

October 5, 1998

VHA PROGRAM GUIDE 1850.2

Department of
Veterans Affairs

PROGRAM GUIDE 1850.2
INTEGRATED PEST MANAGEMENT (IPM)

Environmental Management Programs Office
Veterans Health Administration
Washington, DC

FOREWARD

Integrated Pest Management (IPM) is a term that has been part of the Environmental Management Programs Office (EMPO) environmental program agenda for many years. A 1970's Executive Order, requiring Federal agency adoption of the principles of IPM, resulted in the publication of Veterans Health Administration (VHA) guidance and policy on Integrated Pest Management, M-1, Part VII, Program Guide G-3, dated November 1985, Chapter 2, Pest Management Operations, dated October 1986, and the designation of EMPO as Veterans Affairs Liaison to the Armed Forces Pest Management Board. Since the publication of those documents, VHA has encouraged the adoption of the IPM principles in all health care facilities. VHA has steadfastly required applicator certification to assure quality performance whether the function is administered by Department of Veterans Affairs (VA) employees or by contract personnel. The close relationship of IPM to other environmental functions such as sanitation, hazardous chemicals, waste management and interior design has proven to be an operational advantage and a cost-effective strategy.

The requirements for the management of hazardous materials and the release of chemicals, particularly pesticides, are becoming more comprehensive. The increasing costs and expanding requirements are creating incentives to reduce the amount of hazardous materials used and wastes generated. Public concerns, chiefly centering around the inappropriate use of pesticides and the generation of harmful or toxic by-products from waste treatment and disposal processes, clearly indicate the need for a more comprehensive environmental management technique known as Pollution Prevention. A well managed facility Pollution Prevention Program should focus on modifying IPM, as well as other activities that may result in adverse environmental impact and costs. The facility Pollution Program should seek to minimize the generation of wastes or environmental releases and provide conscious management of all environmental media (i.e., air, water, and land).

Two Executive Orders promoting Pollution Prevention Programs have been issued by the President. Executive Order 12856, Federal Compliance With Right-to-Know Laws and Pollution Prevention Requirements, requires plans and goals to eliminate or reduce unnecessary acquisition of products containing hazardous substances or toxic chemicals, compliance with emergency planning and response requirements, and a 50 percent reduction in releases of toxic chemicals or pollutants with the baseline established in 1994. Executive Order 12873, Federal Acquisition, Recycling and Waste Prevention, requires goals for solid waste prevention, recycling programs and procurement of environmentally preferable products.

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Distribution: **RPC: 0005**
FD

Printing Date: 10/98

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INTEGRATED PEST MANAGEMENT PROGRAM GUIDE FOR ENVIRONMENTAL MANAGERS

1. PURPOSE AND BACKGROUND

a. **Purpose.** The purpose of the Integrated Pest Management (IPM) "Desk" Reference Guide is to provide guidelines for administering an effective in-house or contracted integrated pest management program. The guide is specifically targeted to assist managers that oversee pest management activities; however, technicians or those who apply pesticides may find the contents useful as well. This information is intended to enhance the policy requirements of M-1, Part VII, Chapter 2, Pest Management Operations.

b. **Background.** Thirty years ago, concern over widespread pesticide abuse and the publication of Rachel Carson's Silent Spring launched the environmental movement. Pesticides are still relatively unique as toxic contaminants in that they are intentionally put into the environment to accomplish their purpose. Therefore, all pest control programs have a special responsibility to be fully knowledgeable on the impact of these chemicals and to prioritize the use of preventive, nontoxic or least toxic alternatives. IPM is the process by which this is accomplished.

c. **IPM versus Traditional Pest Control**

(1) Modern pest control is often termed IPM which can be defined as a coordination of several management functions to:

- (a) Identify specific sites of pest infestation.
- (b) Resolve these infestations with short-term control (s).
- (c) Reduce or eliminate the causes of infestation with long-term resolutions.

(2) All controls must include the safest and most cost-effective options available. The critical components of an IPM Program include cleaning, solid waste management, structural maintenance, occupant education and finally, if necessary, appropriate pesticide application. IPM differs from traditional pest control in at least five ways:

(a) **Proactive vs. Reactive.** Traditional pest control tends to ignore the reasons why a pest problem exists, but instead reacts to an infestation by temporarily treating the pest with chemicals. IPM may also include an immediate corrective response which includes the use of pesticide (s), however, IPM is mainly a preventive maintenance process that attempts to control pests by reducing their food, water, harborage (hiding places), and entry points.

(b) **Management Process vs. Pest Management.** Traditional pest control relies on the "exterminator" to solve pest problems. IPM recognizes that the exterminator often cannot do this, and that lasting solutions usually depend on coordinated management initiatives to upgrade sanitation, housekeeping, repair and good occupant operating practices.

(c) Pesticides Only when Necessary vs. Scheduled Treatment. Traditional pest control consists of routine pesticide application whether pests are present or not. These chemicals are mistakenly thought of as protective disinfectants that can "keep the bugs away." IPM consists of routine inspection and monitoring, but in most cases relies on pesticides only when evidence indicates that pests are actually present, and when non-chemical approaches have been unsuccessful. This theme will be reinforced throughout this reference.

(d) Least Toxic Treatment vs. Surface Spraying or Fogging. Traditional pest control tends to apply pesticide to exposed areas far from where it's needed and use far more of it than necessary. In fact, the "baseboard spraying" and room fogging that is still widely practiced by much of the pest control industry is not very effective at killing cockroaches and other pests living deep within furniture, equipment, or structural elements. IPM applies pesticides with precision and restraint. It emphasizes that only the safest compounds, formulations and methods of application are appropriate. Insecticide bait is usually preferable to spray. When sprays are necessary, they are limited strictly to "crack and crevice" applications. Space sprays or "fogging" are reserved for extraordinary situations where no other solution is practical. In summary, non-chemical control alternatives are always considered before pesticide use.

(e) Expertise vs. Minimal Training. Traditional pest control technicians are often required to do very little except operate a compressed air sprayer. IPM requires a much higher standard of expertise. For an IPM program to be successful, it is essential that management have informed technical guidance on all aspects of the pest control effort.

2. IPM - INSPECTION AND CONTROL

a. Purpose

(1) The purpose of an IPM Program is to forestall or prevent infestation, and to control or eliminate existing infestation.

(2) Preventive pest management is considered to be the most economical and effective means of protecting our patients, employees, visitors and Government property.

(3) An optimum program depends on the cooperation of all personnel. A facility memorandum on this subject should be issued stating responsibilities and procedures necessary for a successful program. In addition, a pest management information program should be given to all personnel and it should identify responsible program officials, including their titles, location, phone numbers, etc.

b. IPM Defined. IPM is a decision-making process that considers cultural, mechanical, biological and chemical controls. Control mechanisms are selected as each situation warrants. Where chemical control is indicated, specific pest populations are targeted for treatment when they are most vulnerable rather than a general pesticide application. Through the use of appropriate control measures and proper application, IPM can result in a reduction in the use of chemicals contained in pesticides which may adversely impact human health and the environment.

c. **IPM Program Objectives.** IPM Program objectives are to:

(1) Maintain and promote safe, efficient, and environmentally sound strategies, preventing or controlling disease vectors and other pests that may adversely affect health, impede operations, or damage property.

(2) Fully comply with all appropriate laws and regulations i.e., Occupational Safety and Health Act (OSHA), Title 29 Code of Federal regulations (CFR) 1910.20, Access to employee exposure and medical records; 29 CFR 1910.132, Personal Protective Equipment; 29 CFR 1910.134, Respiratory Protection; 29 CFR 1910.1200, Hazard Communication, and Environmental Protection Agency (EPA), Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), involving pesticide use and other pest control procedures.

(3) Incorporate IPM philosophy and strategies into all relevant aspects of medical center pest management planning, training and operations.

d. **Introducing an IPM Program.** The term, IPM, has been around for many years, but it has not always been completely understood nor followed in a way that would improve the pest management of structures and at the same time reduce the use of chemicals. This technique is especially important in a medical center environment.

(1) Pests are found in an area because they're getting something they need - food, moisture, or shelter; remove these essential ingredients and pest problems will decrease proportionately.

(2) IPM means simultaneously improving sanitation; eliminating food and water where it doesn't belong, reducing clutter, and sealing up gaps and crevices that give pests access or shelter. Cockroaches and rodents will not live where they can't eat, drink or hide. It is one of the primary goals of the program to identify what measures can be realistically and economically carried out in specific areas to provide "built-in" pest control. IPM can be thought of as a shield against pests, rather than as a reaction to them after they've already become established. A good example of this is all trash compactors should be self-contained units, which are far more impervious to rats than the old stationary design. Ornamental and weed pest management present their own problems primarily because of our inability to control moisture, humidity, insects, and seed from adjacent areas. Some things that we can control are: the use of over seeding to choke out weeds, pest resistant varieties of plants and grass, predators, soaps, and heartier varieties of plants. These options may not always prove effective and chemical control may be indicated for the health of the plant. At that time consideration should be given as to time of day, population in the immediate area, weather conditions, toxicity of chemical, and re-entry time.

e. **The Six Steps of the IPM Process.** The challenge to making IPM work is using patience and skill to gradually replace the system's old attitudes and habits with that of common sense. Each pest problem, great or small, usually presents the pest controller with six basic tasks:

(1) **Understanding and Educating the Client.** Most pest control in and around buildings is a service to the occupants and is performed at their request. The IPM process; therefore, typically begins with people rather than pests. Client relations is always a two-way street. Educating the

customer about IPM is essential, but is much more effective if the pest controller first understands customer concerns, as well as expectations. Education begins by explaining whether or not these concerns are warranted and the expectations attainable. As in any service occupation, the ability to listen and communicate is an absolute necessity.

(2) **Analyzing the Pest Problem.** It is a fairly simple process to figure out the identity of most structural pests and why they are present. Exactly where they are coming from can be more difficult to discover, and may require a thorough understanding of pest biology, as well as structural design and construction.

(3) **Taking Short-term, Corrective Action.** Although IPM emphasizes a "preventive maintenance" approach to pests, the real world often demands immediate corrective action for pre-existing problems. In many cases, the use of pesticides for this purpose is unavoidable. However, all parties must understand that each corrective action will be the least toxic of all feasible alternatives. Reluctant clients who feel more comfortable with older (but now less appropriate) approaches should be reminded that minimization of liability has become an overriding pest control imperative.

(4) **Implementing Long-term Preventive Action.** Ongoing, "built-in" control actions that indirectly reduce pests by minimizing their food, harborage, and access are the heart of the IPM process and fundamental to its success. These actions are often technically simple sanitation or exclusion procedures that are administratively difficult to plan, coordinate and execute. Structural pest prevention is the "applied facilities management" aspect of IPM, and requires that the pest controller have as thorough a knowledge of building operations as of pest biology. It frequently requires the understanding and cooperation of program areas that traditionally have not interacted closely with pest management.

(5) **Inspecting, Documenting, and Evaluating Results.** Skilled inspection is essential to IPM. The evaluation of corrective action should strive to be as efficient as possible, with documentation no more elaborate than necessary. Even the simplest records can usually indicate whether control measures have succeeded or that a new approach is needed. However, the greatest inspection challenge in an IPM Program is to establish routine proactive surveillance by trained specialists. Employees serve as a vast pool of "inspectors" for pest infestations, but they cannot be relied on to detect and report conditions conducive of infestation. Inspection of specific areas where pests have been reported should try to answer three basic questions about the problem:

(a) Where exactly are the pests living, and can these sites be physically altered, removed, or treated with chemicals or traps?

(b) How are the pests getting in, and can this access be reduced or eliminated?

(c) What are the pests feeding on, and can this food source be reduced or eliminated?

(6) **Getting Back to the Client.** "Closing the loop" by following up on whether client satisfaction has been achieved is the step easiest to ignore, but critical to an IPM program's continued support and viability. To put it simply, the IPM Program is not a success unless the client considers it a success.

f. **Program Expectations**

(1) Do not expect routine spraying in an office, restroom, locker, etc., that does not have insects. Scheduled spraying of pesticides in the absence of pests is irresponsible, ineffective, and expensive. Pesticides are not disinfectants which should be broadcast around the general vicinity to give "protection" against bugs. Pesticides work well when they're put down exactly where the bugs are, but despite what some may tell you, these short acting chemicals do not produce a magic, invisible shield around your workplace, exterior structural pesticides are an exception. Treatment is done only when pests are actually present, and only when application is determined to be the remedy of choice. The pesticide is directed only into cracks, crevices, and other concealed places where the pest infestation is indicated. This gets much more of the pesticide where it's really needed and much less of it where it's not. Safety measures must always be met to protect the health of staff, patients, and visitors, and to prevent damage to property and the environment.

(2) Do expect the most skillful and precise application of pesticides to resolve your pest problems. However, pesticides only provide temporary relief. It's an unfortunate fact of life that if the necessary caulking, plugging, cleaning, and all of the other time-consuming, mundane items of routine building upkeep and sanitation are not taken care of, you will continue to have pest problems. In general, sanitation is a far more important ingredient of IPM than is pesticide application.

(3) Do expect a high quality of service, as well as technical assistance from the pest management program office when you need it. Expect any applicator of pesticides to be readily identified and to explain to you the IPM approach. It's obvious that all of the repairs and cleanup needed to eliminate and prevent pests on a long-term basis cannot be done all at once - it's a bit by bit type of process. In many cases, one or two critical items of maintenance can make an enormous difference in reducing or eliminating a specific problem.

(4) Do expect to see the use of a lot more sticky traps and containerized insecticide bait than you've seen in the past. The sticky traps are not meant for control - they're monitoring devices that reveal and pinpoint infestations more efficiently than visual searching. Alternatively, small bait containers are presently considered to be one of the safest and most effective ways to control roaches and ants in an office environment. Spraying in offices will be virtually eliminated.

(5) Do not expect the new program to wipe out every pest in your building. However, an IPM approach has proved to be a remarkable success wherever it has been instituted and it has already dramatically reduced both pests and pesticide use in buildings where it has been used correctly.

g. **Pest Management Option Diagram**

(1) The Pest Management Option Diagram is a systematic process that should be applied in efforts to control pests. Prior to making a decision to use pesticide(s) as a control measure, non-pesticide control (alternatives to using pesticides) should be considered first. The non-pesticide controls include cultural, mechanical, physical and biological control methods (see App. A).

(2) There may be occasions where pesticide application is necessary or appropriate. Ideally, eliminating pesticide use is a broad objective; however, blending non-pesticide and pesticide control measures should be the minimal requirement.

(3) When a decision is made to apply a pesticide, selective chemical control is demonstrated by using the least toxic product. A Pesticide Toxicity Chart is provided which includes many pesticides commonly used by the industry (see App. B).

3. CERTIFICATION AND TRAINING

a. Pesticide Certification Requirements

(1) The certification program is designed to ensure that users of pesticide products are properly qualified to handle and apply these materials without endangering themselves, others, or the environment.

(2) Pesticide users who apply or supervise the use of pesticide products should become familiar with certification requirements that have been developed by the United States (U.S.) EPA.

(3) All pest application personnel should be Certified Pesticide Applicators under provisions of Public Law 92-516, FIFRA, and VHA policy manual M-1, Part VII, Chapter 2, Pest Management Operations, par. 2.05.

NOTE: The only exception is while in training, the applicator may apply pesticides while working under the direct visual supervision of a certified applicator.

(4) Actual certification of VA pest management personnel should be provided by the agency responsible for certification at the State in which the VA facility is located (see App. C).

b. Training Sources. Ongoing training in pest management for the pest control supervisor(s) is encouraged. Training is available at various military installations, through local and State cooperative extension services, State environmental agencies, colleges, correspondence courses, State Pest Control Associations, and pesticide suppliers (see App. D).

c. Pesticide Certification Training Agreement. Department of Defense (DOD), through its Military Services, agrees to provide certification training for VA employees. The agreement is for training only and does not include certification as a pest applicator. The certification as a pest applicator must be obtained from the certification agency in the state where the individual pest applicator is employed (see App. D).

4. PESTICIDE SAFETY AND SURVEILLANCE

a. Scope. Pest Management in medical care facilities is different from the old-fashioned type of pest control that consisted of "spraying" around a building. Modern pest control has evolved into a complex and specialized discipline that employs numerous methods other than the application of pesticides. It is important to recognize that pests should be controlled by non-chemical means, and that only when specifically indicated or necessary, the least toxic pesticide is applied to the extent

necessary for effective control. Chemical control should serve as an adjunct to, not a replacement for, other control measures.

b. **Pesticide Application Schedule And Notification**

(1) Pesticide application shall not take place during working hours in occupied space where individuals may be exposed unless exceptions are made for emergency reasons.

(2) When pesticides are used in large scale application, the Health and Safety Representatives as well as occupants (employees, etc.), will receive advance notification of application. Individuals with special health needs will be reasonably accommodated.

c. **Pesticide Storage**

(1) Pesticides shall be stored in Department of Transportation (DOT) approved containers to minimize leakage.

(2) Pesticide storage areas shall be designated and separated from other work areas and ventilated. Entrance to the storage areas shall be posted as pesticide storage areas, and locked when not in use.

(3) No one shall be permitted to eat, drink, smoke, or sleep in the pesticide storage area or while applying pesticides.

(4) All pesticides should be stored in properly labeled and approved containers with the following information as a minimum:

- (a) Contents by chemical and common names.
- (b) Fire hazard rating.
- (c) Toxicity hazard.
- (d) Storage and handling precautions.
- (e) First aid for inhalation, ingestion, and contact with skin and eyes.
- (f) Site i.e., areas it can be used.
- (g) EPA registration number.

d. **Accidental Spills and Emergencies**

(1) Employees should wear appropriate protective equipment and be trained in proper methods for cleanup and decontamination.

(2) Pesticide contaminated waste and debris should be placed for disposal in sealed containers bearing the following information:

HAZARDOUS WASTE: HANDLE WITH CARE
ACCUMULATION START DATE _____
CONTENTS _____

(3) Written spill and emergency procedures should be developed by the user. (see App. E).

e. **Medical Surveillance for Pesticide Applicators.** Pesticide applicators should have a replacement or initial medical examination which should include, but not be limited to: a comprehensive medical and work history, physical examination, and blood analysis for liver function and determination of a cholinesterase base line. Periodic examination should be scheduled as necessary but is encouraged at least every six months (see subpar. App. F. 2 d(2)(a)). Any time symptoms of toxicity are exhibited, an immediate medical examination should be performed.

f. **Management of Pesticide Poisoning.** The toxicity information, including antidotes, for all types of pesticide poisoning should be readily available. Each facility should have copies of the "Recognition and Management of Pesticide Poisonings" for the employee health physician, pharmacy, laboratory, and Environmental Management Service library. Copies are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. A listing of all pesticides available for use at the facility and their antidotes should be maintained by the responsible program official and employee health physician.

g. **Recognizing Pesticide Poisoning.** All pesticides in the same chemical group cause the same type of sickness. This sickness may be mild or severe, depending on the pesticide and the amount absorbed, but the pattern of illness caused by one type of pesticide is always the same. Having some of the signs and symptoms does not always mean you have been poisoned. Other types of sickness may cause similar signs and symptoms. Headache and a feeling of being ill, for example may signal the start of many kinds of illness. It is the pattern of symptoms that makes it possible to tell one kind of sickness from another. Employees handling pesticides should be familiar with steps to be taken if poisoning is suspected and seek medical assistance as soon as possible. It is always preferable to error on the side of caution in matters such as potential pesticide poisoning.

(1) **Synthetic Organic Pesticides**

(a) **Organophosphates.** These pesticides affect the nervous system. The signs and symptoms go through stages. They normally occur in this order:

1. **Mild Poisoning.** Fatigue, headache, dizziness, blurred vision, excessive sweating and salivation, nausea and vomiting, stomach cramps and/or diarrhea.

2. **Moderate Poisoning.** Unable to walk, weakness, chest discomfort, muscle twitches, constriction of pupil of the eye, earlier symptoms become more severe.

3. **Severe Poisoning.** Unconsciousness, severe constriction of pupil of eye, muscle twitches, secretions from mouth and nose, breathing difficulty, death if not treated.

(b) Carbamates. Poisoning by carboamates is similar to organophosphate poisoning in that it produces the same signs and symptoms. The illness carbamates cause can be corrected more easily by a physician. For this reason, most carbamates are safer than organophosphates. The label should warn you of the danger.

(c) Fumigants and Solvent. Overexposure to these compounds may make a person seem intoxicated. The signs and symptoms; i.e., poor coordination, slurring words, confusion, and sleepiness. Repeated exposure to the fumigant methyl bromide has caused permanent internal injury without early signs or symptoms of poisoning. You can absorb a fatal dose of it before symptoms appear.

(2) **Inorganic Pesticides**. Large single doses of most inorganic pesticides cause vomiting and stomach pain. The signs and symptoms depend on the mineral from which the pesticide is derived.

(3) **Plant-derived Pesticides (Pyrethroids)**. Exposure to these pesticide may cause allergic reactions and irritation to eyes and the respiratory tract.

5. QUALITY ASSURANCE

a. **Issues to be Addressed**. A facility IPM Plan should be established addressing the following issues:

- (1) Identify and prioritize all pest management requirements of the activity.
- (2) Identify the IPM procedures to be used for both preventive and scheduled maintenance.
- (3) Identify program resources and staffing (applicator, supervisory and inspection personnel).
- (4) Outline surveillance procedures for ongoing pest problems.
- (5) Identify all pesticides (include generic names) applied at the facility and antidotes for those pesticides.
- (6) Identify control procedures of special interest or areas with specific application constraints.
- (7) Identify all environmentally sensitive areas, i.e., food service areas, surgical suites, respiratory treatment areas, water resources, endangered species' habitats, etc., and address the actions planned for their protection.
- (8) Identify the health and safety measures that will be taken to protect both pest control personnel and the general public.

b. **Format**. The recommended IPM Plan Format is found in Appendix F.

c. **Recording and Reporting.** All pest management operations on VA property, to include all chemical and non-chemical work, are to be recorded and reported and such records maintained indefinitely. As a minimum, records must show the:

- (1) Date of service.
- (2) Target pest.
- (3) Location of the specific room, area, or building where the work is performed.
- (4) Operational activity or function; e.g., baiting, spraying, dusting, trapping, mechanical, structural.
- (5) Pesticide used.
- (6) EPA registration number of the pesticide.
- (7) Percentage of mix used in dilution.
- (8) Amount of pesticide used expressed in pounds of active ingredient.
- (9) Applicator or operator and the applicator's certification identity.

6. INTEGRATED PEST MANAGEMENT BY CONTRACT

a. **Contract Procurement.** A "pest control contract" is actually a contract for ongoing inspection of potential problem areas, pest population monitoring and reporting, pest trapping and removal, and pesticide application.

b. **Technical Specifications.** Contract specifications for modern pest control service must include provisions that ensure a minimum level of contractor expertise, enhance the effectiveness of the work, and reduce the potential for pesticide misuse. The following ten items are considered to be essential for achieving these objectives:

(1) **Certification of all On-site Applicator Personnel.** Pesticide application service is often performed in the pest control industry by uncertified technicians "working under the supervision" of a certified pesticide applicator. This is not acceptable at VHA healthcare facilities. Personnel who have not passed the regulators' exam for certification should not be permitted to apply pesticides on VHA property.

(2) **Pests Included and Excluded.** Standard term contracts normally include control of rats and mice, both inside the building and on its grounds, cockroaches, ants (except carpenter ants), fruit flies, spiders, and all other insects not specifically excluded. The following pests require specialized procedures to control and are best covered under separate contracts:

- (a) Insects and other organisms damaging landscape vegetation.

- (b) Outdoor mosquito control.
- (c) Tunneling rodents such as voles, moles, gophers, and ground squirrels.
- (d) Larger mammals such as raccoons, woodchucks, skunks, and feral cats.
- (e) Birds and bats.
- (f) Termites and other woodboring insects such as carpenter ants and powderpost beetles.

(3) **No Scheduled Pesticide Treatment.** This provision is typically the most difficult to enforce since it directly conflicts with what many employees and traditional pest control operators think that an exterminator should do. However, it is the inspections for pests that should be rigidly delivered by schedule, not the application of pesticide.

(4) **Pesticide Use and Notification.** Pesticide application shall not take place during working hours in occupied space where individuals may be exposed unless exceptions are made due to sensitive hospital areas. When pesticides are used in a large scale application, the Health and Safety representatives as well as occupants (employees, etc.), will receive advance notification of the application. Individuals with special health needs will be reasonably accommodated.

(5) **Conservative Pesticide Application.** Sprayed insecticide is generally not appropriate for occupied space. Bait formulations should be used whenever possible for cockroach and ant control. When spray is necessary, it should be applied precisely to cracks and crevices, and never to exposed surfaces. Space sprays ("fogging") of any type are normally not needed for effective control and should be used only in extraordinary circumstances. Rodent control inside buildings should emphasize trapping rather than rodenticide placement. Bird control should emphasize mechanical deterrence rather than avicide application.

(6) **No Storage of pesticides on Federal Property by Contractor.** Stored pesticides are a substantial liability risk that should be assumed by the contractor, not the Government.

(7) **Service Frequency by Need.** A small, new building in a suburban community needs much less pest control than a large, aging building in a urban core area. Monthly service may be adequate for Medical Centers with minimal pest problems.

(8) **Pesticide Labels, Material Safety Data Sheets (MSDS), and Records.** The contractor must furnish the Contracting Officer's Representative with copies of labels and MSDS sheets for every pesticide potentially used on Federal property. The contractor must also submit pesticide records for each service visit that includes names of chemicals actually used, formulations, quantities, specific locations (such as room numbers) where the chemicals were applied, and the applicators' certification identity.

(9) **Emergency Service.** A genuine need for same-day pest control service happens only rarely, usually because of a perceived public health risk (i.e., cornered rodent, bat or bird in building,

termite swarm in office). Whether or not a true risk exists, prompt delivery of this type of service is essential to maintain good public relations.

(10) **Ultrasonic Devices.** There is presently no scientific evidence that ultrasonic, electromagnetic, or other electronic pest "repellent" devices demonstrate any measurable value in controlling insects, birds, or rodents.

c. **Performance.** Many aspects of modern pest control service are highly site-specific and do not consist of an unchanging series of mechanical steps. Procedures used to combat a certain type of pest in one area may not be appropriate for a different area or for a different type of pest. Some pest problems can be totally eliminated in a short time, while others may require intensive and continuous efforts. Some situations (such as rats attracted to a dirty and littered loading dock) may require action from programs other than pest control. Because of the variables, pest control contract administration cannot employ a rigid set of quality control standards to calculate deductions based on precise numbers of pests still present after treatment. As a rule of thumb, work in progress can be considered satisfactory when pest numbers are being steadily reduced. Work can be considered satisfactorily completed when pests have been reduced to the point where they are no longer obvious. It should be possible to alleviate even the most severe pest problems (at least on a short-term basis) within a few weeks of service. Overall, the pest control program attempts to suppress pests to the point where they are not interfering with operations, destroying property, or adversely affecting health and morale.

d. **Contract Prototype.** The IPM Program Contract Guide Specification, (App. G), is an example of technical information which should be considered in the information section of your service contract. The prototype should be used as a guide with the intent that the Environmental Manager responsible for the program would modify the specifications to meet the requirements and needs of each of facility.

October 5, 1998

**VHA PROGRAM GUIDE 1850.2
APPENDIX A**

APPENDIX A, Pest Management Option Chart, is not available electronically. Check with the facility PCO for a printed copy, or the Under Secretary for Health's Library located in room 675GG, VA Central Office.

PESTICIDE TOXICITY CHART

1. The following chart contains a listing of a few common pesticides with their oral and dermal Lethal Dose 50 (LD50) values. This list is by no means all inclusive and should be used only as a guide distinguishing the toxicity between pesticides. The term LD50 refers to the amount of the technical pesticide which will kill one half of a group of test animals. The higher the number of milligrams, the lower the toxicity of the pesticide.

2. The product label is your key to determining the safest pesticide by looking at the "signal word" of which there are three categories; DANGER: Highly toxic, a taste to a teaspoonful of undiluted products could kill the average size person. WARNING: Moderately toxic. As little as a teaspoonful to a tablespoonful can kill and CAUTION: Slightly toxic. An ounce to more than a pint of undiluted product can kill.

COMMON NAME	TRADE NAME	ORAL LD50 MG/KG	DERMAL LD50 MG/KG	SIGNAL WORK
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INSECTICIDE ATTRACTANTS

Musculature				
Muscamone	(Flytek)	>23070	>2025	Caution

PYRETHROID INSECTICIDES

Allethrin	Pynamin	780-1000	>11200	Caution
Oypermethrin	Demon, Cynoff	247		Warning
Fenothrin	Sumithrin	>10000	>5000	Caution
Permethrin	Dragnet, Torpedo	2000>4000	>4000	Caution
Resmethrin	SBP-1382	1500-4240	2500>3040	Caution

CARBAMATE INSECTICIDES

Bendiocarb	Ficam	46-156	566-8	Caution/Warning
Carbaryl	Sevin	307-986	>500>4000	Caution
Propoxur	Baygon	83-104	>1000>2400	Warning/Caution

INSECT GROWTH REGULATORS

Hydroprene	Gencor	>5100	>1500	Caution
Methoprene	Precore, Diacon	>34,600	3030>350	Caution
Fenoxycarb	Torus	5000	2000	Warning
Hexaflumuron	Precor	5100	2100	Caution
Diflubenzuron	Dimilin	40,000	20,000	Caution

COMMON NAME	TRADE NAME	ORAL LD50 MG/KG	DERMAL LD50 MG/KG	SIGNAL WORK
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INORGANIC INSECTICIDES

Borax, boric acid		2660-5190		Caution
Precipitated Silica	Silicia Aerogel DirDie, Drione	75-150 (to man)		Danger

MISCELLANEOUS INSECTICIDES

Hydramethylnon	Combat, Maxforce	1311	>5000	Caution
Abamectin	Avert	5000	2000	Caution
Sulfluramid	Dual Choice	5000		Caution

ORGANOPHOSPHATE INSECTICIDES

Acephate	Orthene	866-945	>2000	Caution
Chlorpyrifos	Dursban	82-245	202-2000	Warning
Diazinon	DZN, Spectracide	300-400	3600	Warning/Caution
Dimethoate	Cygon	28-500	>150-1150	Warning
Dichlovos, DDVP	Vapona	56-80	75-107	Danger
Methomyl	Flytek Bait	17-24		Caution
Disulfoton	DiSyston	2-12	6-25	Danger

AVICIDES

4-Aminopyridine	Avitrol	20		Caution/Danger
Endrin	Rid-A-Bird	7-15	15	Danger
Fenthion	Rid-A-Bird	255-740	1680-2830	Warning

RODENTICIDES

Anticoagulants

Brodifacoum	Talon, D-Con	0.27	50	Caution
Bromadiolone	Maki, Contrace	1.13		Caution
Diphacinone	Ramik, Promar	1.86-2.88		Caution

Non-Anticoagulants

Bromethalin	Assault, Vengeance	2.0-5.0		Caution
Cholecalciferol	Quintox	43.6	2000	Caution/Danger

STATE AND TERRITORY RECIPROCITY

STATES

RECIPROCITY IN PESTICIDE CERTIFICATION

AL	Yes - MS, GA, FL
AK	No
AZ	No
AR	No
CA	No
CO	Yes - All States (as certified operators only)
CT	No
DE	Yes - MD, VA, with proof of certification elsewhere.
DC	Yes - MD, VA, Other on case by case basis
FL	Yes - IN, AL, GA, SC, NC, MS
GA	Yes - NC, SC, LA
HI	No
ID	Yes - OR, WA, UT, MT, WY
IL	Yes - IN, IA, KY, MI, MN, MS, OH, WI
IN	Yes - MI, OH, IL, KY
IA	Yes - MO, MN, SD, WI, IL, NB, SD, KS
KS	Yes - NB, OK, (IN, right of way only)
KY	Yes - TN, MS, AL, SC, IN, GA, NC, FL
LA	Yes - TX, SC, AR, GA, (MS, aerial application only)
ME	No
MD	Yes - DC, DE, WV, VA, (Others on case by case basis.
MA	Yes - VT, NY, RI
MI	Yes - IN, OH, WI
MN	Yes - SD, IA, ND, WI, IL
MS	Yes - All States, with proof of certification elsewhere.
MO	Yes - IA, KS, NE, partial in AR, IL
MT	No, but will analyze case by case.
NE	Yes - KS, IA, WY
NV	No
NH	No
NJ	Yes - DE, IN, PA, RI, SC, TN, VT, VA, DOD & USDA
NM	Yes - with proof of certification elsewhere.
NY	Yes - MA, NJ, VT, others on case by case basis.
NC	Yes - SC, GA, VA, (F1, not aerial)
ND	Yes - All States
OH	Yes - IN, MI, PA
OK	Yes - NM, TX, KS, IN
OR	Yes - WA, ID
PA	Yes - WY, WI, WV, VA, VT, UT, RI, SC, TN, DE, DC, ID, IA, LA, MA, MN, NB, NJ, ND, OH

RI	Yes - MA, VT, NY, NJ, PA
SC	Yes - GA, NC, TN, LA, AL, FL, KY, MS, NJ
TN	Yes - AR, GA, NC, NY, MS, SC, VA, others on A case by case basis.
TX	Yes - LA, MN, AR (limited, IN, OK
UT	Yes - ID, WY, MT
VT	Yes - NY, ME, MA, NJ
VA	Yes - DC, MD, NC, WV, Others on case by case basis.
WA	Yes - OR, ID, Others on case by case basis.
WV	Yes - VA, MD, PA
WI	Yes - MI, Others on case by case basis.
WY	No

TERRITORIES

AS	No
CM	No
GU	No
PR	No
VI	No
TT	No

TRAINING, COURSES, AND INFORMATION SOURCES**1. CENTERS FOR DISEASE PREVENTION AND CONTROL (CDC)**

Vector-Borne Disease Control #3013-G. Eleven lessons and final examination, each lesson ranging from 2 to 6 hours. This course provides comprehensive coverage of important vector-borne diseases and their control. Special emphasis is placed upon descriptive taxonomy; taxonomic control and other helpful aids are furnished. Subjects covered are arthropods of public health importance, insecticides, insecticide equipment, sanitation in vector control, biology and control of fleas and lice, biology and control of ticks and mites, household and stored food insects, biological factors in domestic rodent control; and control of domestic rats and mice. All training materials furnished by CDC. For further information and enrollment form, write or call:

Center for Disease Prevention and Control
Home Study Service Branch
Center for Professional Development and Training
1600 Clifton Road
Atlanta, GA 30333
(404) 639-1292

2. PENNSYLVANIA STATE UNIVERSITY

a. **Household Pests and Their Control.** Three lessons on insects present brief descriptions of the pests, the damage they do, and methods for their control. A fourth lesson deals with spiders, rats, mice, bats, and other small animals.

b. **Basic Insect Science and Management.** This course discusses the importance, value and history of insects and their relationship to men. In addition, insect anatomy, classification, identification, life cycle, reproduction and control are covered.

c. **Professional Pest Control In-Service Training.** The following series of eight courses is designed to provide training in professional pest control for workers employed by pest control companies, custom spray applicators, sanitation organizations, and health workers with State, county or municipal health departments. The Pennsylvania State University will award a special certificate in recognition of persons satisfactorily completing all eight courses:

- (1) Introductory Professional Pest Control.
- (2) Pesticide Usage.
- (3) Pests of Wooden Structures.
- (4) Household Invaders and Resident Pests.
- (5) Stored-Product Pests.
- (6) Arthropods that Bite and Sting.

(7) Vertebrate Pest Control.

(8) Bird Management.

d. For further information and enrollment forms, write:

Correspondence Courses in Agricultural and Home Economics
The Pennsylvania State University
Independent Learning Program
206 Mitchell Building
University Park, PA 16802
1-800-252-3592

3. PURDUE UNIVERSITY

Pest Control Technology (Correspondence Course). This course offers the opportunity for service workers, managers, and owners of pest control firms, as well as public health officials, food processors, and sanitarians, to improve their ability to cope with insect and rodent problems as they are encountered day by day. *NOTE: There is an emphasis on IPM.* Upon satisfactory completion of the course, a certificate is awarded by the University. For further information and enrollment forms, write:

Purdue University
Continuing Education Administration
1586 Steward Center, Room 110
West Lafayette, IN 47907-1586
1-800-359-2968

4. SOURCES OF INFORMATION

Various agencies provide pest control publications and information which can be obtained. Also available on this subject are magazines and books. The following represents a partial list of sources of information appropriate to an integrated pest management library collection.

a. **Laws and Manuals**

(1) Federal Insecticide, Fungicide and Rodenticide Act (Public Law 92-516, as amended).

(2) State or Local Lead Agency Pesticide Certification Manuals

b. **Texts**

(1) Ebeling, Walter Urban Entomology, Richmond, CA, Division of Agricultural Sciences, University of California, 1978.

(2) Frear, Donald Elisha Harding ed. Pesticide Handbook - Entoma. College Park, MD, Entomological Society of America, 1972.

(3) Frishman, Austin M. and Arthur Schwartz The Cockroach Combat Manual. New York, William Morrow & Co., 1980.

(4) Examination. New York: ARCO Publishing, 1980.

(5) Frishman, Austin M. The Rodent Handbook: Questions and Other Pest Vertebrae. Farmingdale, NY: Frishman, 1974.

(f6) Mallis, Arnold. Handbook of Pest Control: The Behavior, Life History, and Control of Household Pests. Cleveland, OH: Franzak & Foster Co. 1994.

(7) National Pest Control Association, Good Practice Statements. NPCA Resource Center, Dunn Loring, VA., phone (703) 573-8330.

(8) National Pest Control Association, Service Technicians Manual, Dunn Loring, VA, (703) 573-8330

(9) Gary W. Bennett, John M. Owens and Robert M. Corrigan, Truman's Scientific Guide To Pest Control Operations, Edgell Communications, 1988. **NOTE:** *Contains a chapter on pest management in hospitals and health care facilities to include strategies in IPM.*

c. **Journals**

(a) Common Sense Pest Control, Olkowski & Darr, Taunton Press, 1991

(b) Pest Control, Cleveland, OH, Harvest Publishing Co.

(c) PCT. Pest Control Technology, Cincinnati, OH, Somick Pub Inc.

(d) Weeds, Lawns, and Turf, New York, NY, Harcourt, Brace Jovanovich Publications

(e) Grounds Maintenance, Overland Park, KS, Intertec Publishing Corp

d. **Other Information Sources**. To assist in the presentation, films on this subject are available, at no charge from:

(1) National Communicable Disease Center
Atlanta, GA 30333

(2) Environmental Protection Agency
Washington, D.C. 20460

- (3) U.S. Department of Agriculture
Washington, D.C. 20250
- (4) State and Local Cooperative Extension Services
- (5) Disease Vector Ecology and Control Center
IPM Strategies Emphasized
Naval Air Station
Jacksonville, FL 32212
(904) 542-2424
- (6) Borward Community College
Douglas Palmer
3501 Davie Road
Ft. Lauderdale, FL 33311
(954) 761-7400
- (7) Ferris State College
Industrial and Environmental Health Mgmt
Big Rapids, MI 49307
(616) 592-2100
- (8) State University of New York
Director of Admissions
Farmingdale, NY 11735
(516) 420-2000
- (9) North Carolina State College
Director of Admissions
Raleigh, NC 27606
(919) 515-2703
- (10) Pennsylvania State University
Admissions Office
University Park, PA 16802
(814) 865-7371
- (11) Purdue University
Department of Entomology
Entomology Hall
W. Lafayette, IN 47907
(800) 359-2968

5. PROFESSIONAL ORGANIZATIONS

- a. **National Pest Control Organization.** The National Pest Control Association, Dunn Loring, VA, (703) 573-8330

b. State Pest Control Associations

(1) **Alabama Pest Control Association**, 1609 Colesbury Circle, Birmingham, AL 35226
(205) 823-7242

(2) **Alaska** (No association)

(3) **Arizona Pest Control Association**, 8650 N. 35th Avenue, #107, Phoenix, AZ 35051
(602) 277-1066

(4) **Arkansas Pest Control Association**, 1724 Charlotte Court, Little Rock, AR 72204
(501) 664-5608

(5) **Pest Control Operators of California**, 3031 Beacon Blvd., W. Sacramento, CA 95691
(916) 372-4363

(6) **Colorado Pest Control Association**, 2150 W. 29th Ave., #310, Denver, CO 80211
(303) 433-4446

(7) **Connecticut Pest Control Association**, 1233 Campbell Ave., Westhaven, CT 06516
(203) 933-5531

(8) **Delaware Pest Control Association**, PO Box 411, Dover, DE 19903
(302) 678-8860

(9) **Florida Pest Control Association**, 6882 Edgewater Commerce Parkway, Orlando, FL 32810,
(407) 298-8627

(10) **Georgia Pest Control Association**, One Executive Concourse #103, Duluth, GA 30136,
(404) 476-0827

(11) **Hawaii Pest Control Association**, 677 All Moana Blvd., #815, Honolulu, HI 96813
(808) 533-6404

(12) **Idaho Pest Control Association**, PO Box 6946, Boise, ID 83707
(208) 342-8899

(13) **Illinois Pest Control Association**, 3230 Sprucewood Lane, Wilmette, IL 60091
(847) 251-1001

(14) **Indiana Pest Control Association**, Dept. of Entomology, Purdue University, W. Lafayette, IN
47907, (317) 494 4564

(15) **Iowa Pest Control Association**, 3301 Northbrook Drive, Sioux City, IA 51108

(800) 759-4463

(16) **Kansas Termite and Pest Control Association**, 410 N. Jefferson, PO Box 1665, Junction City, KS 66441, (913) 238-8300

(17) **Kentucky Pest Control Association**, 5598 Poplar Level Road, Louisville, KY 40228, (502) 969-9635

(18) **Louisiana Pest control Association**, 3060 Valley Creek, Suite A, Baton Rouge, LA 70808, (504) 927-3283

(19) **New England Pest Control Association (Maine)**, PO Box 530, Waltham, MA 02254, (617) 893-1810

(20) **Maryland State Pest Control Association**, 5455 Butler Road, Bethesda, MD 20816 (301) 907-1269

(21) **Massachusetts** (See Main, New England Pest Control Association)

(22) **Warren Pest Control Association**, 4463 Brussens Drive, Warren, MI 48092, (313) 751-1430

(24) **Minnesota Pest Control Association**, 9917 Valleyview Road, Eden Prairie, MN 55344, (612) 944-5780

(25) **Mississippi Pest Control Association**, PO Box 12741, Jackson, MS 39236, (601) 982-3385

(26) **Missouri Pest Control Association**, 12525 E. 65th Street, Kansas City, MO 64122, (816) 737-1031

(27) **Montana** (No Association)

(28) **Nebraska State Pest Control Association**, 4802 Calvert Street, Lincoln, NE 68506, (402) 489-3894

(29) **Nevada** (No Association)

(30) **New Hampshire (New England Pest Control Association, (See Maine)**

(31) **New Jersey Pest Control Experts**, 529 Richfield Avenue, Kenilworth, NJ 07033, 1-800-823-1203

(32) **New Mexico Pest Control Association**, PO Box 81166, Albuquerque, NM 87198, (505) 982-1888

- (33) **New York State Pest Control Association**, 23132 State Street, Albany, NY 12207,
(518) 463-6333
- (34) **North Carolina Pest Control Association**, PO Box 36160, Raleigh, NC 27606, (919) 362-0043
- (35) **North Dakota** (No Association)
- (36) **Ohio Pest Control Association**, PO Box 716, Brunswick, OH 44212, (216) 225-9393
- (37) **Oklahoma Pest Control Association**, 2600 South West 44, Oklahoma City, OK 73119,
(405) 685-2036
- (38) **Pest Control Operators of Oregon**, 1826 SW Mawcrest Avenue, Gresham, OR 97080,
(503) 666-8207
- (39) **Pennsylvania Pest Control Association**, 509 N. Second Street, Harrisburg, PA 17101,
(717) 234-8122
- (40) **Rhode Island Pest Control Association**, 17 Niantic Avenue, Providence, RI 02907, (401) 944-
3400
- (41) **South Carolina Pest Control Association**, PO Drawer 1606, Clemson, SC 29633, (803) 654-
1120
- (42) **South Dakota Pest Control Association**, 2304 W. Madison, Sioux Falls, SD 57104, (605) 334-
8192
- (43) **Tennessee Pest Control Association**, Manchester, TN, (800) 730-6751
- (44) **Texas Pest Control Association**, 8000 Centre Park Drive, Austin, TX 78754, (512) 835-2801
- (45) **Utah Pest Control Association**, 300 Gordon Lane, Murray, UT 84107, (801) 261-3414
- (46) **Vermont** (See New England Pest Control Association)
- (47) **Virginia Pest Control Association**, 11506 Allecingia Parkway, Richmond, VA 23235,
(804) 379-6731
- (48) **Washington State Pest Control Association**, E. 3890 Highway 302, Belfair, WA 98528,
(206) 275-4275 or (800) 253-3836
- (49) **Pest Control Operators of West Virginia**, 454 Meadow Lane, Route 7, Morantown, WV 26505,
(304) 954-1010
- (50) **Wisconsin Pest Control Association**, W. 140 S. 9341 Boxhorn Drive, Muskego, WI 53130,

(414) 425-5878

(51) **Wyoming** (No Association)

PESTICIDE SPILLS AND EMERGENCY PLANS

Department of Veterans Affairs (VA) plans should be consistent with the facility emergency response plan or spill prevention plan. Pesticide spills, contaminating soil and other materials may require cleanup which is beyond the scope of the facility and should be coordinated through the facility safety department.

1. In the event of a spill, the work area must be decontaminated, the waste identified and if indicated, disposed of as hazardous waste. *NOTE: Emergency and first aid procedures are discussed under the Health Hazard Data Sections of the Material Safety Data Sheet (MSDS) for each pesticide.*
2. Seal off the area. Eliminate all sources of ignition.
3. The spill should be clearly marked with the following words:

**DANGER
PESTICIDE SPILL
KEEP OUT**

4. It is required that during On-Duty hours and Off-Duty hours the Supervisor, Industrial Hygienist, Safety and Fire Protection Specialist be notified immediately. If the spill is a Reportable Quantity, the National Response Center (800-424-8802) and local and State authorities are to be contacted.
5. Employees involved with the decontamination procedure must wear suitable personal protective equipment, which includes impermeable gloves (neoprene, saranex, or viton rubber), impermeable aprons, coveralls, foot covers, and an approved full face respirator. Spills of concentrate pesticide in poorly ventilated areas require a full-face self-contained breathing apparatus.
6. Pesticide contaminated waste and debris must be placed for disposal into sealed containers bearing the following information:

HAZARDOUS WASTE: HANDLE WITH CARE
ACCUMULATION START DATE _____
CONTENTS _____

NOTE: Contact with contents can cause eye, skin, and respiratory irritation, sensitization, and be absorbed through the skin.

7. Several means of controlling spills include:
 - a. Placing the leaking container into a well-ventilated area;
 - b. Ensuring that all ignition sources are eliminated;

- c. Using foam to control vapors; and
 - d. Using an absorbent to contain and remove the wetted material or spill. *NOTE: Flush area sparingly with water*
8. Do not incinerate pesticide waste in VA owned incinerators. Only approved landfills or treatment technologies that meet Resource Conservation and Recovery Act (RCRA), state and local specifications may be used.

INTEGRATED PEST MANAGEMENT PLAN FORMAT

1. SUMMARY

a. The Facility Pest Management Plan is a comprehensive document describing the facility's pest problems and the programs required to deliver economical and effective control of those pests. The program utilizes pest controller(s) (man years of effort) required to control categories of pests. List the annual program costs. The pest categories identified as significant are: Household and nuisance pests, structural pests, weeds, stored products and other vertebrates. Without control, these pests would interfere with the medical mission, destroy real property and material, increase maintenance costs, and expose the patients, staff, and visitors to arthropod borne diseases. The administration of contracts and inter-service agreements, as well as program funding, are included in discussions of the resources, staffing, and materials required to implement the plan. Provisions for the safety of personnel, shop, and vehicles are covered in addition to the required program record keeping.

b. The plan lists the various laws, regulations, and instructions including specific environmental considerations, which govern the facility's pest management program. The offices and personnel with which such a plan shall be coordinated are identified. The plan contains applicable policies, requirements and major actions which impact upon the pest management program at the (facility). Control procedures and more detailed technical guidance is provided in the attachment to the plan. Adherence to the plan will permit long-range program planning and ensure activity requirements, and best available control technology at the time of development. Maintenance of the plan is provided through annual reviews and at 3-year intervals, the plan is updated to incorporate appropriate changes. Major changes to the plan should be incorporated as soon as feasible.

2. PEST MANAGEMENT PLAN

a. Introduction

(1) **Objective.** This is a plan for the pest management program at the (facility) and its activities. The primary objective of this plan is to provide sufficient guidance to operate and maintain an effective control program for pests (insects, rodents, decay organisms, etc.). Adherence to the plan will ensure effective, economical, and environmentally acceptable controls, and will maintain compliance with applicable laws and regulations. The plan identifies and prioritizes the pests and their destructive effects so that decisions can be made for the desired level of protection. This plan is consistent with current standards and criteria, and shall be integrated with the mission of the facility. When fully coordinated, the plan forms an agreement between the facility and all other users.

(2) **Plan Maintenance.** Maintenance of the plan is provided through annual reviews with input from the medical staff. This review will have three objectives:

(a) Identify new pest problems not covered in the existing plan and recommend a control method;

(b) Determine if there are any exceptions to the standards and requirements set forth in the plan and identify corrective measures where required; and

(c) Provide an evaluation of the measure of the facility's control program effectiveness.

NOTE: All of these objectives will be reported in a critique and written up as an addendum to the facility's plan. On an annual basis these recommendations will be incorporated into the facility plan.

(3) **Facility.** Outline all information concerning the facility to include: city, county and state located, size of facility in total square footage and number of buildings. Any unusual aspects of the facility; i.e., golf course (size), ponds, lakes, etc., the general condition of the buildings and any problems; i.e., structural, moisture, etc., the approximate number of employees at the facility and approximate number of patients and visitors seen annually.

b. **Pest Management Problems.** List any problems with the following eight categories of pests that your facility has experienced. Addressing the pest, damage, or other problems it causes and how the pest is handled.

(1) General household and nuisance pests,

(2) Structural pests,

(3) Weeds,

(4) Stored product pests,

(5) Health-related pests,

(6) Pests of ornamental plants and turf,

(7) Wood products pests, and

(8) Miscellaneous pests.

c. **Administration**

(1) **Quality Assurance Program.** Explain how the Quality Assurance for the pest management function is achieved. Include a copy of the specific schedules and procedures.

(2) **Complaints and Sitings.** Explain where this information is recorded and filed citing specific forms or journals, and what information is recorded.

(3) **Resources. (Current and Proposed)**

(a) **Funding.** The cost per year and how it may or may not vary.

(b) **Staffing.** (Contract for in-house certified operators. List names, certification numbers, and maintain copy of certification document).

(c) **Materials.** (Pesticides and Equipment). Example: The inventory attached to this plan lists the annual pesticide requirement for normal scheduled pest control operations. It is recognized that pest populations vary and adjustments to the inventory may be required. All requests are initiated by certified personnel in the pest management program. The review process assures procurement of the safest, most economical material consistent with this plan that can be legally used. The attached inventory of equipment is required to meet anticipated operations by in-house staff.

(4) **Contracts.** Specifications for the contract, "Pest Management," outline applications that cover interior and exterior activities utilizing integrated pest management methods. Pre-treatment of new construction sites for sub-terrain termite control will be performed by contract. All work is inspected by the appropriate designated VA official for compliance with contract specifications. Copies of the contracts and specifications are included in the attachments to this plan.

(5) **Report and Records.** Daily records of surveillance and control operations maintained at a responsible office or entity.

(6) **Training.** List types of training received for recertification and for keeping abreast of the laws, regulations, IPM procedures, new techniques and technologies, safer products and their use, etc.

d. **Health And Safety**

(1) **Requirements.** Safety equipment required for the personal protection of pest controllers engaged in handling pesticides are indicated in Public Law 92-516 as amended, Safety Standards Title 29 Code of Federal Regulations (CFR) 1910, and individual pesticide labels. Personnel handling pesticides are provided these protective devices by the facility.

(2) **Hazards**

(a) **Pesticide Applicators.** List safety equipment and personal protective clothing of pest controllers provided as required by the National Institute for Occupational Safety and Health (NIOSH). Also list annual physicals given and if they include the following: chest x-rays, history and physical exam, Enteric Index and serum glutamic oxaloacetic transaminase (SGOT), pulmonary function test, white blood cells (WBC) and differential count, chemistry screening tests, and neurological examination. In addition, a urinalysis and cholinesterase determinations should be done.

(b) **General Public.** The public is protected from potential contamination through careful analysis of the pest problem and the selection and application procedures necessary to ensure "safety first" in all cases.

(3) Shop. Describe pest management facility including size, safety features, storage, mixing area, ventilation, security, etc.

(4) Vehicles. To minimize accidental contamination, vehicles used to transport personnel, pesticidal chemicals and equipment must have separate compartments. Compartments must be capable of being secured. Emergency decontamination materials for personnel and a small pesticide spill kit must be carried on the vehicle during pest control operations. The spill contents are noted in the attachments.

e. **Public Laws And Regulations**. Pest Management laws and regulations governing operations, safety and proper pesticide disposal at the facility are as follows:

(1) Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, and implemented instructions in 9 CFR and 40 CFR Parts 162-180, Sub-chapter E-Pesticide Programs.

(2) Resource Conservation and Recovery Act (RCRA) and implementing instructions in 40 CFR Parts 240-255, sub-chapter I - Solid Wastes.

(3) Toxic Substances Control Act (TSCA) and implementing instructions in 40 CFR Parts 700-799, Subchapter, R-Toxic Substances.

(4) Occupational Safety and Health Act (OSHA) and implementing instructions in 29 CFR Parts 1900-1999, Subchapter XVII.

f. **Coordination**. The Pest Management Plan is coordinated with the following staff offices at the facility:

- (1) Personnel Physician,
- (2) Associate Chief of Staff (ACOS) for Research,
- (3) Acquisition and Materiel Management Service,
- (4) Safety Officer and/or Industrial Hygienist,
- (5) Security Service,
- (6) Bargaining Unit Representative(s), and
- (7) Others as required.

g. **Environmental Considerations**

(1) **Environmental Sensitive Areas**. List all concerned areas and briefly outline the reason for sensitivity.

(2) **Protected Species.** List any protected species at or near your facility and requirements for working in that area listing precautions and what may or may not be done.

(3) **Pollution Control Projects.** Example: On-site monitoring of pesticides in the environment is not required at the facility. Disposal of pesticides and their containers shall be consistent with procedures established by the State of _____ (name), and the cognizant regional EPA office. These procedures are provided in the attachment.

(4) **Pollution Abatement Procedures.** Example: Abatement procedures consist of the increased use of alternative control measures and chemical applications are utilized only when other measures are ineffective in controlling the pest. Record keeping is reviewed to ensure that minimum rates or chemical applications are used to effect control at all times. Planned reductions of chemical usage are goal of the program at all times.

h. **Pest Management Service Provided Other Activities.** Outpatient Clinics, Regional Offices, etc.

3. ATTACHMENTS (Operational Information)

- a. Facility map and floor plans.
- b. Pest management recommendations.
- c. Pest management maintenance record.
- d. Material Safety Data Sheets (MSDS) and labels for all pesticides.
- e. Work Schedule(s).
- f. Applicable instructions and procedures.
- g. Shop equipment and sources.
- h. Lists of safety items.
- i. Technical information manuals and references.
- j. Pesticide spill prevention and clean-up plan.
- k. Pesticide labels and antidotes.
- l. Contracting standards and specifications.
- m. Copy of current contracts (where appropriate).
- n. Procedure for ultra low volume (ULV) treatment of structures.

- o. Policy for pest management in quarters.
- p. Memorandum of Agreements between facility and other agencies.
- q. Termite inspection records.
- r. Commercial and/or industrial study on pest management functions.
- s. Staffing requirements study.
- t. Recommended pesticide inventory.
- u. Recommended equipment inventory (all types).
- v. AFPCB TIM No. 14: Protective Equipment for Pest Management Personnel.
- w. Facility Space Criteria for Pest Management (H-08-9).
- x. Pesticide disposal plan.

INTEGRATED PEST MANAGEMENT PROGRAM CONTRACT GUIDE

NOTE: This contract guide document is intended for general information only and does not pertain to any actual contract.

1. SCOPE

a. **Description of Program.** This specification is part of a comprehensive Integrated Pest Management (IPM) Program for the premises listed herein. IPM is a process for achieving long term, environmentally sound pest suppression through the use of a wide variety of technological and management practices. Control strategies in an IPM Program extend beyond the application of pesticides to include structural and procedural modifications that reduce the food, water, harborage, and access used by pests.

b. **Contractor Service Requirements.** The Contractor shall furnish all supervision, labor materials, and equipment necessary to accomplish the surveillance, trapping, pesticide application, and pest removal components of the IPM Program. The Contractor shall provide detailed, site-specific recommendations for structural and procedural modifications to aid in pest prevention.

2. PESTS INCLUDED AND EXCLUDED

a. The Contractor shall meet the performance expectations of the client in suppressing the following pests:

(1) Indoor populations of rats, mice, cockroaches, ants, flies, spiders, and any other arthropod pests not specifically excluded from the contract.

(2) Populations of the above pests that are located outside of the specified buildings, but within the property boundaries of the buildings.

(3) Winged termite swarmers emerging indoors.

(4) Individuals of all excluded pest populations that are incidental invaders inside buildings.

b. Populations of the following pests are excluded from this contract:

(1) Birds, bats, snakes, and all other vertebrates other than commensal rodents.

(2) Termites and other wood-destroying organisms.

(3) Mosquitoes.

(4) Pests that primarily damage outdoor vegetation.

3. INITIAL BUILDING INSPECTIONS

The Contractor shall complete a thorough, initial inspection of each building or site at least 5 working days prior to the starting date of the contract. The purpose of the initial inspection(s) is for the contractor to evaluate the pest control needs of all premises and to identify problem areas and any equipment, structural features, or management practices that are contributing to pest infestations. Access to building space shall be coordinated with the Contracting Officer's Technical Representative (COTR).

4. PEST CONTROL PLAN

a. The Contractor shall submit to the COTR a Pest Control Plan at least 5 working days prior to the starting date of the contract. Upon receipt of the Pest Control Plan, the COTR will render a recommendation within 2 working days to the Contracting Officer (CO) concerning the acceptability of the Plan. If aspects of the Pest Control Plan are incomplete or disapproved, the contractor shall have 2 working days to submit revisions. The contractor shall be on-site to perform the initial service visit for each building within the first 5 days of the contract.

b. The Pest Control Plan shall consist of five parts as follows:

(1) **Proposed Materials and Equipment for Service.** The Contractor shall provide current labels and Material Safety Data Sheets (MSDS) of all pesticides to be used, and brand names of pesticide application equipment, rodent bait boxes, insect and rodent trapping devices, pest monitoring devices, pest surveillance and detection equipment, and any other pest control devices or equipment that may be used to provide service.

(2) **Proposed Methods for Monitoring and Surveillance.** The Contractor shall describe methods and procedures to be used for identifying sites of pest harborage and access, and for making objective assessments of pest population levels throughout the term of the contract.

(3) **Service Schedule for each Building or Site.** The Contractor shall provide complete service schedules that include weekly or monthly frequency of Contractor visits, specific day(s) of the week of Contractor visits, and approximate duration of each visit.

(4) **Structural or Operational Change.** Description of any structural or operational change that would facilitate the pest control effort. The Contractor shall describe site-specific solutions for observed sources of pest food, water, harborage, and access.

(5) **Commercial Pesticide Applicator Certificates or Licenses**

(a) The Contractor shall provide photocopies of State-issued Commercial Pesticide Applicator Certificates or Licenses for every Contractor employee who will be applying on-site pesticides under this contract.

(b) The Contractor shall be responsible for carrying out work according to the approved Pest Control Plan. The Contractor shall receive the concurrence of the COTR prior to implementing any subsequent changes to the approved Pest Control Plan, including additional or replacement pesticides and on-site service personnel.

5. RECORD KEEPING

The Contractor shall be responsible for maintaining a pest control logbook or file for each building or site specified in this contract. These records shall be kept on-site and maintained on each visit by the Contractor. Each logbook or file shall contain at least the following items:

a. **Pest Control Plan.** A copy of the Contractor's approved Pest Control Plan, including labels and MSDS for all pesticides used in the building, brand names of all pest control devices and equipment used in the building, and the Contractor's service schedule for the building.

b. **Records.** Pest Control Work and Inspection Report, or an equivalent. These forms will be used to advise the Contractor of routine service requests and to document the performance of all work, including emergency work. Upon completion of a service visit to the building or site, the contractor's employee performing the service shall sign and date the record, and return it to the logbook or file on the same or succeeding day of the services rendered.

c. **Contractor's Service Report Forms.** Customer copies of the Contractor's Service Report Form, documenting all information on pesticide application required by statute in the jurisdiction where service is actually performed. These forms shall not be mandatory if all required information on pesticide application is included on the Pest Control Work and Inspection Report.

6. MANNER AND TIME TO CONDUCT SERVICE

a. **Time Frame of Service Visits.** The Contractor shall perform routine pest control services that do not adversely affect patients and employee health or productivity during the regular hours of operation in buildings. When it is necessary to perform work outside of the regularly scheduled hours set forth in the Pest Control Plan, the Contractor shall notify the COTR at least 1 day in advance.

b. **Safety and Health**

(1) The Contractor shall observe all safety precautions throughout the performance of this contract. All work shall comply with the applicable requirements of Title 29 Code of Federal Regulations (CFR) 1910, 29 CFR 1926, and 40 CFR 751. All work shall comply with applicable state and municipal safety and health requirements. Where there is a conflict between applicable regulations, the most stringent will apply.

(2) The Contractor shall assume full responsibility and liability for compliance with all applicable regulations pertaining to the health and safety of personnel during the execution of work.

c. **Special Entrance.** Certain areas within some buildings may require special instructions for persons entering them. Any restrictions associated with these special areas will be explained by the COTR. The Contractor shall adhere to these restrictions and incorporate them into the Pest Control Plan.

d. **Uniforms and Protective Clothing.** All Contractor personnel working in or around buildings designated under this contract shall wear distinctive uniform clothing. The contractor shall determine the need for and provide any personal protective items required for the safe performance of work. Protective clothing, equipment, and devices shall, as a minimum, conform to United States (U.S.) Occupational Safety and Health Administration (OSHA) standards for the products being used.

e. **Vehicles.** Vehicles used by the contractor shall be identified in accordance with state and local regulations.

7. REQUESTS FOR EMERGENCY SERVICE:

On occasion, the CO or COTR may request that the Contractor perform corrective, special, or emergency service(s) that are beyond routine service requests. The Contractor shall respond to these exceptional circumstances and complete the necessary work within 1 working day after receipt of the request. In the event that such services cannot be completed within one working day, the Contractor shall immediately notify the CO or COTR and indicate an anticipated completion date.

8. CONTRACTOR PERSONNEL

Throughout the term of this contract, all Contractor personnel providing on-site pesticide application must maintain certification as Commercial Pesticide Applicators in the category of Industrial, Institutional, Structural, and Health Related Pest Control. Uncertified individuals working under the supervision of a Certified Applicator will not be permitted to apply pesticides under this contract.

9. USE OF PESTICIDES

The Contractor shall be responsible for application of pesticides according to the label. All pesticides used by the Contractor must be registered with the U.S. Environmental Protection Agency (EPA). Transport, handling and use of all pesticides shall be in strict accordance with the manufacturer's label instructions and all applicable Federal, state, and local laws and regulations. The Contractor shall adhere to the following rules for pesticide use:

a. **Approved Products.** The Contractor shall not apply any pesticide product that has not been included in the Pest Control Plan or approved in writing by the COTR.

b. **Pesticide Storage.** The Contractor shall not store any pesticide product on the premises listed herein.

c. **Pesticide Formulation.** Contractors shall not formulate pesticides from concentrates on Department of Veterans Affairs (VA) property without written approval by the COTR.

d. **Application by Need.** Pesticide application shall be according to need and not by schedule. As a general rule, application of pesticides in any inside or outside area shall not occur unless visual inspections or monitoring devices indicate the presence of pests in that specific area. Preventive pesticide treatments of areas where surveillance indicates a potential insect or rodent infestation are acceptable on a case-by-case basis. Written approval must be granted by the COTR prior to any preventive pesticide application.

e. **Minimization of Risk.** When pesticide use is necessary the Contractor shall employ the least hazardous material, most precise application technique and minimum quantity of pesticide necessary to achieve.

10. INSECT CONTROL

a. **Non-pesticide Methods of Control.** The Contractor shall use non-pesticide methods of control wherever possible. For example:

(1) Portable vacuums rather than pesticide sprays shall be used for initial cleanouts of cockroach infestations, for swarming (winged) ants and termites, and for control of spiders in webs wherever appropriate.

(2) Trapping devices rather than pesticide sprays shall be used for indoor fly control wherever appropriate.

(3) Hot water delivery devices for weeds.

b. **Application of Insecticides to Cracks and Crevices.** As a general rule, the Contractor shall apply all insecticides as "crack and crevice" treatments only, defined in the contract as treatments in which the formulated insecticide is not visible to a bystander during or after the application process.

c. **Application of Insecticides for Exposed Surfaces or as Space Sprays.** Application of insecticides to exposed surfaces or as space sprays (including fogs, mists, and ultra-low volume applications) shall be restricted to unique situations where no alternative measures are practical. The Contractor shall obtain the approval of the COTR prior to any application of insecticide to an exposed surface or any space spray treatment. No surface application or space spray shall be made while tenant personnel are present. The Contractor shall take all necessary precautions to ensure patient and employee safety, and all necessary steps to ensure the containment of the pesticide to the site of application.

d. **Insecticide Bait Formulations.** Bait formulations shall be used for cockroach and ant control wherever appropriate.

e. **Monitoring.** Sticky traps shall be used to guide and evaluate indoor insect control efforts wherever necessary.

11. RODENT CONTROL

a. **Indoor Trapping.** As a general rule, rodent control inside occupied buildings shall be accomplished with trapping devices only. All such devices shall be effected by routine cleaning and maintenance. Trapping devices shall be checked on a schedule approved by the COTR. The Contractor shall be responsible for disposing of all trapped rodents and all rodent carcasses off-site, in an appropriate manner.

b. **Use of Rodenticides.** In exceptional circumstances, when rodenticides are deemed essential for adequate rodent control inside occupied buildings, the contractor shall obtain the approval of the COTR prior to making any interior rodenticide treatment. All rodenticides, regardless of packaging, shall be placed either in locations not accessible to children, pets, wildlife, and domestic animals, or in EPA approved tamper-resistant bait boxes. As a general rule, rodenticide application outside buildings shall emphasize the direct treatment of rodent burrows wherever feasible.

c. **Use of Bait Boxes.** Frequency of bait box servicing shall depend upon the level of rodent infestation. All bait boxes shall be maintained in accordance with EPA regulations, with an emphasis on the safety of non-target organisms. The Contractor shall adhere to the following five points:

(1) All bait boxes shall be placed out of the general view, in locations where they will not be disturbed by routine operations.

(2) The lids of all bait boxes shall be securely locked or fastened shut.

(3) All bait boxes shall be securely attached or anchored to the floor, ground, wall, or other immovable surface, so that the box cannot be picked up or moved.

(4) Bait shall always be placed in the baffle-protected feeding chamber of the box and never in the runway of the box.

(5) All bait boxes shall be labeled on the inside with the Contractor's business name and address, and dated by the contractor's technician at the time of installation and each servicing.

12. STRUCTURAL MODIFICATIONS AND RECOMMENDATIONS

Throughout the term of this contract, the Contractor shall be responsible for advising the COTR about any structural, sanitary, or procedural modifications that would reduce pest food, water, harborage or access. The Contractor shall be responsible for adequately suppressing all pests included in this contract regardless of whether or not the suggested modifications are implemented. The Contractor will not be held responsible for carrying out structural modifications as part of the pest control effort. However, minor applications of caulk and other sealing materials by the Contractor to eliminate pest harborage or access may be approved by the COTR on a case-by-case basis. The Contractor shall obtain the approval of the COTR prior to any application of sealing material or other structural modification.

13. PROGRAM EVALUATION

The COTR will continually evaluate the progress of this contract in terms of effectiveness and safety, and will require such changes as are necessary. The Contractor shall take prompt action to correct all identified deficiencies.

14. QUALITY CONTROL PROGRAM

The Contractor shall establish a complete quality control program to assure the requirements of the contract are provided as specified. Within 5-working days prior to the starting date of the contract, the Contractor shall submit a copy of his program to the CO. The program shall include at least the following items:

a. **Inspection System.** The Contractor's quality control inspection system shall cover all the services stated in this contract. The purpose of the system is to detect and correct deficiencies in the quality of services before the level of performance becomes unacceptable and/or the COTR identifies the deficiencies.

b. **Checklist.** A quality control checklist shall be used in evaluating contract performance during regularly scheduled and unscheduled inspections. The checklist shall include every building or site serviced by the Contractor, as well as every task required to be performed.

c. **File.** A quality control file shall contain a record of all inspections conducted by the Contractor and any corrective actions taken. The file shall be maintained throughout the term of the contract and made available to the COTR upon request.

d. **Inspector(s).** The Contractor shall state the name(s) of the individual(s) responsible for performing the quality control inspections.