plan outlines:

- National Outline Plan, Incident Identification and Notification process
- Emergency Contact Details
- Crisis Management Plan
- Incident & Emergency Response Procedures
- Incident & Emergency Responsibilities and Checklists
- Facility description, site plans and maps
- Chemical registers
- Useful forms

Crisis Management Plan

In addition to the specific ERP, a company-wide Crisis Management Plan has been developed.

The Crisis Management Plan:

- Summarises Veolia's policies and principles, to which this plan adheres
- Describes the respective responsibilities of the Crisis Management Team (CMT) and the Incident Management Team (IMT)
- Describes the individual roles for each member of the CMT
- Defines the processes used to notify and mobilise the CMT
- Describes the working methods as well as the response and recovery actions undertaken by the CMT
- Lists the issues and implications which need to be considered by the CMT for different crises
- Describes the processes and actions required to ensure effective communications to key clients, government, regulators, staff, contractors and the general public where appropriate
- Sets out the process for establishing the crisis room(s)
- Lists contact numbers for key staff and external service providers

- Includes the forms used to log actions and record caller details, and
- Media response and communications in notification of Veolia Headquarters in France.

Training and Incident Scenario Trials

All Veolia employees will be trained in response procedures which will include potential impacts of operational failures, water quality, safety and environmental incidents.

Trials will include theoretical sessions and practical emergency scenarios. The simulated scenarios are scheduled through the on-site CMMS system and will take place:

- 2 emergency/incident scenario per year
- 2 physical emergency evacuation per year

Depending on the type of scenario, the simulation may be run as a simple desktop exercise, practical exercise involving the Wellington staff or broad exercise involving the client and emergency services where possible.

Injury Management

Injury management shall be initiated as soon as possible following a work related injury or illness to assist the employee in returning to meaningful and productive work. In the event of a work related injury any person working for Veolia will receive relevant medical attention, rehabilitation and return to work assistance as outlined in Injury/Rehabilitation Management procedure.

Where required, an individually planned Return to Work (RTW) program shall be implemented and monitored by the designated external provider (defined by ACC).

The workplace rehabilitation strategies for injured employee, including suitable duties plans will be developed by the HR and SHEQ managers in consultation with the Wellington Contract Manager and the affected employee and recorded on the Rehabilitation Plan.

The procedures supporting the injury management process are:

- Workplace Injury Management Policy; and
- New Zealand Injury Management Procedure.

Useful forms;

- Injury Management Plan
- Medical Authority

VANZ Policy Issue Date 10/07/2018

Quality Policy

Veolia Australia and New Zealand (Veolia) is the region's only environmental solutions organisation with specific capabilities across water and wastewater treatment, energy management, waste and resource recovery services, industrial cleaning and facilities maintenance services.

Our goal is to provide comprehensive, high-value-added solutions that balance growth and environmental protection, solutions that manage water sustainably, turn waste into a resource, and develop cleaner, more efficient energy systems.

Veolia's business strategy is guided by five elements: our business, our customers, our people, our environment and our community. These elements shape all aspects of Veolia's future performance, and our corporate policies and practices are linked to delivering excellence in one or many of them.

Veolia is committed to:

- Implementing, maintaining and continual improvement in the effectiveness of our integrated business management system that meet ISO 9001 quality systems requirements, thereby ensuring the quality of our activities, products and services.
- Establishing and reviewing quality objectives for our activities, products and services that are measurable and consistent with the requirements of our clients.
- Meeting quality standards required by our clients and customers and complying with applicable contractual, legal and other requirements.
- Ensuring all employees are suitably qualified, trained, competent and experienced to carry out their roles in a professional manner, and in accordance with industry standards.
- Applying a rigorous risk based management approach to the identification and control of activities affecting the products and services we provide.
- Endeavouring to ensure that our policies, objectives and achievements are communicated to all persons working for and on behalf of our business.

All managers, employees, contractors and visitors are responsible for being aware of, and complying with this policy.

[redacted]

10th July 2018

[redacted]
Managing Director/ CEO
Veolia Australia and New Zealand

VANZ Policy Issue Date 10/07/2018

Environment Policy

Veolia Australia and New Zealand (Veolia) is the region's only environmental solutions organisation with specific capabilities across water and wastewater treatment, energy management, waste and resource recovery services, industrial cleaning and facilities maintenance services.

Our goal is to provide comprehensive, high-value-added solutions that balance growth and environmental protection, solutions that manage water sustainably, turn waste into a resource, and develop cleaner, more efficient energy systems.

Veolia's business strategy is guided by five elements: our business, our customers, our people, our environment and our community. These elements shape all aspects of Veolia's future performance, and our corporate policies and practices are linked to delivering excellence in one or many of them.

Veolia is committed to:

- Effectively managing our significant environmental impacts, monitoring progress and reviewing environmental performance against objectives and targets on a regular basis.
- Driving continual improvement, and meeting the requirements of ISO 14001 environmental management systems standard as part of the integrated business management system.
- Complying with applicable environmental legislation, contractual and other necessary requirements related to our activities and assist customers and suppliers to use products and services in an environmentally sensitive way.
- Striving to ensure that our policies, objectives and achievements are communicated to all persons working for and on behalf of the business and to educate and train employees and ensure competence in environmental issues and the environmental effects of their activities.
- Preventing pollution and harm to the natural, heritage and built environments and to reduce the use of all raw materials, energy and supplies.
- Consulting with relevant stakeholders, taking into account local environmental conditions and working with local communities to achieve shared and lasting outcomes.

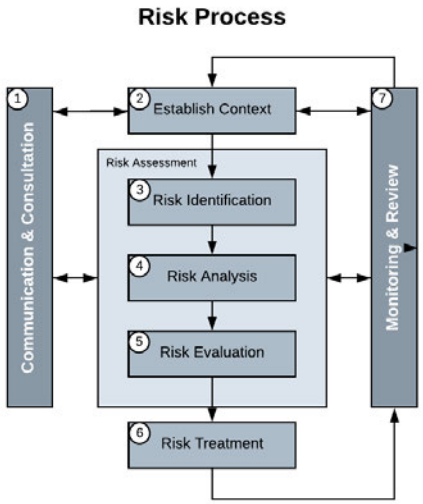
All managers, employees, contractors and visitors are responsible for being aware of, and complying with this policy.

[redacted]

10th July 2018
[redacted]
Managing Director/ CEO
Veolia Australia and New Zealand

Risk Assessment Attributes

The steps involved in the risk assessment process is depicted in the diagram below:



Establish Context

The first important step prior to conducting a risk assessment is establishing the context of what

Context	Description
Scope	The business, contractual and SHEQ risks related to the operation and maintenance of wastewater treatment facilities and associated facilities for the Wellington Clearwater Contract.
Risk Categories	All categories are tested
Goals & Objectives	Goals and KPIS relevant to the Scope of the risk assessment.
Stakeholders	Client, Veolia, Employees, Contractors, Regulators
Physical Boundarie	The majority of work will be performed within the Wellington District Council boundaries but some work may be performed outside these boundaries.
Operational Boundaries	The operations conducted to which the risk assessment applies

Environmental Aspects & Impacts Risk Register

Welcome to the Risk Assessment and Register Template

This sheet contains the instructions for use.

The use of this template is described in the **Risk Management Procedure**

Instructions

1. This template is used to conduct risk assessment and becomes the risk register Veolia's line of business.

2. This template provides a series of predefined headings in columns. These are to remain.

3. The predefined heading in columns are separated into minimum required risk assessment shaded in
Grey and optional additional information, which has been referenced with the word "Optional" in the title and
are shaded in Green.

Please note:

There is a column (risk calculator) which is used to calculate the Risk Ranking. This should be hidden. To hide / reveal this column, select the column, right click and select "hide" or "unhide"

The formula for the Level of Risk is simply:
= Likelihood*Consequence

The formula for the Risk Rating is:
=IF(M15<=3,"Low",(IF(M15<=9,"Medium",(IF(M15<=15,"High","Extreme")))))

Need Help?

Please contact your local Risk Manager if you have any problems using this template, using sheets, or have suggestions for improvement.

Hover over the appropriate cells for instructions.

		Our People WHS	Our Environment Sustainability	Our Customers Operational Quality	Our Business Strategic, Business and Financial	Our Community Compliance Legislation	1 - RARE Event which may occur only in exceptional circumstances Event likely to occur in exceptional circumstances	2 - UNLIKELY Event likely to occur at least once over a period of a two to three years in the industry Event with limited potential of occurring	3 - POSSIBLE Event likely to occur at least once a year over a period of a calendar year in the industry Event with moderate potential to occur	4 - LIKELY Event likely to occur at least monthly or quarterly over a period of a calendar year in the industry Event with high potential to occur	5 - ALMOST CERTAIN Event likely to occur at least weekly over a period of a calendar year in the industry Event expected to occur in most circumstances
Consequence	5.Catastrophic	Serious injury accident or Fatality. Permanent severe disability. Widespread, or potential widespread disease outbreak or human health impact.	Irreversible environmental harm caused to an area of high conservation value. Spillage of toxic, flammable or explosive chemicals. Facility fire requiring emergency	Loss of key assets. Inability to deliver multiple contracts/ services to key clients. Disruption to services which lasts over 48 hours and affect more than 5 % of areas population.	Financial cost over $1,000,000 or ≥20% of budget Nationwide adverse media attention impacting reputation/brand.	Sustained non-compliance to legislation with heavy penalties (i.e. prosecution). Loss of ISO or AS Certification.	Medium (5)	High (10)	High (15)	Extreme (20)	Extreme (25)
	4. Major	Lost time injury. Hospital Treatment as an inpatient. Multiple human health impact linked to company operation.	Material environmental harm causing potential severe & extensive loss/ damage requiring clean up and rehabilitation. Damage to fauna/flora. Spillage under 1551 of oil, diesel, and chemicals not contained.	Severe and prolonged loss of production and/or operational breach. Inability to deliver contract/service to key client and/or contract dispute disclosable to EGM. Disruption to service which lasts up to 48 hours and affects up to 5 % of	Financial cost between $500,001 - $1,000,000 or <20% of budget. State-wide adverse media attention or adverse media by large customer.	External investigation by regulatory body (Direction from Regulator). Serious failure to comply with legislation. Operational Loss of ISO or AS Certification.	Medium (4)	Medium (8)	High (12)	Extreme (16)	Extreme (20)
	3. Moderate	Medical treatment injury. Restricted Work Case. Hospital Treatment and/or checks as outpatient. Isolated human health impact linked	Release to environment NOT contained within the facility limits. Repeated breach of environmental statutory limits.	Moderate loss of production and/or operational breach disclosable to Senior Management. Single contractual breach. Disruption to service which lasts up to 24 hours and affect up to 2 % of	Financial cost between $50,001 - $500,000 or <10% of budget. Adverse medium term comment by medium size	Significant breach or penalty requiring Senior Management escalation (i.e. show cause). Regulatory Intervention without escalation.	Low (3)	Medium (6)	Medium (9)	High (12)	High (15)
	2. Minor	First Aid Injury. Failure of an operational procedure or health standard/guideline that could lead to human health impact.	Release to environment immediately contained within facility limits. Single breach of statutory limits.	Minor operational breach, loss of production and/or service capacity requiring Management attention. Disruption to service which lasts up to 12 hours and affect up to 0.5 % of consumers.	Financial cost between $20,001 - $50,000. Adverse short term comment by local customer or local media.	Minor breach or penalty requiring Management attention (i.e. improvement notice)	Low (2)	Medium (4)	Medium (6)	Medium (8)	High (10)
	1. Insignificant	No medical treatment. Failure of an operational procedure or health standard/guideline	No environmental harm or environmental nuisance.	Minor operational breach and/or service capacity remedied on site by operational team. Disruption to service which lasts up to 5 hours and affect up to 0.1% of consumers.	Financial cost equal or below $20,000 or <5% of budget. Minor complaints or no external impact on reputation.	No improvement notice, or penalties.	Low (1)	Low (2)	Low (3)	Medium (4)	Medium (5)

Air	Very Effective	Compliance	Business/Strategic	Yes	Elimination	Active	1
Hazardous substances	Effective	Industry	Work Health and Safety	No	Substitution	Retired	2
Flora/Fauna	Neutral	Industry	Environment		Isolation		3
Noise	Ineffective	Research & Development	Water Quality		Engineering		4
Land	No Control	Government Structure			Administration		5
Water		Political Stability			PPE		
Waste		Corporate Affairs					
		Business Development					
		Leadership Management					
		Mergers & Acquisition					
		Partnering					
		Organisational Structure					
		Board of Directors					
		Reputation - Local					
		Reputation - International					
		Stakeholder Management					
		Market					
		Resource Planning					
		Opportunities					
		Asset Management					
		Budget					
		Budget					
		Business Continuity					
		Unethical behaviour					
		Human Resources					
		Industrial Relations					
		IT Network Infrastructure					
		Management System					
		Natural Events					
		Procurement					
		Security					
		Quality					
		Creditor Management					
		Debtor Management					
		Finance Management					
		Project Quality					
		Project Time					
		Project Compliance					
		Project Budget					
		Project					
		Chemical					
		Waste					
		Air					
		Raw water					
		Resources Management					
		Premise					
		Sludge					
		Stormwater					
		Treated water					
		Landscape/Vegetation					
		Networks					
		Maintenance/ Repair					
		Treated Effluent					
		ROC					
		Water Storage Tanks					
		Confined Space Work					
		Hot Work					
		Fall from Heights and Depths.					
		Hazardous Substances and Dangerous Goods					
		Electrical Work					
		Driving Vehicles					
		Manual Handling					
		Lone & Remote Working					
		Working Outdoors					
		Working Shift Work/Night					
		Biological Contamination					
		Working in Hazardous Area					
		Working in adverse conditions					
		Mechanical energy.					
		Fire/Emergency Management					
		Slips, trips, falls					
		Purchasing					
		Operating Plant					
		Contractor management.					
		Site visits					
		Working from Home					

Environmental Aspects & Impacts Register

Risk Assessment Conducted On:	15/03/2023
Risk Register Owner:	
Risk Assessment Team (facilitator ish titles):	
Business Unit:	**Water**
Last Risk Review Date:	
Next Review Date	

RISK IDENTIFICATION									**RISK ANALYSIS**													**OPTIONAL RISK TREATMENT (Risk Action Plan)**				**OPTIONAL RISK TARGET**			
Context				**Risk Description**					**Current Situation (not mandatory)**	**Inherent Risk Level**				**Controls**			**Residual Risk Level**					**Action**				**Residual Risk after Risk Treatment Identified Controls**			
Ref No.	**Risk Category**	**Assessment category**	**Activity / Task / Job**	**Risk/Opportunity Description (What can go wrong or what opportunities does Veolia have)**	**Risk/Opportunity Causes**	**Risk Impact/Consequence (What happens if the risk occurs)**	**Risk Owner**	**Legal and Other Requirements**	**Previous Incidents and lessons learnt?**	**Likelihood**	**Consequence**	**Inherent Risk Level =Likelihood x Consequence**	**Inherent Risk Rating**	**Significant aspect/impact? Yes/No**	**Existing Controls What existing controls are in place?**	**Hierarchy of Control**	**Control Effectiveness**	**Likelihood**	**Consequence**	**Residual Risk Level =Likelihood x Consequence**	**Residual Risk Rating**	**High or Extreme Risk Justification**	**Further Mitigation / Action Plans**	**Action Owner**	**Action Due Date**	**Action Status / Progress**	**Likelihood**	**Consequence**	**Projected Risk Level =Likelihood x Consequence**	**Projected Residual Risk Rating**
	Water	**Water pollution**	Treatment process failure	Non-compliant effluent	Poor treatment process performance	Deterioration of water (Streams, Rivers, and Coastal marine area)		- Resource Consents - Regional Wastewater Treatment Plant Service Contract		3	3	9		Yes	- SCADA system in place to monitor and control the process - Operators training - SOPs in placed - Operational manuals up to date - Regular PMs and KPIs review	- Engineering - Administration	Effective	2	3	6										
	Air	**Air pollution**	Treatment process failure	Offensive odour release	Poor treatment process performance	Release of foul odour that affect the community in the surrounding area, resulting in odour complaints		- Resource Consents - Regional Wastewater Treatment Plant Service Contract		3	3	9		No	- Odour treatment process in place (ie Scrubber, Biofilter) - Odour Blaster - Operators training - Regular PMs - Proactive odour assessment around facilities	- Engineering - Administration	Effective	2	3	6										
	Air	**Air Pollution**	Operation of diesel generators	Emission of air pollutants	- Power outages - Power spikes - Power failure within the plant	Increase of air pollutants such as NO2, NO, CH4 and CO2		Resource management Act 1991		1	2	2		No	- Regular maintenance on the generators	Engineering	Effective	1	2	2										
	Air	**Air pollution**	Use of diesel vehicules	Emission of air pollutants		Increase of air pollutants such as NO2, NO, CH4 and CO2		Resource management Act 1991		1	2	2		No	- Regular maintenance on vehicules	Administration	Effective	1	2	2										
	Hazardous substances	**Chemical Management**	Chemical delivery, storage, and handling	- Chemical spill due to asset failure; - Chemical spill during chemical delivery; and - Chemical spill due to operator handling error.	- Equipment failure - Human error	Chemical spillage could cause: - Deterioration of land - Harm to flora and fauna		Health and Safety at Work (Hazardous Substances) Regulations 2016		3	4	12		Yes	- SCADA system in place to monitor and control the process - Operators training, use of PPE - SOPs in placed - Operational manuals up to date - Regular PMs and KPIs review - Bunding, spill kits - ERP	- Engineering - Administration - PPE	Effective	2	3	6										
	Hazardous Substances	**Chemical Management**	Handling and Transfer (Piping) including chemical	Loss of containment of process or laboratory chemicals		Deterioration of land		Health and Safety at Work (Hazardous Substances) Regulations 2016		3	4	12		Yes	- Operators training, use of PPE - SOPs in placed - Regular PMs and KPIs review - Bunding, spill kits - ERP - Isolation system	- Engineering - Administration - PPE	Effective	2	3	6										
	Hazardous Substances	**Chemical Management**	Diesel Delivery	Loss of containment		Deterioration of land		Health and Safety at Work (Hazardous Substances) Regulations 2016		3	4	12		Yes	- Operators training, use of PPE - SOPs in placed - Regular PMs and KPIs review - Bunding, spill kits - ERP - Isolation system	- Engineering - Administration - PPE	Effective	2	3	6										
	Hazardous Substances	**Chemical Management**	Storage	Loss of containment of process chemicals - Bulk storage.		Deterioration of land		Health and Safety at Work (Hazardous Substances) Regulations 2016		3	4	12		Yes	- Operators training, use of PPE - SOPs in placed - Regular PMs and KPIs review - Bunding, spill kits - ERP	- Engineering - Administration - PPE	Effective	2	3	6										
	Flora/Fauna	**Flora & Fauna Management**	Fauna entrapment	Fauna interaction with associated water ponds (ie. Clarifiers, Aeration Basin, etc.).		Fauna injury or fatality				1	1	1		No	- Operator discourage nesting - Housekeeping	Administration	Neutral	1	1	1										
	Flora/Fauna	**Flora & Fauna Management**	Driving vehicles	Direct mortality of fauna caused by vehicle collision.		Fauna injury or fatality				1	2	2		No	- Speed limit monitored by NAYMAN - Signage within the plant	Administration	Effective	1	1	1										
	Flora/Fauna	**Flora & Fauna Management**	Pest Control	Pest animal species populate site		Pest animals may find habitat in the WwTP and populations may increase. This can result in local landscapes being impacted.				4	3	12		Yes	- Monthly service contract with RENTOKIL - Operator aware and monitor the sites	Administration	Effective	2	2	4										
	Hazardous Substances	**Fuel Management**	Process	Loss of containment of fuel/oil during removal and addition from equipment.		Deterioration of land				3	2	6		Yes	- SOP, JSEA and/or Method statement before doing the job - Operator training - Spill kit - Regular PMs to prevent leaks	- Engineering - Administration	Effective	2	2	4										
	Hazardous Substances	**Fuel Management**	Handling,Transfer, Storage, Addition & Delivery	Loss of containment from diesel handling		Deterioration of land				3	4	12		Yes	- Operators training, use of PPE - SOPs in placed - Regular PMs and KPIs review - Bunding, spill kits - ERP	- Engineering - Administration - PPE	Effective	2	3	6										
	Noise	**Noise Pollution**	Operation of equipment and water treatment process.	Noise levels resulting in complaints.		Nuisance to surrounding residents. Noise levels generated at boundary are above the Limit.				2	2	4		No	- Regular PMs on equipment to prevent noise or vibrations - Doors closed - Certain machines are located indoors (ie Centrifuges, Blowers,	Isolation	Effective	1	1	1										
	Land	**Soil Management**	Excavations	Degradation of land due to excavations		Degradation of land during works				4	2	8		No	- Work would usually be subcontracted and contractor would be made aware of the implication by a contract	Administration	Neutral	4	2	8										
	Water	**Stormwater Management**	Stormwater retention/treatment	Release of contaminated stormwater collected		Deterioration of surface water quality and subsequent release to water course				4	3	12		Yes	- Storm tank controlled and monitored through SCADA	Engineering	Effective	2	3	6										
Check with **[Name removed in accordance with Section 7(2)(a) of the Act]** if drains get back to the plant	Water	**Stormwater Management**	Stormwater retention/treatment	Contamination of stormwater drains		Contaminants (e.g. sediment, overflows etc.) entering stormwater system						0								0										
	Waste	**Waste Management**	Waste Production	Accumulation of general waste and recycled material		Burden on landfill				1	1	1		No	- Staff aware of responsabilities - Neat/tidy culture encouraged amongst staff - Rubbish bins collected regularly	Administration	Effective	1	1	1										
	Waste	**Waste Management**	Handling and Transfer	Loss of containment of liquid waste		Deterioration of surface and groundwater quality				3	4	12		Yes	- Operators training, use of PPE - SOPs in placed - Regular PMs and KPIs review - Bunding, spill kits - ERP	- Engineering - Administration - PPE	Effective	2	3	6										
	Waste	**Waste Management**	Storage	Loss of containment from the sludge tank.		Deterioration of surface and groundwater quality				3	2	6		Yes	- Instrumentation installed and monitored by SCADA - Regular inspections/PMs on tanks - Bunding??	Engineering	Effective	1	2	2										
	Water	**Water Movement**	Pumps	Pump Failure - Loss of containment e.g. oil		Deterioration of groundwater quality from oil residue spillage				2	1	2		No	- Pumps located within the facilities - Regular PMs - Maintenance staff trained and competent - Spill kits	- Engineering - Isolation - Administration	Effective	1	1	1										
	Water	**Water Movement**	Pumps	Pump/Pipe maintenance - draining of pipe causing sludge/wastewater spillage		Deterioration of groundwater quality from water spillage				3	4	12		Yes	- Isolation procedures - Drainage procedure, method statement - Pumps located within the facilities - Regular PMs - Maintenance staff trained and competent - Spill kits	- Engineering - Isolation - Administration	Effective	2	4	8										
	Water	**Water movement**	Outfall pipeline	Main outfall pipeline maintenance - Spillage of treated wastewater		Deterioration of land, water course				2	1	2		No	- SOP in place - Regular PMs - Maintenance staff trained and competent - Spill kits	- Engineering - Isolation - Administration	Effective	1	1	1										
	Water	**Water Movement**	Pumps	Inefficient resource use - energy		Energy wastage from inefficient operation of pumps				3	2	6		No	- Regular PMs on pumps - VSDs installed - DC to AC project ???	Engineering	Effective	1	2	2										
	Water	**Water Movement**	Piping (excluding chemical piping)	Loss of containment of wastewater due to mechanical failure or leaks		Deterioration of surface and groundwater quality due to the spillage of wastewater to land or water course				3	4	12		Yes	- Operations Checks on HMI - Operators training, use of PPE - SOPs in placed - Regular PMs and KPIs review - Bunding, spill kits - ERP	- Engineering - Administration - PPE	Effective	2	4	8										
	Water	**Water Movement**	Piping (excluding chemical piping)	Loss of containment of treated water due to mechanical failure		Deterioration of surface and groundwater quality due to the spillage of treated water to land or water course				2	1	2		No	- SOP in place - Regular PMs - Maintenance staff trained and competent - Spill kits	- Engineering - Isolation - Administration	Effective	1	1	1										
	Water	**Water Movement**	Valve control	Loss of containment due to inappropriate operation		Deterioration of land, Storm Water and Ground Water quality due to the spillage of wastewater																								
	Wastewater	**Water Quality Monitoring**	Laboratory analysis	Failure to collect sample or collection from incorrect location or failure to retain/store sample		Deterioration of surface and groundwater due to the realese contaminated wastewater effluent																								
	Water	**Water Storage**	Water tanks	Overflow of Tanks - Process associated		Deterioration of land																								
	Water	**Water Treatment**	Clarifiers	Loss of containment of clarified water due to mechanical failure		Deterioration of surface water and groundwater quality due to the spillage of clarified water																								
	Water	**Water Treatment**	Aeration basin	Loss of containment of partially treated water due to mechanical failure		Deterioration of surface and groundwater due to the ingression partially treated water																								

VANZ Template

Risk Register

Risk Assessment Conducted On:	
Risk Register Owner:	
Risk Assessment Team (including job titles):	
Business Unit:	
Last Risk Review Date:	
Next Review Date	

RISK IDENTIFICATION								RISK ANALYSIS												OPTIONAL RISK TREATMENT (Risk Action Plan)				OPTIONAL RISK TARGET		
Context			Risk Description					Previous Incidents and lessons	Inherent Risk Level				Controls			Residual Risk Level				Action				Residual Risk after Risk Treatment Identified Controls		
Ref No.	Risk Category	Activity / Task / Job	Risk/Opportunity Description (What can go wrong or what opportunities does Veolia have)	Risk/Opportunity Causes	Risk Impact/Consequence (What happens if the risk occurs)	Risk Owner	Legal and Other Requirements	Previous Incidents and lessons learnt?	Likelihood	Consequence	Inherent Risk Rating	Significant aspect/impact? Yes/No	Existing Controls What existing controls are in place?	Hierarchy of Control	Control Effectiveness	Likelihood	Consequence	Residual Risk Rating	High or Extreme Risk Justification	Further Mitigation / Action Plans	Action Owner	Action Due Date	Action Status / Progress	Likelihood	Consequence	Projected Residual Risk Rating
											Low							Low								Low
											Low							Low								Low
											Low							Low								Low
											Low							Low								Low
											Low							Low								Low
											Low							Low								Low
											Low							Low								Low
											Low							Low								Low
											Low							Low								Low
											Low							Low								Low
											Low							Low								Low
											Low							Low								Low

VNZ Template

Environmental Management Objectives Plan - Wellington Region

TEM

Issue Date: 2022

PURPOSE	- Ensuring compliance with applicable environmental legislation, contractual and other necessary requirements related to our activities and assist customers and suppliers to use products and services in an environmentally sensitive way - Ensuring that our policies, objectives and achievements are communicated to all persons working for and on behalf of the business and to educate and train employees and ensure competence in environmental issues and the environmental effects of their activities - Preventing pollution and harm to the natural, heritage and built environments and to reduce the use of all raw materials, energy and supplies - Ensuring consultation with relevant stakeholders, taking into account local environmental conditions and working with local communities to achieve shared and lasting outcomes
Scope	This plan applies to the contract it pertains to

Instructions	1. Ammend the header with the following details: Add the location of your contract and issue date (date of the review). And add last reviewed date, names of reviewers 2. Choose minimum of two objectives for each of the four commitments 3. Set targets for each of the objectives 4. Explain the means of meeting the target 5. Set a timeframe for meeting the target 6. Indicate who is responsible for meeting the target 7. Indicate progress at review meetings 8. Save in your operational google drive '05 SHEQ' - '07 Environmental' - '01 Environmental Management Plan'

VNZ Template

Environmental Management Objectives Plan - Wellington Region

TEM

Issue Date: 01/09/2021

Last reviewed date:	5/10/2022
Reviewed by (name and position):	removed under privacya act
Next Review Date/ Review Frequency:	Annual review - next review 5/10/2023

Objective	Target	Means of meeting Target	Date Target initiated	Target Completion Date	Person(s) Responsible for meeting target		Progress (Percentage)	Comments (must include date of comment)
					Senior Manager	Actioner		
Veolia Commitment: Complying with applicable environmental legislation, contractual and other necessary requirements related to our activities and assisting customers and suppliers to use products and services in an environmentally sensitive way								
Examples: Ensure compliance with discharge consent, maintain environmental risks in he risk register, ensure compliance with Health and Safety at Work (Hazardous Substances) Regulations, ERP trials								
Maintain compliance with al condi ions for the effluent discharge resource consents at each wastewater treatment plant.	Maintain 100% compliance with all resource consent conditions for the final effluent discharges.	Biological process monitoring. Asset maintenance. Improve sampling process and technique. Continuous training and improvement of process monitoring and control.	05/10/2022	Ongoing	Wellington Contracts Manager	Process engineer/ Compliance officer Operations team/ Assets and maintenance team	75%	15/06/2022: Moa Point, Porirua And Western WWTP are compliant to date. Seaview WWTP is non-compliant with faecal coliform final effluent. 05/10/2022: Moa Point is non-compliant. Seaview, Porirua and Western are compliant.
Maintain compliance with al condi ions odour resource consents at each wastewater treatment plant.	Maintain 100% compliance with all resource consent conditions for odour.	Maintain odour boundaries and barriers. Maintain odour suppression system. Perform odour surveys and identification of odour sources Asset maintenance.	05/10/2022	Ongoing	Wellington Contracts Manager	Process engineer/ Compliance officer Operations team/ Assets and maintenance team	60%	15/06/2022: Seaview and Carey's Gully SDP have received odour complaints throughout he first semester of 2022. Moa Point, western and Porirua are compliant. JV to copy statement from report for carey's gully
Asbestos Management	Remediate asbestos at the Porirua WWTP site.	Awaiting replacement of inlet valves before remediation occurs.	05/10/2022	Ongoing	Wellington Contracts Manager	Assets team	0%	All he other sites do not have asbestos. Confirmation in the asbestos register in Drive.
Veolia Commitment: Striving to ensure that our policies, objectives and achievements are communicated to all persons working for and on behalf of the business and to educate and train employees and ensure competence in environmental issues and the environmental effects of their activities								
Examples: Ensure staff are environmentally conscious through policy/procedure review, provision of adequate training								
Ensure all staff are environmentally conscious	All Staff to have reviewed the following Policies and Procedures: - 5 - POL-10 - Environmental Policy - PRO-34-1 - Environment Management Procedure - STA-31-2 - Environment Management Standard	Create a link to he policies and the splash page/R	5/10/2022	Ongoing	Wellington Contracts Manager	Safety, Risk & Compliance Officer	100%	May-2022: Review completed Refresher Review during health and safety meetings
Ensure all staff are familiar with the resource consent requirements.	All staff to be familiar with the resource consent limits for discharge.	A summary document with the discharge limits for each site have been displayed at each site. Training sessions provided to all site staff regarding resource consent compliance.	Ongoing	Ongoing	Wellington Contracts Manager	Safety, Risk & Compliance Officer	100%	Compliance resource consent limits are displayed at all sites
Veolia Commitment: Preventing pollution and harm to the natural, heritage and built environments and to reduce the use of all raw materials, energy and supplies								
Examples: reducing chemical usage, recycling, minimising odour release, minimising impact of overflows/spills, ensuring adequate bunding								
Reduce the frequency of emergency loadouts from the Sludge Dryer at the Seaview WWTP.	Reduce biosolids discharging outside of the skip bin that could result in odor.	Asset maintenance. Shift Engineer training.	Ongoing	Ongoing	Wellington Contracts Manager	Northern Ops Coordinator	On-going	Training on-going, SCADA upgrades completed, and maintenace is ongoing.
Reduce the sources of odour at he Seaview WWTP.	Mitigate all potential sources of odour at the Seaview WWTP site during normal operations.	Asset maintenance. Shift Engineer training. Installation of additional equipment for odour suppression.	Ongoing	Ongoing	Wellington Contracts Manager	Northern Ops Coordinator/ Assets & Maintenance team/ Projects team	50%	Odour assessment completed. Major projects have not been ini iated, minor works have been completed.
Reduce the sources of odour at he Porirua WWTP	Mitigate all potential sources of odour at the Porirua WWTP site during normal operations.	Operator awareness Awaiting for activity brief from WWL	05/10/2022	31/12/2025	Wellington Contracts Manager	Northern Ops Coordinator/ Projects team	20%	Awaiting for information from WWL Plant operators monitoring site for odour sources
Carbon reduction	Reduce carbon emitions from the sites	Create a carbon emission plan	05/10/2022	31/12/2022	Wellington Contracts Manager	Process and technical specialist	0%	
Veolia Commitment: Consulting with relevant stakeholders, taking into account local environmental conditions and working with local communities to achieve shared and lasting outcomes								
Examples: Record environmental compliments and complaints, community liasion groups education								
All duty managers to understand the notifica ion protocols for discharges and odour complaints.	Staff to review new policy and procedures	Awaiting WWL's policy updates.	05/10/2022	31/12/2022	Wellington Contracts manager	All Duty Managers	0%	Awaiting for WWL's policy upodates
Education and mee ings	Community engagement	Attend CLG meetings Facilitate site tours	05/10/2022	On-going	Wellington Contracts manager	Opera ions team/Compliance officer	100%	

Cell: C23
Note: [Note removed in accordance wiht Sec ion 7(2)(f)(i) of the Act]