



Appendix B

Part 3: Brockton, Massachusetts Water Operations – Site Maintenance Plan (Work Example)

Preventative Maintenance Plan and Program Summary

City of Brockton, MA Water and Wastewater

Treatment Facility

Submitted November 19, 2021

Objective

The public looks to the City of Brockton and Veolia to provide sound preventative maintenance practices that guarantee the City's infrastructure has sufficient reliability and capacity to meet present and future needs. This document summarizes the program executed by Veolia and the City for Aboveground Preventative maintenance strategies to ensure complete lifecycle management of the wastewater assets.

Alignment with MDEP / NPDES Requirements

In recent years, the Massachusetts Department of Environmental Protection (MDEP) and Environmental Protection Agency (EPA) has included in its NPDES permits, requirements for Preventative maintenance that help ensure utilities are properly maintaining their sewer related assets. Preventative maintenance is a planning process for ensuring that optimum value is gained for each asset and that financial resources are available to rehabilitate and replace those assets when necessary.

For the City of Brockton, Preventative Maintenance focuses on maintenance of assets. Through the implementation of a successful preventative maintenance program, Veolia will be able to extend the useful life of the City owned assets. The remainder of this document will provide detail as to how the City/Veolia Preventative maintenance Program will support these three core elements. While all of the program components support a complete Preventative Maintenance Program, below are provided the specific sections that are relevant.

The three (3) core elements that form a framework for the maintenance program are:

1. The current state of the assets - [Condition Assessment](#)
2. The required sustainable level of service - LOS
3. The assets critical to sustained performance - [Criticality and Risk Assessment](#) and [Critical Spares and Inventory](#)

The Preventative maintenance Program Requirements will be met as detailed in this document. The specific City requirements include:

1. Adequate Maintenance Staff - [Staffing](#)
2. Inventory and assessment of fixed assets - [Inventory](#) and [Condition_Assessment](#) and [Critical Spares and Inventory](#)
3. Operation, Maintenance & Repair and Replacement (OM&RR) Budget for the Treatment Works.

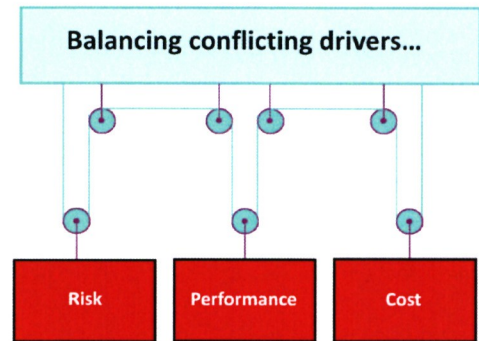
Approach

Overall Program Summary

The Veolia Preventative maintenance Program is a blend of different activities to attain a required level of service (LoS) achieved at an acceptable level of risk, performance, and cost (as shown in Figure 1).

The program provides the techniques to align the fundamental aims of the organization into practical applications for choosing, acquiring, utilizing, and maintaining the assets in a way that allows Veolia to deliver those aims using the best possible approach that provides the optimal combination of cost, risk, and performance.

Figure 1- Program Balance



Computerized Maintenance Management System

The foundation of the preventative maintenance program lies within its Computerized Maintenance Management System (CMMS) platform, Hach Job Plus. The AWRF and Water Plant will migrate to the Veolia Preventative Maintenance System (VAMS) in 2022. VAMS will be integrated with Veolia's financial system(s). The system was chosen to best meet the application needs of the asset types.

Veolia's Information Systems and Technology (IS&T) department hosts the CMMS programs at Veolia's Network Operations Center in Milwaukee. The VAMS systems are upgraded annually with the latest software version improvements. The IS&T department provides extensive regression testing and performance tracking. Support for end users is provided for issue tracking, notifications, training, and upcoming events. Asset records within the VAMS system may contain attribute information such as nameplate data, asset type, system hierarchy assignment, location, installation date, and replacement value.

Preventive maintenance (PM) and predictive maintenance (PdM) tasks are integrated into Job Plus CMMS for automatic (WO) generation based on best industry practices to protect the assets. Work order planning, scheduling, and tracking of preventive and corrective work are managed in the system.

Inventory and purchasing controls for maintenance activities will be embedded into the CMMSs. The systems are used for maintaining critical spare(s) availability as well as budget management and recording of life-cycle costs. Metrics and key performance indicators ensure monitoring and benchmarking of CMMS processes. Reporting software, Optimas[®] is used to easily manage and distribute reports.

Asset Registry

Development of an asset registry or inventory and individual asset records is required, and provides the foundation of Veolia's Preventative Maintenance approach by enabling;

- Measuring of performance, risk, and costs associated with assets,
- Sharing of best practices on an asset type basis.

Veolia requires 100 percent asset coverage; the capture of either individual equipment or units (i.e. motor/pump set) into the CMMS as its registry. A CMMS asset record will be developed for all active and online assets as part of the onboarding process for the wastewater and water facilities.

The record includes the asset identification (ID), description, asset type, process and system hierarchy coding, criticality, manufacturer, and building. Information will be populated into CMMS records over time and updated based on repair and replacement information logged in the CMMS. The information is used to optimize maintenance activities and in capital planning.

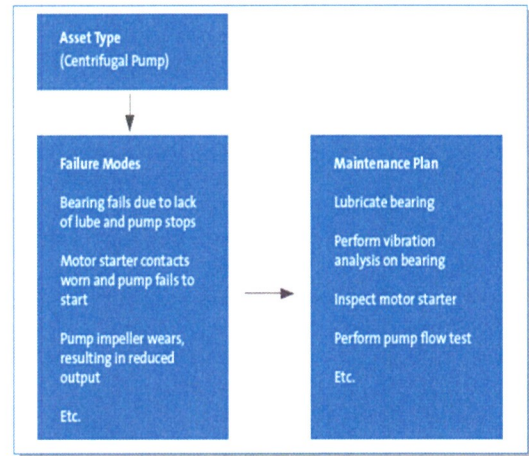
Coding Standardization

In establishing the asset records in the CMMS database Veolia requires standardization of two key pieces of information; Asset Type and Hierarchy (coding used to identify processes and systems).

The use of a standardized asset type coding system (see Figure 2) has allowed Veolia to leverage its access to failure data and mitigation history across its organization and to develop knowledge-based tools that are available to all of its projects. Tools such as the Failure Modes Library (Figure 2), that identify the kinds of failures specific to various asset types can be used when evaluating the utility's asset failure history and determining effective maintenance programming; preventive and predictive tasks to mitigate the types of failures occurring. Asset Type coding allows for the comparison of performance, risk, and cost across classes of assets.

Veolia's hierarchy coding system is beneficial to organize, sort, and categorize assets and group them into smaller sub-systems. The coding is important to performing analysis of these systems when determining the impact of failure to the operation, analyzing failure history, and determining which systems are least reliable and most demanding on resources. Using the treatment processes and corresponding systems when attempting to identify its assets increases the likelihood of 100 percent identification, particularly if starting at the head of the plant and stepping through each process in accordance with its process flow.

Figure 2 - Code Standards



Preventative maintenance Level of Service (LoS) Expectations

The LoS is a set of parameters defined by the terms of the Operations and Maintenance (O&M) contract, regulations, and Veolia's policy and generally reflect outcomes related to water quality and pressure concerns, wastewater effluent quality, capacity and growth projections, treatment efficacy and efficiency, reliability and performance (i.e. equipment uptime, etc.), safety and environmental factors for the above ground preventative maintenance program. The delivery parameters all link to risk, performance, and cost; the drivers of Preventative maintenance.

Criticality and Risk Assessment

Optimized maintenance for above ground assets is a blend of approaches, targeted to ensure a required LoS with an acceptable level of risk. Within a facility, some assets are more critical than others for maintaining the LoS or other outcomes required by Veolia, the Client, Regulators, etc. It is important that a thorough risk review to determine the consequences associated with the failure on any process equipment and the occurrence at which a failure may occur be conducted through a criticality analysis so that the relationship between the asset functionality and the expected LoS is established and a determination can be made of how this relationship affects safety, customer satisfaction, quality, quantity, capacity, reliability, responsiveness, environmental acceptability, cost, and availability. This process prioritizes assets based on rankings on a standardized scale of

1 to 5, where 1 is minor and 5 is critical, for consequence and likelihood of worst-case failure scenarios. Applying this process to each asset ensures that asset specific maintenance management and capital decisions meet the LoS business objectives.

Preventative maintenance Condition Assessment

In addition to risk, condition is another key consideration when developing a preventative maintenance strategy. Although through different approaches, condition should be assessed for the assets. Condition can be used to understand the level of deterioration of assets, and its impact on the probability of occurrence for various failure modes. By developing a better understanding of the asset's condition the utility can better manage and prioritize their maintenance effort. Maintenance and asset renewal can be prioritized based on risk management using criticality (impact of failure) and current condition (probability of failure).

Condition Assessment

The condition assessment is a "snapshot in time" of the condition of an asset. Contingent to the level of confidence in the data, prior evaluation findings can be bought into Veolia's system through the assignment of ranking numbers over a series of categories to the asset based on a deficiency scoring where 1 is new and 5 is failed in areas such as performance, appearance, vibration, reliability, safety, etc. The evidence of defects, excessive wear, or aging warrants higher value scores. If an asset is in an advanced state of wear or aging, an "end-of-life" can be predicted. For those assets in good condition, one can "calibrate" the mean expected lifetimes. While this predicted end-of-life may not be reliable for any one asset, in the statistical aggregate, it provides for sound budgetary planning. The application of Veolia's condition ranking system is important to the use of Veolia's maintenance and asset renewal modeling tools.

In an ongoing assessment program the condition review (and subsequent ranking) will range from using human sensory (look, feel, touch) to more advanced technologies (i.e. vibration, ultrasound, thermography, etc.) the extent of which is determined through a tiered process to consider such factors as usage, historical performance data, useful life, criticality and risk, etc.

Preventative maintenance Critical Spares and Inventory Management

To achieve the desired LoS and equipment availability, it is important to consider the need for certain spare parts/components to be onsite, and/or readily available for above ground assets. This is particularly true of critical spare equipment and parts necessary to the mitigation of certain risks as defined by the client.

Identification of spares can be done based on Original Equipment Manufacturer (OEM) recommendation, but to be cost-effective, the proper selection of spares should consider the cost-benefit based on a risk assessment aligned with the utility's LoS expectation. The output of the assessment should include the critical spares.

Typically, the analysis considers the failure modes, the consequence of equipment failure to safety, environment and economics (and not having the spare on hand), the lead time to procure, cost of emergency procurement, availability of spares (through obsolescence or redundancy), probability of failure, shelf life (i.e. gaskets may dry out), etc.

PM Optimization and PdM Development

Upon successful launch of the initial OEM driven PM/PdM program, there are often significant opportunities discovered through PM optimization and PdM tactics to increase equipment reliability as potentially determined by asset criticality, condition, and risk. Advanced risk mitigation strategies may be used to reduce operation and maintenance (O&M) costs and/or maximize capacity without compromising the overall LoS required for the project. One such practice is the review of past key performance indicators (KPI), an example provided below, or the analysis of past CMMS history, which would have been installed originally to the CMMS during start-up to determine if changes to the WO tasks or frequencies of PMs are warranted.

- *Preventive Maintenance (PM) as a percent (%) of Total WO Count* which can be an indicator of the effectiveness of the current PM WOs and their respective task instructions. A higher ratio would be indicative of an effective PM program by illustrating an inverse trend in recorded Corrective Maintenance (CM) hours in contrast to PM hours.

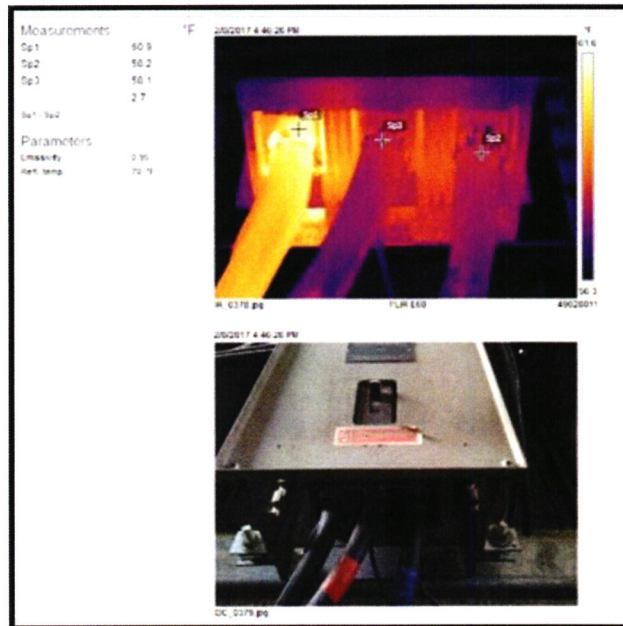
Other methods for uncovering deficiencies can vary. Veolia's reoccurring Maintenance Audit and Condition Assessment is yet another methodology that can be employed to aid in identifying opportunity for project performance improvements. Vital elements related to maintenance, such as industry "Best Practices," and/or performance reviews generally, uncover certain planned tasks within the PM/PdM program that are redundant or ineffective to the overall management of the asset.

Another, commonly used evaluation is using available WO data to better estimate the time interval between 'potential' and 'functional' failure of an asset. This information can then be used to time suitable inspection and condition monitoring routines. As an example, a situation where one has a 90-day PM calibration on a pH probe, and the technician calibrates on this interval and finds that there is no drift in the accuracy over an extended period of time. Sound maintenance practice would increase the interval to the point that the probe has slight levels of drift, thus optimizing the frequency and expense of maintaining the probe (not at the expense of the process). The ultimate optimization level could even factor in the seasonal demands and changes to the process and equipment.

Veolia's PM/PdM program is reviewed at regular intervals (ideally on an annual basis) for continuous improvement purposes and all changes to the program are subject to documentation and approval. Doing so ensures ongoing relevance and cost-effectiveness of maintenance tasks.

Likewise, PdM Maintenance strategies and techniques are extensively used throughout Veolia's Preventative maintenance Program implementations. These methodologies, which may include desktop evaluations, visual observations and the use of advanced instrumentation to assess the equipment health supports the continuous improvement and optimization program.

Figure 3 – Thermal Imaging



PdM Technologies

A wide range of Predictive tools are available for implementation. Among the most popular and appropriate for the water/waste industry include the following:

- Electrical Condition Monitoring,
- Motor Circuit Analysis,
- Motor Current Signature Analysis,
- Motor Insulation Testing,
- Vibration Analysis,
- RPM Testing,
- Infrared Thermography (Figure 3)
- Oil/Lubricant Analysis,
- Belt Alignment,
- Bearing/Motor Temperature Monitoring, and
- Observation Grading System.

Ultrasound Pipe Measurement in addition to all the above-mentioned tools, it is vital that a thorough knowledge of operating conditions, along with reference documents, be used as a means to monitor the condition of the asset.

Recording of key process values associated with appropriate alarms is also a way to perform maintenance tasks at the right time. Good use of available technical documentation or of reference documents is essential in this regard.

Preventive and Corrective Work Order Management

Maintenance WOs consist of preventive (to include predictive) and corrective tasks. Preventive tasks automatically generate on a set schedule in the CMMS and all routine maintenance is documented. These scheduled tasks comply with warranty requirements during the warranty period and industry best practices. Where applicable and relevant, condition based PdM tasks may be assigned. These tasks provide an understanding of the condition of the asset and provide an advanced warning when interventions need to be scheduled as corrective work. Each preventive WO, its labor, and associated costs (where applicable) are captured in the CMMS system.

Corrective WOs are generated for all investigative, repair, and replacement activities. Such documentation ensures that work is properly planned and repair costs captured. Corrective WOs are prioritized based on the criticality rankings and input on current operating conditions as well as maintenance requirements and history. This allows for that work to be completed in priority order to ensure LoS requirements are met.

When a WO is completed a narrative summary of the work is captured along with failure coding where possible. Both preventive and corrective WO histories provide a valuable tool for the prioritization of capital projects.

Root Cause Analysis (RCA)

An RCA evaluation may be conducted following asset failure. The RCA is a labor-intensive, in-depth, analysis and therefore only conducted on the most critical assets, usually for which there has been a history of failure, and/or the asset condition indicates that a failure may be anticipated. The means, effects, and reason for each failure can be reviewed, PMs and PdMs established, and decisions made regarding recommendations for engineering redesign, operational changes, or an acceptance of risk and possible contingencies where the issue is determined to be the result of a manufacturing defect, or inherent to the equipment.

MONTHLY AND ANNUAL PREVENTATIVE MAINTENANCE REPORTING

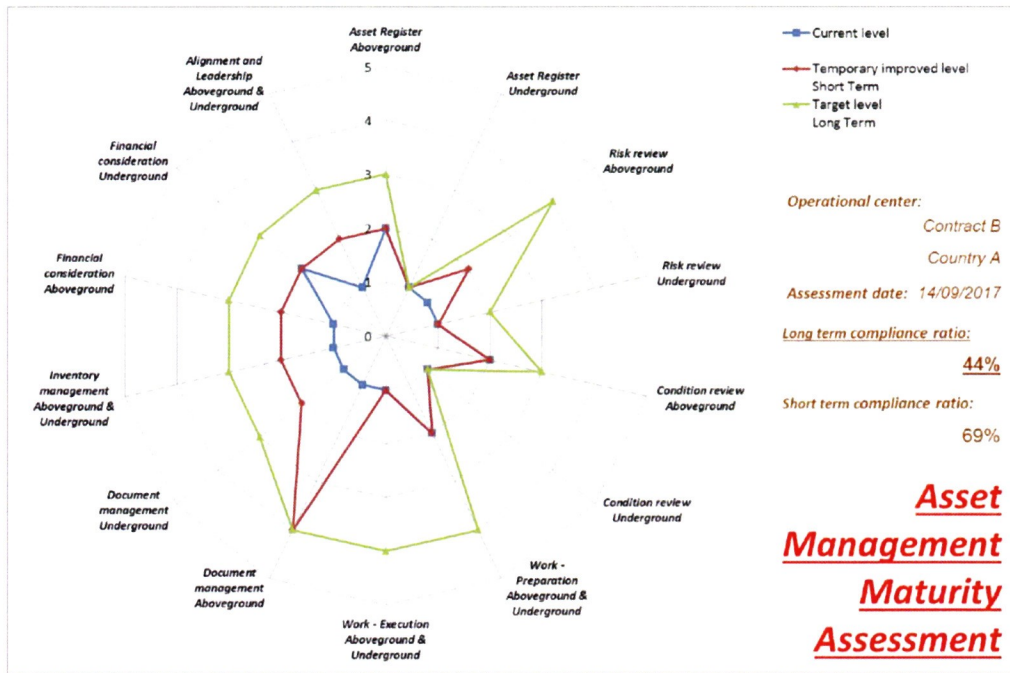
Veolia through its Preventative maintenance programming will provide to the client information necessary to its development of the required permit reporting for its programming. This information will include:

- Monthly Completed Maintenance Activities and Costs (to include CM, PM, PdM work) and Annual summary,
- Annual Repair and Replacement Plan (PM, PdM, CM work),
- Annual Capital Improvement plan.

PREVENTATIVE MAINTENANCE PROGRAM ASSESSMENT & CONTINUOUS IMPROVEMENT

Veolia has developed a Preventative maintenance grid ranking self-assessment process that has been implemented globally. The tool (shown in Figure 4) assesses the program's maturity level from 0, having no implementation of knowledge of Preventative maintenance, to level 5, an expert or world-class program.

Figure 4 – Asset Maturity Index



Asset Management Maturity Assessment Graph example

The assessment ranks the program based on eight (8) Preventative maintenance Pillars:

- Asset Register,
- Risk Review,
- Condition Review,
- Work Organization and Execution (Planning and Scheduling),
- Document Management,
- Inventory Management,
- Financial Consideration,
- Management.

The tool captures estimated rankings for the current level of maturity based staff interviews and a review of data establishes 1 Year Goals (short-term goals), and a long-term projection for the program. The tool includes the rankings along with short-term and long-term action plans for achieving the stated goals. The tool can be used annually as an internal audit record and to drive continuous improvement. Key Performance Indicators (KPI) designed to gauge ongoing performance and compliance, which are aligned with the stated current condition and projected goals can be developed to routinely monitor program performance and also determine where behavior needs to be modified in support of the goals.

KEY PERFORMANCE INDICATORS

Veolia uses metrics including key performance indicators to measure and drive improvement and where appropriate culture change. Monitoring is continuously provided to ensure both performance outcomes and the adherence to desired practices. Two examples of KPI are provided below:

- Corrective Maintenance (CM) WOs generated by a PM or PdM task can be trended over time to aid in refining task frequencies.

- Asset Availability by Criticality which would represent the percentage of critical assets that is currently available at any time. In addition, this KPI provides a measure of how effective the program is in managing or mitigating risk.

Schedule

The **Preventative maintenance Program** – The projected task schedules are provided to include the activities, task frequencies, and associated assets to be serviced.

- Attachment A is the sequential listing of water assets.
- Attachment B is the list of water assets with associated PM task schedules.
- Attachment C is the sequential listing of wastewater assets.
- Attachment D is the list of wastewater assets with associated PM task schedules.

Capital Planning

Veolia is responsible for the day-to-day preventative maintenance program and works with the City of Brockton closely in preparing a prioritized list of capital repairs and replacements. Veolia provides recommendations annually, in alignment with the City's budget year, regarding projected needs. Veolia will utilize its Condition Assessment in conjunction with the Criticality and Life Cycles of the assets to develop these recommendations.

Reporting

A Preventative Maintenance Annual Report will be provided by May 1st of each year. The Annual report will include updates regarding:

- Evaluate the need for capital improvements at the facilities,
- Repair and Replacement allowance,
- Summary of equipment repair and maintenance.



Appendix B

Part 4: Veolia – Safety Manual (Table of Content and Excerpts)



Veolia Water North America (VWNA) recognizes the importance of an effective health and safety program to the well-being of each employee, the general public, clients/facility owners, and to the overall success of our company. This document is intended to reflect the goals and internal procedures of our organization, as they relate to health and safety at our municipal, industrial, military, specialty, and construction worksites.

VWNA is committed to providing its employees a healthful and safe place of employment. To that end, VWNA will provide proper training, materials, and equipment so that work can be performed safely and in compliance with the Occupational Safety and Health Administration regulations (OSHA) and other applicable standards. OSHA rules apply in addition to the standards in this manual. Project managers and supervisors shall familiarize themselves with the health and safety standards pertaining to their particular operation, and ensure all applicable provisions are complied with.

In turn, each employee is responsible to participate in a cooperative effort to maintain an effective health and safety program. Adherence to the enclosed company policies and work practice guidelines is an essential part of this responsibility. By maintaining an effective program, we reduce the risk of personal injury, operational interruptions, regulatory fines, and maintain the company's reputation as a world leader in environmental management.

No manual can cover all contingencies. It is expected that situations will arise where direct assistance from the Health & Safety (H&S) team will be necessary. This assistance will be to identify and correct unsafe conditions and behaviors and then codify the improvement as a plant specific safety item.

It is hoped that by using this manual, each employee will develop a philosophy and practice of safe job performance. Procedures outlined in the manual should not preclude anyone from establishing better or more specific ones for their operations where desirable or necessary. However, such procedures must not conflict with those presented in this manual. Should conflicts arise, if interpretation of the manual is necessary, or if assistance is required when developing facility safety procedures, consult the assigned H&S Manager.

While the intent and objective of this policy may not be compromised, management reserves the right to change, modify, or waive requirements established herein within its reasonable discretion to meet a given set of circumstances or job requirements, but in no event shall such change, modification or waiver allow the standards of performance to fall below applicable professional industry standards and practices, client rules and regulations, or applicable governmental requirements, whichever are more stringent.

The interpretation of VWNA concerning any part of these policies shall be binding and conclusive.



Health & Safety Policy and Procedure Manual

Policy	Section/Number	Rev. Date
Aerial Lifts (and other mechanized lifting equipment)	A.101	02/01/06
Asbestos	A.102	11/01/06
Audits/Inspections	A.103	02/01/06
Bloodborne Pathogens	B.101	02/01/06
Bulletin Board	B.102	02/01/06
Buddy System	B.103	02/01/06
Chemical Bulk-Off Loading and Receiving	C.101	02/01/06
Cellular Telephones	C.102	11/01/08
Chemical Safety	C.103	02/01/06
Collection System Safety	C.104	02/01/06
Combustible and Flammable Liquids Storage & Handling	C.105	02/01/06
Cold Stress	C.106	02/01/06
Compressed Gas Cylinders	C.107	02/01/06
Contacts – H&S Organization	C.108	10/01/10
Confined Space	C.109	02/01/06
Contractor Safety	C.110	02/01/06
Cranes and Hoists	C.111	02/01/06
Compressed Air Handling	C.112	02/01/06
Discipline (Enforcement Program)	D.101	11/01/08
Drug & Alcohol Free Workplace	D.102	02/01/06
Electrical Safety	E.101	10/01/10
Emergency Action/Preparedness	E.102	02/01/06
Ergonomics	E.103	02/01/06
Eye Protection	E.104	11/01/08
Eyewash and Shower Stations	E.105	02/01/06
Fall Protection	F.101	02/01/06
Fire Protection and Prevention	F.102	02/01/06
First Aid/CPR	F.103	02/01/06
Floors, Walls, Openings and Stairways	F.104	02/01/06
Footwear	F.105	10/01/10
Grounds Maintenance Equipment	G.101	02/01/06
Golf Cart and Utility Vehicle Safety	G.102	02/01/07
Hand Protection	H.101	02/01/06
Hazard Communication	H.102	02/01/06
Hazardous Waste Sites – Health & Safety Plans	H.103	02/01/06
Head Protection	H.104	02/01/06
Hearing Conservation	H.105	02/01/06
Housekeeping	H.106	02/01/06
Heat Stress	H.107	02/01/06
Hot Work; welding, cutting and brazing	H.108	02/01/06

Policy	Section/Number	Rev. Date
Hand Tools	H.109	02/01/06
Incentive Program – Facility/Employee Recognition	I.101	10/01/10
Incentive Program – Site Safety Contact/Coordinator	I.102	07/28/10
Job Safety Analysis	J.101	02/01/06
Ladder Safety	L.101	10/01/10
Laboratory Safety	L.102	02/01/06
Lifting Materials/Handling	L.103	02/01/06
Lock-out/Tag-out (Control of Hazardous Energy)	L.104	02/01/06
Machine Guarding	M.101	02/01/06
Near Miss	N. 101	07/17/09
Office Safety	O.101	02/01/06
Orientation – New/Transferred Employee	O.102	02/01/06
OSHA Inspection	O.103	02/01/06
Personal Protective Equipment	P.101	02/01/06
Personal Hygiene and Attire	P.102	02/01/06
Power Tools	P.103	02/01/06
Powered Industrial Trucks - Forklift	P.104	02/01/06
Responsibilities – Health, Safety, and Security	R.101	02/01/06
Respiratory Protection	R.102	02/01/06
Refuse Collection	R.103	11/01/06
Safety Rules – General	S.101	02/01/06
Safety Committee	S.102	02/01/06
Security	S.103	02/01/06
Scaffold Safety	S.104	02/01/06
Smoking	S.105	02/01/06
Traffic Control / Working in Traffic	T.101	12/20/07
Training – EHS&S	T.102	02/01/06
Trenching and Shoring	T.103	02/01/06
Visitors/Tours	V.101	02/01/06
Vehicle Safety	V.102	02/01/06
Workplace Violence	W.101	02/01/06

VWNA has developed a stand-alone “Incident Manual” as a quick reference for the management, notification, reporting, and review of Health & Safety, Security, and Environmental incidents and near-miss events. The following work instructions can be found in the *VWNA Incident Manual (IM)*.

Workplace Injury Treatment	IM 101
Accident Notification	IM 102
Accident Reporting	IM 103
Accident Investigation	IM 104
Workers Compensation	IM 105
OSHA Recordkeeping 300, 300A, 301 Logs	IM 106
Vehicle Accident/Incident	IM 107
General Liability Claims	IM 108
Environmental Incident (Internal) Reporting	IM 109
Environmental Incident Investigation, Root Cause Analysis, and Corrective Action	IM 110

SUBJECT: Safety Rules - General

DATE ISSUED: 02/01/06	EFFECTIVE: 02/01/06	APPROVAL: EHS&S	PAGE: 1 of 6
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1.0 Purpose

VWNA recognizes the impact a good Environmental, Health, Safety & Security compliance program can have on employee well being, the communities in which we conduct business, bottom line financial performance, and the growth and competitiveness of the Company. This policy establishes guidelines to minimize risks at all operations by the implementation of a comprehensive safety and security plan. Safety and facility security is everyone's responsibility and as such, must be taken seriously. Under state, provincial, and federal laws, employees are provided with all the necessary resources to assist them in learning and understanding the job-related hazards they face.

2.0 Scope

This policy and procedure applies in its entirety to all VWNA employees and locations unless the Vice President of Environmental, Health, Safety and Security (EHS&S) grants a variance from the requirements. Contractors of VWNA must also comply with this policy and procedure. Subcontractors of the primary contractor must also comply - as VWNA views subcontractors as employees of the primary contractor.

3.0 Responsibilities

Area and Project Managers – responsible and accountable for ensuring that this policy and procedure is implemented and followed at all projects for which they have oversight and responsibility. Area and Project managers must lead by example to promote a workplace free of hazards, injury free, and to continually promote safety awareness at all times.

Project Supervision - responsible and accountable for ensuring compliance with this policy and procedure within their areas of responsibility. All supervisors must lead by example to promote a workplace free of hazards, injury free, and to continually promote safety awareness at all times.

Site EHS&S contact - responsible for assisting in the implementation and monitoring of activities associated with this policy and procedure.

Employees – all VWNA employees are responsible and accountable for complying with this policy and procedure at all times.

Corporate EHS&S – VWNA EHS&S Managers shall monitor and evaluate the general safety rules and practices at assigned facilities for compliance and effectiveness. Improvement opportunities and changes in regulations and expectations shall be promptly addressed.

4.0 Definitions

None

SUBJECT: Safety Rules - General**DATE ISSUED:**
02/01/06**EFFECTIVE:**
02/01/06**APPROVAL:**
EHS&S**PAGE:**
2 of 6**5.0 General Requirements**

VWNA has the responsibility to provide a workplace free of recognized hazards. In turn, VWNA employees, contractors, and subcontractors are responsible for their own safety and for the safety of those around them. With an alert safety and security attitude, painful and costly incidents can be eliminated. The right attitude means always thinking about what could go wrong - so accidents, injuries, illnesses, and security breaches never happen.

Before starting a new job, make sure that you fully understand the job specifications, how it is to be done, equipment requirements, and the reasons for performing your duties in a certain manner. If you are unsure about procedures and practices, do not hesitate to ASK your supervisor. ASKING may mean the difference between doing your job correctly and safely and performing it incorrectly and, perhaps, suffering a serious injury.

Stay attentive at all times, regardless of how many times you have performed the job before. Never become complacent about safety, security, and environmental compliance.

6.0 Implementation

Taking the time to "think it out" and perform the job right the first time is a priority.

- 6.1 Perform a Mental Safety Assessment prior to beginning all tasks. This is especially important when approaching a new or non-routine task.

Mental Safety Assessment (MSA) **BEFORE BEGINNING ANY ACTIVITY/TASK or JOB:****STOP and Think / What are the RISKS or HAZARDS?**

What could go wrong?
What is the worst thing that could happen?

**ANALYZE the potential problems!**

Can the job be performed safely?
Do I have the proper PPE?
Do I have the proper tools?
Do I have the proper training?

**PERFORM the job SAFELY!**

Do not proceed unless you have performed an MSA!
Take needed precautions to perform the job safely!
Ask for assistance, or guidance!
Follow all proper procedures!

Failure to follow an MSA could result in an injury or DEATH

SUBJECT: Safety Rules - General

DATE ISSUED: <i>02/01/06</i>	EFFECTIVE: <i>02/01/06</i>	APPROVAL: <i>EHS&S</i>	PAGE: <i>3 of 6</i>
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6.2 General rules to follow are as follows:

- Project Managers and supervisors shall ensure employees observe and obey all customer, company, and governmental rules and regulations.
- Report all injuries, vehicle accidents, environmental incidents and security threats or breaches to your supervisor immediately – regardless of severity.
- Treat all threats of sabotage or terrorism as real until proven otherwise.
- Report hazards or unsafe conditions to your supervisor.
- You are expected to report unsafe and improperly operating equipment promptly.
- Always be interested in the safety of other employees and assist wherever or whenever possible.
- Effectively plan work to prevent injuries, environmental incidents, and/or property damage.
- Always walk -- do not run in any Veolia Water facility or on any job-related assignment.
- Coming to work under the influence of alcohol or drugs or bringing or consuming alcoholic beverages or drugs in the plant or on Company property is forbidden.
- Sleeping on the job is considered dereliction of duty.
- Bringing unauthorized guests or pets into the workplace is forbidden.
- “Horseplay”, such as tripping, running, shoving, wrestling, or throwing objects, is very dangerous and will not be permitted.
- Never operate a machine unless you are authorized and trained to do so.
- Do not repair apparatus, tools, equipment, and machinery while in operation unless necessary and approved by the manufacturer or its designee.
- Isolate all energy sources prior to working on apparatus, tools, equipment and machinery (lock-out/tag-out), thus avoiding contact with moving parts.
- Do not operate apparatus, tools, equipment and machinery without proper machine guarding in accordance with design specifications.
- Do not burn, weld, or provide other sources of ignition in any tank, vessel, or area until it has been determined that no possibility of explosion exists and authority for

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the work has been granted (Hot Work Permit program).

- Do not enter manholes, underground vaults, chambers, tanks, sewers, silos, hoppers, pits, or other confined spaces that may have little or no ventilation unless trained to do so and proper safety checks/devices are in place (Confined Space Entry program).
- Never walk under a load which is suspended from a crane or chain lifts.
- Never look into the light from an electric arc welder.
- Familiarize yourself with all the building's fire exits, emergency showers, eyewash stations, and first aid locations.
- Obey all posted safety signs and placards.
- Do not lift objects that are heavy enough to cause a possible strain. Ask for help.
- To avoid strains, learn to lift objects safely. Bend your knees, keep your back straight, and then carefully pick up the object utilizing your leg muscles.
- Never try to lift a heavy object that is oily or greasy. Wipe it off thoroughly before lifting to ensure it does not slip from your grasp.
- Never attempt to remove anything from your own eye or from the eye of a fellow employee. This should only be done by medically-qualified personnel.
- Unless authorized, do not attempt to repair electrical or mechanical equipment.
- Do not use portable electrical tools if they are not properly grounded. (Three prong plug or double insulated tool.)
- Never use makeshift tools. Be sure your tools are the right ones for the job.
- Never throw, toss or drop materials, tools, or other objects. Always hand or lower items as needed.
- Sharp tools must be sheathed when carried in a pocket.
- Do not tamper with safety equipment or safety devices.
- All compressed gas cylinders must be chained to a wall or solid brace.
- Never pour flammable or hazardous liquids/chemicals into a sewer or drain.

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- When carrying long planks, pipes, or other lengthy material, keep the front end upward.
- Consider every loose or misplaced wire as a “live wire” -- DO NOT TOUCH IT -- report it to your supervisor immediately.
- Worn electrical wiring, damaged or improper insulation, defective switches, and all other electrical defects are to be reported to your supervisor immediately.
- Be aware of vehicular traffic – while working on plant grounds or remote locations.
- Always wear your seat belt. Veolia Water policy requires seat belt use when you are driving or riding in a company vehicle or traveling on company business in a rental car, your own car or someone else’s car.
- All aisles should be well marked. Keep these aisles clear at all times.
- You are expected to keep your machine, equipment, vehicle, and the work areas clean and in good order.
- All scraps, cuttings, and other waste materials should be kept off the floor.
- Oil and grease on the floor can cause a serious fall. Clean up such spots. If a large area is greasy or oily, notify your supervisor at once.
- After eating, put all refuse in the appropriate containers provided.
- Never put flammable materials in fibrous drums.
- All wastes should be disposed of properly. If in doubt, contact your supervisor for proper disposal procedures.
- Rings must not be worn when doing any job where it would be possible for them to catch on objects and cause injuries.
- Long, dangling earrings or bracelets shall not be worn at any time in (non-office) work areas.
- Wear personal protective equipment (PPE), when and where required.
- Open-toed or canvas shoes or sandals shall not be worn at any time in production/“non-office” areas.
- Appropriate clothing must be worn at all times by all employees. Uniforms must be worn at all times – where provided.

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- If your clothing is considered unsafe, your supervisor will instruct you to change the clothing before you will be allowed on the shop floor.
- Do not wear or take soiled work clothes home.
- If chemicals or solvents contaminate your clothing, you should change as soon as practical. Be familiar with location and components of Material Safety Data Sheets.
- Each employee is expected to do his/her part in keeping the lavatories and lunchrooms clean.
- Do not store food and chemicals or samples together in a refrigerator because of the possibility of contamination.
- When working with oily or greasy parts or with solvents, be sure to wash all exposed skin areas periodically during the working day and particularly at the end of your shift. This will help prevent skin disorders which otherwise might occur. Use proper Personal Protective Equipment (PPE) and /or barrier creams as required.
- Wash thoroughly after working with wastewater, sludges, soil, chemicals, etc. Never touch your face, food or other items that may become contaminated.
- Smoking is permitted outside of our facilities on company premises in certain designated places during scheduled breaks or lunch periods, but not during the performance of work.
- The use of headphones with radios, CD players, DVD players, etc. is prohibited at all times while conducting company business.
- Individuals who knowingly, willfully, and/or repeatedly violate environmental, health, safety, or security laws, standards, policies or procedures will be subject to disciplinary action, up to and including unpaid suspension and/or immediate termination of employment.

