

**Armed Forces Pest Management Board
Technical Guide No. 18**

Installation Integrated Pest Management Program Guide



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Table of Contents

Acknowledgments.....	3
AFPMB Technical Guides	Iii
1. Introduction.....	4
2. Model Pest Management Program.....	4
A. Introduction.....	4
B. Program Operations.....	6
C. Program Management	7
D. Facilities.....	9
E. Health and Safety	9
F. Regulatory Compliance	10
G. Local Coordination	11
H. Environmental Protection	11
I. Installation Sale or Distribution of Pesticides	12
3. Conduct Of Reviews.....	12
B. On-Site	13
C. Post-Visit.....	14
Appendix A - Questions.....	15
1. Program Operations	15
2. Program Management.....	18
3. Facilities.....	21
4. Health & Safety.....	24
5. Regulations	24
6. Local Coordination	25
7. Environmental Protection	25
8. Installation Sale or Distribution of Pesticides.....	26
Appendix B - Suggested Installation Contacts To Visit During Pest Management Program Evaluations.....	27

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AFPMB Technical Guides

This is one of a series of Technical Guides (TGs) published by the Information Services Division (ISD), Armed Forces Pest Management Board (AFPMB). The AFPMB is a directorate within the Office of the Deputy Under Secretary of Defense (Energy, Installations and Environment) that recommends policies and procedures, provides guidance, and coordinates the exchange of information related to pest management throughout the Department of Defense (DoD). As a unit of the AFPMB, the ISD collects, stores and disseminates published and unpublished information on arthropod vectors and pests, natural resources, and environmental biology important to the DoD. Other ISD products include country- or region-specific Disease Vector Ecology Profiles (DVEPs). All TGs, DVEPs and other AFPMB documents are available at the AFPMB Web site: <http://www.acq.osd.mil/eie/afpmb/products.html>.

TGs are not policy documents; rather, they provide technical guidance for the use of the DoD pest management community and others. Accordingly, TGs should not be construed or referenced as policy. DoD pest management policies may be found in DoD Directive 4715.1E, "Environment Safety and Occupational Health", DoD Instruction 4150.07, "DoD Pest Management Program," and other DoD directives and instructions, and implementing component directives/instructions/ regulations.

Inquiries, comments or suggestions for improving TGs may be directed to the Chief, ISD, at (301) 295-7476, FAX: (301) 295-7473.

1. Introduction

A. This Technical Guide (TG) provides information on installation pest management programs and guidance for evaluation of these programs. It was written to help establish uniformity in DoD pest management programs and to help installation personnel, who are responsible for the development and performance of pest management plans, and major command (MACOM) pest management consultants (PMCs) who are responsible for oversight and evaluation of these programs. This TG should not be used in the place of compliance assessments or internal and external reviews.

B. This TG reflects the functional elements of an effective program as recognized by the Armed Forces Pest Management Board (AFPMB). An outline of a model pest management program is presented in Section 2. Section 3 contains guidance for PMCs in evaluating programs. Section 4 contains a compilation of questions useful to installation personnel and MACOM PMCs in preparation for an on-site program evaluation, and a suggested list of installation points of contact.

C. DoD Instruction 4150.07 requires that PMC's conduct on-site reviews using the guidance in the DoD Directive and this TG. Service regulations may also stress the need for on-site reviews. Informal program evaluation or review should be continuous by local personnel. However, on-site installation personnel should not conduct formal reviews due to the potential for conflict of interest and bias resulting from self-evaluation. Installations with documented pest management problems, such as deficiencies from environmental compliance audits, State or Federal inspections, should be reviewed annually until the deficiencies are corrected.

2. Model Pest Management Program

A. Introduction

1. All installation pest management operations shall be based on Integrated Pest Management (IPM), which is a comprehensive approach to pest control or prevention that considers various chemical, physical, and biological suppression techniques, the habitat of the pest, and the interrelationship between pest populations and the ecosystem.

2. This model pest management program is designed as a tool to help installations establish and maintain effective, safe, efficient, and environmentally sound IPM programs. Implementation of the pest management program will prevent or manage pests that may damage property, structures, or material.

3. Installation pest management plans are the documents for implementing this multi-purpose objective. As a minimum, plans should:

- a. Describe the relationship between pest management objectives and the installation's military mission, the resident installation population, and local geographical features.

- b. Identify elements of various pest management functions and their relationship to each other. Priorities should be established for these functions so that resources can be wisely managed.
- c. Encompass an IPM approach based on environmentally sound non-chemical measures and the judicious use of pesticides.
- d. Establish program compliance with applicable Public Laws, Federal, DoD, and military regulations, and AFPMB guidelines.
- e. Identify key points of contact for implementation and coordination of the entire pest management program, e.g., medical, safety, personnel, engineering, non-appropriated fund activities, etc.
- f. Installation pest management plans should be prepared by installation personnel and should contain at least the following major headings:

- (1) Program Operations

- (a) Pest Management Functions
- (b) Natural Resources Programs
- (c) Wood Preservation/Protection Programs

- (2) Program Management

- (a) Workload Identification
- (b) Program Budgeting
- (c) Competency
- (d) Support Agreements
- (e) Contracting
- (f) Construction Management
- (g) Self-Help Pest Control
- (h) Records and Reports

- (3) Facilities

- (4) Health and Safety

- (a) Medical Surveillance Program
- (b) Work Place Monitoring
- (c) Respiratory Protection Program

- (d) Personal Safety
- (e) Fire Protection and Public Safety
- (f) Hazard Communication Program (Right-To-Know)
- (5) Regulatory Compliance
 - (a) Pesticide Labels
 - (b) State and Local Regulations
 - (c) Quarantine
 - (d) Pesticide Spills
 - (e) Memoranda of Agreement
- (6) Local Conditions
- (7) Environmental Protection
 - (a) Sensitive Areas
 - (b) Pollution Abatement and Occupational Safety Projects
 - (c) Pesticide Disposal
- (8) Sale and Distribution of Pesticides
 - (a) Commissary
 - (b) Exchange

Appropriate attachments such as pesticide inventories, contracts for pest control services, SOP's, manpower equations, lease agreements, listings of certified personnel, MOA's, etc., should all be made a part of the installation's pest management plan, which is to be reviewed and updated annually. Some specific guidance for each major heading is given below.

B. Program Operations

1. Pest Management Functions

a. Pest management programs on most installations include: general household pests, structural pests, stored product pests, public health pests, ornamental and turf pests, and vegetation management . These areas dictate the types of pest control certification required of the pesticide applicator(s). Some pest management programs are so small as to include only one type of pest management practice, while programs at the larger end of the spectrum may resemble those for small cities and include multiple operations.

b. Specific areas of concern to the reviewer include: (1) Are pest management operations warranted? (2) Are they efficient? (3) Are appropriate IPM measures being used? (4) Are

pesticides being applied only in accordance with (IAW) label directions? (5) Are all pest management operations documented in the pest management plan? (6) Is the prioritization of pest management elements appropriate, and (7) Are the health and safety aspects of the pest management operation and the health or economics threat posed by the pest addressed? Are all government pesticide applicators DoD certified? Are all contract pesticide applicators State certified?

c. Priorities established for management are unique to each installation because they are based on local conditions. Examples of factors to consider in determining priorities include: impact of pests on military readiness, cost, effect on morale, health impact and potential disease transmission, sanitation, damage to structures, other economic losses, and fire hazards. 2. Natural Resources Programs

a. Natural Resources Programs and Pest Management Programs have areas of overlapping responsibilities. Coordination between the two programs should be addressed and identified in both the Integrated Natural Resources Management Plan (INRMP) and the Pest Management Plan.

b. Natural resources programs (Land Management, Agronomy, Forestry, Wildlife) use pesticides for animal and weed control and land management programs. Where pesticides are used, the same requirements for pesticide applicator training and certification are required for natural resources personnel as for pest management personnel to ensure that pesticides are used and reported properly.

c. Personnel who review natural resources programs that use pesticides should determine: (1) Are pesticides being applied IAW label directions? (2) Are pesticide applications documented in the installation pest management plan? (3) Are all pesticide applications being reported, (4) Are natural resources personnel trained and certified in the appropriate pesticide application categories? and (5) Is the installation pest management plan included as an attachment, referenced and consistent with the INRMP?

3. Wood Preservation/Protection Programs. Wood protection programs are included in installation pest management plans if wood preservatives (pesticides) are used. An effective ground-line inspection and maintenance program can greatly prolong the service life of poles and result in substantial savings. The reviewer should determine: (1) What are the treated wood investments and annual usage? (2) What is the age of pole plant in relation of ground-line inspection and treatment? (3) Do the procurement specifications properly identify treatment standards, and (4) Is quality assurance provided in specifications and upon receipt of treated wood?

C. Program Management

1. Workload Identification

a. Workload identification is the basis for planning, programming, and budgeting the entire program (funding, people, pesticides, equipment, shop facilities, etc.). Good pest management plans contain definitive program information required to accomplish the pest management mission.

b. Annual work plans (standing job orders) must be current and complete, thoroughly address all aspects of the pest management program, and be written in clear, concise terms.

c. Service requests (trouble calls) must also be complete and concise.

2. Contracting. Frequently, installation requirements are met, at least in part, by using commercial pest control services. When these services are used the contracts must receive technical review and approval from PMCs. Pesticide applications done by contract have the same recording and reporting requirements as those done by in-house workers. Contracts should require a Quality Assurance Evaluator (QAE) monitoring plan. Installation QAE personnel should be trained in QAE inspection procedures and operations for the contracts they evaluate. Service regulations provide necessary guidance on using pest management QAE personnel. The most common types of contracts are augmentation contracts for maintenance services, outlease contracts, which are usually let through natural resources offices for agricultural purposes, and pre-construction soil treatment termite and WDO control contracts.

3. Construction Management. Coordination mechanisms must be in place to assure that necessary pest management construction/protection procedures are used from the outset for all construction projects at the installation level. All plans and specifications should be reviewed by qualified design review personnel that have had some training in pest management. All pesticide usage in repair or construction projects should be reported for inclusion into installation reporting systems.

4. Support Agreements. Many installations enter into support agreements with state, local, and federal organizations to receive pest management services. Sometimes these are called interservice support agreements (ISSA's). Specific areas of concern to the reviewer include: (a) Are services being provided to the installation in compliance with applicable regulations? (b) Is adequate service received, and (c) Does the service effectively assist the installation by reducing manpower requirements?

5. Self-help Pest Control Programs. DoD Directive 4150.07 requires that self-help pest control programs be established at all installations so that housing occupants can control minor household pests. However, this only applies to housing still under DoD control and not to privatized housing such as the Residential Communities Initiative (RCI). Self-help programs still used by non-housing personnel should follow the same guidelines. The objective of this program is to have occupants make an effort to practice legally and practically appropriate routine pest control before requesting services from the installation pest control shop. Specific areas of concern to the reviewer include: (a) how is the program administered? (b) Are proper formulations or application equipment dispensed? (c) Are appropriate use and safety instructions attached to the product being dispensed? (d) Are adequate records maintained? (e) Is pesticide usage reported on DD Form 1532-1 or equivalent? (f) Is the program cost-effective, and (g) Is the self-help program fully utilized by housing occupants?

6. Program Resources (Current & Proposed). Installation pest management personnel must manage their resources effectively.

a. Areas of concern to the reviewer for resource planning and funding include: the preparation, execution, timeliness, and prioritization of the budget.

b. Specific areas of concern to the reviewer in manpower (staffing) planning include: (1) Are grade-level requirements identified? (2) Are program deficiencies identified and backlogs documented, and (3) Are manpower survey and work load definition studies completed?

c. Specific areas of concern to the reviewer for materials and equipment planning include: (1) Do inventories of pesticides and equipment reflect control requirements? (2) Is equipment functioning properly, and (3) Are materials ordered to meet projected needs?

7. Records and Reports. Pesticide use on DoD property must be reported. Pest management operations are reported monthly on DD Form 1532, or its equivalent. Specific areas of concern to the reviewer include: (a) Is all installation pesticide use documented? (b) Are all surveillance operations reported? (c) Are non-chemical control methods identified? (d) Are the pest management files adequate? (e) Is the reporting accurate, and (f) Is the DD Form 1532-1, or equivalent used as a daily record of pesticide application?

8. Competency

a. Applicator Personnel. All pesticide applicators and other personnel who directly influence the selection and application of pesticides on DoD property must be periodically trained and certified. The pest management plan should identify these personnel. Specific areas of concern include: (1) certification categories, (2) screening candidates/coordination with installation personnel office, (3) percent certification (goal = 100%), (4) in-house training programs, and (5) recertification training.

b. Quality Assurance Evaluator (QAE) personnel should be DoD-trained IAW guidance furnished in implementing Service directives. Areas of concern include: (1) QAE training, (2) pest management QAE training, and (3) refresher training.

c. Technical References and Operational Guidance. Installation in-house pest management personnel should have reference materials available in the shop. These references include: (1) periodicals, (2) reference publications, and (3) labels/material safety data sheets for each pesticide on hand.

D. Facilities

1. Pest control facilities must be designed with adequate provisions for the safe storage and mixing of pesticides, the filling and decontamination of equipment, and the health and safety of personnel. The site of the facility should incorporate environmental protection and security.

2. Particular items to consider include: (a) personnel traffic flow, (b) ventilation, (c) emergency equipment, (d) spill kit, (e) physical security, (f) shop signs, (g) storage and handling practices, (h) plumbing systems, (i) fire protection systems, and (j) disposal procedures.

E. Health and Safety

1. Medical Surveillance Program. All pest management personnel must participate in a medical surveillance program. This program should include, at a minimum, annual physical examinations and respirator evaluation and fit-testing.

2. **Work Place Monitoring.** As an employer, the installation is required to provide a safe and healthful work place for pest management personnel. Annual hazard evaluations by medical department personnel are recommended. Areas of concern include: (a) frequency of hazard evaluation, (b) hazards to which workers are exposed (i.e., vapors, liquids, particulates, electrical, noise), and (c) exposure to contaminated equipment.

3. **Respiratory Protection Program.** Pest control personnel should be included in the installation respiratory protection program. The program includes: a face fit test, leak test, pulmonary function testing, and instruction on the proper use, cleaning and care of respirators. Areas of concern include: (a) proper storage, (b) cartridge use log, (c) procurement of proper respirators, (d) compliance inspections by health and safety personnel, and (e) supervisor's emphasis to insure that respirators are worn.

4. **Personal Safety.** As an employer, the installation must provide pest management personnel with adequate protection from exposure to hazards. Areas of concern include: (a) availability of adequate protective equipment and clothing (b) laundering of protective clothing, (c) facilities for emergency decontamination, (d) a shower and change room available for daily use, (e) adequate warning signs posted, (f) antidotes available at the emergency treatment room for pesticide poisoning, and (g) enforcement of safety requirements.

5. **Hazard Communication Program (Right-To-Know).** Installations are required to have a hazard communication program in place, which includes having copies of material safety data sheets readily accessible to all employees.

6. **Fire Protection and Public Safety.** The installation emergency services (fire/medical/police) should be made aware of the hazards of pesticides being used and stored on the installation so that proper precautions can be taken in the event of fire, spill or accidental poisoning involving pesticides. Specific questions the reviewer should ask include: (a) Are pesticide storage facilities included in the installation fire protection plan? (b) Are the shop and dispersal equipment secured?, and (c) Has a pesticide inventory and storage floor plan been provided to fire/safety personnel at least annually?

F. Regulatory Compliance

1. **Pesticide Labels.** Pesticides must be applied in accordance with label directions. Specific questions the reviewer should ask include: (a) Are all pesticides used on the installation EPA/state registered? (b) Is the application site on the label? (c) Have environmental warnings been taken into consideration? (d) Are all pesticide service containers labeled (i.e. no unmarked containers)?, (e) Are there any state or local labelling related to threatened and endangered species? and (f) Is purchase of non-standard pesticides approved by the MACOM PMC?

2. **State and Local Regulations.** Installation pest management personnel will comply with state and local regulations, such as restrictions on pesticide applications in sensitive environmental areas and the need to obtain permits to perform control in areas where protected/endangered species are found. Where compliance questions exist, issues will be raised to MACOM, Service Headquarters or the AFPMB as appropriate.

3. Quarantine. Installation pest management personnel should be aware of quarantines that apply to installation activities. Quarantines may involve movement of property into or out of quarantine areas (household/retrograde), state permits to move specimens and availability of segregated storage areas.

4. Pesticide Spills. Pesticides stored and used on the installation should be included in the Spill Prevention Control and Countermeasures Plan (SPCCP) and the Installation Spill Control Plan (ISCP). A spill kit should be available in the pest management facility.

5. Memoranda of Agreement (MOAs). Installation pest management operations may be affected by MOAs with state and local agencies. A copy of the MOA, or other applicable documents, i.e., ISSAs, should be attached to the installation pest management plan.

G. Local Coordination

Installation pest management personnel should maintain liaison with other nearby DoD installations and state/local agencies (such as fish and wildlife, county agricultural extension, public health, and mosquito control agencies). Coordination should also be maintained with installation medical personnel for information on surveillance and potential health threats. This contact is the responsibility of the installation pest management coordinator.

H. Environmental Protection

1. Sensitive Areas. Installation pest management personnel should be aware of potential adverse environmental impact of pest management operations.

2. Operations of special interest are: (a) use of restricted-use pesticides, (b) use of any pesticide that may contaminate surface or ground water (aquifer), or cover more than 640 acres in one application; (b) pest management activities that may adversely affect endangered, threatened or protected species or their habitats; and (c) aerial application of pesticides.

3. Specific areas of concern for the reviewer include: (a) identification of environmentally sensitive areas or operations, (b) preparation for prevention of pertinent pesticide migration or drift into non-target areas.

4. Pollution Abatement and Occupational Safety Projects. Areas of concern include: (a) Have design and construction of adequate storage facilities been accomplished? (b) Is a disposal system for pesticide rinse water available and used on the installation, and (c) Does the installation have an installation restoration plan?

5. Pesticide Disposal. Excess or unusable pesticides may require disposal as a pesticide-related waste through Resource Conservation and Recovery Act (RCRA) procedures. Specific questions the reviewer should ask include: (a) Do excess pesticides, excess finished formulations, empty containers and rinse water require disposal? (b) Do local regulations apply to disposal? (c) Has the MACOM PMC been notified to redistribute excess pesticides, and (d) How are unused pesticides from daily operations handled?

I. Installation Sale or Distribution of Pesticides

1. Pesticide products are sold in exchange activities, commissaries, and self-service stores. Proper storage and display practices are needed to prevent toxic hazards and accidental contamination of personnel and materials. Pesticides provided for sale may include home and garden products, flea and tick products for pets, household pesticides, and repellents (often found in outdoor recreational or sporting goods areas).

2. Questions the reviewer should ask include: (a) Are pesticides segregated to prevent spillage or leakage onto foods or dry goods? (b) Are warning signs used to alert the public of exposure hazards? (c) Are designated storage areas used to reduce hazards of pesticide spills and exposure? (d) Do procedures exist to insure that appropriate clean-up materials are available and personnel are knowledgeable?, and (e) Are only EPA-registered, general use pesticides offered for sale?

3. Conduct of Reviews

Installation pest management programs are reviewed on-site to update guidance, resolve problems, and assess installation compliance with policies and regulations. This section provides guidance for PMCs who are responsible for reviewing these programs.

A. Pre-Visit. A program review begins before the actual on-site review.

1. Notification

a. Coordinate telephonically with MACOM installation personnel (medical and engineer activities are suggested) to schedule an on-site visit.

b. Issue notification letters approximately 30 days prior to the review. This allows the installation sufficient preparation time.

2. Identification of Priority Topics

a. Coordinate with the cognizant Pest Management Coordinators to determine any specific problem areas to be considered as priority topics during the review.

b. Check previous pest management program review findings. Follow-up on priority findings or problems identified in previous reports.

3. Identify time, location and participants for an in-briefing. It is desirable for the installation engineer, health and safety personnel, environmental coordinator, natural resources personnel, morale, welfare and recreational personnel, commissary personnel and the exchange manager to be included in the briefing. Ensure this briefing is coordinated with the installation commander.

4. Prior to the on-site visit, review the pest management plan, Integrated Pest Management Information System (IPMIS) data, applicable state and local regulations that affect the program, and other applicable documents and records. Request copies of these documents from the installation during initial telephonic coordination if they are not on hand.

B. On-Site

1. Conduct a formal in-briefing with key personnel from the organizations identified above.

2. The review should include: A physical visit of the grounds including the shop facilities, applications sites, and interviews with personnel and activities that are involved in the program. Compare actual operations with the pest management plan and review shop records. The reviewer should keep the following questions in mind while conducting the review:

a. How is the pest management program supposed to work? What are the installation's chain of command and actions taken by the installation to regulate and direct the pest management program? The reviewer's understanding is usually gathered from multiple sources, such as in-briefings and installation orientations. During this step the reviewer will ask questions such as: Has the installation prepared a (1) pest management plan, is it current and properly reviewed, (2) a spill Prevention Control and Countermeasure Plan (SPCC), Installation Spill Control Plan (ISCP), and/or a spill standard operating procedure (SOP), are the SPCC and ISCP referenced in the Pest Management Plan, and (3) a fire protection contingency plan?

b. Is the current pest management program adequate? Evaluate the strengths and weaknesses of pest management procedures and plans. Here the reviewer examines existing written plans and SOPs and looks for indicators such as: (1) clearly defined responsibilities, (2) adequate chain of command and/or responsibility, (3) awareness and capability of personnel, (4) coordination and cooperation between organizations with pest management responsibilities, (5) division of duties, (6) preventive measures, (7) documentation and record keeping, and (8) internal verification processes. This step determines the direction for the remainder of the review.

3. Formulate findings and recommendations.

a. Formulating findings and recommendations is an on-going process that begins during the in-briefing and continues through preparation of the final report.

b. Always obtain sufficient information to support findings and recommendations. A decision must be made whether to include some or all of the supporting examples in the written report, or just to mention them in an out-briefing.

c. Put the findings into a broader perspective by asking questions such as: (1) What are the implications of the findings? (2) Are there hazards to personnel or the environment? (3) What is the "cost" of not taking action?, and (4) Are other activities affected?

4. Conduct a formal out-briefing with key personnel. Findings are reported to installation command personnel during the exit briefing. During this briefing, the reviewer communicates all major findings and observations noted during the review that will appear in the report. The out-briefing should also include a summary of the positive aspects of the pest management program and an agreement as to what items will, or will not, appear in the written report. Remember, the reviewer, whether uniformed or civilian, is there to provide an evaluation and assistance -- not simply conduct an inspection. Therefore the reviewer should avoid, if possible, any statements or indications that imply the installation is being placed on report. However, if

the PMC finds a problem area, he must provide appropriate information to the installation commander for corrective action to be taken.

C. Post-Visit

1. Coordinate recommendation with all affected agencies.

2. Reporting Findings. The reporting process actually begins during informal discussions between the reviewer and installation personnel when discrepancies, or commendable program aspects, are noted. These findings and recommendations should be reported to installation personnel before leaving their installation. The written report is to provide documentation of the review and recommended corrective actions. This report provides the chain of command with timely documentation to determine what, if any, actions are required, and to justify additional resources, if needed. Reports should emphasize the positive aspects of the program. Never address an adverse action or item in the written report that was not covered in the out-briefing.

Appendix A - Questions

1. Program Operations

- a. Precepts (i.e., use of surveillance, IPM, etc.)
 - Do installation pest management operations follow a written Pest Management Plan? Is the Plan current and approved?
 - Are surveillance criteria specified in the Pest Management Plan?
 - Is the Plan being used as a basis for control operations? Have acceptable (tolerance) limits for each pest been established where feasible?
 - Does the Pest Management Plan place an emphasis on IPM techniques?
 - Do surveillance and control operations comply with DoD guidance?
- b. Pest Surveillance and Control Functions
 - Are mosquitoes a problem?
 - Are important disease vectors present?
 - Are mosquito breeding sites or potential breeding sites present?
 - Are breeding sites located near housing areas?
 - Are adult and larval mosquito surveillance conducted adequately and as specified in the Pest Management Plan?
 - Which organization conducts the installation pest surveillance program?
 - How are the surveillance data coordinated with the pest management shop?
 - Does the shop receive and act on surveillance data in a timely manner?
 - Are the control actions effective and IAW the Pest Management Plan?
 - Does a liaison exist with local mosquito abatement districts or public health agencies?
 - Are cockroaches a problem?
 - Are sanitation and/or harborage conditions conducive to cockroach, rodent, or other pest infestations?
 - Is cockroach surveillance conducted and is it adequate?
 - Are the control measures effective?

- Are bedbugs a problem?
- Are surveillance and control measures effective?
- Are filth flies a problem?
- Are windows and doors adequately screened?
- Are dumpster lids closed?
- Is infestible refuse properly bagged?
- Are the dumpsters cleaned regularly?
- Are filth fly surveillance and control effective and conducted IAW the Pest Management Plan?
- Are non-chemical controls used?
- Are filth/biting flies present at kennels and stables?
- Is manure being handled and disposed of properly?
- Are flies, rodents and/or birds present at the installation landfill?
- Is refuse being handled properly?
- Are rodents a problem?
- Are exclusion (rodent-proofing) measures adequate?
- If present, have rodent bait stations been serviced, and is there evidence of feeding?
- Are rodent surveillance and control adequate and are they conducted IAW the Pest Management Plan?
- Is there an outdoor rodent control program in effect?
- Are birds a problem?
- What bird species cause problems?
- Do any of the bird species causing problems have protected status or are they non-native?
- Are exclusion measures adequate?
- Is bird surveillance conducted adequately and IAW the Pest Management Plan?
- What, if any, toxicants are used in bird control operations?
- Are non-chemical controls used?

- Are stored products pests present?
- Is there adequate space around outside walls for inspection?
- Is stored product pest surveillance adequate and conducted IAW the Pest Management Plan?
- Are joint inspection of infestible food storage areas being conducted at least semi-annually with medical, veterinary and pest management personnel?
- Are stringent sanitary standards being enforced in all food storage facilities?
- Is fumigation performed for these pests?
- Are termites a problem?
- Is termite surveillance conducted and is it adequate?
- Is termite surveillance and control done effectively and IAW the Pest Management Plan?
- Is termite control done in accordance with current DoD policy?
- Is surveillance and control conducted for turf and ornamental pests, noxious weeds, forest pests, and aquatic pests IAW the Pest Management Plan?
- Are results of surveillance programs reported to the pest management shop?
- c. Natural Resources Programs
 - Are grounds, forestry, wildlife personnel or their contractors using pesticides?
 - Are pesticides applied on any outleases?
 - Are these uses identified in the pest management plan, reported to pest management personnel, and included in IPMIS?
 - Are invasive species a problem? Are invasive species addressed in the pest management plan?
- d. Wood Preservation/Protection
 - What is the size of the installation pole inventory?
 - What is the number of:
 - wooden poles
 - piling
 - marine piling
 - railroad ties

- What is the average size of:
 - wooden poles
 - piling
 - marine piling
- Are large numbers of treated construction timbers used?
- Does the installation maintain an active pole inspection program?
- Are poles inspected by in-house personnel, or by contract?
- Does the installation have a ground line inspection and maintenance program in effect?
- How frequently are poles inspected and treated?
- Is the ground line inspection done in-house or contract?
- Are procurement specifications available?
- Are procurement specifications adequate?
- Do contracts specify that treated wood suppliers must receive a copy of the specification?

2. Program Management

- a. Pest Management Plan
 - Has a Pest Management Coordinator been assigned to the installation?
 - Is a Pest Management Plan established? Is the plan current and properly reviewed?
 - Are the installation pest management requirements included in the Pest Management Plan?
 - Has the objective of control been identified?
 - Is surveillance included in the plan, where appropriate, for target pests/vectors?
 - Does the plan identify control operations performed?
 - Is there a current pesticide inventory?
 - Are specific non-chemical and chemical IPM techniques identified for each pest?
 - Are all sites identified where pest management is to be implemented?

- Are sensitive/critical habitat areas of endangered/threatened species identified, which may be affected by pest management operations?
- Have all installation organizations, which perform pest management, been included in the Pest Management Plan?
- Have all installation organizations, which perform pest management, been included in the Pest Management Plan?
- Has the plan been reviewed and approved by the cognizant MACOM PMC?
- How often is the plan updated? Is it current?
- b. Workload Identification
 - Has the pest management workload of the installation been clearly defined?
 - When was the last manpower study conducted?
 - Is work prioritized appropriately?
 - Are staffing levels based on current criteria and the defined pest management workload of the installation?
 - Are deferred work requirements identified?
 - Do daily records (or job/work orders) reflect the actual work required?
 - Is work scheduled to efficiently utilize pest control personnel, equipment and material?
- c. Contracting
 - Have contracts for pest control services been reviewed and approved by the cognizant pest management consultant?
 - Are performance work statements prepared IAW AFPMB guidance?
 - Are contract pest control services monitored by a DoD-trained QAE?
 - Is a Quality Assurance Evaluation Plan used to evaluate contractor performance?
 - Are contractor employees certified?
 - Does the contractor report pesticide usage to the installation pest management shop monthly, or as required by contract?
 - Do subcontractors applying termiticides as part of new construction contracts report pesticide usage to installation pest management services?
 - Are pesticides used on outleased lands approved as part of the installation Pest Management Plan?

- Are pesticides used on outleased lands reported?
- Do installation tenants report all pesticide usage to pest management personnel?
- Are pest surveillance and control being conducted as specified in the contract?
- d. Construction Management
 - Are designs for new construction/modification reviewed by professional pest management personnel?
 - Is construction in accordance with the current DoD policy on building construction and termite control?
 - Are designs and specifications using treated wood products reviewed before advertisement?
- e. Support Agreements
 - Are there any intra- or inter-service support agreements in effect?
- f. Self-Help Pest Control Programs
 - Is a self-help pest control program established?
 - Are pesticides distributed through self-help approved by the MACOM PMC?
 - Are records of issuance of supplies being maintained?
 - Is pesticide use reported monthly to pest management services on DD Form 1532-1, or other appropriate document?
 - Are the pesticides properly labeled with adequate instructions?
- g. Materials (Current and Proposed)
 - Have nonstandard pesticides and equipment been approved by the cognizant PMC, in writing, before purchase?
 - Is pesticide dispersal equipment properly calibrated and are calibration records maintained?
 - Are service containers properly labeled?
- h. Reports and Records
 - Is pest surveillance time being properly reported?
 - Are daily pest management records being maintained on DD Form 1532-1 or IPMIS?
 - Is DD Form 1532 or IPMIS report prepared and submitted on a monthly, or quarterly, basis, or as required by the cognizant MACOM PMC?

- Do the records on DD Form 1532 or IPMIS system accurately reflect all installation pest management operations?
- i. Competency
 - Does the installation have the appropriate number of trained and certified pesticide applicators?
 - Are all pesticide applicator certificates valid/current?
 - Are the pesticide applicators certified in appropriate categories for the types of pest control being conducted?
 - Are appropriate installation supervisory pest management personnel certified?
 - Are all contractor pesticide applicators State certified?
 - Is a reference library of up-to-date publications available to pest management personnel? Where is it located?
 - Have personnel performing fumigations received required specialized training?
 - Have QAEs been trained IAW DoD and service requirements?
 - Is a scheduled in-house training program or supplemental training being used to keep pest management personnel current?

3. Facilities

- a. Operational and Storage Procedures
 - Is a current inventory of pesticide maintained? Is a copy provided to the installation fire department?
 - Is a pesticide spill clean up kit available in the shop area?
 - Is a pesticide spill clean up kit available in each pest management vehicle?
 - Are herbicides stored separately from other pesticides to prevent cross contamination? If not, is ventilation adequate to prevent cross contamination?
 - Are pesticide containers stored off the floor with access aisles to allow inspection?
 - Are containers present that display corrosion or leaks?
 - Are drip plans placed under the spigots of bulk pesticide storage container?
 - Is the pest management shop located in an area to prevent contamination of the environment and to personnel during normal operations or in case of fire or spills? If not, do installation fire and spill plans appropriately address issues?

- Are pesticides stored in a dry building?
- Is the pesticide storage facility secured to prevent unauthorized entry?
- Is the temperature of the pesticide storage facility maintained between 40°F and 100°F?
- Is the storage area separate from areas where personnel work for prolonged periods?
- Is the floor of the pesticide storage area designed to contain spills?
- Are floor drains, if present, sealed to prevent spills into the sewer system? Are warning signs posted outside the storage area?
- Are all shelves and pallets made of non-absorbent materials?
- Are drains connected to a septic system or underground tank?
- Do water sources used for mixing pesticides have back flow prevention devices?
- Are back flow prevention devices inspected?
- Does the sink have a sign posted that reads "DO NOT DISCHARGE PESTICIDE OR PESTICIDE SOLUTIONS IN THE SINK"?
- Are safety procedures available (posted) in the storage area?
- Are emergency shower and eye lavage present in the shop?
- b. Change Room
 - Does the pest control facility have a clothes changing room?
 - Is adequate personnel locker space provided?
 - Is a shower available for pest management personnel?
- c. Outdoor Mixing Area
 - Is the outdoor mixing area adequate?
 - Do all water sources used for mixing pesticides have back flow prevention devices?
 - Are back flow prevention devices inspected annually?
- d. Vehicles
 - Are vehicles used during pest control operations single-purpose?
 - Are sufficient vehicles assigned to the pest management shop?

- Do pest control vehicles have separate cab and cargo compartments?
- Is a portable eyewash available on vehicles including tractors towing herbicide spray tanks
- Are emergency phone numbers available (posted) on all vehicles?
- Are pest control vehicles properly labeled or identified with signage?
- Do pest control vehicles have lockable storage areas?
- Does each pest control vehicle carry a spill clean-up kit?

4. Health and Safety. Have health, safety, and fire officials evaluated their areas of responsibility within the last twelve months as required by service regulations?

- a. Medical Surveillance
 - Are all pesticide applicators included and participating in a medical surveillance program?
 - Are there any endemic diseases known from the area that potentially place pest management or other personnel at risk, for example, rabies, plague, histoplasmosis, Lyme disease, Hantavirus, West Nile Virus?
- b. Work Place Monitoring
 - Is the pesticide storage area adequately ventilated?
 - Is the work surface used for pesticide mixing provided with adequate exhaust ventilation?
- c. Respiratory Protection Program
 - Are the pesticide applicators included in the installation respiratory protection program?
 - Are appropriate/approved respirators being used when handling pesticides.
 - Are respirator cartridge canisters changed at appropriate intervals?
 - How is respirator use monitored/documentated?
- d. Coordination with fire and safety personnel
 - Have the hazards of a pesticide fire been thoroughly discussed with emergency (medical/fire) services?
 - Are installation emergency services updated annually and when changes in pesticide usage or storage occur?
 - Is adequate fire protection provided for stored pesticides?

- e. Personal and Public Safety
 - Are the antidotes 2-Pam (protopam chloride) and atropine sulfate available in the pharmacy or emergency treatment room?
 - Is adequate personal protective clothing/equipment provided?
 - Is personal protective clothing/equipment worn?
 - Is laundering of protective clothing provided by the installation?
 - Does the pest management shop have its own washer and dryer?
 - Is protective clothing and equipment stored separated from pesticide areas?
 - Does the installation safety SOP include pest management operations?
 -
 - Are antivenins to local venomous arthropods and vertebrates available in the emergency room?
- f. Hazard Communication Program (right-to-know)
 - Are Material Safety Data Sheets available for review by pest management personnel upon request?
 - Is there a written communication program available for hazardous materials?
 - Are state "right-to-know" laws being followed?
 - Are product labels for every pesticide on hand readily available for reference?

5. Regulations

- a. Labels and labeling
 - Are pesticides only applied in accordance with label instructions?
 - Are all pesticides EPA-registered?
- b. State regulations/local ordinances
 - What state and local regulations apply to pest management?
 - Are all State and local regulations available at the installation for reference?
 - Are any pesticides being used under FIFRA 24c (special local needs)?
- c. Quarantine
 - Is the installation meeting requirements for quarantine pests of agricultural and public health importance?

- Is an SOP on quarantine available?
- Is disinsection of aircraft or ships done at the installation? If so, by whom?
- d. Pesticide spills
 - Does the current Spill Prevention, Control, and Countermeasure (SPCC) Plan include pesticides?
 - Does the current Installation Spill Contingency Plan (ISCP) address pesticides?
 - Are installation contingency plans for fires and spills of hazardous materials, the installation EA/EIS, and the installation Pest Management Plan reviewed by installation pest management personnel?
- e. DoD/State MOAs
 - Is an MOA in effect? Does it work?
 - Are there any DoD/State MOAs concerning certification of pesticide applicators? If so, are copies available at the installation?
 - Are there any other applicable MOAs in effect?

6. Local Coordination

- Who are the local and state government pest management agency contacts?
- Does liaison exist with local mosquito abatement and public health agencies?
- When was the last state or local agency site visit, and what were their findings?

7. Environmental Protection

- a. Endangered/protected species and habits
 - Are there any endangered species, threatened species or critical habitats on the installation?
 - Are any permits used in dealing with protected animal species?
 - Do any pest management programs represent a risk or potential hazard to endangered/threatened species or critical habitats?
- b. Environmentally sensitive operations
 - Are Environmental Assessments on file for current or anticipated control programs?
 - How are the environmental/land management/natural resources coordinator (s) involved with the pest management program?

- c. Pollution abatement and occupational safety projects
 - (see 5d, Pesticide Spills)
 - Is pollution abatement funding being used to correct pesticides related deficiencies?
 - Are OSHA funds being used to correct pest management shop related deficiencies?
 - Is the pest control shop sited to prevent contamination of the environment or personnel during normal operation, or in case of a fire or pesticide spill?
- d. Disposal
 - Have excess or unserviceable pesticides been reported to the Defense Reutilization and Marketing Office (DRMO)?
 - Is excess finished spray managed properly?
 - Is pesticide rinse water being managed properly?
 - Are empty pesticide containers managed properly?
 - Is a filtration system in operation?
 - Are those pesticides identified which may contribute to the installation RCRA hazardous waste disposal burden?
 - Do water quality and effluent regulations exist, which may impact pest management operations?

8. Installation Sale or Distribution of Pesticides

- Are the pesticides offered for sale registered by EPA?
- Are pesticides offered for sale registered for general use only?
- Are pesticides displayed and arranged properly?
- Are pesticides stored properly?
- Are personnel familiar with clean up procedures?
- Are materials available for clean up of pesticide spills?
- Are sales personnel instructed to store pesticides separately from food stuffs or clothing?
- What pesticides, if any, are being distributed?

Appendix B - Suggested Installation Contacts to Visit during Pest Management Program Evaluations

<u>Person/Office/Facility</u>	<u>Items of Discussion</u>
Installation Commander	In/Out-brief
Civil Engineer or Public Works Officer	In/Out-brief Program overview
Hospital Commander, Preventive Medicine Officer, MEDDAC Commander	In/Out-brief, program review
Installation Pest Management Coordinator	Main contact during review
Pest Management Supervisor	Pest Surveillance, Pesticide use, storage and mixing, certification
Sanitation Superintendent	Courtesy visit
Environmental Officer/Coordinator	Review environmental concerns on the installation that relate to the use of pesticide
Natural Resources Manager	Discuss pest management and its relationship to the natural resources program, outleases
Electric Shop, Utilities Foreman, Buildings and Grounds Chief Installation Contracting Office	Utility pole inspections, groundline inspection and treatment Pest management contracts, quality assurance evaluation issues, pesticide usage reporting
Supply Officer	Supplies, equipment, issue controls for pesticides
U-Fix-It Stores SHIP Stores	Self-help pest control items, distribution and accounting
Roads & Grounds Section, Railroads, Wood Protection	Grounds pest control program
Housing Office	Pest management in quarters, and Self-help pest control efforts

Fire Department	Fire safety, hazardous spills, prefire plans
Industrial Hygiene, Environmental Health Office, Health & Safety Office, Preventive Medicine, Bioenvironmental Engineering	Surveillance of medical pests, vector-borne diseases, industrial hygiene surveys, respiratory protection, occupational health program and work place monitoring
Supply Department	Procedures for handling pesticides and equipment procurement
Medical Department	Incidence of vector-borne diseases, pesticides in stock, physical examinations
Emergency Room	Pesticide antidotes, antivenin, emergency treatment services for pesticide poisoning
Airfield Operations, Aviation Safety	Birds strikes/wildlife hazards, weed control
Golf Course	Pesticide use, storage and mixing areas, certification
Commissary	Stored product pests, pesticide sales and storage
Exchange	Pesticide sales, storage
Food Handling Areas	Sanitation, pest problems
Stables and Kennels	Sanitation, fly control
Railroad	Tie inspection, materials longevity, right-of-way vegetation control
Public Health Agencies	Disease vectors, pest management resources
Veterinarian	Zoonotic diseases, food inspection, kennels