EXPRO
هيئة كفاءة الإنفاق والمشروعات الحكومية
Expenditure Efficiency & Projects Authority

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

Pest Control Plan for Healthcare

Document No. EOM-ZM0-PL-000074 Rev 001

Document Submittal History:

Revision:	Date:	Reason For Issue
000	28/03/2020	For Use
001	18/08/2021	For Use

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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 Healthcare Facility. 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 Healthcare 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 Healthcare Facility should deliver best practice outcomes, alongside the least risk to vulnerable patients, visitors, 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 Healthcare Facility 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 Healthcare Facility
- Satisfying mandatory policies and procedures

2.1 Scope of Service

A planned pest management service in a Healthcare Facility, 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 manufactured with food or other materials that pests consume. They often contain an active ingredient that helps control the 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 such as ants, cockroaches or rodents
Computer Aided Facilities Management (CAFM)	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
Callout / Reactive Request	A request being made for a non-scheduled activity
Client / Customer	Entity or prime contractor that has the head contract (FM Provider) to perform the services, as per the agreement and as defined in the schedule
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. They multiply as a result of reproduction, and are temporarily winged for short periods during the breeding season
Dusting	Dust powder formula is said to repel snakes from getting into Facilities. However, these treatment methods rely on stable weather conditions to be effective, as strong winds can affect the distribution of powder
Emergency	Refers to high priority work that is defined as a service failure or shortcoming that constitutes a danger, health hazard, presents a significant business risk, seriously affects the prime contractor, or endangers security. This includes other emergencies such as infestation, fire, and flood, as well as issues that affect the functioning of the site's businesses such as providing services to their Customers
Faults	The presence of pests at a Facility
Flying Insect	Insects that have evolved wings for flight, such as houseflies and mosquitoes
Frequency	The rate of reoccurrence of the task to be performed
General Pest Control	Pest Control which is generated from normal domestic duties
Globally Harmonized System	System of Classification and Labelling of Chemicals
Hazardous Pest Control	Industrial type Pest Controls such as solvents, flammable liquids, metals, and general laboratory chemicals/materials
Hazardous Substances	These are Dangerous Goods that have the potential to cause harm and can be in the form of solids, liquids or gases. Examples, in the context of this work activity, are paint, lubricants, degreasers and preservatives
Healthcare Facility	Place where medicine is practiced, such as hospitals and clinics
Housekeeping	General care, cleanliness, orderliness, and maintenance of workplace, business, property, site or area
Integrated Pest Management	An effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs uses 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 by the most economical means, and with the least possible hazard to people, property, and the environment
Infestation	A sudden increase in population numbers of a pest species, in a given area

Inspection	Physical on-site verification that work is performed, and equipment is maintained, in accordance with applicable standards and procedures
Label	A printed hazard warning notice that identifies the primary and secondary hazards, specific to a material and information regarding its handling. A label should be at least 100mm x 100mm, unless otherwise specified
Maintenance	The undertaking of preventative or corrective action, or both, including repairs, to ensure that the Condition of the asset continues to meet the Required Duty over the service life of the asset
Method Statement	The statement setting out the method by which a service or function shall be delivered including who will carry it out, how, using which tools/materials/equipment, its location, and access arrangements
Manlift	A cup-shaped machine that assists in cleaning and maintaining elevated areas
Manual Handling	Relates to a number of activities, such as lifting, lowering, carrying, pushing and pulling. These are major causes of musculoskeletal disorders
Monitoring Program	A Planned set of monitoring activities
Normal	Refers to low priority work that is defined as work or service failures that do not present a significant risk, and do not affect health or well-being
Occupational Health	A multidisciplinary field concerned with preventing people from becoming ill, as a result of their work
Operating Procedures	Operating Procedures for each of the services shall, at a minimum, outline how the services are to be delivered
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	Insects or small animals that are harmful such as ants, bedbugs, cockroaches, rats, mice, cats, dogs, foxes and snakes
Pest Control	A management exercise for defining harmful pests, and formulating and implementing plans to control vermin
Pest Control Technician	Staff certified and skilled to carry out Pest Control tasks and activities
Pesticide	A chemical used to eliminate insects and other pests
Point of Work Risk Assessment	Usually performed prior to starting work. POWRA can be used to modify an existing RAMS if circumstances have changed, or if no formal RAMS exists
Personal Protective Equipment	E.g., hard hats, safety footwear, goggles, face protection, ear defenders and gloves
Preventative Maintenance	A planned strategy of cost-effective treatments to an existing asset, to preserve the asset, retard future deterioration, and maintain or improve its functional condition
Procedure	A documented series of steps that carried out in a logical order, for a defined operation, or in a particular situation
Regulations	A rule or directive that is made and maintained by an authority
Response Time	The time taken to attend to an incident and diagnose the service response
Risk	A situation involving exposure to danger
Risk Assessment	Identification of hazards that could negatively impact an organization's ability to operate. These assessments help identify risks, and provide measures, processes and controls to reduce the impact of these risks to business' operations
Rodents	Small gnawing mammals (such as rats and mice)
Safety Data Sheet	It describes the properties of a substance, how to handle and use it, safely and what steps to follow in the event of misuse
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 that are conducted on a regular basis such as daily, weekly, monthly, or yearly
Toolbox Talk	A face to face discussion for operatives that focuses on a particular safety issue, usually at the point of work
Urgent	Refers to medium priority work that is defined as a service failure or shortcoming that affects amenities and presents a risk, but which does not acutely and seriously affect health or well-being
Waste	Any substance or object which the producer or the person in possession discards or intends or is required to discard
Work Equipment	All tools and/or equipment that are 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 system
CCU	Critical Care Unit(s)
CIEH	Chartered Institute of Environmental Health
COSSH	Control of Substances Hazardous to Health
EHS	Environment, Health and Safety
FM	Facility Management
GHS	Globally Harmonized System
HSE	Health, Safety, and Environment
ICU	Intensive Care Unit
IPM	Integrated Pest Management
ISO	International Organization for Standardization
KPI	Key Performance Indicator
MOMRA	Ministry of Municipal and Rural Affairs
MSDS	Material Safety Data Sheet
NMA&FM	National Manual of Assets and Facilities Management
NPMA	National Pest Management Association
POWRA	Point of Work Risk Assessment
PPE	Personal Protective Equipment
PM	Preventative Maintenance
PTW	Permit to Work
RAMS	Risk Assessments and Method Statements
SDS	Safety Data Sheet
SFDA	Saudi Food and Drug Authority
UV	Ultraviolet
WMC	Work Management Centre

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 Healthcare 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-000071 - Pest Control Procedure for Healthcare

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.

The Contract Manager, whether working for the Healthcare Facility 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.

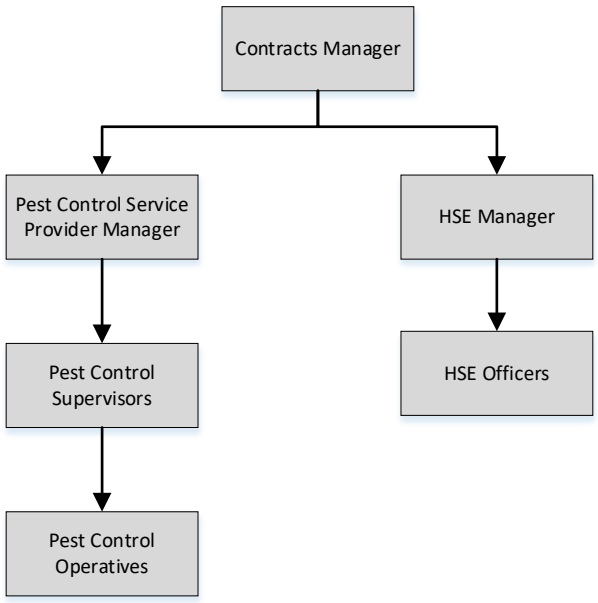

Figure 1: Typical Contract Organizational Structure

5.2 The Entity

The Entity Director at a Healthcare Facility 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 Healthcare 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 Infection Control Director at a Healthcare Facility shall ensure that:

- The Pest Control Policy is aligned to the aims, objectives and requirements of the Entity's Infection Control Policy, including the use of pesticides, and the maintenance of Pest Control outcomes at the Facility
- The Plan meets the requirements of Infection Control

The Customer Experience Director at a Healthcare Facility shall ensure that:

- The aims and objectives of the Pest Control Policy contribute to the appreciation and satisfaction, by users of the Healthcare Facility

The Entity Manager at a Healthcare Facility 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 patients 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 Healthcare Facility 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 required, 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

5.4 Health & Safety Manager/Officer

The Health & Safety (H&S) Manager/Officer at a Healthcare Facility 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

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 Patients & Members of the Public

Patients and Members of the Public are advised to:

- Communicate and cooperate with the Entity and its contractors, to ensure that their feedback is represented to the Entity
- Use the Healthcare Facility in such a way as to not cause any detriment or harm to the Facility

6.0 PROCESS

Using the HealthCare 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).

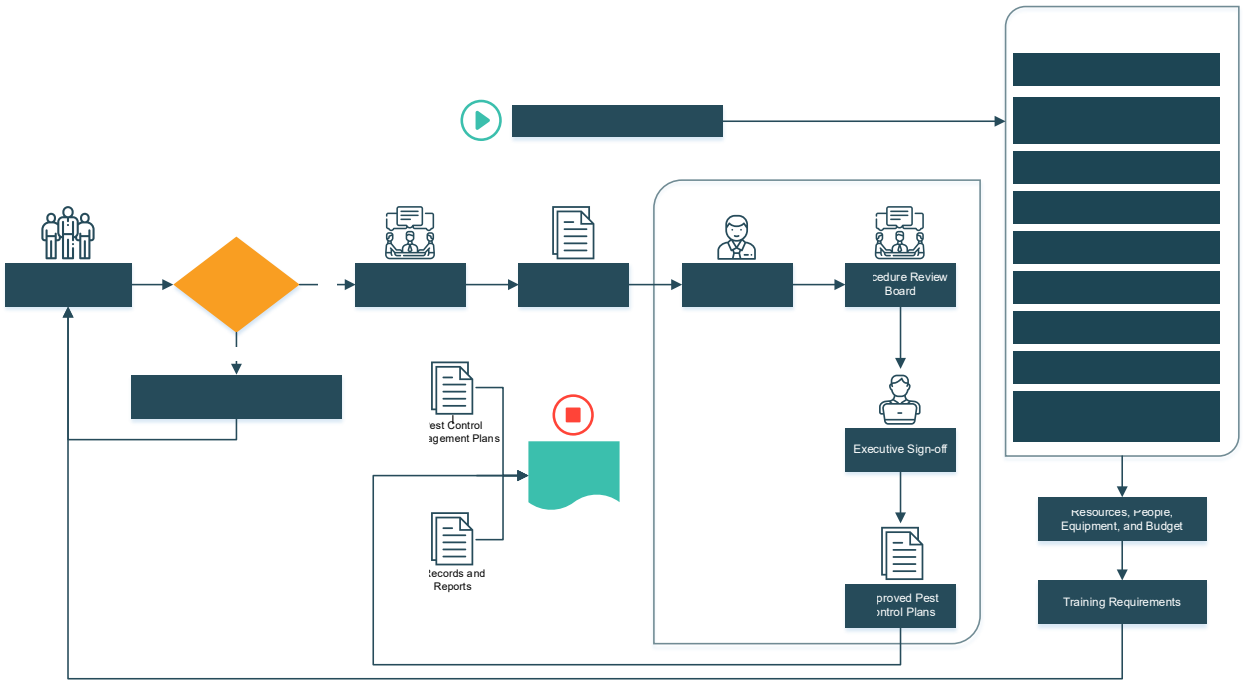

Figure 2: Plan Writers Flow Chart

6.2 Creating a Pest Control Management Plan for Healthcare Facilities

This section offers guidance regarding the content of a Pest Control Management Plan for healthcare facilities

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 Healthcare Facilities

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 Healthcare 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.

Specific to healthcare units, Pest Management Services should work with the Facility to understand the sensitivities of critical areas such as discharge rooms, isolation rooms, central sterile areas, decontamination areas, incinerator rooms, laboratories, operating theatres, and day-surgery rooms.

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 Healthcare Facilities 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 Healthcare Facilities, 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 guidance in a Healthcare environment:

- Never treat a patient' room, with a patient present
- Never treat a patient' room without seeking permission, even if it is vacant (some patients may be on respirators, and materials like dusts would negatively impact the machinery, and potentially harm the patient that uses them)
- Before using pesticides, always read and follow the instructions and the Safety Data Sheet (SDS)
- Do not unnecessarily expose members of the public to hazards associated with equipment and chemicals
- Wear gloves and PPE, and always change gloves between treatments
- Never contaminate a sterile environment (know the airflow and floor plan for the facility and speak to the Facilities Engineers before 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 – This will involve all interiors of the hospital, especially Critical Care Areas such as Intensive Care Unit (ICU), Critical Care Units (CCU), Emergency Department (ED) and the like. Other common locations subject to a high classification would be all in-patient sleeping or treatment areas, ward kitchens, main kitchens, laundry, and especially areas where Pest Control is aggregated or disposed of
- Medium – These are public areas, circulation spaces, offices, administration areas, etc.
- Low – Car parking, 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 & 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:

- Catering Service Checklist for Healthcare (Refer to Attachment 1: EOM-ZM0-TP-000164)
- Pest Control Inspection Checklist for Healthcare (Refer to Attachment 2: EOM-ZM0-TP-000165)
- IPM Self-Inspection Sheet – To be provided by the Pest Management Contractor
- Healthcare IPM Audit Checklist – To be provided by the Pest Management Contractor
- Healthcare 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 Measurements
- 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)

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 minimum disruption to the Healthcare Facility, especially patients, 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 a Healthcare Facility.

Location	Surveillance Frequency	Preventative Measures
Kitchens, Pantries, Food Preparation Areas & Toilets	Monthly	• Install cockroach traps • Install fly killer • Install ant traps • Gel baiting in critical areas • Monitor devices regularly • Residual spray (if required) • Spot treatment (if required) • Monitor results and follow ups
Common Areas	Monthly	• Installation of monitoring devices (if required) • Install traps and glue-traps in ceilings • Install fly killers • Residual spray & misting (if required during weekends) • Monitor results & follow ups
External Areas	Monthly	• Install a lockable rat bait system and monitor monthly • Install bird control devices • Install snake traps, and monitor monthly • Fogging treatment for flies & mosquitoes • Monitor 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 Healthcare Facility
- Record monitoring results and inspection findings, including recommendations

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

1. **Critical Areas:** Research laboratories, pharmacies, imaging and X-ray centers, waiting rooms, nurses' stations, Critical Care Wards (e.g., ICU, ED, neonatal, oncology, cardiac, intensive, pediatric, and psychiatric), radioactive material areas, sterile operating rooms, mortuaries, biohazard and sharp storage areas
2. **Healthcare Interior:** kitchens, cafeterias, vending areas, laundry rooms, bathrooms, drinking fountains, administrative offices, recycling and garbage/Pest Control bins, basement areas and plant rooms
3. **Healthcare Exterior:** Biohazard Pest Control containers, recycling/garbage/Pest Control bins, soft landscaping, ponds, mulch, trees, shrubs, employee 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 at-risk areas, including Operation theatres, Critical Care Wards, kitchens, Pest Control collection areas and sterilization areas. Reporting of heightened pest activity, and logging this with the WMC
- 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 Healthcare Facility would be expected to be available 24/7/365, in order to address Emergency or Urgent service requests.

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 a Healthcare Facility:

Priority	Response Time	Completion/Rectification Time
Emergency/Critical*	15 Minutes	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

Below is a typical work control chart for responses to reactive requests:

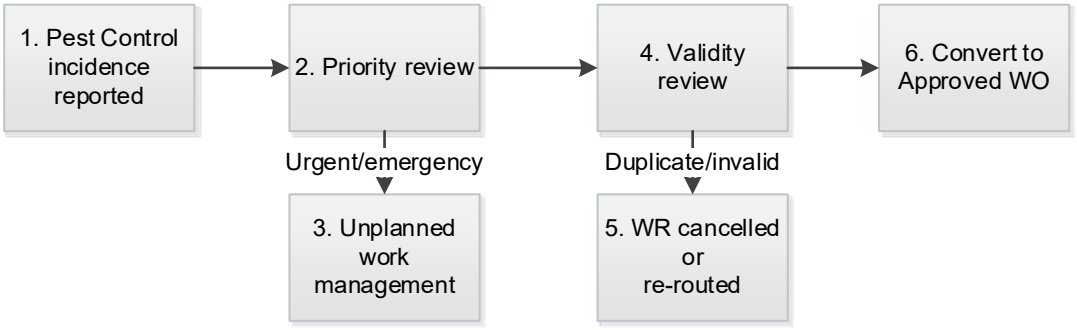

Figure 3: Typical Reactive Workflow

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:

- **Patient Catering Service** – This service will enforce the correct application of, and frequency of the Housekeeping activity in the Catering team's processes, to minimize the risk of pest activity. Monitoring of stores and at-risk areas will be conducted as a routine task. Pest Control shall inspect the catering areas using the Catering Service Checklist for Healthcare, and advise the Catering team of any necessary adjustments required, to minimize the risk of pest infestation
- **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 patients, 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 a Healthcare 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. 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. The B&G is equipped with a valve that offers a positive tip shut-off for the drip-free application of chemicals.	

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 Healthcare Facilities.	
4	Curtis Dyna Fog Super Hawk	The Super Hawk fogger employs the resonant pulse principle, to generate hot gases flowing at high velocity. 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.	
7	Glue Traps	Pre-baited to attract mice and insects - no additional baits are necessary, made with a strong adhesive formula. 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. The required PPE are: 1. Half face mask 2. Disposable latex gloves 3. Adequate protective clothes (long pants and sleeves) 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:

- Cleaning Service Personnel
- Supplies Service Personnel
- Catering Service Personnel
- Grounds Service Personnel
- Estates Service Personnel
- Pest Control Services Personnel
- Sterilization Services Personnel

6.12.2 Healthcare User Education

Healthcare users are provided with basic information and guidance on Pest Control Services, and the activities that are performed. For Patients, as part of their admission, an information pack may be provided with images of both stray animals and common pests. It might also include further information on how to prevent pests from entering patient areas, such as no food or drink to be left out, or to request cleaning to be carried out where spills occur.

For visitors to the Healthcare 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.

Additionally, Pest Control Service personnel should liaise with Healthcare staff and check for satisfaction with the Pest Control Service. This will enable the development of strategies for continuous improvement.

Education of Healthcare staff may involve an in-service seminar to encourage employees to change their habits, including:

- More frequent emptying of sharps bins
- Removal of decorative planting
- Not snacking in offices
- Regular use of Pest Control disposal and recycling facilities

6.13 Staff & Service Provider Management

The Service provider Manager shall have a strong focus on the performance and management of Pest Control Service personnel and conduct regular and progressive performance management reviews.

The manager shall ensure that supervisors, team leaders and staff under their control, verify and record that everyone has received necessary knowledge, 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 Good Industry Practices, 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 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 HealthCare, 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-000164 – Catering Service Checklist for Healthcare
2. EOM-ZM0-TP-000165 – Pest Control Inspection Checklist for Healthcare

Attachment 1 - EOM-ZM0-TP-000164 – Catering Service Checklist for Healthcare

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-000165 – Pest Control Inspection Checklist for Healthcare

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:		