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GUIDELINES FOR PREPARING
DoD PEST CONTROL CONTRACTS
USING INTEGRATED PEST MANAGEMENT

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Integrated Pest Management (IPM)

is defined as: a planned program incorporating education, continuous monitoring, record-keeping, and communication to prevent pests and disease vectors from causing unacceptable damage to operations, people, property, material, or the environment. IPM uses targeted, sustainable (effective, economical, environmentally sound) methods, including habitat modification, biological control, genetic control, cultural control, mechanical control, physical control, regulatory control and, when necessary, the judicious use of least-hazardous pesticides (DoDINST 4150.7, DoD Pest Management Program of 22 Apr 96).

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GUIDELINES FOR PREPARING DoD PEST CONTROL CONTRACTS

FOREWORD

This Technical Information Memorandum (TIM) is one of a series published by the Armed Forces Pest Management Board (AFPMB), a Department of Defense (DoD) advisory body to the Deputy Under Secretary of Defense for Environmental Security. The Defense Pest Management Information Analysis Center (DPMIAC), a part of the AFPMB, stocks and disseminates TIMs on medical entomology, pest management, and natural resources topics. Copies of this document can be obtained from the AFPMB home page, http://www.afpmb.org/, from Department of Defense Environmental Network and Information Exchange (DENIX), http://www.denix.osd.mil/ (password is required to access) or by calling DPMIAC at (301) 295-7479/80/81, DSN 295-7479, Fax (301) 295-7483. The Guide Performance Work Statement (GPWS) at enclosure (1) was prepared by the Real Property Protection Committee (RPPC). Comments and suggestions should be sent to the Armed Forces Pest Management Board, Attn: Real Property Protection Committee, Forest Glen Section, Walter Reed Army Medical Center, Washington, D.C. 20307-5001.

PURPOSE

The purpose of this TIM is to help installation personnel prepare DoD pest control contract specifications. Specification writers should use this TIM as a tool for implementing Integrated Pest Management (IPM) practices and reducing pesticide use.

The GPWS at enclosure (1) was developed from existing documents used by the DoD Components. It is available on CD ROM or disk. Specification writers can use the GPWS as a departure point for producing site-specific pest control contracts. Because contract formats are not uniform throughout the DoD, some users may find it necessary to re-format the GPWS.

REFERENCES

(a) DoD Directive 4715.1, "Environmental Security," February 24, 1996.

(b) SECDEF Memorandum, August 11, 1993, Pollution Prevention Strategies.

(c) DoD Instruction 4150.7, "DoD Pest Management Program," April 22, 1996.

ENCLOSURES

(1) Department of Defense Guide Performance Work Statement (GPWS) for Pest Control Services (Interim).

(2) US Air Force Model Pesticide Reduction Plan (November 1996).

ACKNOWLEDGMENTS

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DISCLAIMER

The use of trade or firm names in this publication is for reader information and does not imply DoD endorsement of any product or service.

BACKGROUND

Reference (a) requires Federal Agencies to use and promote IPM techniques and acquisition procedures for pest control services. It also establishes as DoD policy the President's commitment to integrating IPM values into Federal acquisition policies. The Secretary of Defense (SECDEF), in reference (b), and the Deputy Under Secretary of Defense (Environmental Security) (DUSD(ES)), in reference (c), committed DoD to reducing pesticide use by 50% by the end of FY 2000 using FY 1993 as a baseline. Since a significant and growing portion of DoD pest control work is done by contractors, success hinges on pest control contract strategies and contract specifications.

At some DoD installations, pest control services are among the many types of facilities services acquired via contracts. Services such as trash removal and lawn care are routinely accomplished by contract. Pest control is not always one of the most expensive components of installation contracting, but it is usually one of the most environmentally sensitive programs. The GPWS, Enclosure (1),(gpws.exe), is in a standard DoD format that can be tailored to obtain pest control services via any of the following contract

vehicles:

- Small purchase, with or without written solicitation and competition, depending on dollar amount. The User's Guide and Section C of the GPWS can be used for development of small purchase contracts.
- Invitation for Bid (IFB), wherein a responsible and responsive low bidder, validated by pre-award survey, is determined from among sealed bids.
- Negotiated procurement is an excellent tool to acquire IPM-oriented contractors from an industry that has only recently started to practice IPM. Unlike sealed bidding, a Request for Proposal (RFP) requires contractors (offerers) to demonstrate, prior to award, that they have the technical capability, experience, and resources to perform the work required; have a logical approach to managing and accomplishing the work; and have proposed enough money to do all the work. Offerers demonstrate their ability through the submittal of separate technical and price proposals, which are reviewed and evaluated by the Government. Contract award may be made to the offerer who provides the "best value" to the Government, price and technical factors considered. The contract need not be awarded to the lowest bidder.

Enclosure (2), entitled US Air Force Model Pesticide Reduction Plan, (modpest.exe), is a compendium of available IPM materials and methods that can be incorporated into DoD pest control contracts. Specification writers will find control strategies in this document that will result in effective control of pests while reducing pesticide use. The Air Force Model Pesticide Reduction Plan explains the need for reducing pesticide use in DoD contracts. It also offers IPM tools that can be used by DoD personnel to reduce pesticide use by contractors. It explains why DoD can reduce pesticide use by 50% only if it requires contractors to use IPM technology, particularly for outdoor pest control operations, such as weed control. It emphasizes the advantages of using negotiated source selection procedures, when feasible, for acquiring IPM services. It provides language that should be incorporated into RFP evaluation factors for award and it suggests a proactive role for DoD Pest Management professionals in IPM acquisition actions.

Reference (a) requires that Pest Management Consultants (PMC) be available to ensure that specifications reflect the installation's pest management plan, to participate on technical review boards/ teams for source selection actions, and to assist in tailoring pest control specifications.

DoD Pest control contracts are usually performance-based. The contractor is told what the final intended result is and how it will be measured rather than what specific procedures must be followed to get that result. This methodology rewards innovative contractors.

INCENTIVES FOR CONTRACTORS TO USE IPM AND REDUCE PESTICIDE USE

General. Despite the fact that IPM techniques have been available for a number of years, many commercial firms rely on chemical control of pests. IPM requires highly trained personnel and is typically most cost-effective when implemented for the long term. A better GPWS and improved (tailored) IPM specifications for individual contracts will not by themselves ensure a 50% pesticide

reduction by FY 2000. In order to receive excellent contract services, installations need: a well conceived IPM specification, a qualified IPM contractor, and aggressive, competent contract management (including quality assurance evaluation by an individual trained in both contracts and IPM).

Terms of Contract. Options should be exercised for pest control contracts, provided the incumbent's performance is satisfactory. A contractor awarded a one-year contract with four option periods is more likely to caulk and seal food handling area cracks and crevices than is a contractor awarded a one-year contract with no option periods. Caulking represents a significant up-front cost that may not be amortized in a one-year contract. It may be more profitable to treat cracks and crevices monthly with pesticides. However, over a five-year period, caulking (which eliminates pest harborage) may avert the need for pesticide applications and be more profitable.

Partnering. Successful IPM contracts require partnering among Quality Assurance Evaluators (QAEs) trained in pest control, IPM-knowledgeable contractor project managers, and educated customers (food service managers, building monitors, housing managers, etc.). IPM education may be provided by the QAE or the project manager, or preferably both. Installation newsletters and plans-of-the-day are excellent vehicles for educating and informing installation personnel of things they can do to help improve pest control and reduce pesticide use. An example of partnering is encouraging food managers to maintain excellent sanitation in dining facilities.

Limiting Pesticide Use. Controls should be implemented only when pests have actually reached aesthetic/health thresholds verified by surveillance results. When pesticides must be used, least-hazardous materials should be selected. Baits, gels, and pastes are preferred to liquids and dusts. Well-written specifications encouraging the use of IPM materials and methods can produce excellent control of pests. Contract specifications should be written to provide contractors an incentive to reduce pesticide use.

OPPORTUNITIES FOR REDUCING PESTICIDES BY 50%

Opportunities for pesticide reduction (measured in pounds active ingredient) exist in all types of pest control but are best realized in large-scale (outdoor) programs. Data from DoD Components indicate that a high percentage of total pest control effort is spent on weed control. At many installations the best "target" for reducing pesticide use is weed control (fence line; industrial; ornamental grooming; pavement cracks; noxious weeds; aquatic weeds; and broadleaf weed control in improved turf, particularly golf courses). In some cases excellent economical control may be achieved by substituting well-timed mechanical and cultural measures for herbiciding. Examples are proper grass mowing height, hand or machine cutting, hot water ornamental grooming, mulching, and adjusting soil PH to encourage hardy (pest-resistant) turf. Other pesticide-intensive control programs include tree-spraying, mosquito control and termite control.

Approximately half of the total DoD pest control effort is devoted to controlling nuisance pests, such as

cockroaches and ants. Much of this work occurs indoors and requires relatively small amounts of pesticides. Substituting traps, pressure washing, vacuum techniques, etc., collectively will help achieve the 50% pesticide reduction goal. When pesticides must be used, insect growth regulators and baits will help decrease total use. The General Services Administration has used these IPM techniques for several years to successfully control insects in office buildings. Some indoor programs that may involve considerable pesticides include stored products pest control and rodent control.

SURVEILLANCE - THE KEY TO IPM

Pre-Treatment Surveillance. The work of an IPM program is, to a large extent, surveillance. Urban IPM is similar to agricultural IPM in that practitioners spend most of their time inspecting for rather than treating pests. When aesthetic (not economic) thresholds are reached, corrective actions, chemical or (hopefully) nonchemical, are initiated. Surveillance methods include visual inspections, sticky traps, aerosol flushing, and destructive or nondestructive termite inspections. Tools for termite inspection can include low-tech devices (stethoscopes), high-tech devices (electronic listening devices), and even termite-detecting dogs.

Specification writers should develop paragraphs that encourage reliance on scheduled weekly, monthly, or quarterly surveillance rather than on scheduled chemical treatments. Most treatments should be initiated after survey results indicate that aesthetic thresholds have been reached. Cockroach treatments, for example, should be triggered by trap counts, not by the calendar. Weed control should be triggered by the measurable condition of weeds, not by an arbitrary treatment frequency. Surveillance should be conducted at established intervals, e.g., inspection of housing for subterranean termites should be performed annually or at least during occupancy turnover. When the pest control QAE validates a finding of new termite activity, controls (at a predetermined price) may be approved.

Post-Treatment Surveillance. In order to evaluate the effectiveness of controls, surveillance should also be required at predetermined intervals after controls are implemented.

RECORD-KEEPING

General. Specifications should include detailed, site specific, record-keeping and reporting requirements that are necessary to comply with reference (a), evaluate control success, document resources used, and measure progress in accomplishing the DoD pesticide reduction goals. As IPM programs mature, the percentage of inspection time will increase and pesticide application time will decrease. Years ago, a monthly pest control report primarily indicating inspection rather than control would have been suspect. The appearance would have been that not much work was taking place. Reference (c) requires that nonchemical pest management operations (e.g. surveys) be reported on installation pest control reports. Pest Control QAEs should expect and encourage a high percentage of inspection time as opposed to pesticide application time.

Building Records. Records of nonchemical and chemical IPM treatments made in each building should

be required and should be archived indefinitely. These histories are valuable to the installation for documenting effective IPM techniques, planning long-range control of termites and other structural pests, and limiting liability.

SHOP FACILITIES, VEHICLES, AND PEST CONTROL EQUIPMENT

It may be in DoD's interest to provide pre-existing DoD-owned equipment to IPM contractors awarded multi-year contracts. To maximize efficiency, IPM contractors replacing in-house operations should normally be provided pre-existing DoD facilities. This is especially true when a modern pest control shop, constructed for a former in-house program, is available. The specification should hold the contractor to the same high standards applied to in-house operations for storing and mixing pesticides and cleaning up after operations described in reference (c). Special attention should be paid to the prevention of spills and discharges. DoD has signed memoranda of agreement with many states, which facilitate entry of state inspectors into DoD pest control shops.

EXPERIENCE/TRAINING OF CONTRACTOR PERSONNEL

Specifications should normally require that contractors employ, or have readily available, an entomologist trained and experienced in IPM. Exceptions can be made for contracts under $25K. This is true for IFB as well as RFP contracts and should be verified during pre-award survey or technical proposal review. All pest control technicians must be certified in the state in which the work is performed. Technical evaluation factors should emphasize experience and past performance in application of IPM techniques.

Pest control QAEs should be DoD-trained in both quality assurance evaluation and pest control.

ROLES OF KEY PERSONNEL INVOLVED IN PEST CONTROL CONTRACTS AND PESTICIDE REDUCTION

1. **Commanding Officer (CO)** - responsible for his/her installation meeting the DoD 50% pesticide reduction goal and typically briefed by the major command environmental audit team. Also signs the installation pest management plan.

2. **Environmental Coordinator** - works for the CO, XO, or Base Engineer/Public Works Officer; serves as command focal point for all environmental programs.

3. **Base Engineer/Public Works Officer** - responsible for facilities support contracting, including pest control services.

4. **Senior Medical Officer** - signs the pest management plan and annual revisions; is responsible for safe use of pesticides and for surveillance of disease vectors.

5. **Pest Management Coordinator** - designated by the CO; usually a multi-hatted individual described elsewhere in this list; signs the Pest Management Plan and annual revisions; is the command "eyes and ears" for IPM contracting; ensures that all types of pest control (including specialized programs such as Bird-Aircraft Strike Hazard Reduction) are incorporated in specifications.

6. **Contracting Officer (KO)** - advises on strategies for acquisition of pest control services, including IPM; conducts/controls all negotiations concerning cost or price, technical requirements, and other terms and conditions when negotiated source selection procedures are used.

7. **Contracting Officer's Representatives** - includes certain authorized representatives of the contracting officer acting within the limits of their authority as delegated by the commanding officer; duties could include acting as the point of contact with the contractor, conducting the pre-performance conference, and making recommendations for action by the KO.

8. **Quality Assurance Evaluator for Pest Control** - base engineer/public works employee trained both in quality assurance and pest control technology; may assist the Contracting Officer's Representative or may also function in that capacity; is the key DoD person who ensures compliance and helps educate customers in IPM.

9. **Pest Control Customers** (e.g., food service facility and housing managers) - consumers of pest control services; should be educated in IPM and should partner with pest control QAE and contractors to ensure good sanitary practices that discourage pests; need to properly prepare areas for IPM treatments.

10. **Golf Course Superintendent** - typically a Morale, Welfare and Recreation (MWR) employee and potentially a heavy user of a wide range of pesticides (fungicides, herbicides, and insecticides). Some or all of pest control on golf courses may be contracted. (The fifty percent pesticide reduction goal is in jeopardy if pesticide use on a golf course is not significantly reduced).

11. **Natural Resources Manager** - oversees agricultural out-leasing, forestry programs and other contracts involving pest control.

12. **Pest Management Consultant** - cognizant command or geographical (civilian or uniformed) entomologist who provides technical consultation to the installation; signs the Pest Management Plan and annual revisions; often reviews pest management program during Command Environmental audits. Participates on technical review boards and assists with development of specifications for QA plans. Ensures triennial training of pest control QAEs, and annually reviews installation pest management programs.

RELATIONSHIP BETWEEN IPM AND OTHER FACILITIES SUPPORT CONTRACT FUNCTIONS

IPM emphasizes sanitation, exclusion and pest-proofing. Pest populations will dwindle when denied

access to buildings or denied food and harborage. This will eliminate the need for chemical intervention. Historically these measures were not always considered within the purview of pest control. One way to integrate sanitation, exclusion, and pest proofing with traditional pest control is to consolidate pest control in a Base Operating Support contract (BOS), which includes all available techniques, such as cleaning, odor-control, custodial, janitorial, trash removal services, and building maintenance/repair. When BOS contracts are in place, installations do not have to concern themselves with questions regarding which contractor is responsible for the service. There is only one contractor. For example, if pesticide applications can be reduced in food handling areas by caulking cracks and crevices for cockroach control or sealing utility openings for mouse control, the BOS contractor can assign either pest control or maintenance personnel.

DoD GUIDE PERFORMANCE WORK STATEMENT FOR PEST CONTROL SERVICES

QUALITY ASSURANCE GUIDE

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QUALITY ASSURANCE GUIDE
GUIDE PERFORMANCE WORK STATEMENT FOR
PEST CONTROL SERVICES

I. INTRODUCTION. Quality assurance (QA) is a program undertaken by the Government to provide some measure of the quality of goods and services purchased from a Contractor. To accomplish this the Government, in this case the installation contracting for pest control services, must develop and implement a system that will ensure that the quantity and quality of the goods and services received comply with the requirements of the contract. This QA Guide is designed to assist the Contracting Officer's Representative (COR) or other user in setting up the installation's QA program. The user is advised to refer to the Service manual MO-327, *Facility Support Contract Quality Management Manual*, the Service manual MO-315, *Pest Control Quality Assurance Evaluator Training Handbook*, and the Service *Random Sampling for Extrapolated Deductions* (RSED V3.2) implementation guide for more detailed information on the development and implementation of a QA Program. The Air Force reference is AFI 63-504, *Quality Assurance Evaluation Program*.

A. Overview. This Guide suggests specific methods for monitoring pest control services and provides sample QA Plans. These sample plans must be tailored concurrently with the tailoring of the GPWS to develop a unique QA program that fits the needs of the installation. The Guide is divided into four parts:

1. The Introduction presents an overview and gives information on Quality Assurance Evaluator (QAE) staffing and training.

2. QA Plan Development discusses special considerations that affect the way in which pest control services may be monitored and suggests specific evaluation methods for each service included in this GPWS.

3. The sample QA plans include numerical examples, suggested evaluation work sheets, and sample Monthly Payment Deduction Forms for each service included in this GPWS. The Payment Deduction Forms illustrate how to use the Performance Requirements Summary (PRS) Table and inspection results to calculate deductions from the Contractor's invoice. The sample plans provided must be tailored by the user to conform with the tailored PWS.

4. Contractor's Overall Performance discusses how to use the QAE's inspection results to make an overall evaluation of Contractor performance, and provides a sample monthly summary report format.

B. QAE Training. Personnel tasked with monitoring the pest control Contractor's performance must be adequately trained both in pest control and in QA methods and procedures in order to effectively implement the installation's QA program.

1. NAVFAC P-68, *Contracting Manual*, (needs Army and Air Force document citation)

requires all individuals assigned QAE duties to attend the basic QAE training course provided by each of the Services' geographical MAJCOM PMCs within six months of their assignment, or have equivalent training as determined by the Contracting Officer. If this training has not been received, the installation should take steps to have the QAE(s) attend the next available course and in the meantime should develop a local training program. The MAJCOM PMC should be contacted for basic QAE training scheduling or assistance.

2. In addition to the general training requirements specified above, DoDI 4150.7 and OPNAVINST 6250.4A requires QAEs inspecting pest control services to successfully complete a special pest control QAE training course offered by the MAJCOM PMCs. (needs Army and Air Force equivalent document citation) Recertification courses must be completed every three years thereafter. Contact the MAJCOM PMC for information on the availability of these courses.

3. The NAVFAC Manual MO-315, *Pest Control Quality Assurance Evaluator Training Handbook* is designed to provide QAEs with little or no experience in pest control services the knowledge needed to effectively evaluate the performance of pest control Contractors. This handbook provides background information on the basic principles of pest control and an introduction to the major pest control functions that are typically contracted for at military installations.

4. In addition to being intimately familiar with the requirements of the pest control specification, QAEs must also familiarize themselves with the procedures which will be used to order work, how customer complaints will be handled, etc.

C. QAE Staffing. Obviously the most well developed QA program will not be effective if QAE staffing is inadequate. Ideally QAE staffing should be based on a predetermined number of contract inspections (QA plans) and related work requirements rather than on the availability of QAEs. Once adequate QA plans have been developed the user should perform a staffing analysis to determine the required QAE staffing, than if appropriate, compare the results with the current effort. This analysis involves determining the average time needed to complete each of the inspections required (sample size or quantity of work) by each plan including travel time requirements, time required to prepare monthly reports and perform other administrative duties, time to perform any nonsurveillance duties (e.g. training, safety meetings, preparing contract modifications, making award fee determinations, etc.), etc. The Service PMCs have experience in conducting these staffing analyses and should be contacted if assistance is needed.

II. QUALITY ASSURANCE PLAN DEVELOPMENT. Ideally, QA plan development should be accomplished concurrently with development of the performances, and viewed as a single process. The two are closely interrelated since one (the PWS) defines required work outputs and quality standards while the other defines how work outputs will be observed and measured. Many of the inspection

problems which tend to turn up after contract award can be avoided by careful up-front coordination between the specification and QA plan writers. Chapters 4 and 6 of NAVFAC MO-327 discuss methods of surveillance, inspection documentation, development of QAE schedules, and other issues related to the development of QA plans. Chapter 20 of NAVFAC MO-315 and the information provided below provide additional guidance on quality assurance concerns specifically as they relate to the surveillance of pest control services. (needs Component equivalent document citation)

A. Functional Considerations

1. Evaluation Criteria. Pest control contracts generally include several specific contract requirements whose objective is essentially to eliminate a category of pests from the work site. Most contract requirements will include a variety of pest species to be controlled, and for each pest there may be several applicable control methods available. As control methodology can vary for each pest, between pests, and even geographically from installation to installation, it is very important that the QAE work in conjunction with the MAJCOM PMC to develop evaluation criteria that will be unique for that installation.

2. Inspection Timing. Ideally the QAE should inspect the performance of selected services at some point shortly after their completion by the Contractor by checking to see that the appropriate level of control has been achieved. However it is also important to periodically check work in progress on all services to ensure that pesticides and equipment are being properly utilized, that proper supervision of pesticide applications is being provided, that customers are properly notified in advance of services to be performed, that alternate control procedures are being considered, and that other regulatory and contractual requirements are being met. Also some services, such as drywood termite control, will always require the QAE to be on site to observe the work while it is in progress simply because of the difficulty in determining whether or not control has been obtained after the fact.

3. Rework. As specified in the CONSEQUENCES OF CONTRACTOR'S FAILURE TO PERFORM REQUIRED SERVICES clause, the Government may require the Contractor to reperform work that has been identified as being poorly performed or not performed, provided a reasonable amount of time is allowed for the rework to be completed. In the case of pest control services the following should be considered.

a. In almost every case in which the QAE identifies a control failure the Contractor will be required to inspect and retreat the affected area(s) as needed to reestablish control. The easiest way to make the Contractor aware that a retreatment (call back) is required is to provide copies of completed EVALUATION WORK SHEETs. This will also satisfy the requirement of the "CONSEQUENCES" clause that the Contractor be notified of all noted deficiencies in writing. Retreatments (call backs) must be completed within 24 hours, as specified in the "CONSEQUENCES" clause and in paragraph C.7.e of the specification.

b. Work quality defects for some contract requirements cannot be reworked. For example, if the Contractor does not provide accurate adult mosquito tally information to the contracting officer on any given required day, there is no way for the work to be reperformed. Some work requirements, such as timely service, obviously can never be reworked.

c. Invoice payment deductions should always be made when a documented deficiency is not satisfactorily reworked. Liquidated damages should be deducted for all documented deficiencies, whether or not rework is accomplished.

B. Selection of Methods of Surveillance. Chapter 4 of NAVFAC MO-327 and Chapter 20 of NAVFAC MO-315 provide general information on the five methods of surveillance available and the factors that influence which method(s) should be selected for use. The factors influencing the selection of a method of surveillance for a given service include the number (population) of items to be inspected; the importance, characteristics, and location of the service; and the availability of QAE resources. Specific factors which influence the selection of evaluation methods for pest control services are discussed below for each method of surveillance. (needs Component equivalent document citation)

1. 100% Inspection. One hundred percent inspection is generally used for those services which are considered very important, those which have relatively small monthly populations, and those included in the indefinite quantity (IQ) portion of the contract. 100% inspection is recommended for the inspection of the following services included in this GPWS.

a. Unscheduled Work. Before the QAE can legitimately certify satisfactory completion of work on an indefinite quantity delivery order, the work obviously must be inspected at least once. Therefore, 100% inspection is recommended for all unscheduled (indefinite quantity) services. Since most of these services will have limited populations, this should not be impractical for the QAE to accomplish.

b. Service Calls. Due to the small number of service calls normally issued at the typical installation, 100% inspection is recommended for the inspection of these services. Of course if pest control services are included as part of a larger contract that also contains service call work, or if there are a significant number of change of occupancy treatments, 100% inspection may not be practical.

c. Drywood Termite Control. 100% inspection must be used for the inspection of drywood termite control due to the potential danger involved in the fumigation process, and since it is very difficult to determine if control has been achieved when inspecting after the fact.

d. Other Services. 100% inspection should be considered for all other services, even scheduled nuisance pest control, if monthly populations are expected to be very small.

2. Random Sampling. Surveillance based on random sampling evaluates a portion of the work, accurately estimating Contractor performance through the use of statistical theory. Random sampling is most useful on large homogeneous populations where 100% inspection is not required or feasible. If appropriate provisions are included in the specification and the random sampling is properly conducted, the percentage of defective work items found in the sample (less a small adjustment for inaccuracies) may be extrapolated and deducted from the Contractor's payment invoice. In the case of pest control services, random sampling will not likely be practical in most contracts due to the relatively small population of homogeneous services. However, installations with a large number of scheduled nuisance pest control services may want to consider random sampling.

3. Planned Sampling. Planned sampling is similar to random sampling in that it is based on evaluating a portion of the work as the basis for evaluating the Contractor's performance. Samples are selected based on a subjective rationale and the sample size is arbitrarily determined. Planned sampling is useful when population sizes are not large enough or homogeneous enough to make random sampling practical. Since their populations are generally small and non-homogeneous, planned sampling is recommended for the inspection of most all scheduled pest control services, including nuisance pest control, structural wood inspection, stored products pest control, adult mosquito surveillance, larval surveillance and control, fly control, ornamental and turf pest control, and scheduled weed control services.

4. Unscheduled Inspections. An unscheduled inspection is what the name implies. Since it does not provide any measure of the Contractor's performance it should be used only to support other methods and never as a primary method of surveillance.

5. Validated Customer Complaints. Customer complaints, primarily through the use of building monitors and housing occupants (if services are being provided in family housing units), is a key supportive surveillance method since it is the building occupant who is closest to the service that is being provided. Building occupants can provide quick response to unsatisfactory and/or nonperformed work and can serve as the remote eyes of the QAE, provided they are made aware of the services to be provided and a clear means of reporting discrepancies is established. The method of receiving and documenting customer complaints needs to be carefully planned by the COR and QAE.

a. Customer complaint records should be maintained which document the nature of the complaint and, if valid, whether the problem was corrected or not. Only complaints validated by the QAE are subject to invoice deductions. A typical "Validated Customer Complaint Record" form is shown in Appendix H of NAVFAC MO-327.

b. Customer complaints are recorded and passed to the Contractor in accordance with the standard rework and call back procedures specified in the contract.

C. Performance Requirements Summary. As noted previously in the User's Guide (paragraph III.E), the PRS table will be used primarily by the contracting officer in conjunction with the CONSEQUENCES OF CONTRACTOR'S FAILURE TO PERFORM REQUIRED SERVICES, ESTIMATING THE PRICE OF NONPERFORMED OR UNSATISFACTORY WORK, and SCHEDULE OF DEDUCTIONS clauses, in making payment deductions for unsatisfactory performance or nonperformance of contract requirements. The table is also very useful in the preparation of QA plans since it summarizes the work requirements, standards of performance, and maximum allowable defect rates (MADRs) for each contract requirement. A sample PRS table, which reflects the contract requirements and work requirements of this GPWS, is provided in Attachment J-E1. Of course this table must be modified to reflect the requirements of the tailored PWS. NAVFAC MO-327 and the NAVFAC RSED (V3.2) implementation guide provide guidance on the development of PRS tables and calculation of payment deductions, and should be referred to by the user. (needs Component equivalent document citation)

1. MADRs are defect rates above which the Contractor's quality control is considered unsatisfactory for any particular work requirement. The MADR selected for any particular work requirement should reflect both the expected population of services and the requirement's importance. For example, the MADR for subterranean termite control work quality should be smaller than that for nuisance pest control, since the potential damage from lack of termite control far exceeds that of cockroach control. Note that MADRs do not affect sample sizes or the method of calculating payment deductions in any way. Suggested values are included in Attachment J-E1; however, these must be tailored by the user.

2. In the "WEIGHT" column the value of each work requirement is specified as a percentage of the price of the contract requirement with which it is associated. Careful consideration must be given to objectively assigning these percentages since they will be used in making payment deductions. One method which may be used is to calculate the cost of each work requirement using Engineered Performance Standards (EPS) and then use these costs to determine the percentage to be assigned to each work requirement. Values for timeliness work requirements will be the most difficult to determine since they are by nature subjective. The percentages suggested in GPWS Attachment J-E1 should be carefully reviewed and tailored by the user.

III. SAMPLE QUALITY ASSURANCE PLANS. There are thirteen sample QA plans provided in this GPWS. They are:

QA Plan #1 - Service Calls
QA Plan #2 - Scheduled Nuisance Pest Control
QA Plan #3 - Structural Wood Inspection
QA Plan #4 - Subterranean Termite and Powder Post Beetle Control

QA Plan #5 - Drywood Termite and Unscheduled Stored Products Pest Control
QA Plan #6 - Scheduled Stored Products Pest Control
QA Plan #7 - Adult Mosquito Surveillance
QA Plan #8 - Larval Surveillance and Control
QA Plan #9 - Adult Mosquito Control and Aerial Pesticide Application
QA Plan #10 - Fly Control
QA Plan #11 - Ornamental and Turf Pest Control
QA Plan #12 - Scheduled Weed Control
QA Plan #13 - Unscheduled Miscellaneous Pest Control

A. Of course each sample QA plan must be tailored to reflect the pests being controlled, changes made by the user to Section C of the GPWS and the PRS table, and changes in methods of surveillance, evaluation work sheets, etc. For example, at a small installation or one where there are few scheduled nuisance pest control services, the user may want to use 100% inspection as the method of surveillance rather than the suggested method, planned sampling.

B. Tailored QA plans should be self contained documents written in sufficient detail to preclude extensive reference to other documents or manuals. Tailored plans should contain examples of all evaluation work sheets, summary reports, and other forms which will be used for documenting Contractor performance. Sample selection, evaluation, analysis of results, and other procedures should be as detailed as possible.

C. Sample size determinations, sampling procedures, and payment deduction calculations in the sample QA plans are based on manual methods. The user should be aware that computerized methods of performing these functions have been developed which greatly reduce the time and number of manual calculations required, especially when random sampling is selected as the method of surveillance. Typically, these computer programs will determine the sample size required for a given population of services to be randomly sampled, select the appropriate number of random numbers within a given range, summarize inspection results and perform associated payment calculations, perform random sampling confidence calculations, etc. Interested users should contact their geographical MAJCOM PMC for copies of this and other programs which may be available.

QUALITY ASSURANCE PLAN #1
SERVICE CALLS

1. Contract Requirement. Service Calls

Work Requirements | Standards of Performance

a. Timely Service. Initial inspection and treatment within !INSERT! hours for emergency calls, and !INSERT! working days for routine calls; control achieved during the specified period [Paragraphs C.7.b(1)(a), C.7.b(1)(b)]

b. Quality Work. In conformance with quality standards, control levels, and procedures specified, Section C

c. Proper Procedures Followed. Complete work authorization and return within 24 hours after initial inspection and treatment [Paragraph C.7.b(1)]

d. Daily Pest Management Records. Completed in accordance with DoD Component guidance (Attachment J-C6)

2. Primary Method of Surveillance. 100% Inspection supported by validated customer complaints.

3. Maximum Allowable Defect Rate (MADR)

a. Timely Service	3%
b. Quality Work	3%
c. Proper Procedures Followed	5%
d. Daily Pest Management Records	5%

4. Quantity of Work. The actual quantity of completed service calls will vary from month to month. Historically, an average of 20 routine and five emergency service calls are completed each month.

5. Level of Surveillance. Not Applicable

6. Sample Size. Not Applicable

7. Sampling Procedures. Not Applicable

8. Evaluation Procedures. Each service call must be inspected by the QAE at least once, but more than one inspection may be required depending on the pest, the method of control selected by the Contractor, and other factors. Change of occupancy services will generally be inspected while the work is in progress, and control will be assumed if the new occupant does not call back within 60 days after treatment. Most other service call inspections will be conducted at the appropriate point(s) after the initial inspection and treatment are completed to ensure that control has been achieved. Work quality will be considered unsatisfactory if control is not achieved by the end of the specified control period. In most all instances where the quality of work is considered unsatisfactory, timely service will also be considered unsatisfactory. Proper procedures will be inspected by verifying that a properly completed Service Call Work Authorization Form has been provided as required. Pest management records will be inspected for all service calls at the end of the month when the invoice is received, and spot checks will be made during the month as required to verify that these records are routinely being completed within 24 hours of each operation.

a. Evaluation Work Sheets. Grades of either satisfactory (S) or unsatisfactory (U) will be recorded on the attached EVALUATION WORK SHEET for each work requirement. To avoid confusion a separate work sheet will be used for routine and emergency service calls. A brief but complete description of any noted defects, including the type of pest found, will be provided and retreatment information will be recorded if appropriate. Also note and record in the remarks column any noted violations of regulations or contract standards, such as pesticides not being applied per label instructions, preparation instructions not being provided to building monitors, etc. Provide copies of all negative EVALUATION WORK SHEETs to the Contractor.

b. Customer Complaints. The QAE will validate each customer complaint received on the standard customer complaint form, and record appropriate grades and information on the original EVALUATION WORK SHEET. Normally site visits will be required to validate complaints.

c. Call Backs. Retreatments for control failures will almost always be required and must be completed by the Contractor within 24 hours of notification unless delays were requestedby building occupants. Each site retreated will be inspected by the QAE to ensure that the proper level of control has been achieved and appropriate notations completed on the EVALUATION WORK SHEET. Rework for proper procedures and pest management reports will normally be allowed if practical.

9. Analysis of Results. At the end of the month the QAE will summarize the results of the month's inspections and calculate observed defect rates (ODRs) and recommended payment deductions for each work requirement on a MONTHLY PAYMENT DEDUCTION FORM. A separate form will be used for emergency and routine calls since there are different prices for these items in the Schedule of Deductions. A sample MONTHLY PAYMENT DEDUCTION FORM for routine service calls is attached.

a. If the ODR for a work requirement is less than or equal to its MADR, the Contractor's overall performance of that requirement is satisfactory. If the ODR is less than ½ its MADR, the QAE should recommend to the COR to notify the Contractor that performance is excellent and to keep up the good work. Payment deductions will be made for all documented defects as calculated on the MONTHLY PAYMENT DEDUCTION FORM.

b. If the ODR for a work requirement is greater than its MADR, overall performance of that requirement is unsatisfactory and the QAE should recommend to the COR that a ODR be issued to the Contractor, or that stronger action be taken. Payment deductions will be made as calculated on the MONTHLY PAYMENT DEDUCTION FORM.

WORK AUTH NUMBER	SERVICE LOCATION	DATE/TIME	WORK DESCRIPTION	WORK REQUIREMENTS				CALL BACK DATE/TIME	RETREAT DATE/TIME	REMARKS
				TIMELY SERVICE	QUALITY WORK	PROPER PROCEDURES	DAILY PEST MGMT RECORDS			

QUALITY ASSURANCE PLAN #1
SAMPLE MONTHLY PAYMENT DEDUCTION FORM
SERVICE CALLS

CONTRACT NUMBER: _____ TYPE OF SERVICE CALL: _____

	SUMMARY FOR THE PERIOD 1 DEC 95 - 31 DEC 95	TIMELY SERVICE	QUALITY WORK	PROPER PROCEED	PEST RECORDS
A.	Relative Value of Services (from PRS)	20%	65%	10%	5%
B.	Cost of Services (Schedule of Deductions Item 1.a or 1.b x A ÷ 100)	$ 120.00	$ 390.00	$ 60.00	$ 30.00
C.	Actual Number of Calls Completed	20	20	20	20
D.	Cost per Call (B ÷ C)	$ 6.00	$ 19.50	$ 3.00	$ 1.50
E.	Number of Observed Unsat Calls	3	2	2	2
F.	Observed Defect Rate (ODR) (E ÷ C x 100)	15.0%	10.0%	10.0%	10.0%
G.	Number of Calls Reworked by Contractor	____	1	0	0
H.	Number of Calls Reworked by Government or Others	-	0	0	0
I.	Net Calls Deducted at Schedule Price (E - G - H)	3	1	2	2
J.	Net Amount to Deduct (D x I)	$ 18.00	$ 19.50	$ 6.00	$ 3.00
K.	Deduct Government Rework Actual Cost or Schedule Price (D x H)	$ 0	$ 0	$ 0	$ 0
L.	LDs on Government Rework (20% x K)	$ 0	$ 0	$ 0	$ 0

M.	LDs on All Other Defects [10% x D x (E - H)]	$ 1.80	$ 3.90	$ .60	$ .30
N.	Other Adjustments (" - " indicates a deduction)	$ 0	$ 0	$ 0	$ 0
O.	Total Deductions (J + K + L + M + N)	$ 19.80	$ 23.40	$ 6.60	$ 3.30

TOTAL PAYMENT DEDUCTIONS = $ 53.10

AUTHORIZED SIGNATURE DATE

QUALITY ASSURANCE PLAN #2
SCHEDULED NUISANCE PEST CONTROL

1. Contract Requirement. Scheduled Nuisance Pest Control Services

Work Requirements	Standards of Performance
a. Timely Service	Service completed as scheduled (Paragraphs C.7.a and C.8)
b. Quality Work	In conformance with quality standards, control levels, and procedures specified (Paragraph C.8)
c. Daily Pest Management Records	Completed in accordance with DoD Service guidance (Attachment J-C6)

2. Primary Method of Surveillance. Planned sampling supported by unscheduled inspections and validated customer complaints (if appropriate).

3. Maximum Allowable Defect Rate (MADR)

a. Timely Service	3%
b. Quality Work	3%
c. Daily Pest Management Records	5%

4. Quantity of Work. The quantity of work will be the number of nuisance pest control services scheduled by the Contractor for the monthly evaluation period.

5. Level of Surveillance. The normal level of surveillance will be used initially for the contract. Go to increased surveillance if the observed defect rate (ODR) for timely service or quality of work exceeds their MADR during any given month. If only the ODR for pest records exceeds the MADR, consider increasing the level of surveillance for that work requirement only. Go to reduced surveillance if the ODRs for both timely service and quality of work are less than one half the MADR for two consecutive months.

6. Sample Size. The following sample sizes are established for each level of surveillance.

Reduced - 10% of the scheduled nuisance pest control services
Normal - 25% of the scheduled nuisance pest control services
Increased - 50% of the scheduled nuisance pest control services

7. Sampling Procedures. Prior to the beginning of the month, the Contractor's approved schedule will be used to determine at what specific locations scheduled nuisance pest control services are scheduled to be accomplished, and the appropriate number of samples chosen based on the level of surveillance being used. Locations will be chosen on a rotating basis so that selection will be consistent from month to month and so that all service locations will be periodically included in the sample.

8. Evaluation Procedures. Each selected service must be inspected by the QAE, either while the work is in progress, or at some point shortly after it is scheduled for completion. In any event, the Government is buying "control" and the control must be given sufficient time to work. Work quality will be considered unsatisfactory if the population of any nuisance pest exceeds the specified control level. In most all instances where the quality of work is considered unsatisfactory, timely service will also be considered unsatisfactory. Pest management records will be inspected for each sampled service at the end of the month when the invoice is received, and spot checks will be made during the month as required to verify that these records are routinely being completed within 24 hours of performance.

a. Evaluation Work Sheets. Grades of either satisfactory (S) or unsatisfactory (U) will be recorded on the attached EVALUATION WORK SHEET for each work requirement. To avoid confusion a separate work sheet will be used for each scheduled service frequency. A brief but complete description of any noted defects, including the type of pest found, will be provided and retreatment information will be recorded, if appropriate. Also note and record in the remarks column any noted violations of regulations or contract standards, such as pesticides not being applied per label instructions, preparation instructions not being provided to building monitors, etc. Provide copies of all negative EVALUATION WORK SHEETs to the Contractor.

b. Unscheduled Inspections. Unscheduled inspections may be conducted on any service location, but should be limited to those where control problems would normally be expected (such as club and food storage areas) or have been noted previously. Unscheduled inspections should be documented on a separate EVALUATION WORK SHEET from that used for planned sampling.

c. Validated Customer Complaints. The QAE will validate each customer complaint received on the standard customer complaint form. Normally site visits will be required to validate complaints.

d. Call Backs. Retreatments for control failures will almost always be required and must be completed by the Contractor within 24 hours of notification unless delays were requested by building occupants.. Each site retreated will be inspected by the QAE to ensure that the proper level of control has been achieved and appropriate notations completed on the EVALUATION WORK SHEET.

9. Analysis of Results. At the end of the month the QAE will summarize the results of the month's inspections and calculate ODRs and recommended payment deductions for each work requirement.

a. Payment deductions will be calculated by transferring information on all unsatisfactory work requirements from the EVALUATION WORK SHEETs to a MONTHLY PAYMENT DEDUCTION FORM. A sample MONTHLY PAYMENT DEDUCTION FORM is attached.

b. ODRs will be calculated for each work requirement for the overall performance of nuisance pest control services by summarizing the inspection results from all EVALUATION WORK SHEETs and using the following formula:

$$\text{ODR} = \frac{\text{Total Number of Defects Observed in Sample}}{\text{Number of Services Sampled}} \times 100$$

(1) If the ODR for a work requirement is less than or equal to its MADR, the Contractor's overall performance of that requirement is satisfactory. If the ODR is less than ½ the MADR, the QAE should recommend to the COR to notify the Contractor that performance is excellent and to keep up the good work. Consider using reduced surveillance for the coming evaluation period.

(2) If the ODR for a work requirement is greater than its MADR, overall performance of that requirement is unsatisfactory and the QAE should recommend to the COR that a CDR be issued to the Contractor, or that stronger action be taken. Increased surveillance should be used for the coming evaluation period (see paragraph 5 above).

SERVICE LOCATION	DATE/TIME	WORK REQUIREMENTS			CALL BACK DATE/TIME	RETREAT DATE/TIME	REMARKS
		TIMELY SERVICE	QUALITY WORK	DAILY PEST MGMT RECORDS			

SERVICE LOCATION	TOTAL SF OF BUILDING	DATE	WORK REQUIREMENTS			REMARKS
			TIMELY SERVICE	QUALITY OF WORK	DAILY PEST MANAGEMENT RECORDS	

QUALITY ASSURANCE PLAN #3
SAMPLE MONTHLY PAYMENT DEDUCTION FORM
STRUCTURAL WOOD INSPECTION

CONTRACT NUMBER: _____

	SUMMARY FOR THE PERIOD 1 DEC 95 - 31 DEC 95	TIMELY SERVICE	QUALITY WORK	DAILY RECORDS
A.	Relative Value of Services (From PRS)	10%	85%	5%
B.	Price per 1000 SF (Schedule of Deductions, Item 3a or 3b)	$ 2.50	$ 21.25	$ 1.25
C.	Number of Buildings Sampled	7	7	7
D.	Number of Buildings in Sample Unsat	1	1	1
E.	Number 1000 SF in Unsat Building	2	2	2
F.	Number 1000 SF in Unsat Building Observed Outside Sample	0	0	0
G.	Total Observed Defects (E + F)	2	2	2
H.	Observed Defect Rate (ODR) (D ÷ C x 100)	14.2%	14.2%	14.2%
I.	Number of Services Reworked by Contractor	0	0	0
J.	Number of Services Reworked by Government or Others	0	0	0
K.	Net Services Deducted at Schedule Price (G - I - J)	2	2	2
L.	Net Amount to Deduct (B x K)	$ 5.00	$ 42.50	$ 2.50
M.	Deduct Government Rework, Actual	$ 0	$ 0	$ 0

	Cost or at Schedule Price (B x J)				
N.	LDs for Government Rework (20% x M)		$ 0	$ 0	$ 0
O.	LDs on All Other Defects [10% x B x (G - J)]		$ .50	$ 4.25	$ .25
P.	Other Adjustments ("-" Indicates Deduction)		$ 0	$ 0	$ 0
Q.	Total Deductions (L + M + N + O + P)	-	$ 630.00	$ 70.00	

TOTAL PAYMENT DEDUCTIONS = $ 55.00

AUTHORIZED SIGNATURE DATE

QUALITY ASSURANCE PLAN #4
SUBTERRANEAN TERMITE AND POWDER POST BEETLE CONTROL

1. Contract Requirements. Subterranean Termite and Powder Post Beetle Control

Work Requirements	Standards of Performance
a. Timely Service	Service completed within specified period after order (Paragraph C.9.b)
b. Quality Work	Performed in accordance with requirements of NAVFAC MO-310 (Paragraph C.9.b)
c. Daily Pest Management Records	Completed in accordance with DoD Service guidance (Attachment J-C6)

2. Primary Method of Surveillance. 100% inspection

3. Maximum Allowable Defect Rate (MADR)

a. Timely Service	3%
b. Quality Work	2%
c. Daily Pest Management Records	5%

4. Quantity of Work. The quantity of work will be the number of treatments ordered to be completed during the month.

5. Level of Surveillance. Not applicable

6. Sample Size. Not applicable

7. Sampling Procedures. Not applicable

8. Evaluation Procedures. The QAE will evaluate each ordered service to ensure the treatment is completed in accordance with the requirements of NAVFAC MO-310. At least three inspections will be made for each treatment. The first of these inspections will be performed during pesticide mixing to ensure the correct quantity of pesticide has been calculated and all pretreatment requirements have been completed. A portion of the work will be inspected during treatment as required to ensure label directions

are followed and safety procedures are practiced. After the work is completed, spot checks will be made to ensure the entire facility was treated, trenches and holes have been properly filled, and other clean up requirements are completed. Pest management records will be inspected for each treatment at the end of the month when the invoice is received, and spot checks will be made during the month as required to verify these records are routinely being completed within 24 hours of performance. Verify that warranty paperwork is complete and submitted prior to payment for each service.

a. Work Evaluation. Quality of work will be evaluated each time work is inspected. An overall grade for quality of work will be assigned at the final inspection of each treatment. When determining the overall quality of work grade, the QAE must carefully consider the total scope of work required and subjectively judge whether it has been substantially completed by the Contractor without an inordinate amount of rework being required. Generally, the QAE should grade a treatment satisfactory overall for quality of work if there has been no willful departure from the contract, there is no omission of essential work, and essentially 95% or more of the total work has been completed without rework being required. If overall quality of work for a delivery order is considered unsatisfactory, timeliness must also be considered unsatisfactory.

b. Evaluation Work Sheets. A grade of either satisfactory (S) or unsatisfactory (U) and a brief description of any noted defects will be recorded on the attached EVALUATION WORK SHEET each time the work is inspected. A separate work sheet will be used for each delivery order. Provide copies of all negative EVALUATION WORK SHEETs to the Contractor.

c. Call Backs. Rework will always be required and must be completed by the Contractor within 24 hours unless delays were requested by building occupants. Each treatment selected for rework will be inspected and appropriate notations made on the EVALUATION WORK SHEET.

9. Analysis of Results. At the end of the month, the QAE will summarize the overall grades assigned for all delivery orders completed during the month, and calculate observed defect rates (ODRs) for each of the work requirements using the following formula:

$$\text{ODR} = \frac{\text{Number of unsatisfactory overall grades}}{\text{Total number of treatments inspected}} \times 100$$

For example:

Number of unsatisfactory overall grades for timeliness = 1
Number of delivery orders inspected = 4

ODR for timeliness = 1 ÷ 4 x 100 = 25%

a. If the ODR for a work requirement is less than or equal to its MADR, overall performance of that requirement is satisfactory for the month. If the ODR is less than ½ the MADR, the QAE should recommend to the COR to notify the Contractor that performance is excellent and to keep up the good work.

b. If the ODR for a work requirement is greater than its MADR, overall performance of that requirement is unsatisfactory and the QAE should recommend to the COR that a CDR be issued to the Contractor, or that stronger action be taken.

c. Payment deductions, including liquidated damages, will be calculated using the work requirement weights set forth in the PRS table and subtracted from each completed indefinite quantity delivery order invoiced by the Contractor.

DATE/TIME	WORK REQUIREMENTS			CALL BACK DATE/TIME	RETREAT DATE/TIME	REMARKS
	TIMELY SERVICE	QUALITY OF WORK	DAILY PEST MGMT RECORDS			

QUALITY ASSURANCE PLAN #5
DRYWOOD TERMITE AND UNSCHEDULED STORED PRODUCTS PEST CONTROL

1. Contract Requirements. Drywood Termite and Unscheduled Stored Products Pest Control

Work Requirements	Standards of Performance
a. Timely Service	Service completed within specified period after order (Paragraphs C.9.b and C.10.b)
b. Quality Work	In conformance with quality standards, control levels, and procedures specified [Paragraphs C.9.b(4) and C.10.b]
c. Daily Pest Management Records	Completed in accordance with DoD Service guidance (Attachment J-C6)

2. Primary Method of Surveillance. 100% inspection for both contract requirements.

3. Maximum Allowable Defect Rate (MADR)

a. Timely Service	3%
b. Quality Work	0%
c. Daily Pest Management Records	5%

4. Quantity of Work. The quantity of work will be the number of treatments ordered to be completed during the month.

5. Level of Surveillance. Not applicable

6. Sample Size. Not applicable

7. Sampling Procedures. Not applicable

8. Evaluation Procedures

a. Drywood Termites. Because of inherent safety problems and the difficulty in determining if control has been obtained after the fact, the QAE will be required to be on site at all key phases of

treatment. The QAE will not allow work to proceed without strict Contractor adherence to all requirements. At least one complete inspection will be made prior to introduction of the fumigant into the structure to ensure all safety precautions have been taken and preparation requirements listed in the specification have been properly completed. The QAE will be present to ensure the correct amount of chloropicrin is used and properly distributed, the pesticide solution is properly mixed and applied, and the fumigant is being adequately disbursed at the correct dosage. The QAE will periodically check on guards and other safety measures throughout the 24-hour fumigation period, and at each of the required fumigant samplings. After fumigation, the QAE will ensure the building is properly aerated and checked, the building and site have been cleaned up and any damage repaired, pilot lights have been relit, etc. Pest management records for each treatment will be inspected at the end of the month when the invoice is received; spot checks will be made during the month as required to verify records are routinely being completed within 24 hours of performance. All warranty paperwork must be submitted and verified prior to payment for each service.

(1) Work Evaluation. Quality of work will be evaluated each time work is inspected. An overall grade for quality of work will be assigned at the final inspection of each treatment. When determining the overall quality of work grade, the QAE must carefully consider the total scope of work required and subjectively judge whether it has been substantially completed by the Contractor without an inordinate amount of rework being required. Generally, the QAE should grade a treatment satisfactory overall for quality of work if there has been no willful departure from the contract, there is no omission of essential work, and essentially 95% or more of the total work has been completed without rework being required. If overall quality of work for a delivery order is considered unsatisfactory, timeliness must also be considered unsatisfactory.

(2) Evaluation Work Sheets. A grade of either satisfactory (S) or unsatisfactory (U) and a brief description of any noted defects will be recorded on the attached EVALUATION WORK SHEET each time the work is inspected. A separate work sheet will be used for each delivery order. Provide copies of all negative EVALUATION WORK SHEETs to the Contractor.

b. Stored Products Pests. The QAE will coordinate with the installation veterinary technician or other appropriate individual to ensure each unscheduled stored products treatment is adequately evaluated based on proper use of pheromone traps. Each service will be inspected prior to gas release, immediately after clearance, and at approximately 30 days after treatment. Quality of work will be considered unsatisfactory if there is visible pest installation immediately after treatment, or if evidence of live insects is found within 30 days after fumigation unless conclusive evidence shows the source of reinfestation is from an unfumigated commodity. Pest management records for each sampled service will be inspected at the end of the month when the invoice is received; spot checks will be made during the month as required to verify records are routinely being completed within 24 hours of performance.

(1) Evaluation Work Sheets. A grade of either satisfactory (S) or unsatisfactory (U) and a brief description of any noted defects will be recorded on the attached EVALUATION WORK SHEET each time the work is inspected. A separate work sheet will be used for each delivery order. Provide copies of all negative EVALUATION WORK SHEETs to the Contractor.

(2) Call Backs. Rework will normally be required and must be completed by the Contractor within 24 hours. Each retreatment will be inspected and appropriate notations made on the EVALUATION WORK SHEET.

9. Analysis of Results. At the end of the month, the QAE will summarize the overall grades assigned for all delivery orders completed during the month, and calculate observed defect rates (ODRs) for each of the work requirements using the following formula:

$$\text{ODR} = \frac{\text{Number of unsatisfactory overall grades}}{\text{Total number of treatments inspected}} \times 100$$

For example:

Number of unsatisfactory overall grades for timeliness = 1
Number of delivery orders inspected = 4

ODR for timeliness = 1 ÷ 4 x 100 = 25%

a. If the ODR for a work requirement is less than or equal to its MADR, overall performance of that requirement is satisfactory for the month. If the ODR is less than ½ the MADR, the QAE should recommend to the COR to notify the Contractor that performance is excellent and to keep up the good work.

b. If the ODR for a work requirement is greater than its MADR, overall performance of that requirement is unsatisfactory and the QAE should recommend to the COR that a CDR be issued to the Contractor, or that stronger action be taken. NOTE: Since the MADR for quality of work for both contract requirements is zero, an overall unsatisfactory quality grade on any delivery order will result in an overall unsatisfactory quality rating for the entire contract requirement.

c. Payment deductions, including liquidated damages, will be calculated using the work requirement weights set forth in the PRS table and subtracted from each completed indefinite quantity delivery order invoiced by the Contractor.

DATE/TIME	WORK REQUIREMENTS			CALL BACK DATE/TIME	RETREAT DATE/TIME	REMARKS
	TIMELY SERVICE	QUALITY OF WORK	DAILY PEST MGMT RECORDS			

QUALITY ASSURANCE PLAN #6
SCHEDULED STORED PRODUCTS PEST CONTROL

1. Contract Requirement. Scheduled Stored Products Pest Control

Work Requirements	Standards of Performance
a. Timely Service	Service completed as scheduled (Paragraph C.7.a)
b. Quality Work	In conformance with quality standards, control levels, and procedures specified (Paragraph C.10.a)
c. Daily Pest Management Records	Completed in accordance with DoD Service guidance (Attachment J-C6)

2. Primary Method of Surveillance. Planned sampling supported by unscheduled inspections and validated customer complaints.

3. Maximum Allowable Defect Rate (MADR)

a. Timely Service	3%
b. Quality Work	0%
c. Daily Pest Management Records	5%

4. Quantity of Work. The quantity of work will be the number of treatments scheduled to be performed by the Contractor during the month.

5. Level of Surveillance. The normal level of surveillance will be used initially for the contract. Go to increased surveillance if the observed defect rate (ODR) for quality of work or timely service exceeds their MADR during any given month. If only the ODR for pest records exceeds the MADR, consider increasing the level of surveillance for that work requirement only. Go to reduced surveillance if the ODR for quality of work is less than one half the MADR for two consecutive months.

6. Sample Size. The following sample sizes are established for each level of surveillance.

Reduced - 25% of the scheduled treatment locations
Normal - 50% of the scheduled treatment locations
Increased - 75% of the scheduled treatment locations

7. Sampling Procedures. Prior to the beginning of the month, the Contractor's approved schedule will be used to determine the stored products pest control services scheduled to be accomplished, and the appropriate number of samples based on the level of surveillance being used. Locations will be chosen on a rotating basis so that selection will be consistent from month to month and all service locations will periodically be included in the sample.

8. Evaluation Procedures. Each selected residual insecticide treatment will be inspected by the QAE between 48 and 72 hours after the work is completed. Each selected space treatment will be inspected immediately after treatment and the area is opened. In both cases, work quality will be considered unsatisfactory if there is any visible sign of pest activity. Periodically, work in progress will also be inspected, as required, to ensure proper safety precautions are taken and treatment procedures are being followed. In most all instances, where the quality of work is considered unsatisfactory, timely service will also be considered unsatisfactory. Pest management records for each sampled service will be inspected at the end of the month when the invoice is received; spot checks will be made during the month as required to verify records are routinely being completed within 24 hours of performance.

a. Evaluation Work Sheets. Grades of either satisfactory (S) or unsatisfactory (U) will be recorded on the attached EVALUATION WORK SHEET for each work requirement. Separate work sheets will be filled out for residual and space treatment services. A brief but complete description of any noted defects will be provided and rework information, if appropriate, recorded. Also record in the remarks column any noted violations of safety requirements, regulations, or contract standards, such as pesticides not being applied per label instructions, ULV equipment not being calibrated periodically as required, etc. Provide copies of all negative EVALUATION WORK SHEETs to the Contractor.

b. Unscheduled Inspections. Unscheduled inspections may be conducted on any treatment, but should be limited to those locations where control problems have been previously noted. Unscheduled inspections should be documented on separate EVALUATION WORK SHEETs from those used for planned sampling.

c. Validated Customer Complaints. The QAE will validate each customer complaint received on the standard customer complaint form. Normally, site visits will be required for validation.

d. Call Backs. Retreatments will almost always be required and must be completed by the Contractor within 24 hours of notification unless delays were requested by building occupants. Each site retreated will be inspected by the QAE to ensure the proper level of control has been achieved and appropriate notations completed on the EVALUATION WORK SHEET.

9. Analysis of Results. At the end of the month, the QAE will summarize the results of the month's inspections and calculate ODRs and recommended payment deductions for each work requirement.

a. Payment deductions will be calculated by transferring information on all unsatisfactory work requirements from the EVALUATION WORK SHEETs to a MONTHLY PAYMENT DEDUCTION FORM. A sample MONTHLY PAYMENT DEDUCTION FORM is attached.

b. ODRs will be calculated for each work requirement for the overall performance of scheduled stored products pest control services by summarizing the inspection results from all EVALUATION WORK SHEETs and using the following formula:

$$\text{ODR} = \frac{\text{Total Number of Defects Observed in Sample}}{\text{Number of Services Sampled}} \times 100$$

(1) If the ODR for a work requirement is less than or equal to its MADR, the Contractor's overall performance of that requirement is satisfactory. If the ODR is less than ½ the MADR, the QAE should recommend to the COR to notify the Contractor that performance is excellent and to keep up the good work. Consider using reduced surveillance for the coming evaluation period.

(2) If the ODR for a work requirement is greater than its MADR, overall performance of that requirement is unsatisfactory and the QAE should recommend to the COR that a CDR be issued to the Contractor, or that stronger action be taken. NOTE: Since the MADR for quality of work is zero, an overall unsatisfactory quality grade on any given treatment will result in an overall unsatisfactory quality rating for the entire contract requirement. Increased surveillance should be used for the coming evaluation period (see paragraph 5 above).

SERVICE LOCATION	DATE/TIME	WORK REQUIREMENTS			CALL BACK DATE/TIME	RETREAT DATE/TIME	REMARKS
		TIMELY SERVICE	QUALITY WORK	DAILY PEST MGMT RECORDS			

SERVICE LOCATION	DATE	UNIT PRICE	VALUE OF UNSATISFACTORY WORK			CREDIT FOR REWORK	LIQUIDATED DAMAGES (10%)	LIQUIDATED DAMAGES (20%)	TOTAL PAYMENT DEDUCTION
			TIMELY SERVICE (15%)	QUALITY WORK (80%)	PEST RECORDS (5%)				
Bldg 5	12/7	$35.00	$ 3.50				$ .35		$ 3.85
Bldg 9	12/7	$65.00	$ 6.50	$55.25		$55.25	$6.17		$12.67
Bldg 23	12/13	$40.00			$ 2.00	$ 2.00	$ .20		$ .20

QUALITY ASSURANCE PLAN #7
ADULT MOSQUITO SURVEILLANCE

1. Contract Requirement. Adult Mosquito Surveillance

Work Requirements	Standards of Performance
a. Quality Work	Trap emptied by 9:00 a.m. Accurate tally provided to contracting officer before noon on scheduled service day, all required information included (Paragraph C.11.a(1))
b. Daily Pest Management Records	Completed in accordance with DoD Service guidance (Attachment J-C6)

2. Primary Method of Surveillance. Planned sampling supported by unscheduled inspections.

3. Maximum Allowable Defect Rate (MADR)

a. Quality Work	3%
b. Daily Pest Management Records	5%

4. Quantity of Work. The quantity of work will vary depending on the Contractor's approved work schedule and the number of days in the month. The actual quantity will equal the number of light traps multiplied by the number of nights surveillance is performed. For example, if five light traps are to be used for 16 nights during the month, the quantity of work will equal 80.

5. Level of Surveillance. The normal level of surveillance will be used initially for the contract. Go to increased surveillance if the observed defect rate (ODR) for quality of work exceeds the MADR during any given month. If only the ODR for pest records exceeds the MADR, consider increasing the level of surveillance for that work requirement only. Go to reduced surveillance if the ODR for quality of work is less than ½ the MADR for two consecutive months.

6. Sample Size. The following sample sizes are established for each level of surveillance.

Reduced - 10% of the quantity of work
Normal - 25% of the quantity of work
Increased - 50% of the quantity of work

7. Sampling Procedures. Prior to the beginning of the month, the Contractor's approved schedule will be used to determine the adult mosquito surveillances scheduled to be accomplished, and the appropriate number of samples based on the level of surveillance being used. Locations will be chosen on a rotating basis so that selection will be consistent from month to month and all surveillance locations will periodically be included in the sample.

8. Evaluation Procedures. The QAE will inspect each selected trap location by 9:00 a.m., or as soon thereafter as possible, to verify they are operating properly and have been emptied. Appropriate notations will be made on the attached EVALUATION WORK SHEET. At noon, the QAE will determine if written tallies have been provided for each sampled trap and appropriate information has been provided. Work quality will be graded unsatisfactory overall if the inspected trap is inoperative or not emptied, or if the written tally is not complete or submitted on time. Pest management records for each sampled trap will be inspected at the end of the month when the invoice is received; spot checks will be made during the month as required to verify records are routinely being completed within 24 hours of performance.

a. Evaluation Work Sheets. Trap and tally information, and grades of either satisfactory (S) or unsatisfactory (U), will be recorded on the attached EVALUATION WORK SHEET for both work requirements. A brief but complete description of any noted defects will be provided. Copies of all negative EVALUATION WORK SHEETs will be furnished to the Contractor.

b. Unscheduled Inspections. Unscheduled inspections may be conducted on any trap location, but should be limited to those where problems have been previously noted. Unscheduled inspections should be documented on a separate EVALUATION WORK SHEET from that used for planned sampling.

9. Analysis of Results. At the end of the month, the QAE will summarize the results of the month's inspections and calculate ODRs and recommended payment deductions for each work requirement on a MONTHLY PAYMENT DEDUCTION FORM. A sample MONTHLY PAYMENT DEDUCTION FORM is attached.

a. If the ODR for a work requirement is less than or equal to its MADR, overall performance of that requirement is satisfactory. If the ODR is less than ½ the MADR, the QAE should recommend to the COR to notify the Contractor that performance is excellent and to keep up the good work. Consider using reduced surveillance the coming evaluation period.

b. If the ODR for a work requirement is greater than the MADR, overall performance of that requirement is unsatisfactory and the QAE should recommend to the COR that a CDR be issued to the Contractor, or that stronger action be taken. Increased surveillance should be used for the coming evaluation period (see paragraph 5 above).

TRAP LOCATION	DATE/TIME	TRAP EMPTIED BY 0900	DATE/TIME	TALLY INFO	WORK REQUIREMENTS		REMARKS
					QUALITY WORK	DAILY PEST MGMT RECORDS	

QUALITY ASSURANCE PLAN #7
SAMPLE MONTHLY PAYMENT DEDUCTION FORM
ADULT MOSQUITO SURVEILLANCE

CONTRACT NUMBER: _____

	SUMMARY FOR THE PERIOD 1 DEC 95 - 31 DEC 95		TIMELY SERVICE	QUALITY WORK
A.	Relative Value of Services (from PRS Table)	95%	5%	
B.	Price per Service (Schedule of Deductions, Item 5a)	$ 23.75	$ 1.25	
C.	Population		80	80
D.	Number of Services Sampled (Normal 25%)	20	20	
E.	Number in Sample Defective		3	2
F.	Defects Observed Outside Sample		0	0
G.	Total Observed Defects (E + F)		3	2
H.	Observed Defect Rate (ODR) (E ÷ D x 100)	15%	10%	
I.	Number of Services Reworked by Contractor	0	0	
J.	Number of Services Reworked by Government or Others		0	0
K.	Net Services Deducted at Schedule Price (G - I - J)	3	2	
L.	Net Amount to Deduct (B x K)		$ 71.25	$ 2.50
M.	Deduct Government Rework, Actual Cost or at Schedule Price (B x J)		$ 0	$ 0
N.	LDs for Government Rework (20% x M)		$ 0	$ 0
O.	LDs on All Other Defects [10% x B x (G - J)]	$ 7.12	$ .25	

P.	Other Adjustments ("-" Indicates Deduction)	$ 0	$ 0	
Q.	Total Deductions (L + M + N + O + P)		$ 73.87	$ 2.75

TOTAL PAYMENT DEDUCTIONS = $ 81.12

AUTHORIZED SIGNATURE DATE

QUALITY ASSURANCE PLAN #8
LARVAL SURVEILLANCE AND CONTROL

1. Contract Requirement. Larval Surveillance and Control

Work Requirements	Standards of Performance
a. Timely Service	Dip counts performed when required, and tally provided to contracting officer before 9:00 a.m. (Paragraph C.11.a(2))
b. Quality Work	Minimum acceptable level of control not exceeded (Paragraph C.11.c)
c. Daily Pest Management Records	Completed in accordance with DoD Service guidance (Attachment J-C6)

2. Primary Method of Surveillance. Planned sampling supported by unscheduled inspections.

3. Maximum Allowable Defect Rate (MADR)

a. Timely Service	3%
b. Quality Work	3%
c. Daily Pest Management Records	5%

4. Quantity of Work. The quantity of work will be the number of locations where temporary water stands longer than three days in the areas designated in Attachment J-C9, multiplied by the number of days water is standing during the monthly evaluation period. For example, if there are five locations where temporary water has been standing longer than three days, and it continues to stand for another nine days, the quantity of work would be 45.

5. Level of Surveillance. The normal level of surveillance will be used initially for the contract. Go to increased surveillance if the observed defect rate (ODR) for quality of work or timely service exceeds their MADR during any given month. If only the ODR for pest records exceed the MADR, consider increasing the level of surveillance for that work requirement only. Go to reduced surveillance if the ODR for quality of work is less than ½ the MADR for two consecutive months.

6. Sample Size. The following sample sizes are established for each level of surveillance.

Reduced - 10% of the quantity of work
Normal - 25% of the quantity of work
Increased - 50% of the quantity of work

7. Sampling Procedures. The QAE will monitor the designated areas as required during the month to determine if temporary water is standing. Every day during the month when water stands longer than three days, the QAE will select every fourth standing water location for sampling if at normal surveillance, every tenth location if at reduced, or every other location if at increased surveillance. Samples will be chosen on an arbitrary and rotating basis so that all locations will periodically be included in a sample.

8. Evaluation Procedures

a. Work Quality. After each location has been selected, the QAE will make an on-site visit the same day and take a dip count. If the count is at or below the minimum acceptable level of control, quality of work will be evaluated as satisfactory (S) on the attached EVALUATION WORK SHEET. If the count is above the acceptable level of control, the QAE will return in 48 hours to recheck the location and assign either a satisfactory or unsatisfactory (U) quality grade, as appropriate. If unsatisfactory, the Contractor will be advised and the location will be inspected and graded unsatisfactory daily until control is achieved. Copies of all negative EVALUATION WORK SHEETs will be provided to the Contractor.

b. Timeliness. Contractor dip count submittals for the selected locations will be checked for timely submittal and completeness, and the appropriate grade recorded on the EVALUATION WORK SHEET. Counts will be evaluated as unsatisfactory if submitted late or not complete.

c. Records. Pest management records for each sampled service will be inspected at the end of the month when the invoice is received; spot checks will be made during the month as required to verify records are routinely being completed within 24 hours of performance. Missing or incomplete forms will result in an unsatisfactory grade. Record results on the attached EVALUATION WORK SHEET.

d. Unscheduled Inspections. Unscheduled dip counts may be taken at any standing water location, but should be limited to known or suspected larval problem areas, areas where poor performance has been noted previously, etc. Unscheduled inspections should be documented on a separate EVALUATION WORK SHEET from that used for planned sampling.

9. Analysis of Results. At the end of the month, the QAE will summarize the results of the month's inspections and calculate ODRs and recommended payment deductions for each work requirement on a MONTHLY PAYMENT DEDUCTION FORM. A sample MONTHLY PAYMENT DEDUCTION FORM is attached.

a. If the ODR for a work requirement is less than or equal to its MADR, overall performance of that

requirement is satisfactory. If the ODR is less than ½ the MADR, the QAE should recommend to the COR to notify the Contractor that performance is excellent and to keep up the good work. Consider using reduced surveillance for the coming evaluation period.

b. If the ODR for a work requirement is greater than the MADR, overall performance of that requirement is unsatisfactory and the QAE should recommend to the COR that a CDR be issued to the Contractor, or that stronger action be taken. Increased surveillance should be used for the coming evaluation period (see paragraph 5 above).

QUALITY ASSURANCE PLAN #8
SAMPLE MONTHLY PAYMENT DEDUCTION FORM
LARVAL SURVEILLANCE AND CONTROL

CONTRACT NUMBER: _____

	SUMMARY FOR THE PERIOD 1 DEC 95 - 31 DEC 95	TIMELY SERVICE	QUALITY WORK	DAILY RECORDS
A.	Relative Value of Services (From PRS)	20%	75%	5%
B.	Cost of Services (Schedule of Deductions Item 5b x 20 ÷ 100)	$ 40.00	$ 150.00	$ 10.00
C.	Population	40	40	40
D.	Price per Service (B ÷C)	$ 1.00	$ 3.75	$ .25
E.	Number of Services Sampled	10	10	10
F.	Number in Sample Defective	4	3	2
G.	Defects Observed Outside Sample	0	0	0
H.	Total Observed Defects (F + G)	4	3	2
I.	Observed Defect Rate (ODR) (F ÷ E x 100)	40%	30%	20%
J.	Number of Services Reworked by Contractor	-	-	0
K.	Number of Services Reworked by Government or Others	-	-	0
L.	Net Services Deducted at Schedule Price (H - J - K)	4	3	2
M.	Net Amount to Deduct (D x L)	$ 4.00	$ 11.25	$ .50
N.	Deduct Government Rework, Actual	$ 0	$ 0	$ 0

	Cost or at Schedule Price (D x K)				
O.	LDs for Government Rework (20% x N)		$ 0	$ 0	$ 0
P.	LDs on All Other Defects [10% x B x (G - J)]		$ .40	$ 1.12	$ .05
Q.	Other Adjustments ("-" Indicates Deduction)		$ 0	$ 0	$ 0
R.	Total Deductions (M + N + O + P + Q)	$ 4.40	$ 12.37	$ .55	

TOTAL PAYMENT DEDUCTIONS = $ 17.32

AUTHORIZED SIGNATURE DATE

QUALITY ASSURANCE PLAN #9
ADULT MOSQUITO CONTROL AND AERIAL PESTICIDE APPLICATION

1. Contract Requirement. Adult Mosquito Control and Aerial Pesticide Application

Work Requirements	Standards of Performance
a. Timely Service	Service provided within specified period after order [Paragraphs C.11.b(1) and C.11.b(3)]
b. Quality Work	In accordance with quality standards, control levels, and procedures [Paragraphs C.11.b(1) and C.11.b(3)]
c. Daily Pest Management Records	Completed in accordance with DoD Service guidance (Attachment J-C6)

2. Primary Method of Surveillance. 100% inspection

3. Maximum Allowable Defect Rate (MADR)

a. Timely Service	3%
b. Quality Work	3%
c. Daily Pest Management Records	5%

4. Quantity of Work. The quantity of work will be the number of treatments ordered to be completed during the month.

5. Level of Surveillance. Not applicable

6. Sample Size. Not applicable

7. Sampling Procedures. Not applicable

8. Evaluation Procedures. The QAE will inspect each treatment shortly after work completion. In addition, some treatments will be inspected while work is in progress to ensure that the Contractor is strictly adhering to label requirements such as space between swaths, vehicle speed and direction of travel, etc. Work quality will be considered unsatisfactory if pretreatment counts are not reduced to the required level. In most all instances where the quality of work is considered unsatisfactory, timely service will also be considered unsatisfactory. Pest management records for each service will be inspected at the end of the month when the invoice is received; spot checks will be made during the month as required to verify records are routinely being completed within 24 hours of performance.

a. Evaluation Work Sheets. Grades of either satisfactory (S) or unsatisfactory (U) will be recorded on the attached EVALUATION WORK SHEET for each work requirement. A brief description of any noted defects will be provided and retreatment information will be recorded, if appropriate. Any observed violations of regulations or contract standards, such as pesticides not being applied per label directions, inappropriate weather conditions, etc., should be recorded in the remarks column. Provide copies of all negative EVALUATION WORK SHEETs to the Contractor.

b. Call Backs. Retreatments for control failures will almost always be required and must be completed by the Contractor within 24 hours of notification, weather permitting. Each site retreated will be inspected by the QAE to ensure the proper level of control has been achieved. Appropriate information will be recorded on the EVALUATION WORK SHEET.

9. Analysis of Results. At the end of the month, the QAE will summarize the overall grades assigned for all the delivery orders completed during the month, then calculate observed defect rates (ODRs) for each of the work requirements using the following formula:

$$\text{ODR} = \frac{\text{Number of unsatisfactory overall grades}}{} \times 100$$

Total number of treatments inspected

For example:

Number of unsatisfactory overall grades for timeliness = 1
Number of delivery orders inspected = 11

ODR for timeliness = 1 ÷ 11 x 100 = 9.1%

a. If the ODR for a work requirement is less than or equal to its MADR, overall performance of that requirement is satisfactory for the month. If the ODR is less than ½ the MADR, the QAE should recommend to the COR to notify the Contractor that performance is excellent and to keep up the good work.

b. If the ODR for a work requirement is greater than its MADR, overall performance of that requirement is unsatisfactory and the QAE should recommend to the COR that a CDR be issued to the Contractor, or that stronger action be taken.

c. Payment deductions, including liquidated damages, will be calculated using the work requirement weights set forth in the PRS table and subtracted from each completed indefinite quantity delivery order invoiced by the Contractor.

DATE/TIME	WORK REQUIREMENTS			CALL BACK DATE/TIME	RETREAT DATE/TIME	REMARKS
	TIMELY SERVICE	QUALITY OF WORK	DAILY PEST MGMT RECORDS			

QUALITY ASSURANCE PLAN #10
FLY CONTROL

1. Contract Requirement. Scheduled and Unscheduled Fly Control

Work Requirements	Standards of Performance
a. Timely Service	Service completed as scheduled, or within specified period after order (Paragraphs C.7.a, C.7.b, and C.12)
b. Quality Work	In conformance with quality standards, control levels, and procedures specified (Paragraph C.12)
c. Daily Pest Management Records	Completed in accordance with DoD Service guidance (Attachment J-C6)

2. Primary Method of Surveillance

a. Planned sampling supported by unscheduled inspections and validated customer complaints for scheduled services.

b. 100% inspection of unscheduled services.

3. Maximum Allowable Defect Rate (MADR)

a. Timely Service	3%
b. Quality Work	3%
c. Daily Pest Management Records	5%

4. Quantity of Work. For scheduled services, the quantity of work will be the number of treatments scheduled by the Contractor for the monthly evaluation period. The quantity of work for unscheduled services will be the number of treatments ordered to be completed during the month.

5. Level of Surveillance

a. For scheduled services, the normal level of surveillance will be used initially for the contract. Go to increased surveillance if the observed defect rate (ODR) for timely service or quality of work exceeds their MADR during any given month. If only the ODR for pest records exceeds the MADR, consider increasing the level of surveillance for that work requirement only. Go to reduced surveillance if the ODR for both timely service and quality of work are less than ½ the MADR for two consecutive months.

b. Not applicable for unscheduled services.

6. Sample Size. The following sample sizes are established for each level of surveillance.

a. Reduced - 10% of the scheduled treatment locations
Normal - 25% of the scheduled treatment locations
Increased - 50% of the scheduled treatment locations

b. Not applicable for unscheduled services.

7. Sampling Procedures

a. Prior to the beginning of the month, the Contractor's approved schedule will be used to determine the locations for scheduled fly control services and the appropriate number of samples based on the level of surveillance being used. Locations will be chosen on a rotating basis so that all locations will periodically be included in a sample.

b. Not applicable for unscheduled services.

8. Evaluation Procedures

a. Each selected scheduled service must be inspected by the QAE while the work is in progress, or at some point shortly after scheduled completion. Work quality will be considered unsatisfactory if the fly population exceeds the specified control level. In most all instances, where the quality of work is considered unsatisfactory, timely service will also be considered unsatisfactory. Pest management records for each sampled service will be inspected at the end of the month when the invoice is received; spot checks will be made during the month as required to verify records are routinely being completed within 24 hours of performance.

(1) Evaluation Work Sheets. Grades of either satisfactory (S) or unsatisfactory (U) will be recorded on the attached EVALUATION WORK SHEET for each work requirement. To avoid confusion, a separate work sheet will be used for each scheduled service frequency, and for unscheduled services. A brief but complete description of any noted defects will be provided and retreatment information will be recorded, if appropriate. Any observed violations of regulations or contract standards, such as pesticides not being applied per label instructions, preparation instructions not being provided to building monitors, etc., should be recorded in the remarks column. Provide copies of all negative EVALUATION WORK SHEETs to the Contractor.

(2) Unscheduled Inspections. Unscheduled inspections may be conducted on any service location, but should be limited to those where control problems would normally be expected or have been noted previously. Unscheduled inspections should be documented on a separate EVALUATION WORK SHEET from that used for planned sampling.

(3) Validated Customer Complaints. The QAE will validate each customer complaint received on the standard customer complaint form. Normally, site visits will be required to validate complaints.

(4) Call Backs. Retreatments for control failures will almost always be required and must be

completed by the Contractor within 24 hours of notification unless delays were requested by building occupants. Each site retreated will be inspected by the QAE to ensure the proper level of control has been achieved and the EVALUATION WORK SHEET will be annotated accordingly.

b. A separate EVALUATION WORK SHEET will be used to document inspection results for unscheduled services. Each work requirement will be evaluated as services are completed and appropriate information recorded.

9. Analysis of Results. At the end of the month, the QAE will summarize the results of the month's inspections and calculate ODRs and recommended payment deductions for each work requirement.

a. Payment deductions for scheduled services will be calculated by transferring information on all unsatisfactory work requirements from the EVALUATION WORK SHEETs to a MONTHLY PAYMENT DEDUCTION FORM; a sample form is attached. Payment deductions for unscheduled services will be subtracted from each indefinite quantity delivery order invoiced by the Contractor.

b. ODRs will be calculated for each work requirement for the overall performance of fly control services by summarizing the inspection results from all EVALUATION WORK SHEETs, both scheduled and unscheduled, using the following formula:

$$\text{ODR} = \frac{\text{Total Number of Defects Observed in Sample}}{\text{Number of Services Sampled}} \times 100$$

(1) If the ODR for a work requirement is less than or equal to its MADR, the Contractor's overall performance of that requirement is satisfactory for the month. If the ODR is less than ½ the MADR, the QAE should recommend to the COR to notify the Contractor that performance is excellent and to keep up the good work. Consider using reduced surveillance for scheduled services for the coming evaluation period.

(2) If the ODR for a work requirement is greater than its MADR, overall performance of that

requirement is unsatisfactory and the QAE should recommend to the COR that a CDR be issued to the Contractor, or that stronger action be taken. Increased surveillance should be used for the coming evaluation period (see paragraph 5 above) for scheduled services.

DELIVERY ORDER NUMBER[2]	DATE/ TIME	SERVICE LOCATION	WORK REQUIREMENTS			CALL BACK DATE/TIME	RETREAT DATE/TIME	REMARKS
			TIMELY SERVICE	QUALITY WORK	DAILY PEST MGMT RECORDS			

SERVICE LOCATION	DATE	UNIT PRICE	VALUE OF UNSATISFACTORY WORK			CREDIT FOR REWORK	LIQUIDATED DAMAGES (10%)	LIQUIDATED DAMAGES (20%)	TOTAL PAYMENT DEDUCTION
			TIMELY SERVICE (10%)	QUALITY WORK (85%)	PEST RECORDS (5%)				
Bldg 3	12/13	$20.00	$ 2.00				$ .20		$ 2.20
Bldg 13	12/13	$50.00	$ 5.00	$42.50		$42.50	$ 4.75		
Bldg 69	12/23	$25.00			$ 1.25	$ 1.25	$ .12		$ .12

QUALITY ASSURANCE PLAN #11
ORNAMENTAL AND TURF PEST CONTROL

1. Contract Requirement. Scheduled and Unscheduled Ornamental and Turf Pest Control

Work Requirements	Standards of Performance
a. Timely Service	Service completed as scheduled, or within specified period after order (Paragraphs C.7.a and C.13)
b. Quality Work	In conformance with quality standards, control levels, and procedures specified (Paragraph C.13)
c. Daily Pest Management Records	Completed in accordance with DoD Component guidance (Attachment J-C6)

2. Primary Method of Surveillance

a. Planned sampling supported by unscheduled inspections and validated customer complaints for scheduled services.

b. 100% inspection of unscheduled services.

3. Maximum Allowable Defect Rate (MADR)

a. Timely Service	3%
b. Quality Work	3%
c. Daily Pest Management Records	5%

4. Quantity of Work. For scheduled services, the quantity of work will be the number of treatments scheduled by the Contractor for the monthly evaluation period. This quantity will vary considerably from month to month and will depend on the season of the year, as well as the pests to be controlled. The quantity of work for unscheduled services will be the number of treatments ordered to be completed during the month.

5. Level of Surveillance

a. For scheduled services, the normal level of surveillance will be used initially for the contract. Go to increased surveillance if the observed defect rate (ODR) for timely service or quality of work exceeds their MADR during any given month. If only the ODR for pest records exceeds the MADR, consider increasing the level of surveillance for that work requirement only. Go to reduced surveillance if the ODR for both timely service and quality of work are less than ½ the MADR for two consecutive months.

b. Not applicable for unscheduled services.

6. Sample Size. The following sample sizes are established for each level of surveillance.

a. Reduced - 10% of the scheduled treatment locations
Normal - 25% of the scheduled treatment locations
Increased - 50% of the scheduled treatment locations

b. Not applicable for unscheduled services.

7. Sampling Procedures

a. Prior to the beginning of the month, the Contractor's approved schedule will be used to determine the locations for scheduled ornamental and turf pest control services and the appropriate number of samples (e.g., lawn areas, shrubs, etc.) based on the level of surveillance being used. For ongoing services such as fire ant control, locations will be chosen on a rotating basis so that all locations will periodically be included in a sample.

b. Not applicable for unscheduled services.

8. Evaluation Procedures

a. Each selected scheduled service must be inspected by the QAE while the work is in progress, or at some point shortly after scheduled completion. Work quality will be considered unsatisfactory if the population of an ornamental or turf pest exceeds the specified control level. In most all instances, where the quality of work is considered unsatisfactory, timely service will also be considered unsatisfactory. Pest management records for each sampled service will be inspected at the end of the month when the invoice is received; spot checks will be made during the month as required to verify records are routinely being completed within 24 hours of performance.

(1) Evaluation Work Sheets. Grades of either satisfactory (S) or unsatisfactory (U) will be recorded on the attached EVALUATION WORK SHEET for each work requirement. To avoid confusion, a separate work sheet will be used for each pest being controlled, and for unscheduled services. A brief but complete description of any noted defects will be provided and retreatment information will be recorded, if appropriate. Any observed violations of regulations or contract standards, such as pesticides not being applied per label instructions, preparation instructions not being provided to building monitors, etc., should be recorded in the remarks column. Provide copies of all negative EVALUATION WORK SHEETs to the Contractor.

(2) Unscheduled Inspections. Unscheduled inspections may be conducted on any service location, but should be limited to those where control problems would normally be expected or have been noted previously. Unscheduled inspections should be documented on a separate EVALUATION WORK SHEET from that used for planned sampling.

(3) Validated Customer Complaints. The QAE will validate each customer complaint received on the standard customer complaint form. Normally, site visits will be required to validate complaints.

(4) Call Backs. Retreatments for control failures will almost always be required and must be completed by the Contractor within 24 hours of notification unless delays were requested by building occupants. Each site retreated will be inspected by the QAE to ensure the proper level of control has been achieved and the EVALUATION WORK SHEET will be annotated accordingly.

b. A separate EVALUATION WORK SHEET will be used to document inspection results for unscheduled services. Each work requirement will be evaluated as services are completed and appropriate information recorded.

9. Analysis of Results. At the end of the month, the QAE will summarize the results of the month's inspections and calculate ODRs and recommended payment deductions for each work requirement.

a. Payment deductions for scheduled services will be calculated on a MONTHLY PAYMENT DEDUCTION FORM. A separate form will be filled out for each type of treatment since there are separate prices for each service in the Schedule of Deductions. For example, if shrub and tree bagworm control, and both critical and non-critical area fire ant control services are performed during the month, four MONTHLY PAYMENT DEDUCTION FORMs will be filled out. A sample MONTHLY PAYMENT DEDUCTION FORM for shrub bagworm control is attached. Payment deductions for unscheduled services will be subtracted from each indefinite quantity delivery order invoiced by the Contractor.

b. ODRs will be calculated for each work requirement for the overall performance of ornamental and turf pest control services by summarizing the inspection results from all EVALUATION WORK SHEETs, both scheduled and unscheduled, using the following formula:

$$\text{ODR} = \frac{\text{Total Number of Defects Observed in Sample}}{\text{Number of Services Sampled}} \times 100$$

(1) If the ODR for a work requirement is less than or equal to its MADR, the Contractor's overall performance of that requirement is satisfactory for the month. If the ODR is less than ½ the MADR, the QAE should recommend to the COR to notify the Contractor that performance is excellent and to keep up the good work. Consider using reduced surveillance for scheduled services for the coming evaluation period.

(2) If the ODR for a work requirement is greater than its MADR, overall performance of that

requirement is unsatisfactory and the QAE should recommend to the COR that a CDR be issued to the Contractor, or that stronger action be taken. Increased surveillance should be used for the coming evaluation period (see paragraph 5 above) for scheduled services.

DELIVERY ORDER NUMBER[2]	DATE/ TIME	SERVICE LOCATION	WORK REQUIREMENTS			CALL BACK DATE/TIME	RETREAT DATE/TIME	REMARKS
			TIMELY SERVICE	QUALITY WORK	DAILY PEST MGMT RECORDS			

QUALITY ASSURANCE PLAN #11
SAMPLE MONTHLY PAYMENT DEDUCTION FORM
SCHEDULED ORNAMENTAL AND TURF PEST CONTROL

CONTRACT NUMBER: _____ PEST: Shrub Bagworm Control

	SUMMARY FOR THE PERIOD 1 DEC 95 - 31 DEC 95	TIMELY SERVICE	QUALITY WORK	DAILY RECORDS
A.	Relative Value of Services (From PRS)	10%	85%	5%
B.	Price per Service (Schedule of Deductions, Item 7a or 7b)	$ .05	$ .425	$ .025
C.	Population	834	834	834
D.	Number of Services Sampled	209	209	209
E.	Number in Sample Defective	27	27	0
F.	Defects Observed Outside Sample	6	6	0
G.	Total Observed Defects (E + F)	33	33	0
H.	Observed Defect Rate (ODR) (E ÷ D x 100)	12.9%	12.9%	0%
I.	Number of Services Reworked by Contractor	-	23	0
J.	Number of Services Reworked by Government or Others	-	0	0
K.	Net Services Deducted at Schedule Price (G - I - J)	33	10	0
L.	Net Amount to Deduct (B x K)	$ 1.65	$ 4.25	$ 0
M.	Deduct Government Rework, Actual	$ 0	$ 0	$ 0

	Cost or at Schedule Price (B x J)				
N.	LDs for Government Rework (20% x M)		$ 0	$ 0	$ 0
O.	LDs on All Other Defects [10% x B x (G - J)]		$ .16	$ 1.40	$ 0
P.	Other Adjustments ("-" Indicates Deduction)		$ 0	$ 0	$ 0
Q.	Total Deductions (L + M + N + O + P)	$ 1.81	$ 5.65	$ 0	

TOTAL PAYMENT DEDUCTIONS = $ 7.46

AUTHORIZED SIGNATURE DATE

QUALITY ASSURANCE PLAN #12
SCHEDULED WEED CONTROL

1. Contract Requirement. Scheduled Weed Control

Work Requirements	Standards of Performance
a. Timely Service	Service completed as scheduled (Paragraphs C.7.a and C.14)
b. Quality Work	In conformance with quality standards, control levels, and procedures specified (Paragraph C.14)
c. Daily Pest Management Records	Completed in accordance with DoD Service guidance (Attachment J-C6)

2. Primary Method of Surveillance. Planned sampling supported by unscheduled inspections and validated customer complaints.

3. Maximum Allowable Defect Rate (MADR)

a. Timely Service	3%
b. Quality Work	3%
c. Daily Pest Management	5%

4. Quantity of Work. The quantity of work for weed control in lawn areas, which is accomplished annually in April, will be the number of designated lawn areas shown in Attachment J-C10. The quantity of work for vegetation control will equal the number of improved grounds areas which contain fences, poles, posts, pavement cracks, paved ditches, or other items around which the Contractor must maintain a vegetation free strip.

5. Level of Surveillance

a. Lawns. Not applicable.

b. Other Areas. The normal level of surveillance will be used initially for the contract. Go to increased surveillance if the ODR for quality of work exceeds the MADR during any given month. If only the ODR for pest records or timeliness exceeds the MADR, consider increasing the level of surveillance for those work requirements only. Go to reduced surveillance if the ODR for quality of work is less than ½ the MADR for two consecutive months.

6. Sample Size

a. Lawns. Not applicable.

b. Other Areas. The following sample sizes are established for each level of surveillance.

Reduced - 10% of the controlled areas
Normal - 25% of the controlled areas
Increased - 50% of the controlled areas

7. Sampling Procedures

a. Lawns. Just prior to the beginning of the month, the QAE will choose 25% of the lawns areas to be serviced, and make an initial baseline inspection to assess and document the estimated quantity and location of weeds present prior to treatment.

b. Other Areas. Each month, the QAE will choose the appropriate number of improved grounds areas based on the level of surveillance being used. Areas will be chosen on an arbitrary and rotating basis so that selection will be consistent from month to month, and so that all controlled locations will be periodically included in the sample.

8. Evaluation Procedures

a. Lawns. After the herbicide has been given sufficient time to work, the QAE will inspect the lawn areas chosen and compare with that of the baseline assessment. Quality of work will be considered satisfactory if there has been at least a 70% reduction in the quantity of weeds. Timely service will be considered unsatisfactory if the herbicide treatment is not completed in accordance with the Contractor's approved schedule.

b. Other Areas. Fence lines, cracks, obstacles, and other items in the selected areas may be inspected at any time during the month since they must be maintained vegetation free at all times. Evaluations of work quality will be based on the concept of substantial completion. In general, work will

be judged substantially complete (satisfactory) in an area if there is no omission of essential work and essentially 95% or more of the total work has been completed without rework being required.

c. General. In most all instances where the quality of work is considered unsatisfactory, timely service will also be considered unsatisfactory. Pest management records will be inspected for each sampled service at the end of the month when the invoice is received, and spot checks will be made during the month as required to verify that these records are routinely being completed within 24 hours of the service being completed.

d. Evaluation Work Sheets. Grades of either satisfactory (S) or unsatisfactory (U) will be recorded on the attached EVALUATION WORK SHEET for each work requirement. To avoid confusion, a separate work sheet will be used for each type of treatment. A brief but complete description of any noted defects, including the quantity of unsatisfactory work, will be provided and retreatment information recorded, if appropriate. Any violations of regulations or contract standards, such as pesticides not being applied per label instructions, will be annotated in the remarks column. Provide copies of all negative EVALUATION WORK SHEETs to the Contractor.

e. Unscheduled Inspections. Unscheduled inspections may be conducted on any service location, but should be limited to those where control problems would normally be expected or have been noted previously. Unscheduled inspections should be documented on a separate EVALUATION WORK SHEET from that used for planned sampling.

f. Validated Customer Complaints. The QAE will validate each customer complaint received on the standard customer complaint form. Normally, site visits will be required to validate complaints.

g. Call Backs. Retreatments will almost always be required and must be completed by the Contractor within 24 hours of notification unless delays were requested by building occupants. Each site retreated will be inspected by the QAE to ensure the proper level of control has been achieved and appropriate notations completed on the EVALUATION WORK SHEET.

9. Analysis of Results. At the end of the month, the QAE will summarize the results of the month's inspections and calculate ODRs and recommended payment deductions for each work requirement.

a. Payment deductions will be calculated using EPS, or some other appropriate estimating procedure, for all services except for broad leafed weed control in lawn areas. A MONTHLY PAYMENT DEDUCTION FORM (attached) will be used for this service.

b. ODRs will be calculated for each work requirement for the overall performance of weed control services by combining the inspection results from all EVALUATION WORK SHEETS and using the following formula:

$$\text{ODR} = \frac{\text{Total Number of Unsat Areas Observed in Sample}}{\text{Number of Areas Sampled}} \times 100$$

(1) If the ODR for a work requirement is less than or equal to its MADR, the Contractor's overall performance of that requirement is satisfactory. If the ODR is less than ½ the MADR, the QAE should recommend to the COR to notify the Contractor that performance is excellent and to keep up the good work. Consider using reduced surveillance for the coming evaluation period.

(2) If the ODR for a work requirement is greater than its MADR, overall performance of that requirement is unsatisfactory and the QAE should recommend to the COR that a CDR be issued to the Contractor, or that stronger action be taken. Increased surveillance should be used for the coming evaluation period (see paragraph 5 above).

SERVICE LOCATION	QUANTITY UNSAT		WORK REQUIREMENTS			CALL BACK DATE/TIME	RETREAT DATE/TIME	REMARKS
	LF	SF	TIMELY SERVICE	QUALITY WORK	DAILY PEST RECORDS			

QUALITY ASSURANCE PLAN #12
SAMPLE MONTHLY PAYMENT DEDUCTION FORM
SCHEDULED WEED CONTROL

CONTRACT NO.:_____ TREATMENT:Broad Leafed Weed Control

	SUMMARY FOR THE PERIOD 1 DEC 95 - 31 DEC 95	TIMELY SERVICE	QUALITY WORK	DAILY RECORDS
A.	Relative Value of Services (From PRS)	10%	85%	5%
B.	Price per Service (Schedule of Deductions, Item 8a or 8b)	$ .50	$ 4.25	$ .25
C.	Population (Number of 1000 SF of Lawn Areas Treated)	644.688	644.688	644.688
D.	Number in Sample Defective	24.8	24.8	0
E.	Defects Observed Outside Sample	0	0	0
F.	Total Observed Defects (E + F)	24.8	24.8	0
G.	Number of Services Reworked by Contractor	-	12.0	0
H.	Number of Services Reworked by Government or others	-	0	0
I.	Net Services Deducted at Schedule Price (F - G - H)	24.8	12.8	0
J.	Net Amount to Deduct (B x I)	$ 12.40	$ 54.40	$ 0
K.	Deduct Government Rework, Actual Cost or at Schedule Price (B x H)	$ 0	$ 0	$ 0

L.	LDs Government Rework (20% x K)		$ 0	$ 0	$ 0
M.	LDs on All Other Defects [10% x B x (F - H)]		$ 1.24	$ 10.54	$ 0
N.	Other Adjustments ("-" indicates deduction)		$ 0	$ 0	$ 0
O.	Total Deductions (J + K + L + M + N)	$ 13.64		$ 64.94	$ 0

TOTAL PAYMENT DEDUCTIONS = $ 78.58

AUTHORIZED SIGNATURE DATE

QUALITY ASSURANCE PLAN #13
UNSCHEDULED MISCELLANEOUS PEST CONTROL

1. Contract Requirements. Unscheduled Miscellaneous Pest Control Services

Work Requirements	Standards of Performance
a. Timely Service	Service provided within specified period after order (Paragraph C.15)
b. Quality Work	In conformance with quality standards, control levels, and procedures specified (Paragraph C.15)
c. Daily Pest Management Records	Completed in accordance with DoD Service guidance (Attachment J-C6)

2. Primary Method of Surveillance. 100% inspection

3. Maximum Allowable Defect Rate (MADR)

a. Timely Service	3%
b. Quality Work	3%
c. Daily Pest Management Records	5%

4. Quantity of Work. The quantity of work will be the number of services ordered to be completed during the month.

5. Level of Surveillance. Not applicable

6. Sample Size. Not applicable

7. Sampling Procedures. Not applicable

8. Evaluation Procedures. The QAE will evaluate the Contractor's performance at least once for each service ordered, normally by determining if control has been achieved immediately after receiving notice that work is complete. Unscheduled services with several key work phases may require a number of inspections while the work is in progress, and each service should be periodically inspected while in

progress to ensure the Contractor is complying with all required contractual and regulatory provisions, such as pesticide label instructions, personnel requirements, etc.

a. Work Evaluation. When determining the overall quality of work grade to be assigned for each delivery order, the QAE must carefully consider the total scope of work required and subjectively judge whether it has been substantially completed by the Contractor without an inordinate amount of rework being required. Generally, the QAE should grade a delivery order satisfactory overall if there has been no willful departure from the contract, there is no omission of essential work, and essentially 95% or more of the total work has been completed. If overall work quality for a delivery order is considered unsatisfactory, timeliness must also be considered unsatisfactory.

b. Evaluation Worksheets. Quality of work will be evaluated at each inspection and a brief, but complete, description of any defects will be recorded on the attached EVALUATION WORK SHEET. A separate EVALUATION WORK SHEET will be filled out for each service. At the final inspection of each delivery order, overall grades will be assigned to the work requirements for the overall performance of the work in the delivery order. Copies of all negative EVALUATION WORK SHEETs will be provided to the Contractor.

c. Call Backs. Rework will normally always be required. Record all appropriate rework information on the EVALUATION WORK SHEET.

9. Analysis of Results. At the end of the month, the QAE will summarize the overall grades assigned for all the delivery orders completed during the month, then calculate observed defect rates (ODRs) for each of the work requirements using the following formula:

$$\text{ODR} = \frac{\text{Number of unsatisfactory overall grades}}{\text{Total number of services inspected}} \times 100$$

For example:

Number of unsatisfactory overall grades for timely service = 1
Number of delivery orders inspected = 4

ODR for timely service = 1 ÷ 4 x 100 = 25%

a. If the ODR for a work requirement is less than or equal to its MADR, overall performance of that requirement is satisfactory for the month. If the ODR is less than ½ the MADR, the QAE should recommend to the COR to notify the Contractor that performance is excellent and to keep up the good work.

b. If the ODR for a work requirement is greater than its MADR, overall performance of that requirement is unsatisfactory and the QAE should recommend to the COR that a CDR be issued to the Contractor, or that stronger action be taken.

c. Payment deductions, including liquidated damages, will be calculated using the work requirement weights set forth in the PRS table and subtracted from each completed indefinite quantity delivery order invoiced by the Contractor.

DATE/TIME	WORK REQUIREMENTS			CALL BACK DATE/TIME	RETREAT DATE/TIME	REMARKS
	TIMELY SERVICE	QUALITY OF WORK	DAILY PEST MGMT RECORDS			

IV. CONTRACTOR'S OVERALL PERFORMANCE EVALUATION. NAVFAC MO-327 and the Service RSED (V3.2) implementation guide provide guidance in determining the Contractor's overall monthly performance for each service; how to use the PRS table and the QAE's inspection results to calculate the total payment due for each service; and how to go about correcting problem areas of performance. This paragraph provides additional information on the completion of the MONTHLY PAYMENT DEDUCTION FORMs included in the sample QA plans, and includes a sample monthly summary report. (need Component equivalent document citation)

A. Monthly Payment Deduction Form. These forms are very useful for summarizing the results of each month's inspections and illustrate how the CONSEQUENCES OF CONTRACTOR'S FAILURE TO PERFORM REQUIRED SERVICES and ESTIMATING THE PRICE OF NONPERFORMED OR UNSATISFACTORY WORK clauses, the Schedule of Deductions, the PRS table, and the QAE's completed EVALUATION WORK SHEETs are all used in calculating the total payment due for each contract requirement. The format of these forms should be tailored by the user. Other sample formats may be found in the NAVFAC MO-327, the NAVFAC RSED implementation guide, and as mentioned previously, computer programs are available which will perform and document basically the same calculations.

B. Analysis of Results. The end result of the monthly inspection process is the overall evaluation of the Contractor's performance for each pest control service inspected. Such an evaluation provides a summary of the Contractor's performance to the contracting officer, COR, QAE, customer representatives, and the Contractor. Overall performance is important in determining whether to increase, decrease, or maintain surveillance at the same level; whether to issue one or more CDRs to the Contractor or take stronger administrative actions; and points out service areas which require greater QAE and Contractor QC emphasis during the next evaluation period. Therefore, at the end of each month the QAE should complete and forward for the COR's approval a MONTHLY SUMMARY REPORT, in a format similar to the sample shown in Table 1. Almost all the information required to complete this summary can be taken directly from the MONTHLY PAYMENT DEDUCTION FORMs included with the sample QA plans.

C. Contract Discrepancy Report (CDR). When the Contractor's overall performance for any given work requirement is unsatisfactory, the QAE will recommend to the COR that a CDR be issued. Instructions on the use of CDRs, along with a typical format, are included in Chapter 6 of NAVFAC MO-327.

D. Recommended Deductions. The QAE will recommend to the COR those payment deductions that should be made. All work documented as not in compliance with the contract requirements (nonperformed or unsatisfactorily performed) is subject to payment deductions plus a 10% or 20% administrative cost (liquidated damages) in accordance with the provisions of the "CONSEQUENCES OF CONTRACTOR'S FAILURE TO PERFORM REQUIRED SERVICES" clause, Section E. Since Government forces are normally not available, the Contractor will usually be required to reperform the work; the 10% factor would be used in this case. However, the Government may choose to let the work go until the next scheduled occurrence.

SERVICE	MADR	PREVIOUS ODR	CURRENT ODR	VALIDATED CUSTOMER COMPLAINTS	CDR (Y/N)	PAYMENT DEDUCTIONS
QA Plan #1 - Service Calls						
a. Timely Service	3%	9.5%	15.0%	1	Y	$ 19.80
b. Quality Work	3%	10.6%	10.0%	2	Y	$ 23.40
c. Proper Procedures Followed	5%	6.0%	10.0%	0	Y	$ 6.60
d. Daily Pest Management Record	5%	8.7%	10.0%	0	Y	$ 3.30
QA Plan #2 - Scheduled Nuisance Pest Control						
a. Timely Service	3%	2.9%	6.7%	1	Y	$ 10.63
b. Quality Work	3%	5.3%	4.5%	1	Y	$ 33.67
c. Daily Pest Management Record	5%	4.1%	3.5%	0	N	$ 2.41
QA Plan #3 - Structural Wood Inspection						
a. Timely Service	3%	2.7%	14.2%	N/A	Y	$ 5.50
b. Quality Work	3%	4.8%	14.2%	N/A	Y	$ 46.75
c. Daily Pest Management Record	5%	3.7%	14.2%	N/A	Y	$ 2.75
QA Plan #4 - Subterranean Termite/Powder Post Beetle Control						
a. Timely Service	3%	1.7%	6.7%	N/A	Y	$ 3.40
b. Quality Work	2%	0.0%	0.0%	N/A	N	$ 0.00
c. Daily Pest Management Record	5%	10.2%	4.5%	N/A	N	$ 5.90
QA Plan #5 - Drywood Termite/Unscheduled Stored Products						
a. Timely Service	3%	3.5%	6.4%	N/A	Y	$ 4.69
b. Quality Work	0%	0.0%	0.0%	N/A	N	$ 0.00
C. Daily Pest Management Record	5%	8.2%	7.5%	N/A	Y	$ 6.04
QA Plan #6 - Scheduled Stored Products Pest Control						
a. Timely Service	3%	7.3%	4.8%	0	Y	$ 8.70
b. Quality Work	0%	1.3%	2.1%	1	Y	$ 60.65
c. Daily Pest Management Record	5%	4.1%	6.3%	0	Y	$ 19.66
QA Plan #7 - Adult Mosquito Surveillance						