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Expenditure Efficiency & Projects Authority

# National Manual of Assets and Facilities Management
# Volume 6, Chapter 21

# Pest Control Plan for Schools & Universities

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# 1.0 PURPOSE

The purpose of this document is to provide an overarching plan to assist the Entity in managing the Pest Management Service at their School or University. This document also serves to outline the high standards required of public health towards providing a pest-free environment.

It defines the approach the Pest Management Contractor should adopt to manage their services, including a 'Planned' Pest Control Service, routine inspections, and a 'Reactive' Pest Control Service, to enable the prevention, management and elimination of pests, at the Entity's Educational Facility.

This Plan identifies the key management processes and their interaction, as well as explains some of the specific associated policies for pest management throughout the Facility. Pest management practices in a School or University should deliver best practice outcomes, alongside the least risk to students, parents, and staff. This requires the design and implementation of Integrated Pest Management (IPM). IPM is covered in two parts: one for buildings, and the other for grounds. In both areas, non-pesticide methods should be applied wherever possible to reduce the risk to public health.

# 2.0 SCOPE

This Pest Control Plan defines the requirements for operating Pest Control activities. It includes critical information on:

- Responsibilities of those involved with the establishment and execution of the plan
- Frequencies at which performance should be monitored and controlled, in accordance with relevant standards and best practices

It is also designed to meet the needs of pest management services in a School or University and provide an overview of how a Pest Control service provider will manage the work.

The Pest Control Plan should be used to manage all activities by:

- Monitoring compliance with the requirements of the Maintenance Plan
- Producing regular management information and reports that will help identify and monitor early risks and issues
- Ensuring the safety and security of all people at the School or University
- Satisfying mandatory policies and procedures

## 2.1 Scope of Service

A planned pest management service in a School or University, for the treatment, prevention, management and elimination of pests, stray animals and birds, undertaken by a specialist provider involves:

- Routine Inspections carried out by the specialist service provider against a planned schedule
- A Reactive Pest Control Service, that is provided 24 hours per day, seven days per week, against a stipulated Service Level Agreement (SLA)
- Layout Plan Management
- Planning and scheduling of work
- Suitable and Sufficient Training
- Staff Management
- Documentation Management
- Monitoring and Maintenance Management
- Managing the safe use and storage of chemicals and pesticides used at the Facility, for the purposes of Pest Control
- The provision and management of Pest Control equipment
- Pest and Vermin Infestation Management
- An Occupational Health & Safety Plan

## 3.0 DEFINITIONS

| Term | Definition |
|---|---|
| Application | Applying a product or chemical to manage pests |
| AutoCAD | Architectural software drawing package |
| Bait | A product that is manufactured in combination with food or other materials that pests consume. Often contains an active ingredient to help control pests |
| Bait Gel | Insecticide products that are formed when the active ingredient is mixed with food or an attractant carrier. When the insects eat the bait, they also consume the active ingredient |
| Bait Stations | Bait stations are containers used to house bait for pests |
| Birds | Such as Pigeon, House Sparrows, European Starling, and Seagulls |
| Business Day | Any day other than Friday or Saturday, or a day in the region that is a legal holiday, or on which the Entity is authorized/required by law or other government requirement, to be closed |
| Business Hours | The Business Hours are 8 hours per day ranging between 7am and 6pm daily, Sunday to Thursday, or as otherwise agreed with the Entity |
| Computer Aided Facilities Management System | It is used to capture asset data, produce maintenance registers, record maintenance work (planned and reactive), coordinate with the helpdesk and report on service delivery performance. Refer to Volume 2 |
| Callout/Reactive Request | A request that is made for a non-scheduled activity |
| Client /Customer | Entity or prime contractor that has the head contract (FM Provider) to perform the services agreement as defined, and as per schedule |
| Control of Substances Hazardous to Health | These Regulations require employers to control exposure to hazardous substances, to prevent ill health |
| Crawling Insects | Insects such as cockroaches, that have wings but are reluctant flyers, preferring to crawl to find food and shelter. Termites and ants are mainly wingless, so most of their behavior involves crawling, thought they are temporarily winged during a short phase of their reproductive cycle, during the breeding season |
| Dusting | A method of applying dust powder to repel snakes from getting into the Facility |
| Emergency | Refers to 'high priority' work, such as a failure or wants of service which constitute a danger/health hazard or present a significant business risk. These risks could seriously affect the Prime Contractors, endanger security, and/or other emergencies such as infestation, fire, flood etc. which impinge on the Site. This also includes issues which might affect the business' ability to provide services to its customers |
| Environmental Standards | A set of processes and procedures that are in accordance with all Environmental legislation, regulations, local laws and industry best practices, and which facilitate the protection of the Environment |
| Faults | The existence of any pest on the site |
| Flying Insect | Insects that have evolved wings for flight, such as houseflies and mosquitoes |
| Frequency | The rate of reoccurrence of tasks to be performed |
| General Waste | Waste which is generated from normal domestic duties |
| Globally Harmonized System | System of Classification and Labelling of Chemicals |
| Harborage | A refuge or shelter for pests |
| Hazardous Substances | These are Dangerous Goods that have the potential to cause harm. Examples in the context of this work activity are paint, lubricants, degreasers and preservatives. Hazardous Substances may be solids, liquids or gases |
| Hazardous Waste | Industrial type wastes such as solvents, flammable liquids, metals and general laboratory chemicals/materials |
| Housekeeping | General care, cleanliness, orderliness, and maintenance of the workplace, business, property, site or area |

| | |
|---|---|
| Industry Best Practices | Practices, methods, procedures, degree of skills, diligence, prudence and foresight that would reasonably be expected of skilled and experienced persons, engaged in carrying out activities the same as, or similar to the activities described in this document, and under the same or similar circumstances |
| Integrated Pest Management | Integrated Pest Management is an effective and environmentally sensitive approach to pest management that combines rational practices. IPM programs use current, comprehensive information on the life cycles of pests, and their interaction with the environment. This information, in combination with available Pest Control methods, is used to manage pest damage through the most economical means, and with the least possible hazard to people, property, and the Environment |
| International Organization for Standardization) | Responsible for the ISO 9000, ISO 2200, ISO31000AND and other International Management Standards |
| Institution of Occupational Safety and Health standards | A Chartered body for Health & Safety professionals. IOSH is a UK-based organization offering professional qualifications to raise standards of Health & Safety at the workplace |
| Infestation | A sudden increase in population of a pest species, in a given area |
| Inspection | Physical on–site verification that work is performed, and equipment maintained, in accordance with applicable standards and procedures |
| Label | A printed hazard-warning notice, which identifies the primary and secondary hazards, specific to a material and the information about its handling. Labels must be at least 100 mmx100 mm, unless otherwise specified |
| Maintenance | Preventative/Corrective action (or both), to ensure that the condition of an asset continues to meet its required duties, over its service life. This also includes repairs to the asset |
| Method Statement | A statement setting out the method by which a service or function shall be delivered, including who will carry it out and how, and using which tolls / materials / equipment, location, access arrangements, etc. |
| Ministry of Municipal and Rural Affairs | Responsible for the supervision and regulation of municipalities in the Kingdom |
| Manlift | Is a cup-shaped machine which assists in reaching high levels to complete any aerial tasks such as maintenance or cleaning |
| Manual Handling | Covers a number of activities such as lifting, lowering, carrying, pushing and pulling. These are often a major cause of musculoskeletal disorders |
| Monitoring Program | A Planned set of monitoring activities |
| Municipalities | Municipalities in Saudi Arabia form one part of the local administration which includes; the Amara "Governate" and the local units controlled by their respective central ministries. Therefore, management of urban development, to a large extent, is not exercised by municipalities alone, reflecting some form of fragmentation of responsibilities |
| Normal | Refers to ‘low priority’ work, and is defined as work or service failure that does not present a significant risk, nor does it affect the Facility’s health or wellbeing |
| Occupational Health | A multidisciplinary field concerned with preventing people from ill health in the workplace |
| Operational Procedures | Operational Procedures for each of the services. The Operational Procedures shall at a minimum, outline how the services are to be delivered |
| Non-business hours / Out of Hours | The period outside Business hours |
| Permit To Work | A formally written authority to operate a planned work procedure, and designed to provide protection to employees who are working in hazardous situations |
| Pest | An insect or small animal that is harmful such as ant, bedbug, cockroach, rat, mouse, cat, dog, fox, and snake |
| Pest Control | Regulation or management of a species that is defined as a pest |

| | |
|---|---|
| Pest Control Technician | A skilled, competent staff who carries out Pest Control tasks and activities |
| Pesticide | A chemical used to destroy insects and other pests |
| Personal Protective Equipment | Examples are, hard hat, safety footwear, goggles or face protection, ear defenders and gloves |
| Point of Work Risk Assessment | Usually undertaken immediately prior to work stating. POWRA can be used to modify an existing RAMS if circumstances have changed or if no formal RAMS exist |
| Premises / Site | The location of the Entity's land or buildings, where the service will be delivered |
| Preventative Maintenance | A planned strategy of cost-effective treatment to preserve, maintain, improve and/or delay future deterioration of an existing asset |
| Procedure | A documented series of steps to be carried out in a logical order for a defined operation, or in a given situation |
| Rectification Period | The pre-agreed period of time within which work should be completed |
| Regulations | A rule or directive made and maintained by an authority |
| Relevant Legislation | Any laws, applicable for business operations including, but not limited to, the laws and regulations of the Country, Australia, KSA, the United States of America, the United Kingdom of Great Britain and Northern Ireland |
| Response Time | The contracted time between initial fault report and attendance to respond |
| Risk | The possibility that a hazard may cause harm |
| Risk Assessment | A systematic process of evaluating potential risks that may occur when performing an activity/task |
| Rodents | Gnawing mammals (e.g., rats, mice) |
| Safety Data Sheet | It describes the properties of a substance, how to handle and use safely and what steps to follow in the circumstances of an incident of misuse |
| Safety Standards | Rules and behaviors to ensure safe working practices |
| Saudi Food and Drug Authority | The agency in KSA that protects the community, through regulations and effective controls ensuring the safety of food, drugs, medical devices, cosmetics, pesticides and feed |
| Scheduled | An event or action, at a predetermined time and frequency |
| Services | The contracted or agreed services to be performed, or goods to be provided by a service provider |
| Stray Animals | 'Stray' is a general term given to any domestic animal found roaming freely without human supervision |
| Routine Maintenance | Regular maintenance activities such as regular inspections, done on a regular basis; such as daily, weekly, monthly, yearly, or at any other pre-determined frequency |
| Toolbox Talk | A face to face discussion for operatives, focusing on a particular safety issue, usually at the point of work |
| Ultra Violet | A radiation that is present in sunlight, and that may cause skin damage |
| Urgent | Refers to 'medium priority' work, and defined as failures or 'wants of services' that affect amenities and pose a risk, but do not immediately affect the Facility's health, safety or wellbeing, or provide a threat to life |
| Waste | Any substance or object which the producer or the person in possession discards, or intends to/ is required to, discard |
| Work Equipment | Tools and/or equipment used in the execution of work activities |
| Work Management Centre | The source of Planned and Reactive Maintenance where Task Activities are issued, updated and closed |
| **Acronyms** | |
| BPCA | British Pest Control Association |

| | |
|---|---|
| CAFM | Computer Aided Facilities Management |
| CIEH | Chartered Institute of Environmental Health |
| EFK | Electronic Fly Killer |
| FM | Facilities Management |
| GHS | Globally Harmonized System |
| HACCP | Hazard Analysis and Critical Control Point |
| HSE | Health, Safety, and Environment |
| IOSH | Institution of Occupational Safety and Health |
| IPM | Integrated Pest Management |
| ISO | International Organization for Standardization. |
| ISPM | International Standard for Phytosanitary Management |
| KPI | Key Performance Indicator |
| MOH | Ministry of Health |
| MOMRA | Ministry of Municipal and Rural Affairs |
| NMA&FM | National Manual of Assets and Facilities Management |
| NPMA | National Pest Management Association |
| OSHAD | Occupational Safety & Health Abu Dhabi (This is an acronym for Abu Dhabi Occupational Safety and Health center standing) |
| POWRA | Point of Work Risk Assessment |
| PPE | Personal Protective Equipment |
| PM | Preventative Maintenance |
| PTW | Permit To Work |
| RAMS | Risk Assessments and Method Statements |
| SASO | Saudi Arabian Standard Organization |
| SDS | Safety Data Sheet |
| SFDA | Saudi Food and Drug Authority |
| UAE | United Arab Emirates |
| UK | United Kingdom |
| US | United States |
| UV | Ultra Violet |
| WMC | Work Management Centre |
| WPS | Worker Protection Standard |

**Table 1: Definitions**

## 4.0 REFERENCES

- The Saudi Arabia Ministry of Municipalities and Rural Affairs (MOMRA) - Environmental Health Regulations of KSA municipalities support the pest management industry's commitment to the protection of public health - The Health Requirements Regulations for Dry Packing Stores
- Saudi Food & Drug Authority (SFDA) - SFDA List of Public Health Pesticides and SFDA Products Classification Guidance and Product Classification System (PCS)
- National Integrated Pest Management Database - Pest Management Strategic Plans
- IPM Institute of North America - A Strategic Plan for Integrated Pest Management in Schools in the United States
- Environmental Protection Agency (EPA) - United States - Do's and Don'ts of Pest Control, List of Pests of Significant Public Health Importance, Integrated Pest Management (IPM) Principles and Introduction to Integrated Pest Management
- National Pest Management Association (NPMA) - United States of America standard - Pest management products and practices , IPM in Hospitals (Jan. 2006)
- National Pest Management Association (NPMA) - United States of America standard - Pest management products and practices and Outdoor Residential Misting Systems
- Chartered Institute of Public Health (CIEH) - United Kingdom standard - Public Health
- IOSH standard - Managing the risk
- ISO 9001:2015 - Specifies requirements for a Quality Management System
- ISO 14001:2015 - Specifies requirements for an Environmental Management System

- National Manual of Assets and Facilities Management (NMA&FM) - EOM-ZO0-PR-000075 - Pest Control Procedure for Schools & Universities

# 5.0 RESPONSIBILITIES

This section details the roles and responsibilities within the Pest Control Service, as shown in the Service Organization Structure (Figure 1).

## 5.1 Organizational Structure

The organizational chart below, shows the ideal organizational structure for the delivery and management of the Pest Control service. The Pest Control service is an integral component of the overall Soft Services delivery. Soft Services operatives can often provide a first line response to reports of the presence of pests as a support to the Pest Control Service Provider.

It envisions an operational structure in which the Entity has employed a Facilities Management (FM) company to deliver the overall facilities services to the School or University Facility. If the facilities responsibilities at the Facility are undertaken by an Entity employee, such as a Site Facilities Manager, or Building Custodian, then this individual would take on the responsibilities and position of the 'Contract Manager' in the organizational structure below.

In this circumstance it would be important for the Entity either to have sufficient competent Health & Safety advice either from an in-house employee, or from a third party provider in order to ensure that they are discharging their obligations and responsibilities, or to ensure that these responsibilities are incorporated into the Pest Management provider's contract. This would then leave the Entity with an overall 'Duty of Care' to ensure the planning for and execution of the services are both delivered safely.

The Contract Manager, whether working for the Entity directly, or employed by a Facilities Management (FM) company, is responsible for the overall management of the Pest Control service, with support from the Pest Control company's management and supervisory staff.

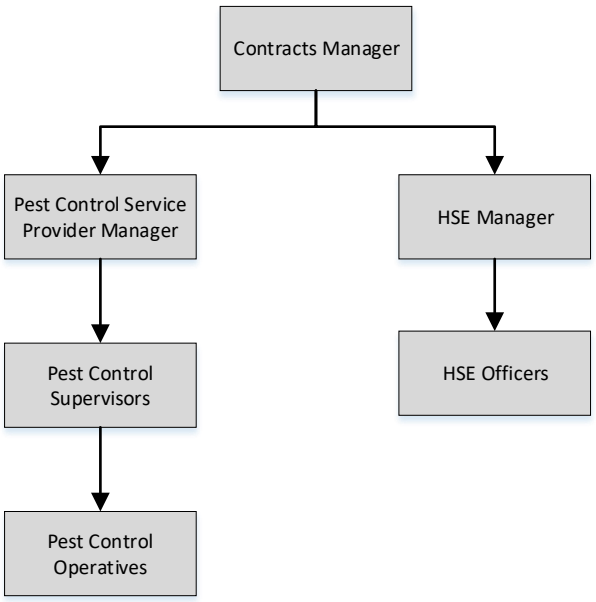


**Figure 1: Typical Contract Organizational Structure**

## 5.2 The Entity

The Entity Director at a School or University shall ensure that:

- A Pest Control Policy is established, understood and maintained
- A Pest Control Plan is implemented by the Pest Control Service Provider, and managed by the Entity Manager at the Facility
- All persons within the Entity (i.e. Senior Leadership Team, Facilities Management, Pest Control staff) comply with the Policy, and any associated regulations or requirements
- There are systems in place to monitor compliance, and report progress

The Senior Manager at a School or University shall ensure that:

- The Pest Control Service Provider effectively undertakes Planned and Reactive Pest Control Services
- Audits of Contractor performance take place at defined frequencies, with reports provided to the Entity's Senior Management
- Regular meetings and communication take place with students, staff, and visitors, in order to measure and monitor, feedback from the general public
- Regular meetings and communication take place with staff, in order to measure and monitor feedback

## 5.3 Facility Manager

The Facility Manager at a School or University shall ensure:

- Compliance with the requirements of statutory legislation, Facility policies and procedures
- Staff are inducted and trained, whether directly employed or provided by subcontractor, including any site-specific training required by the Entity. This includes specific induction-training
- Staff involved in delivering Pest Control services have received the appropriate information, instruction and training, in order for them to undertake their work safely
- All training activities are recorded, and any refresher training needed, is undertaken at the specified frequency
- Formal, written Risk Assessments and Method Statements (RAMS) are in place for all work activities
- Monitor staff to establish compliance with Policies, Procedures and Safe Systems of Work

At smaller Educational Facilities it is possible that the roles of Entity Manager and Facilities Manager are combined into a single role. If this is the case, then both sets of responsibilities should be combined together as well.

## 5.4 Health & Safety Manager/Officer

The Health & Safety (H&S) Manager/Officer at a School or University shall ensure:

- Compliance with the requirements of statutory legislation, Facility regulations, and appointed contractor local Policies and Procedures, is reviewed and assured
- Appropriate RAMS are in place for all work activities being undertaken by operatives
- Regular reviews of staff safety performance, including use of Point of Work Risk Assessment (POWRA) are conducted
- Staff and Contractors are operating in a safe manner, and in accordance with specified Operating Procedures
- Regular reviews of Work Equipment are carried out to ensure their safe performance
- Personal Protective Equipment (PPE) is issued to all operatives, and is in serviceable and safe condition for use
- Regular Toolbox Talks are held, to reinforce the importance of working safely

At smaller Educational Facilities, it is possible that the Entity may not directly employ a Health & Safety Professional. In this case the Entity should ensure to either receive Health & Safety guidance from a

competent third-party or ensure that the key Health & Safety responsibilities associated with Pest Management, are embedded into the Pest Management Contractor's obligations.

## 5.5 Supervisors

Supervisors shall ensure that:

- Operatives' work activity is monitored and that tasks are completed in the anticipated time
- Operatives' comply with Safe Working Procedures, and adhere to specified activities compliant with the Procedure
- Any deficiencies in safety performance are reported, reviewed, and where necessary, investigated
- Allocation of resources to emergency 'reactive' work requests is sufficient, to ensure stakeholder satisfaction
- Resources are available to meet the needs of work schedules, and to plan for coverage in the event of planned or unscheduled absences

## 5.6 Operatives

Operatives shall ensure that:

- They cooperate with all reasonable instructions in relation to their work activity
- Precisely follow the steps in Risk Assessment and Method Statements (RAMS)
- Wear the appropriate PPE at all times, for each work activity
- Report completed work activity to the Work Management Center (WMC), to enable the rapid closure of both 'planned' and 'reactive' work tasks

## 5.7 Students, Parents, Staff & Members of the Public

Students, Parents, Visitors, Staff and Members of the Public shall ensure to:

- Regular food handling/cleanliness behavior shall be carried out while on school grounds to minimized pests

# 6.0 PROCESS

Using the School or University Facility's Pest Control Plan Preparation Flow (Figure 2) as a basis for collaborative discussion, the Plan Writer shall facilitate a Kick-off Workshop in which collaborators shall, as a minimum:

- Agree upon the purpose of the plan (Aims, Key Components, and Outcomes)
- By means of a Flow Chart, define a Process which shall drive the Plan (i.e. outline the steps which the Procedure should follow)

The Plan Writer shall record Minutes of Meeting for later review to support in drafting the Plan, and for Quality Audit purposes.

## 6.1 Preparation

The Facility's Pest Control Management Plan should be written in line with the process outlined in the Maintenance Plans Writers Guide contained within Volume 6 of the National Manual of Assets and Facilities Management (NMA&FM).

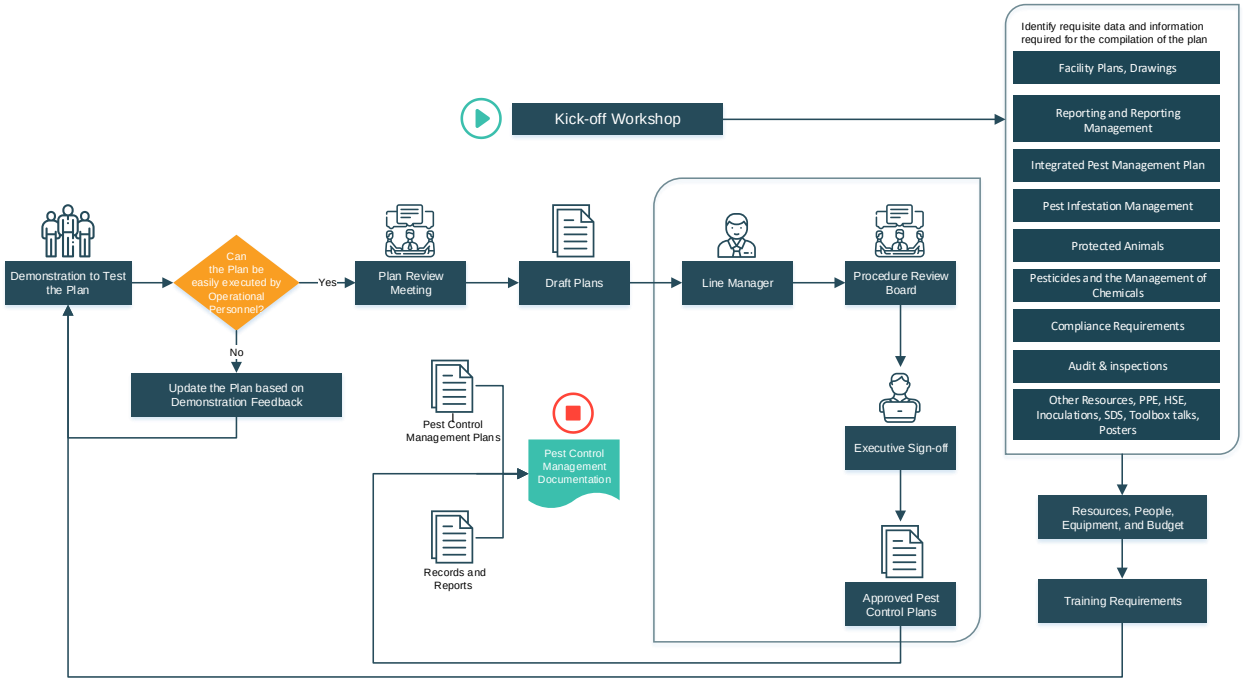


**Figure 2: Plan Writers Flow Chart**

## 6.2 Creating a Pest Control Management Plan for Schools & Universities

This section offers guidance regarding the content of a Pest Control Management Plan for Schools and Universities.

### 6.2.1 Implementation of a Plan

A Pest Control Plan defines the approach a pest management provider shall take towards the prevention, management, and elimination of pests at the Facility, including:

- A Planned Pest Control Service
- Routine Inspections
- A Reactive Pest Control Service

It should also define the various requirements that underpin the activity, such as reports, a training plan, a schedule of activity, documentation, HSE Plan, Risk Management, and Monitoring & Measurement.

A Planning Workshop attended by key personnel shall enable completion of the Pest Control Management Plan by using the Attachments to drive progress.

## 6.3 Pest Control Management Plans in Schools & Universities

The components of the Pest Control Management Plan consist of:

- Facility Plans, Drawings
- Reporting and Reporting Management
- Integrated Pest Management Plan
- Pest Infestation Management
- Protected Animals
- Pest Disposal
- Pesticides and the Management of Chemicals
- Equipment and Tools
- Training

This Plan describes how the Pest Management Services team should operate to ensure the service meets the needs of the Entity's School or University Facility. It should be prepared in accordance with industry best practices and structured to follow the requirements of the Entity's Pest Control service specification.

The Pest Management provider should operate, to ensure the service provided meets the needs of the Facility. All plans are prepared in accordance with industry best practices and structured to follow the requirements of the Facility's Pest Control service specification.

The Pest Management service should also operate in conjunction with the NMA&FM Volume 6, Chapter 23 Landscaping and Grounds Maintenance, Volume 6, Chapter 18 Facility Structure Maintenance. Both of these services should collaborate with the Pest Management Service Provider to generate regular reports of their own and provide information for the update of site plans and maps accordingly.

Pest Control methods, techniques, and practices, shall be fully compliant with the National Manual for Assets and Facilities Management (NMA&FM) Volume 5 Chapter 16 Pest Control Procedures, international standards of the National Pest Management Association (NPMA) in the United States of America, British Pest Control Association (BPCA), and Chartered Institute of Public Health (CIEH) in the United Kingdom.

In planning the maintenance work, the contractor should:

- Have suitable and sufficient RAMS in place
- Provide competent personnel
- Provide work instruction to all staff
- Provide appropriate PPE to all staff
- Invest in continuous training
- Identify opportunities to improve the service outcomes
- Comply with any Permit to Work system in place at the Facility
- Notify and agree with the Facility, on any pesticides to be used, and agree on their suitability for use
- Observe Infection Control protocols at all times, and in all locations
- Provide, maintain, store, clean, replace and dispose of Pest Control equipment, in accordance with the relevant manufacturer's instructions, and good industry practice
- Dispose of pests, in accordance with good industry practice

Pest Management at Schools and Universities should include, but not limited to:

- Designating Pest Management Roles
- Setting Pest Management Objectives for Sites
- Inspecting, Identifying and Monitoring
- Setting Action Thresholds
- Applying IPM Strategies
- Evaluating Results and Record Keeping

The most successful control methods to eliminate insect infestations in Schools and Universities, in accordance with industry best practices include:

- Machinery Control
- Fumigation
- Pest Trapping
- Cages
- Heat/Freezing Treatment
- Physical Removal
- Isolation
- Gas Treatment
- Baiting

Pest control teams should adhere to the following guidelines in Schools and Universities:

- Liaise and communicate with the Entity, students, parents, visitors and staff at the earliest opportunity, to plan and execute Pest Control treatments

- Notices of scheduled treatments should be displayed in public, before beginning the activity
- Coordinate with individual students, visitors and staff before the treatment of their accommodation units (if provided)
- Ensure the treatment of public spaces is completed at a time when they are least likely to have students, parents, visitors and staff present
- Ensure the treatment of public facilities such as lifts and common areas are undertaken in a safe manner, including proper ventilation and segregation of the workspace to prevent entry during treatment
- Before using pesticides always read and follow the instructions and the Safety Data Sheet (SDS)
- Do not unnecessarily expose students, parents, visitors and staff to hazards associated with equipment and chemicals
- Wear gloves and PPE and always change gloves between treatments

## 6.4 Facility Plans & Drawings

Successful Pest Management requires a full understanding of the hazards posed by building structures, walls, drainage, hard and soft landscaping, and all other areas of the Facility including areas where pests can be present on a temporary or semi-permanent basis.

Site maps, building plans, drawings etc., will be needed by the Pest Management Contractor in order to assess the level of risk posed by pests, and the actions to be contained within the plan to ensure their successful control/eradication.

Maps, plans and drawings will be classified into zones, based on Risk Assessment:

- **High –** Student accommodation (if provided), e.g. bedrooms and bathrooms, and any food preparation facilities, central kitchens, public washrooms and bathrooms. Communal facilities such as waste aggregation, laundries, and any communal restaurant or cafeteria facilities, vending areas, drinking fountains, recycling points, plant rooms, roof areas and basement areas
- **Medium –** These include public areas and circulation spaces, classrooms, lecture theatres, libraries, sport facilities such as gymnasia or changing areas, offices and administration areas etc.
- **Low –** Car parking and loading/delivery points, utility areas, slopes, ditches; natural areas; fence lines and property lines

Layout plans should be used as follows:

- The position of pest control devices (bait stations), should be marked up on site drawings, and the AutoCAD system (if used)
- The position of pest monitoring devices should be marked up on site drawings
- Monitoring devices should be numbered, to enable ease of monitoring and recording of data

Bait Stations include:

- Rodent Bait Stations
- Traps
- Cages
- Electronic static Fly Killers
- Bird Control Devices (Avishock, netting, spikes, bird wire, spring wire, bird points, and automated bird repellant systems)
- Animal Control Devices
- Natural Repellents

## 6.5 Reporting and Documentation

Pest Control reports are measurement and monitoring tools used to track the Pest Control performance, against the requirements of the Pest Control service contract.

The Service Plan provides information about how the Pest Control Service collates information required for Service Reports. The following table lists an example of Service Reports required by the Pest Control Service, and how they should be collated and stored.

| Report Type | Frequency | Information | Report SLA | Media |
|---|---|---|---|---|
| Daily Treatment Report | Daily | CAFM | 1 Day | Soft / Hard Copy |
| Reactive Request Report | As required | CAFM | Daily/as required | Soft / Hard Copy |
| IPM Report | Bimonthly | CAFM | Bi-Monthly | Soft / Hard Copy |
| Monthly Report | Monthly | CAFM | Monthly | Soft / Hard Copy |
| Pest Trend Analysis Report | Every 4 Months | CAFM | Every 4 Months | Soft / Hard Copy |
| Update Site Plans | As required | CAFM | As required | Soft / Hard Copy |
| Layout Plan | As required | CAFM | As required | Soft / Hard Copy |
| Chemical Usage Report | As required | CAFM | As required | Soft / Hard Copy |
| Planned Services – Report | As required | CAFM | As required | Soft / Hard Copy |
| Quarterly Summary | Quarterly | CAFM | Quarterly | Soft / Hard Copy |
| Annual Summary | Anniversary Date | CAFM | Contract Anniversary | Soft / Hard Copy |

**Table 2: Report Types**

### 6.5.1 Checklists and Templates

Inspections will be made in accordance with the performance-measurement, system requirements. Checklist and templates will help the Facility to manage the Pest Control Contractor carrying out the services and maintain the service standards. The following checklist and templates are recommended:

- Pest Control Inspection Checklist for Schools & Universities (Refer to **Attachment 1**)
- IPM Self-Inspection Sheet – To be provided by the Pest Management Contractor
- Schools & Universities IPM Audit Checklist – To be provided by the Pest Management Contractor
- Schools & Universities IPM Audit Report Template – To be provided by the Pest Management Contractor
- Pest Control Daily Checklist – To be provided by the Pest Management Contractor
- Chemical Log Register – To be provided by the Pest Management Contractor

### 6.5.2 Data Analysis

The Pest Control Contractor should determine, collect and analyze appropriate data, to demonstrate the suitability and effectiveness of their service provision, and evaluate where improvements can be made. This shall include data generated as a result of monitoring and measurement, reports, and other relevant sources. The analysis of data shall provide information relating to:

- Performance Measurement
- Customer Satisfaction
- Conformity to Service/Product Requirements
- Characteristics and Trends of Processes and Services, including opportunities for Preventative Action

### 6.5.3 Computer Aided Facilities Management system (CAFM)

A CAFM system is the most suitable means of recording planned and reactive activities in a Facility and provides transparency and traceability to all stakeholders. However, for some smaller Educational Facilities the Entity may decide that despite it being a best practice to use a CAFM system, the investment provides insufficient return on capital. If this is the case, the Entity should ensure that they have an effective paper-based means of tracking service activities.

The CAFM system should be used to record:

- All planned Pest Control services
- All scheduled Pest Control inspections
- All reactive Pest Control service requests
- First response team actions, attendance and rectification times
- Recording and reporting on performance against SLA and KPIs

All tasks shall be completed safely, with the minimum disruption to the Educational Facility, especially students, parents, visitors, and staff.

## 6.6 Integrated Pest Management (IPM) Plan

IPM follows the National Pest Management Association (NPMA) Global Green standards that regulates eco-effective, 'green' Pest Management. IPM is not a single Pest Control method, but a series of pest management evaluations, decisions and controls and best industry practices. The benefits of implementing Integrated Pest Management are:

- Reduced number of pests
- Fewer pesticide applications
- Reduced costs while protecting human health

Adopting IPM reduces exposure to both pests and pesticides, which reduces exposure to individuals with allergies and asthma. IPM relies on the following steps**:**

### 6.6.1 Prevention

The first step in IPM focusing on preventing pests from gaining access to areas where they can become established by removing the conditions that attract pests such as food, water, and shelter. This is achieved by the following preventative actions:

- Reduce clutter
- Eliminate shelter and food:
    - Proper storage of foodstuffs
    - Collection and removal of Pest Control and storage in sealed containers
    - Maintain clean dining, and food storage areas
    - Good housekeeping
    - Good grounds maintenance
- Seal areas where pests might enter the building:
    - All gaps and holes to be sealed
    - Doors and windows closed
    - Fit metal kick plates to the base of external doors
    - Ensure that doors are tight fitting
    - Cover drains, and fit wire mesh to pipe ends
    - Fill all gaps and holes and use mesh screens to prevent access to the building
- Remove overgrown vegetation
- Install pest barriers
- Remove standing water
- Educate building occupants on IPM

Proactive Preventative Measures:

- **Drain System –** These are often left unprotected or unsealed**,** and internal drain covers are often missing, allowing pests to infest the area
- **Pest Control Points –** These should be segregated, well-maintained, with all Pest Control bins covered, regular pest control procedures implemented, and a Pest Control collection schedule in place. Regular and thorough cleaning should also be mandatory
- **Building Structures –** These require a periodic and scheduled monitoring report to be conducted, with the aim of identifying any building proofing that needs to be carried out, in order to minimize pest infestation

- **Food and Beverage Preparation and Storage Areas –** Kitchens, food stores and canteens offer sources of food, making them attractive to pests. These areas should be cleaned at least once per day all food should be covered, and food Pest Control removed regularly
- **Landscaped Areas –** Require a high standard of regular maintenance and the removal of Pest Control and debris. Failure to do this can create habitats for rodents, birds and snakes
- **Water –** Standing water can provide a source of nourishment for pests. Water courses, drains and gulleys, should be regularly cleared to prevent obstructions that would encourage pests

The table below shows examples of 'best practice'' approaches to preventative maintenance activities, in areas commonly found in an Educational Facility.

| Location | Surveillance Frequency | Preventative Measures |
|---|---|---|
| Student and staff accommodation including bedrooms, kitchens and bathrooms; (if provided).<br><br>Communal facilities such as waste aggregations, recycling points and laundries.<br><br>Restaurant or cafeteria facilities, vending areas,<br>Plant rooms, roof areas, basement areas, car parking and loading/delivery points | Monthly | • Install cockroach traps<br>• Install fly killer<br>• Install ant traps<br>• Gel baiting in critical areas<br>• Monitor the devices regularly<br>• Residual spray (if required)<br>• Spot treatment (if required)<br>• Monitor results and follow ups |
| Common Areas | Monthly | • Installation of monitoring devices (if required)<br>• Install traps and glue-traps in ceilings<br>• Install fly killers<br>• Residual spray & misting (if required during weekends)<br>• Monitor results & follow ups |
| External Areas | Monthly | • Install a lockable rat bait system and monitor monthly<br>• Install bird control devices<br>• Install snake traps, and monitor monthly<br>• Fogging treatment for flies & mosquitoes<br>• Monitor monthly results and follow ups |

**Table 3: Preventative Surveillance Measures**

### 6.6.2 Setting Action Thresholds

Setting an action threshold is critical to guiding Pest Control decisions. A defined threshold should focus on the size, scope, and intensity of an IPM plan and Pest Control will be required if the action thresholds are exceeded. IPM programs use the most effective, and lowest risk options, taking into consideration the risks to the applicator, building occupants, and the environment.

### 6.6.3 Monitoring and Identification of Pests

Correct pest identification is required to:

- Determine the best preventative measures
- Reduce the unnecessary use of pesticides
- Maintain records for each aspect of the Educational Facility
- Record monitoring results and inspection findings, including recommendations

IPM should ensure the Pest Control contractor focuses on different areas of the School or University Facility, based on their criticality, and treat each location accordingly:

i. **Critical Areas:** Domestic accommodation, such as bedrooms, kitchens and bathrooms (if provided)
ii. **Educational Facility Interior:** Communal facilities such as waste aggregation, laundries, any retail space (especially if food is sold), any communal restaurant or cafeteria facilities, vending areas, drinking fountains, recycling points, plant rooms, roof areas, basement areas, car parking and loading/delivery points
iii. **Educational Facility Exterior:** Biohazard Pest Control containers, recycling/garbage/Pest Control bins, soft landscaping, ponds, mulch, trees, shrubs, student and staff recreational areas, roof, external doors and loading docks, building perimeters and utility line access points

### 6.6.4 Schedule of Activity

A continuous integrated program for the control of rodents, pests and insects should:

- Carry out scheduled inspections and treatment where required, to all internal, external, and ground areas at the site
- Carry out inspections in all area and rooms in the building, and conduct treatment as required

Inspections should ensure:

- Surveillance for signs of pest activity on the site
- Surveillance for potential pest entry points
- Surveillance to ensure existing Pest Control methods are sufficient
- Surveillance inspections of critical locations
- Prompt submission of reports following surveillance inspections

### 6.6.5 Monitoring and Maintenance (IPM)

This activity includes:

- Monthly Summary Report to the Facility's representatives
- HSE Report
- Monitoring points report
- Monthly service overview to include planned and reactive requests, and response management
- Continuous Improvement Initiatives
- Statutory inspections

### 6.6.6 Reactive or 'ad hoc' Pest Control

Reactive services are unplanned events that are performed by the Pest Control team. A reactive Pest Control service in a Facility would be expected to be available 24/7/365, in order to address Emergency or Urgent service requests.

During out of business hours in an Educational Facility, it is normal that Pest Management services are provided by an off-site contractor. The Entity may only have a Building Custodian available out of business hours, and it will be their responsibility to record instances of reactive calls. If this is the case, they should either log the request formally in an Entity-defined paper-based process or use the CAFM system.

The response time category should be accurately recorded on the work order in the CAFM System, and clearly communicated, both to the responding member of staff, and the person logging the call. The response time is defined as, the period from the time of notification, to the time of initial attendance to the specific area of the issue raised. The table below shows industry best practices for response times within an Educational Facility:

| Priority | Response Time | Completion/Rectification Time |
|---|---|---|
| Emergency/Critical* | 2 Hours | 4 Hours |
| Urgent | 4 Hours | 48 Hours |
| Important | 8 Hours | 1 Week |
| Routine | 48 Hours | 28 Days |

* (Based on the assumption that the Pest Control service provider has site-based operatives)

**Table 4: Preventative Surveillance Measures**

Pest Control Management is responsible for completing ad hoc tasks and reactive requests, as required with work instructions issued by the WMC. The Pest Management Contractor should respond to faults received from the WMC promptly, in order to ensure rapid resolution. Records and reports detailing the outcome of the tasks should be returned to the WMC. For a fault to be processed and rectified, the following information should be captured:

- Requestor's name and contact number
- Date and time of task
- Location of the reported incident
- Categorization of the reported fault
- Attendance Times and Rectification Times
- Unique task number
- Date and time the task is passed to the Pest Control provider

The Figure 3 below is a typical work control chart for responses to reactive requests:

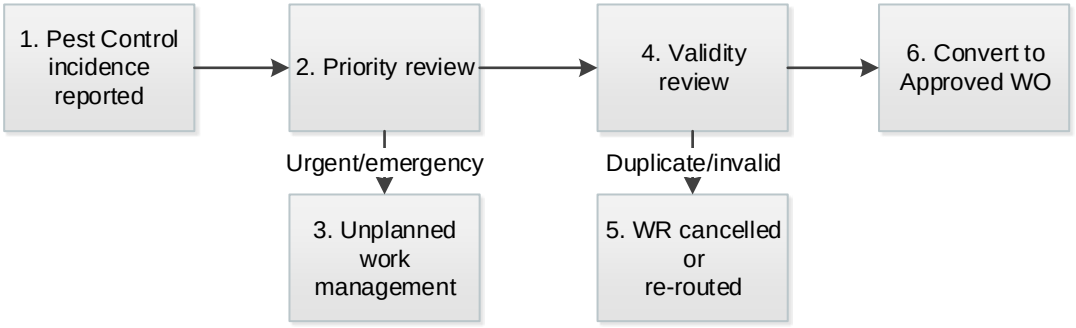


**Figure 3: Typical Reactive Workflow**

## 6.7 Pest Infestation Management

Pest infestations occur when:

- Environmental control is disrupted, and serves as an indicator that there may be a problem with climatic conditions
- IPM is not in place at the Facility
- Inspections are not regularly completed
- Poor Housekeeping standards
- Poor Grounds Maintenance
- Absence of a Pest Prevention Plan

This section describe how infestations should be managed to ensure minimal disruption to the Facility's Functions. The example is based on a wasp infestation.

Management and prevention of any pest infestation is best accomplished by implementing an action plan that relies upon exploiting the weak links, accurately identified in a pest's biology. It is also important to follow other best practices such as:

- Identify possible penetration/access points, where possible pest infestation could take place
- Preventative measures should be implemented to minimize future infestations
- Recommend any structural, sanitary, or procedural modifications that will reduce pest access, food, water and harbourage
- Penetration/access points for pests are identified by the Pest Control Management team and reported for rectification
- Always consider the various materials, methods, and actions that might immediately solve and permanently suppress or prevent a pest problem
- Implementing an integrated approach that uses several interventions, is usually best suited for the long-term management of pests
- Some pest infestations can be solved without the use of pesticides. In some cases, using pesticides will be completely ineffective, while in others, the use of pesticides will be the only and/or best option available
- IPM principles, and recommendations on housekeeping, structural or landscape renovations/ procedures/maintenance to prevent future pest infestations
- Adhere to proper cleaning techniques, to minimize the potential for pest infestation

The Pest Control Service has the following key interactions with other services, to control pest infestation within the Facility:

- **Cleaning Service** – This service will enforce the application and frequency of the correct cleaning processes, to minimize the risk of pest activity. Monitoring of stores, laundry, Pest Control and other at-risk areas, shall be performed as routine tasks
- **Waste Management Service** – Waste will be stored in such a manner as to minimize pest activity. Implementing a recycling process will reduce stored Pest Control in a manner to minimize pests. The Facility should ensure that students, visitors, and staff use of communal waste facilities does not compromise Pest Control activities. All waste should be bagged, waste containers must be sealed and not overfilled. Waste Services Provider's staff must ensure that during their work, they do not spill or leave waste at the site, after containers are emptied. Waste containers should be cleaned and disinfected periodically, to minimize the risk of pests
- **Grounds Maintenance Service** – This service will be responsible for clearing external debris and rubbish especially from drains and gulleys, and ensuring that perimeter building structures are checked, and fences are maintained to minimize pests

## 6.8 Protected Animals and Pests

Pest Management is responsible for ensuring the safe removal and release of any protected animals, pests and birds, to avoid causing damage to the Facility, or unnecessary distress or injury to the animal, during the process.

## 6.9 Pest Disposal

Pest Management shall provide safe, humane and efficient methods of catching, destroying and safely disposing of pests. An appropriate professional, proactive, pest-disposal regime should be in place to collect and remove pests from the Facility, with minimum disruption and/or disturbance to the Facility. Disposing of pests shall comply with local regulations and by-laws.

## 6.10 Pesticides and the Management of Chemicals

Pesticides are any organic or non-organic product, whether manufactured, natural, or biological, that includes elements of microorganisms used in Pest Control (including repellents and innocuous substances).

Pesticides are classified as Hazardous Materials their misuse poses a health and environment hazard, and the relevant SDS and RAMS should always be consulted in order to prevent harm.

The use of chemicals and pesticides should be minimized in an Educational Facility, to avoid harm to vulnerable individuals.

The Pest Control provider shall only use chemical treatments that have been approved by:

- SFDA
- Facility's Safety Team
- Pest Control Provider's Safety Representatives
- Infection Control

The Pest Control provider should also ensure that:

- The use of chemicals, including pesticides, are strictly controlled, and monitored
- The use of pesticides and chemicals shall be recorded and retained for subsequent inspection and audit purposes
- Pest Control chemicals and pesticides shall be stored in designated, lockable storage or off-site
- Designated storage areas are secure, well-ventilated and with sufficient lighting
- Pest Control chemicals are properly labelled with the manufacturer' information
- The label is legible, and any associated SDS should be available for inspection (in the same location)

### 6.10.1 Labelling of Pesticides & Chemicals

The Pest Control provider shall ensure that all pesticides and chemicals approved for use are labeled correctly at all times. This refers to information printed, drawn or attached to pesticides, showing the elements, characteristics and use of pesticides, as well as the precautions to be considered during use, and any other information required.

### 6.10.2 Restricted-Use Pesticides

These are dangerous when used and listed in the 'restricted-use' pesticides Table, issued by the SFDA and MOMRA. Such substances can only be used by authorized personnel, and then, only under the supervision of competent governmental bodies, licensed companies or organizations that are authorized by the SFDA.

Example of restricted Pesticides in KSA:

- Strychnine Sulfate (used with stray dogs)

### 6.10.3 Banned Pesticides

These are designated as "highly-toxic" and harmful to the environment. They are banned by EPA, SFDA and the World Health Organization.

Example of banned Pesticides in KSA:

- Zelio
- Sodium Fluoroacetate
- Fluoroacetamide

### 6.10.4 Registered Pesticides

These pesticides are registered internationally from respective countries of origin, and at the same time registered and approved locally with the government bodies. The table below provides examples of pesticides registered and approved by SFD

(Last updated 13th Rajab1438H- 10th April 2017 G)

| Reg. No | Trade Name | Formulation | Active Ingredient | Storage | Product Type | Target Pest |
|---|---|---|---|---|---|---|
| 188-1-1271 | Maxforce Prime | Gel | Imidacloprid | <25 C | Insecticide | Cockroaches |
| 205-12-1272 | Advion Cockroach Gel Bait | Gel | Indoxocarb | <25 C | Insecticide | Cockroaches |
| 35-12-1083 | K-Othrine EC25 | Emulsifiable Concentrate | Deltamethrin | <25 C | Insecticide | Mosquitos, cockroaches, ants, and flies |
| 171-18-1000 | Ars Liquid Refill | Liquid Vaporizer | Prallethrin | <25 C | Insecticide | Mosquitos |
| 154-12-1048 | Safrotin 20 MC | Capsule Suspension | Propetamphos | <25 C | Insecticide/ Acaricide | Mosquitos, cockroaches, ants and flies, bed bugs, fleas, moths, and ticks |

**Table 5: Registered Pesticides**

### 6.10.5 Pesticides & Chemicals Dilution Protocol

Chemical dilution is where the concentrated form of the chemical is diluted into a less concentrated form, in accordance with the manufacturer's instructions. The following are typical chemicals dilution steps:

- Ideally the dilution should be done outside and/or in a location with sufficient ventilation, to avoid the hazard of harmful fumes
- It should take place on a level surface, and at a suitable working height
- PPE suitable for the task shall be worn by the operative as identified in the RAMS, for the task
- Refer to the label, MSDS and COSHH data, in order to identify the required concentration and dilution ratios
- Use measuring equipment (or the pesticide's container if it is already equipped with a measuring cup), to have accurate volumes
- Read the label and pay attention to the warnings related to the safe use of the chemical
- No smoking, eating, or drinking while diluting the chemical
- Keep the chemicals in their original containers, far from food, and out of reach of children and non-targeted pets
- Never mix two chemicals together
- Avoid contact with exposed skin
- Replace broken PPE if the dilution is still in process

### 6.10.6 Pesticides and Chemical Usage Report

Any chemical and/or pesticide used at the Facility, and which is prescribed as a hazardous substance shall be recorded and saved.

### 6.10.7 Pesticides and Hazardous Material Disposal

Disposal methods of any Pest Control Equipment and Chemicals, shall be in accordance with the relevant regulations, manufacturer's instructions, and industry best practices. This Pest Control is considered Hazardous and should be treated as such.

More information regarding Hazardous Pest Control disposal can be found within NMA&FM Volume 5, Chapter 17 Pest Control Management.

## 6.11 Equipment, Tools & Consumables Management

### 6.11.1 Equipment List

The equipment required to undertake a professional Pest Control service should include, but not be limited to:

- Pneumatic Handheld Sprayers
- Dusting Equipment
- Inspection Kits and Treatment Kits
- Lockable Storage Containers for Chemicals/Supplies
- Spill Containment Trays
- Protective Clothing and Equipment, including high visibility clothing
- Motorized Pump and Hose for Spraying
- Clean-up Kits
- Fire Extinguisher and First Aid Kits
- Assorted tools and MSDS, COSHH

Any equipment that requires maintenance should be scheduled in the annual service plan. Records shall be retained to identify the next, due servicing date.

### 6.11.2 Equipment & Tools Operational Guides

All operational user-guides and manuals for the equipment used during Pest Control Management shall be retained and available for inspection at any time.

Before using any tools for the Pest Control the operators shall:

- Be certified, trained and skilled to use the equipment
- Read and follow operational user-guides before using the equipment
- Check equipment condition before use
- Report defected equipment and tools, as this can result in injuries
- Wear PPE as mentioned within the operational user-guides
- Not operate or use equipment if tired or taking medication which may impair their judgment
- Keep the equipment and tools in a safe place, out of the reach of Facility users, and locked up

Examples of tools and equipment used in Pest Control Services are shown in Table 6, below:

| # | Item | Description | Photo |
|---|---|---|---|
| 1 | B&G Sprayer | The B&G sprayer is a heavy duty stainless-steel tank, developed exclusively for the pest management industry.<br>The B&G sprayer, due to its four-way “multi-tip”, can be used to deliver a variety of pesticides to a variety of locations, such as outdoor perimeter treatments and indoor applications.<br>The B&G is equipped with a valve that offers a positive tip shut-off for the drip-free application of chemicals. |  |

| # | Item | Description | Photo |
|---|---|---|---|
| 2 | Bait Gun | The Bait Gun gives total application control, of all paste and gel baits applied to control pests. It is a high leverage, trigger-mechanism that applies bait with minimum effort and no hand fatigue. Dots and stripes are controlled with a pull of the trigger. The disposable reservoir system virtually eliminates regular maintenance. |  |
| 3 | Cyclone | The Cyclone, hand portable, misting applicator dispenses water-based and oil products, and can deliver insecticides, deodorizers, disinfectants, and germicides. It is typically used as a wide-space applicator and is commonly used in all type of buildings and public areas and is particularly suited to Educational Facilities. |  |
| 4 | Curtis Dyna Fog Super Hawk | The Super Hawk fogger employs the resonant pulse principle, to generate hot gases flowing at high velocity.<br><br>These portable and economical thermal fog generators are designed to apply large volumes of fog, with very small particle sizes. |  |
| 5 | Spill Kit | Spill Kits, Spill Absorbent. Emergency spill kits are used to clean up water-based insecticides. Typically used in places of business or heavily populated areas like schools, spill kits help protect people and equipment from unwanted contact with chemicals to meet safety codes. |  |
| 6 | Rodent Bait stations | Tamper resistant bait stations will be installed in areas accessible to public and will be secured. A map showing the exact placement of these baits will be drawn for monitoring. Each station will have a number cross referenced on the map. Each box will also carry an inspection log, filled every time the station is monitored. |  |

| # | Item | Description | Photo |
|---|---|---|---|
| 7 | Glue Traps | Pre-baited to attract mice and insects - no additional baits are necessary, made with a strong adhesive formula.<br>Available in 3 sizes (large, medium, and small)<br>Pre-baited to attract mice and insects - no additional baits are necessary, made with a strong adhesive formula.<br>Available in 3 sizes (large, medium, and small) |  |
| 8 | Cockroach Traps | Comes with an attractive bait, food grade. Can be installed where a lot of cockroach food sources exist. |  |
| 9 | Stray Animal Cages | Spring-loaded door and sensitive triggers ensure quick, secure captures that target the specific animal's size, preventing undesired catches. |  |
| 10 | PPE | PMPs will wear their Personal Protective Equipment (PPE) before proceeding with any further steps.<br>The required PPE are:<br>1. Half face mask<br>2. Disposable latex gloves<br>3. Adequate protective clothes (long pants and sleeves)<br>4. Safety shoes |  |
| 11 | Snake Catcher | Just the right length to move snakes of any size, and other lizards or reptiles. |  |

**Table 6: Pest Control Equipment**

## 6.12 Training Management

### 6.12.1 Pest Control Team Training

The Pest Control Service provider shall provide suitable and sufficient training, to ensure their staff are capable of delivering the services for which they are employed. In delivering the Pest Control service, Pest Management shall:

- Ensure Pest Control technicians are trained, skilled and certified to carry out pest control tasks.
- Certified by Local Regulations
- Have Continuous Development and Learning Plans
- Train Supervisors and Management to competent levels
- Carry out Toolbox Talks
- Record Training and Attendance

Service-specific training should include the following:

- Health and Safety
- Process and Delivery Methodology
- Chemical Dilution Protocol
- Infection Control
- Facility-User Privacy
- Pest Control Management, including recycling
- Spillages
- Helpdesk and Reception, where applicable
- Emergency Procedures
- Pest Identification
- Pest Removal
- Reactive Request Management
- Equipment and Tools Management

Additionally, specific training and annual refresher courses shall be available for currently competent and newly appointed staff.

### 6.12.2 Educational Facility's User Education

For visitors to the Educational Facility, information is usually provided via displays and information packs. This will provide the necessary and relevant information to educate visitors on common pests that may be encountered at the Facility.

It will be helpful to encourage Educational Facility users to promote the following habits:

- Frequent emptying of trash bins
- Removal of indoor decorative plants
- Avoid snacking in non-designated food production/service spaces
- Regular use of waste disposal and recycling facilities

## 6.13 Staff & Service Provider Management

The Educational Facility's management team shall have a strong focus on the performance and management of Pest Control service personnel and conduct regular and progressive performance management reviews.

They must ensure that the Pest Management provider guarantees that supervisors, team leaders and staff under their control have received appropriate training and experience to carry out Pest Control services including:

- Specific training for Personnel on prevention and treatment methods
- Certification and licensing of Pest Control Service Personnel
- A suitably qualified person in charge is always provided on-site to assist with supervising the operation, planning, coordination, implementation and supervision of all works carried out onsite
- Person in-charge of Pest Control shall be competent and experienced, and responsible for supervising and overseeing overall Pest Control Management, at the Facility

On-site Management strategies will encompass the following:

- Performance Reviews and Feedback.
- Structured Training and Development.
- Succession Planning
- Reward and Recognition Schemes.

The Leadership Team shall manage Pest Control Service personnel in accordance with the law and best industry practice, to maximize productivity, job satisfaction and commitment.

## 6.14 Occupational Health & Safety Plans

Pest Control includes the use of substances such as pesticides, and the use of equipment and machinery.

### 6.14.1 PPE

PPE should be worn by all operatives, where the RAMS determines it as a requirement. If not provided, the operatives should not undertake the task, until it is available. The Facilities Contract Manager/H&S Manager are responsible for ensuring a suitable and sufficient Risk Assessment is in place, and that resources are available to provide appropriate PPE for all operatives.

- **Goggles –** Operatives should wear goggles when undertaking such activities that have the potential to be a hazard to their sight, including the decanting of chemicals.
- **Safety Footwear –** Operatives should wear safety footwear with a steel toecap, to prevent the hazard of impact on the foot by moving machinery or equipment.
- **Arm and Leg Protection –** Appropriate clothing should be worn to protect the arms and legs,
- **Gloves –** Gloves should be worn to protect the hand and wrist, both to reduce the hazard of skin irritation, and also to minimize the risk of cuts and abrasions.
- **Dust Masks or Respiratory Protection –** These should be worn by operatives carrying out a range of activities likely to produce airborne debris.
- **Ear Defenders –** These should be provided to any operative using noisy, powered equipment that has the potential to cause hearing damage. Ear defenders should be selected on the basis of the noise they exclude. Cheap ear defenders are available but should be avoided because they frequently do not provide adequate, certified protection from noise.
- **Anti-Vibration Gauntlets –** These should be worn with machinery that is known to generate high levels of vibration, if used. Operatives using this kind of equipment for extended periods should be provided either with adequate protection or have their exposure limited.

### 6.14.2 Exposure Limits

- **Chemicals –** Chemicals are provided with an SDS. This will provide guidance on the length of time, and the concentration levels to which operatives should be exposed. The hazard of 'over-exposure' can be avoided by following these instructions and minimizing harm to employees. The SDS will also provide guidance on dealing with spillages or human contact.
- **Noise –** Noise at Work can cause significant harm to operatives. Operatives exposed to consistently high levels of noise should be routinely tested, to ensure no lasting damage to their hearing. They should be removed from performing such tasks if there is evidence of their hearing being damaged.
- **Vibration –** Vibration at work can cause significant harm to operatives. Operatives exposed to consistently high levels of vibration, through the use of powered equipment, should be routinely

tested to ensure no lasting damage to their bodies, and removed from performing such tasks if they display evidence of impairment/damage.

- **Temperature –** Working outside in Saudi Arabia, can expose operatives to extremes in temperature. In order to ensure that work activities are performed safely, it is vital that safety considerations are taken into account when designing work procedures.
    - **Summer:** The risk of dehydration when working, especially energetically, in the summer heat is high, and the hazards associated with dehydration can be significant and, in some cases, severe. Care should be taken to ensure that regular rest and refreshment breaks are given, to ensure that operatives working externally do not dehydrate. Water replenishes the water that has been lost from the body as a result of physical, outdoor activities
      Care should be taken to ensure that staff are monitored when they are working in extreme heat. Suitable outdoor clothing should also be selected, including head and neck protection, wide-brimmed sunhats and ultraviolet (UV) clothing that contains minerals like zinc and titanium, which protect the wearer from the worst effects of the sun. Operatives should also be provided with high UV factor sunscreen, to protect exposed areas of skin
    - **Winter:** In some areas of Saudi Arabia where the winter temperatures can reduce significantly from their summer highs, operatives should be provided with clothing to retain the heat, and ward off the cold. These can be lightweight fabrics that do not constrict the wearer, and provide protection from the cold by trapping warm air in the fabric close to the wearer's skin

### 6.14.3 Use of Pesticides

Before choosing a pesticide for horticultural Pest Control applications, the potential opportunities of using biological Pest Control, including opportunities for Integrated Pest Management Systems, should be explored. It is always preferable to use alternate pesticides that have less environmental impact where practical.

Only suitably trained users and operators shall be authorized to mix and use chemicals. This training shall include an understanding of:

- The pest
- The equipment and the application method
- The chemical and the safety information on the label
- Safety directions, first-aid instructions, and SDS
- Plants and animals for which the chemical is registered to control
- Methods of application, storage and disposal
- Application rates and contact time

When using, decanting or mixing chemicals, the user should use the following guidance:

- Never eat, drink, or smoke
- Never touch the face or mouth with contaminated gloves or items
- Chemicals should only be mixed in well-ventilated and well-lit areas
- The area should be tidy, and free from tripping or slipping hazards
- Always ensure that the mixing area does not drain into a waterway or sewer
- Mix all chemicals only within the bunded chemicals store, at Depots

Before opening chemical containers:

- Ensure washing facilities are available, including eye wash
- Ensure chemical users and operatives are trained in the use of the chemical
- Ensure that appropriate PPE is worn at all stages of mixing and filling
- Never use a chemical if its container is unlabeled, or where there is a doubt about the identity of the chemical
- Use decanting facilities that minimize the risk of contact with the chemicals
- Always fill spray tanks from water sources at depots, or from water sources confirmed to be fitted with non-return valves. This will prevent contamination from back siphoning

When filling chemical containers:

- Do not push the filling water hose into the tank, so that it is immersed in the pesticide mixture
- Always keep an airgap between the pesticide mixture, and the end of the water hose
- Triple-rinse empty chemical containers, and salvage the rinse water into the spray tank
- Never decant chemicals into unlabeled or inappropriate containers
- Immediately wash hands or skin that has been exposed to chemicals

### 6.14.4 Use of Hand Tools

The safe use of hand tools is a key aspect of Pest Control. All tools should be carefully checked before use, to ensure that they are completely safe and not damaged.

Damaged or defective tools should not be used, reported to a Supervisor or Manager, and highlighted for disposal and replacement. At the end of a shift, tools should be safely and properly stored away, to prevent damage and to extend their useful life. When working at height, tools should be placed in a tool belt for increased safety. Any tool in use should be secured by a lanyard or wrist strap, to prevent it falling and injuring someone who may be below the work area.

## 6.15 Incident Management and Reporting

When preparing Pest Control Management Plans for Schools and Universities, FM shall have in place the following associated with incident management and reporting:

- Procedures and associated documentation (such as incident registers, reports, follow-up audits, and work instructions) for hazardous spills (e.g., mercury, radioactivity), incident analysis, and trend reporting
- Emergency response including desktop and live simulations to test awareness and compliance. Refer to NMA&FM Volume 14 Chapter 2: Emergency Management Exercise & Drills
- Contingency plans for dealing with emergency or abnormal situations, such as an incident that causes a surge of pests that could exceed the facility's coping capacity

# 7.0 ATTACHMENTS

1. EOM-ZM0-TP-000166 – Catering Service Checklist for Schools & Universities
2. EOM-ZM0-TP-000167 – Pest Control Inspection Checklist for Schools & Universities

## Attachment 1 - EOM-ZM0-TP-000166 – Catering Service Checklist for Schools & Universities

| Checks | Rating | Comments |
|---|---|---|
| **CLEANLINESS** | | |
| 1 Are work surfaces and shelves clean? | | |
| 2 Are walls, floors and ceilings clean? | | |
| 3 Are equipment, crockery and utensils cleaned thoroughly after use? | | |
| 4 Are sinks and drains cleaned? | | |
| 5 Is deep cleaning carried out regularly? | | |
| **GARBAGE DISPOSAL** | | |
| 6 Are Pest Control food and other Pest Control products emptied regularly? | | |
| 7 Is Pest Control cooking oil and fat disposed of correctly? | | |
| **FOOD HYGIENE** | | |
| 8 Are cooked and raw foods stored and prepared separately? | | |
| 9 Are refrigerators and freezers clean, and working properly? (freezer temperature -18ºC or less)? | | |
| 10 Are staff wearing PPE? | | |
| 11 Are raw vegetables sanitized prior to serving? | | |
| 12 Are chemicals stored in a manner to prevent contamination? | | |
| **LABELING AND TRACEABILITY** | | |
| 13 Are perishable items in storage clearly labeled with name, date of purchase and use-by date? | | |
| **STORAGE** | | |
| 14 Are all storage areas neat and tidy, with food products stored off the ground, and not in contact with wall surfaces? | | |
| 15 Is all packaging in good condition? | | |
| 16 Are chemicals and cleaning products stored away from food storage areas? | | |
| 17 Are storage areas free from evidence of pests? | | |
| **PEST CONTROL** | | |
| 18 Are kitchen and storage areas regularly checked for pest infestations? | | |
| 19 Are electric fly killer units in working order, and maintained regularly? | | |
| **CHEMICALS** | | |
| 20 Are all chemicals clearly labelled? (e.g., cleaning materials, disinfectants, detergents, pest killers) | | |
| **FIRST AID** | | |
| 21 Are first aid boxes clearly marked, in date for use, and fully stocked? | | |
| **FIRE PRECAUTION** | | |
| 22 Are fire extinguishers provided and tested annually? (check last test date on label) | | |
| 23 Are fire blankets provided and checked annually? | | |
| 24 Are fire exits and escape routes free of obstructions? | | |
| 25 Are 'no smoking' rules followed? (look for cigarette butts) | | |
| TOTAL RATINGS | | |
| **1 (NEEDS IMPROVEMENT 2 (AVERAGE) 3 (SATISFACTORY) 4 (OUTSTANDING)** | | |

## Attachment 2 - EOM-ZM0-TP-000167 – Pest Control Inspection Checklist for Schools & Universities

| S/N | Items to be verified | Compliance (Yes/No) Comments |
|---|---|---|
| **HSE Requirements** | | |
| 1 | Are pest control chemicals approved by the Ministry of Environment and Water? | |
| 2 | Is a detailed register available for consumptions of pesticides at the site? | |
| 3 | Do they have HSE department approval, MSDS and COSHH for all pesticides used on site? | |
| 4 | Are all pest control devices (cylinder tanks/container) labelled with service information? | |
| 5 | Is the spillage kit available in case of emergency/spillage? | |
| 6 | Verify the process of mixing the chemical? | |
| 7 | Verify if contaminated water with pesticide is drained to the sewage network? | |
| 8 | Verify if empty cartons/containers are disposed of properly? | |
| **Storage** | | |
| 9 | Is there a separate, well-ventilated store for highly flammable and poisonous pesticides/chemical storage with EHS warning signs, and away from the staff-break room? | |
| 10 | Are they following proper stocking of pesticides i.e. dry pesticides at height, and liquid pesticide at the bottom? | |
| 11 | Are there a cleaning/washing facility provided for sanitation? | |
| 12 | Is there an emergency plan provided at the storage area? | |
| **Van Conditions** | | |
| 13 | Are vehicle-ownership details, and security permits available, including the driver's valid driving license? | |
| 14 | Is there a first aid kit available in van? | |
| 15 | Are the chemicals stored properly? | |
| 16 | Is the van properly cleaned? | |
| 17 | Are there any extinguishers and firefighting equipment available? | |
| 18 | Are they parking the vehicle in the designated area? | |
| **Staff** | | |
| 19 | Are competent Pest Control technicians assigned? Are all certificates submitted and valid? | |
| 20 | Is appropriate PPE provided to the employees during work, including cartridge mask? | |
| 21 | Have the staff undergone adequate awareness and training programs? | |
| **Activities** | | |
| 22 | Are Pest Control schedules being followed? | |
| 23 | Are they following the procedures as mentioned in their Method Statement? | |
| 24 | Are the areas being cleaned after treatment? | |
| 25 | Are recommendations being provided after treatment? | |
| **Inspected by:** | | **Date:** |
| **Attendees:** | | |