

Protective Force Protocols

for
ESS Supported Performance Tests and Exercises



U.S. DEPARTMENT OF ENERGY



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MEMORANDUM FOR DISTRIBUTION

FROM: GLENN S. PODONSKY
CHIEF HEALTH, SAFETY AND SECURITY OFFICER
OFFICE OF HEALTH, SAFETY AND SECURITY
Cheryl M. Stone
WILLIAM J. DESMOND
for ASSOCIATE ADMINISTRATOR FOR
DEFENSE NUCLEAR SECURITY

ROBERT J. WALSH
DIRECTOR FOR SECURITY
ENERGY, SCIENCE AND ENVIRONMENT
Robert J. Walsh

MARK R. THORNOCK
DIRECTOR, SAFEGUARDS AND SECURITY DIVISION
OFFICE OF SAFETY, SECURITY, AND INFRASTRUCTURE
OFFICE OF SCIENCE
Mark R. Thornock

SUBJECT: Performance Test Working Group Results – Force on
Force Protocols and Rules of Engagement

The Department's vital interest in achieving timely Design Basis Threat (DBT) implementation and in promoting the "elite" protective force concept prompted senior security managers to initiate a process to enhance the effectiveness and efficiency of Force-on-Force (FoF) performance testing. To that end, the Performance Test Working Group (PTWG) was chartered to review best practices throughout the complex and develop a set of common FoF Protocols and Rules of Engagement (ROE) for Departmental use. An interim set of protocol/ROE documents was developed last year. Those interim documents have since been completed, distributed, implemented, and successfully tested in performance test exercises throughout the Department.

Lessons learned from those performance test exercises have now been incorporated by the PTWG into a comprehensive set of formal Protocols and ROE and are distributed as an attachment to this memorandum that serves as an umbrella agreement between Office of Health, Safety and Security (HSS), National Nuclear Security Administration (NNSA), and Energy, Science and Environment (ESE). Respective site organizations are encouraged to carefully examine this document and to implement, to the fullest extent possible, the approaches described. Correspondingly, the Office of Independent Oversight will employ this document as a basis for planning upcoming inspection-related FoF tests. We believe that this will enhance both Department-wide consistency and the overall effectiveness of FoF performance testing, regardless of context. In particular, the Protocols describe innovations, such as the "aspect of battle" test concept and expanded use of surrogate facilities, which are designed to assist a cost-effective, yet rigorous test program. We further expect that these innovative concepts will harmonize the performance testing process with newly-emergent, more technologically-oriented protection strategies.

The PTWG charter also establishes an orderly process for the annual update and revision of these Protocols and ROEs. We encourage all Departmental elements to provide continuing feedback through their designated representatives in the PTWG or directly to the PTWG co-chairs, Dr. James McGee of HSS and Mr. Robert Brese of NNSA. Thank you for your cooperation and support in this matter.

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1.0 Introduction

Force-on-force (FOF) performance testing and related performance exercises have long played a vital and highly visible role in U.S. Department of Energy (DOE) activities ranging from vulnerability assessments to protective force inspections. Recent developments in Design Basis Threat (DBT) implementation and the Department-wide “elite” protective force initiative have drawn renewed attention to the need for achieving the greatest degree of effectiveness and efficiency from the activities. Senior managers have also identified the need for consistency in the conduct of FOF tests to ensure comparable results throughout the Department.

In response to these identified needs, the Chief, Office of Health, Safety and Security (HSS), the National Nuclear Security Administration (NNSA) Associate Administrator for Defense Nuclear Security, and the Director of the Office of Security for the Deputy Secretary for Energy, Science and the Environment (ESE) established a Performance Test Working Group to develop a set of FOF performance testing protocols and rules of engagement (ROE) to guide all NNSA and ESE sites engaged in such testing. In particular, these common protocols and ROE are intended to serve as an “umbrella agreement” between the HSS Office of Security Evaluations, which conducts inspections of physical security performance, and the NNSA and ESE sites that are subject to such inspections. The Performance Test Working Group, with representation from all organizations routinely involved in FOF testing, will routinely analyze the applicability of FOF protocols and ROE and provide for the orderly update and revision of protocols, ROE, and the “umbrella agreement” whenever needed.

This document presents the resulting FOF protocols. A document provided under separate cover contains the weapons effects and related simulation ROE developed in conjunction with the revised protocols. These ROE cover the

weapons and related simulation devices (e.g., explosive effects simulations) for those weapons and simulation devices most commonly used in the Department’s FOF performance tests at the present time. These protocols and ROE represent a consolidation of current “best practices” from around the Department. They are meant to serve as general guidance for the conduct of FOF exercises pending the completion of the permanent Performance Test Working Group’s “zero-based” analysis of the entire FOF process.

The implementation of these protocols and ROE comes during a time of great change in the Department’s approach to protective force training and testing. The introduction of new and more complex weapons and other physical security systems, the increased performance expectations for protective forces, and the continuing need for budgetary restraint and cost-effective solutions to enhanced security requirements all combine to dictate more creative and nuanced approaches to FOF performance testing. Although FOF tests have traditionally involved simulated sitewide battles on actual site terrain, the new protocols envision more flexible approaches allowing the substitution, where appropriate, of “aspect of battle” limited-scope performance tests (LSPTs) and the use of surrogate facilities. Broadly speaking, “appropriateness” is a function of the particular test data collection objectives and the extent to which these objectives can reasonably be met through the use of limited-scope activities and/or surrogate facilities.

Although these protocols and ROE are intended to apply at all NNSA and ESE facilities, they were developed with specific reference to the FOF requirements of fixed sites. The nature of the mission and operations of the Office of Secure Transportation (OST) may require additional consideration and tailoring, which will be reflected at a later date in an OST-specific addendum to this document.

The DOE/NNSA has an established process for determining the effectiveness of a site's overall protection system, and a vital part of this process is the use of performance testing. Performance tests are used to validate and verify the figures of merit and effectiveness that have been assigned to protective force operations as they apply to detection, assessment, response, interruption, and neutralization.

Performance tests remain an integral component of safeguards and security training. The most appropriate and useful method of evaluating a protective force's ability to perform certain routine and emergency duties in its operating environment is to observe it performing those or similar duties under controlled and sometimes simulated conditions—that is, in limited-scope and FOF performance tests. Performance tests range in complexity from simple demonstrations of a single individual skill to major integrated tests involving an entire protective force shift operating with other elements of a facility's security system.

Historically, artificialities driven largely by operational limitations and safety concerns have influenced and often constrained performance testing activities—particularly large-scale, complex tests and those involving firearms and FOF action. Requirements spurred by safety concerns have resulted in more formal, prolonged, and detailed planning and more stringent guidelines for conducting performance tests that involve firearms of any kind. Performance tests should be planned, conducted, and evaluated in accordance with the protocols established herein and in a manner that promotes achievement of programmatic goals.

This document presents the protocols and ROE to be followed for both limited-scope and

large-scale FOF performance tests. It sets forth basic procedures and responsibilities for planning, conducting, and evaluating such tests. The intent is to provide a standard framework to govern the conduct of such tests in connection with Independent Oversight inspections at NNSA and ESE sites and to ensure consistent approaches for all other FOF applications, approaches designed to enable program management to compare results from site to site. Tests must also be conducted in full consideration of all safety-related concerns associated with firearms and other aspects of the testing process.

The protocols were developed from widely-recognized “best practices” and are based on the premise that for any given FOF action or process, there is a “best” procedure that should be followed by all sites and organizations. Similarly, the ROE for weapons effect simulation are based on the premise that for any given weapon system (or comparable simulation, such as explosive effects) there is a preferred simulation, based upon best available technical data.¹

It should be emphasized that these protocols and ROE apply to all FOF performance testing regardless of scale or intent. Traditionally, the term “FOF” has been reserved for large-scale, sitewide tactical system performance tests. Although the term continues to apply to such tests, for the purpose of these protocols and ROE, it applies with equal force to LSPTs, so long as they involve combat between elements, of any size, armed with engagement simulation system (ESS) weapons.

¹ There should never be site-specific variations for weapons or munitions effects. For example, representations of the terminal ballistic effect of a particular 5.56mm round should not vary from one DOE site to another. Similarly, explosive penetration effects for a particular explosive configuration against a particular barrier structure and composition should be consistent. However, site-specific variations in barrier configuration should be respected, with simulation values consistent with those found in Site Safeguards and Security Plans.

3.0 Definitions

Adversary Team

Players who act in the roles of adversaries during performance tests. May also include Insiders (defined below). In considering the history of protective force performance testing within the Department and the type of test being conducted, the terms Opposition Force (OPFOR) and Composite Adversary Team (CAT) are synonymous with this definition.

Aspect of Battle

Reduced-scope exercises/tests that focus on replicating one or more limited aspects of the engagement. “Aspect of battle” exercises/tests will be conducted under the guidelines established for a full-scope event, and should be conducted in well-defined, controllable areas (e.g., within a protected area boundary) to facilitate safe and effective control. The benefit of the “aspect of battle” simulations includes scaling down the logistical requirements and operational impacts to sites/facilities, allowing for a more thorough examination of defined test objectives. Specific limitations (e.g., play area restrictions) associated with “aspect of battle” exercises/tests must be fully briefed to all participants (including the Shadow Force) prior to conduct of the exercise/test.

Controller

An individual assigned responsibilities to assist the senior Controller in the control of a performance test. Such responsibilities generally include enforcing rules of engagement, safety rules, and other control measures, as well as ensuring the timely and proper accomplishment of specific scenario events. Controllers must receive formal training to perform their duties. In some instances, Controllers may perform duties as both Controller and Evaluator.

Engagement Simulation System (ESS)

An ESS permits assessment of weapons effects during simulated hostile engagements. The Multiple Integrated Laser Engagement System, known as MILES, is one example of an ESS and involves equipment consisting of weapons-

mounted laser transmitters and laser sensors mounted on potential targets (e.g., personnel, vehicles, buildings). Other types of ESSs are dye-marking cartridges, paint balls, blank-fire systems, and inert weapons systems. ESS weapons may only be modified according to standards established by the Office of Security and Safety Performance Assurance.

Evaluator

An individual who is assigned responsibility for formally evaluating the performance of security system elements during an exercise. When possible, Evaluators should be from an outside source and have a strong tactical and/or technical background. Evaluators must be trained to perform their duties, and their abilities need to be commensurate with their assigned responsibility. For Independent Oversight inspections, the Office of Security Evaluations provides Evaluators from its pool of trained personnel to evaluate the protective force, the site designated Controllers, and the conduct of the exercise in its entirety. For activities other than Independent Oversight inspections, programs or site offices may choose to provide independent Evaluators or rely on site Evaluators and/or Controllers.

Exercise Window

The portion(s) of the performance test process when scenario activities may be executed and elements of the protection system are being evaluated. The window is normally opened when all players, Controllers, the Shadow Force, and other participants are in place and ready to begin, and when all administrative, logistical, and safety requirements for testing have been met. The window is normally closed when test objectives have been met and further useful scenario activity is unlikely.

Force-on-Force (FOF) Exercise

An FOF exercise is an activity involving two or more personnel operating as opposing forces (i.e., protective force versus adversary) with an ESS. FOF exercises may be conducted for training,

validation, and/or evaluation. Training exercises may be scaled to support particular training objectives. Similarly, validation or evaluation performance tests are scaled to fit identified test objectives and may range from smaller scale “aspect of battle” tests to large-scale tests of multiple aspects.

Insider

A person or category of employee who is assigned to play a specified role to assist the adversary team. For purposes of a performance test, an Insider is considered part of the adversary team. Insiders may be either active or passive, depending upon the elements of the site’s Design Basis Threat (DBT) policy, the Site Safeguards and Security Plan, the position occupied by the Insider, and the details of the scenario being tested. The normal definitions of Insiders are as defined in the DBT.

Limited-Scope Performance Test (LSPT)

A performance test designed to validate or evaluate specific skills, equipment, or procedures. The events of an LSPT may be interrupted to facilitate data gathering, and the events may be directed or redirected in order to achieve specific goals. An LSPT may or may not involve the use of ESS, live fire, role players, or an adversary team.

Major Performance Test

A large-scale performance test that is usually enhanced by the use of an ESS and is designed to test the ability of protective force skills, tactics, procedures, and equipment to counter a threat to a U.S. Department of Energy (DOE) security interest. A major performance test may also evaluate other aspects of a security system (e.g., alarm systems, barriers). Major performance tests usually employ an adversary team. Although each test normally includes a planned scenario, major performance tests involve considerable free play. The events of a major performance test may be interrupted to facilitate data gathering or repositioning, and the events may be directed or redirected in order to achieve certain goals.

Multiple Integrated Laser Engagement System (MILES)

A specific type of ESS; this equipment consists of weapons-mounted laser transmitters and laser sensors mounted on potential targets (e.g., personnel, vehicles, buildings). MILES permits assessment of weapons effects during simulated hostile engagements.

Observer

An individual who witnesses or is present at a performance test, but who is not a player, Controller, or Evaluator. Persons who observe protective force activities must be strictly controlled and located so as not to affect the conduct or outcome of the exercise. The number of observers should be kept to a minimum.

Player

An active participant in a performance test. May be a member of the site protective force, other Federal agencies, local law enforcement agencies, (role-playing) site employees, or the adversary team.

Safety Representative

An individual responsible to the Test Director for ensuring that performance test plans satisfactorily address safety-related DOE policy issues and site-specific safety concerns. Responsible for identifying and mitigating hazards associated with the performance test area and planned scenario/test activities so that the test can be conducted with realism and a reasonable level of undue risk. Safety Representatives are assigned by the responsible DOE field element, the facility contractor safety organization, and the Office of Security Evaluations, as necessary. Safety Representatives are Trusted Agents (defined below) and are subject to confidentiality requirements.

Senior Controller

An individual, responsible to the Test Director, who controls performance test preparations and conduct, and to whom all Controllers report.

Shadow Force

For facilities with an operating facility or security interest requiring protection, as opposed to a test area, a Shadow Force of appropriately briefed and equipped protective force personnel must be deployed for the protection of the security interest.

Test Director

An individual who is assigned overall authority and responsibility for planning and conducting (initiating and terminating) a performance test. The Test Director is assisted by the Senior Controller and a Safety Representative. For Independent Oversight activities, the Office of Security Evaluations designates an individual as the Co-Test Director. The Co-Test Director is the counterpart to the site Test Director

and the Site Senior Controller. The Co-Test Director is assisted by the Exercise Coordinator and Safety Representative. All Independent Oversight Evaluators report to the Co-Test Director.

Trusted Agent

Individuals whose involvement in the planning, coordination, or conduct of a performance test results in knowledge about test or scenario events that must

be kept confidential in the interest of test validity. The Trusted Agent is to maintain neutrality for the purpose of the exercise and not act for or against the interests of the adversary or the entity being tested. Trusted Agents assist in developing, validating, and implementing scenario events and other test parameters necessary to achieve test objectives. The number of Trusted Agents should be kept to a minimum.

Performance testing is intended to collect data on the capabilities of site protective forces and other security system elements, as they relate to the protection of security interests. Performance testing is conducted for numerous reasons, such as for training, validation, and evaluation of a Site Safeguards and Security Plan, or to fulfill the requirement for a periodic FOF exercise. To develop useful and valid information, the conditions under which performance tests are conducted must be as realistic as possible, and any necessary constraints and artificialities must be designed to have a neutral effect on player performance. The following general guidelines are applicable to performance testing:

- Performance testing activities should be conducted as safely as possible while accommodating the need to achieve an acceptable level of realism.
- To the extent reasonably possible, impacts of performance tests on site operations should be understood and agreed to by the Test Directors. This should be accomplished through early planning and cooperative scheduling.
- To better accommodate the identification of trends, multiple exercises or multiple iterations of exercises should be conducted whenever possible, based on exercise objectives and/or assessment criteria.
- Exercises should be conducted in locations or in facilities that accurately represent the potential battle environment. It is usually desirable to conduct exercises in the actual site environment. However, surrogate facilities can provide a useful alternative to the actual target environment when facility operational considerations do not allow for training and/or exercise opportunities. In all instances exercise locations should be selected to support accomplishment of exercise objectives.
- Restrictive control measures, such as test area boundaries and off-limits areas, should

be based primarily on the needs of scenario play and should not unduly constrain the free movement of players. While the needs of test control, participant safety, and operational impact must be considered, artificial or unnecessary levels of restriction must be avoided.

- Tabletop and other analytical activities may compensate for lack of realism in scenarios.

To meet the objectives of the Independent Oversight process, the Office of Security Evaluations has established the following general guidelines for performance testing conducted for inspection purposes:

- “Win/lose” conclusions must not be drawn from a single performance test, including a major performance test. Performance tests are used to evaluate various skills, procedures, equipment, strategies, and tactics, and to identify trends. The insights gained from performance tests are factored into overall conclusions about the protection system or its elements. The performance test plan should emphasize that “win/lose” conclusions are not an issue, and that the data collected from the exercise provides valuable information to correct deficiencies and/or improve the protection system strategy, or is used for training purposes.
- Individual FOF performance tests are never rated separately and are not evaluated in terms of “win/lose” criteria. FOF tests are evaluated in accordance with specific performance standards pertaining to tactical planning, response plan execution, individual and team tactics, command and control, communications, application of force, and test conduct. Test results contribute, along with results from other evaluation areas, to an overall rating of protective force effectiveness that is reflected in a protective force topical rating.

- The design of FOF test scenarios should be consistent with the test objectives. Test objectives will be designed to ensure the generation of adequate data to permit evaluation of protective force performance as measured against the defined performance standards. For this reason, test scenarios are designed to be representative and not worst-case. Specific test objectives and the mix of limited-scope and large-scale tests necessary to achieve these objectives will be determined by the planning element of the Security Evaluations inspection team.

If Security Evaluations determines that the artificialities and/or restrictions associated with a planned test are so severe as to jeopardize the realization of valid results, Security Evaluations has the discretion to not conduct the test.

4.1 Simulations

Artificialities associated with test play should be minimized. Simulations are generally a poor substitute for actual performance and should be used only when unavoidable. When simulations cannot be avoided, they should be as realistic as possible. Simulations designed to represent actions that cannot feasibly be performed (e.g., parachute insertion, helicopter insertion, explosive breaching of barriers) must not create an advantage or disadvantage for either side. The primary Trusted Agent(s) must develop reasonable and acceptable simulations when required.

The goal for effective simulations is to give players the opportunity to see, hear, feel, smell, or taste those things that could influence tactical decisions and actions. An effective simulation should include, but not be limited to:

- Accurately representing the basic physical features of the device being simulated (length, width, height, weight, color, etc.)
- Accurately simulating the sensory effects of the device (explosive report of the fired weapon, explosive report at detonation, any projectile travel indicators such as sight or sound, visual discharge indicators, impact effects, etc.).

4.2 Snapshot-in-Time

The term “snapshot-in-time” is used to describe the positioning of protective force personnel on duty based on previous observations of routine post and patrol activities. The protective force to be engaged in the exercise will be pre-positioned in a “normal” posture as previously determined by the specified snapshot-in-time. This snapshot is necessary to replicate site conditions immediately prior to a presumably unexpected assault, and to compensate for the artificially high anticipation level that is inherent in exercise players who, in reality, are fully cognizant that an exercise is about to begin. Snapshots must portray actual working conditions as witnessed during their collection, including the configuration of equipment (e.g., donned or accessible) and combat readiness of personnel. Documented snapshots should include at a minimum the date, time of day, target condition, Security Police Officer location, specific crew, and weapons and equipment configuration. In addition, snapshots should also include Central Alarm Station and/or Secondary Alarm Station monitor assessment configurations. Independent Oversight will use the documented performance test results compiled by Security Evaluations’ protective force inspection team for donning equipment and combat readiness.

The site is responsible for providing the snapshot-in-time to be used during FOF exercises. Snapshots should be collected discreetly if possible. The snapshot-in-time to be used during an exercise can be collected well in advance of the exercise and/or culled from a bank of existing snapshots gathered by site personnel for other exercise or validation purposes. For Independent Oversight activities, the inspection team reserves the right to validate the selected snapshot-in-time to ensure that it matches realistic site conditions. The site and inspection exercise directors may agree to modify the positioning of protective force players to create a realistic environment or because safety considerations at the time of the exercise preclude the exact placement of a person. In such instances, the closest safe positioning that offers similar cover, concealment, and/or tactical options as the original position will be used.

Exercise Controllers must enforce snapshot positioning until initiation of the exercise to prevent unfair advantage to either side. The snapshot should be enforced, with no movement until the initiation of the attack. Protective force player(s) movement can

begin when they detect an overt act or are made aware of detection (radio communications). Allowances may be necessary during instances where protective force personnel are collocated with pre-staged adversaries (i.e., in “aspect of battle” scenarios where detection is assumed to have already occurred). If patrols are allowed to move from their snapshot positioning prior to attack initiation, there must be significant controls in place to maintain realistic patrolling activities.

The adversary team is also subjected to limitations corresponding to the protective force snapshot-in-time. For each exercise scenario, the Test Director(s) will determine the notional adversary pathway from off site to the target location (for Independent Oversight activities, this is a determination made jointly by the site and Independent Oversight Test Directors). This will customarily take place prior to the identification of a specific snapshot-in-time to obviate concern that the adversary pathway has been “shaped” to take advantage of specific protective force locations identified in the snapshot-in-time.

Once the adversary pathway and the snapshot-in-time have been determined for a particular scenario, the planning team will overlay the two and determine the point at which the adversary would move from the stealth or deceit mode to the overt use of force. This will be either at the point where the pathway brings the adversary into a “high probability of detection” zone (equivalent to a Perimeter Intrusion Detection and Assessment System with multiple complementary sensors) or at the point where the pathway brings the adversary into direct tactical contact with a protective force member. The planning team may also require the adversary to use overt force prior to these points in the furtherance of other exercise objectives (e.g., initiation by vehicle bomb or by long-range sniper attack). The initial event always takes place at a time and in a manner dictated by the Test Director(s); it is never undertaken on the initiative of individual adversaries or protective force members.

By rigorously enforcing the process described above, test planners ensure, to the greatest extent possible, a realistic reflection of the protective force tactical situation at the onset of a surprise attack. It should be emphasized that FOF exercises should never be used for the purpose of measuring a protective force’s ability to detect adversary actions involving stealth or deceit, since the requirement to issue ESS equipment and to enforce an exercise window means that a protective force will always be in an artificially high state of alert at the onset of an FOF exercise.

4.3 Shadow Force

Command and control of the Shadow Force during active performance testing is of paramount importance in maintaining protection of the security interest and the safety of all participants. The Shadow Force Controller must ensure that Shadow Force personnel know the exercise area and applicable security emergency response plans. The Senior Controller must maintain absolute control of the Shadow Force throughout the entire exercise. The following must be established:

- Assembly and inventory procedures for personnel and equipment
- Uninterrupted communications with Shadow Force Controllers
- Defined restricted areas for the staging of the Shadow Force to prevent commingling
- Deployment criteria and codes for the release of the responding Shadow Force
- An emergency contingency plan for exercise role players and Controllers in the affected area during deployment of the Shadow Force
- Re-assembly and inventory procedures in case the Shadow Force is recalled to the staging area
- An exercise-abort protocol for stand-down of exercise players and Controllers in the event of ongoing compensatory measures.

4.4 After Action Review

An “After Action Review” (AAR) should be planned with participating protective force personnel as soon as possible after the exercise. Selected exercise participants, Controllers, and Evaluators must participate in the AAR. This approach allows for more in-depth lessons learned and exercise activity discussion. The AAR may include a detailed description of the adversary’s objectives and tactics deployed. Each element leader should then describe the tactics employed to counter the attack objectives and adversary tactics. Technical and tactical enhancement opportunities should be captured. Specifics discussed during AARs include: command and control, communications, individual and team tactics, application of force, response and containment,

and applicable physical security equipment. For Independent Oversight activities, Security Evaluations conducts a Composite Adversary Team (CAT) debrief and a thorough Evaluator debrief the following day, and selected site representatives are invited to attend.

For comprehensive validation exercises, the Trusted Agent(s), exercise planners, and cognizant

Federal Representative(s) must validate the adversary plan/test scenario as “credible.” Validation includes the types of equipment, weapons, and explosives to be used; staging areas; the number of adversaries; and tactical maneuvers.

5.0 Responsibilities for Exercise Planning and Conduct

The planning, coordination, and approval process for performance tests and exercises involves many formal steps and milestones. Facilities and protective force organizations must have specific, approved local procedures for performance tests or exercises involving the use of ESS equipment.

Responsibility for detailed planning and conduct of FOF exercises falls to the individual Federal site offices and their contractors. Performance testing associated with Independent Oversight activities is a cooperative effort with the inspected facility. The Office of Security Evaluations establishes expectations and participates in the planning process; the appropriate site organizations accomplish detailed planning and test conduct; and provides specific logistical and control support and evaluates performance.

5.1 Planning

The responsible Federal site office and its contractors will coordinate all exercise-related activities to ensure that all safety- and security-related issues are addressed. Planning responsibilities include:

- Providing the overall performance exercise goals, objectives, parameters, and expectations in sufficient detail to allow the site planners to meet expectations
- Selecting the target and developing the scenario (scenario details will be coordinated with the primary Trusted Agent)
- Monitoring the exercise planning process, and providing any additional information, clarifications, and decisions needed by test planners
- Determining the necessary placement of Evaluators during exercise, and conducting and coordinating their placement with the

primary Trusted Agent and/or other appropriate facility test planners

- Accomplishing the detailed planning and coordination necessary to conduct the performance test, including the publication of a performance exercise plan (including safety plan/safety annex) to the level of detail and in the format prescribed by local performance testing procedures.

To meet the objectives of the Independent Oversight process, the Office of Security Evaluations will have the following planning responsibilities for performance testing conducted for inspection purposes:

- Providing the site with overall performance test goals, objectives, parameters, and expectations in sufficient detail to allow the site planners to meet expectations
- Selecting the target and developing the scenario; scenario details will be coordinated with the primary Trusted Agent
- Monitoring the test planning process, and providing any additional information, clarifications, and decisions needed by test planners
- Determining the necessary placement of Evaluators during test conduct and coordinating their placement with the Senior Controller and/or primary Trusted Agent.

5.2 Personnel

In the planning and execution of FOF exercises, clearly defined roles and responsibilities must be established and defined. For exercise planning and conduct, Table 1 illustrates personnel with their respective roles and responsibilities. The left column depicts the typical site exercise roles and responsibilities. The right column identifies roles

and responsibilities for Security Evaluations personnel during inspection-related FOF activities. Together the

columns illustrate the relationship between site and Security Evaluations personnel.

Table 1. Personnel Roles and Responsibilities

Site	Office of Security Evaluations
<p>Exercise/Test Director</p> <ul style="list-style-type: none"> Has overall authority and responsibility for planning, coordinating, and conducting the exercise, and after-action activities. 	<p>Test Director</p> <ul style="list-style-type: none"> Ensures test plans and conduct meet Independent Oversight needs. Works with site Test Director.
<p>Senior Controller</p> <ul style="list-style-type: none"> Responsible for exercise preparation and conduct. Responsible for all Controller activity. 	<p>Test Director</p> <ul style="list-style-type: none"> Works with Senior Controller. Ensures planning details and conduct procedures are agreeable and support performance test goals.
<p>Primary Trusted Agents/Exercise Planners</p> <ul style="list-style-type: none"> Agree upon scenario events, simulations, and other details of exercise conduct. Often the primary Trusted Agents are the Exercise Director and Senior Controller. 	<p>Primary Trusted Agents/Test Planners</p> <ul style="list-style-type: none"> Agree upon scenario events, simulations, and other details of test conduct. The primary Trusted Agent(s) are the Test Director and the Exercise Coordinator.
<p>Safety Representative</p> <ul style="list-style-type: none"> Identifies and mitigates potential hazards and monitors exercise planning/conduct to ensure that accepted reasonable risk levels are not exceeded. Coordinates/executes adequate safety walkdowns. Develops the safety plan. Coordinates with emergency management personnel to ensure emergency medical/fire protection services will be present or on call for duration of exercise. Presents safety portion of exercise briefings (general and area safety rules, including safety portion of rules of engagement, associated risk assessment information, medical response, munitions and firearms safety, and vehicle/personnel safety). 	<p>Safety Representative</p> <ul style="list-style-type: none"> Works with the site Safety Representative. Ensures that test planning and conduct address identified hazards and other safety issues.
<p>Evaluators</p> <ul style="list-style-type: none"> Assess/evaluate performance during the test. 	<p>Evaluators</p> <ul style="list-style-type: none"> Assess/evaluate performance during the test. Perform assigned duties under the direction of the Test Director.
<p>Adversaries</p> <ul style="list-style-type: none"> Play the part of the adversaries during the exercise. 	<p>CAT</p> <ul style="list-style-type: none"> Plays the part of the adversaries during the performance test.

Table 1. Personnel Roles and Responsibilities (continued)

Site	Office of Security Evaluations
<p>OPFOR Coordinator</p> <ul style="list-style-type: none"> Perform assigned duties under the direction of the Senior Controller. This ensures that the test is conducted safely and according to approved plans. 	<p>Exercise Coordinator</p> <ul style="list-style-type: none"> Perform assigned duties under the direction of the Test Director.
<p>Insider</p> <ul style="list-style-type: none"> If necessary, participates as a part of the adversary team during planning and, if appropriate, during test conduct. 	<p>Can fill active Insider role if requested from site.</p>
<p>Role Players</p> <ul style="list-style-type: none"> If necessary, play the parts of workers or any “players” in the test other than the protective force and adversary team players. 	<p>Assist as needed/requested.</p>
<p>Controllers</p> <ul style="list-style-type: none"> Perform assigned duties under the direction of the Senior Controller. This ensures that the test is conducted safely and according to approved plans. (Controllers may “dual hat” as Evaluators). 	<p>N/A</p>
<p>Protective Force</p> <ul style="list-style-type: none"> Plays the part of the Protective Force during the exercise. 	<p>N/A</p>
<p>Limited Trusted Agents</p> <ul style="list-style-type: none"> Accomplish planning and coordination details (e.g., facility managers, Safety Representative). 	<p>N/A</p>
<p>Any site personnel who must be present or standing by during performance tests to comply with site requirements or agreements (e.g., Shadow Force, building managers, fire department, ambulance crew).</p>	<p>N/A</p>

5.3 Scenario Development

During FOF exercises, the affected facility or protective force being evaluated is expected to assist in scenario development by:

- Providing timely access to the facilities and information needed to determine appropriate targets, testing requirements, and scenario components.

- Providing any information requested, including maps, building floor plans, and other site and/or operations-specific information.
- Providing primary Trusted Agent(s) who can represent the facility in assuring the reasonableness of proposed scenario events and in developing and implementing control measures and simulations (when necessary) associated with scenario events. Trusted Agent(s) will coordinate validating the credibility of the exercise scenario with the cognizant Federal official.

- Providing an Insider (when requested) to assist in developing an exercise plan. The Insider must be selected in coordination with the Federal site office or its contractors.

If an Insider is not deemed necessary, the facility will provide – normally through the primary Trusted Agent(s) – appropriate information that an Insider, if used, would be able to provide.

For Independent Oversight activities, the Security Evaluations test planning team will have primary responsibility for developing the adversary attack scenario, including target selection and specific adversary actions. Security Evaluations will coordinate scenario development and scenario events with the site primary Trusted Agent(s).

The phase diagram (Figure 1 on the following page) captures the major activities to be accomplished while developing the scenario.

5.4 Test Conduct and Control

Federal Official/Contractor

The responsible Federal official and or its contractors will have the following responsibilities during performance test conduct:

- Provide a Test Director, Senior Controller, and Safety Representative to ensure the success and safety of the performance test.
- Ensure that Controllers and Evaluators are prepared for their tasks and attend the required pre-test briefings.
- Provide Controllers to the adversary team during rehearsals.
- Ensure that the adversary team carries out the scenario events and fulfills its other responsibilities according to the approved test plan.
- For Independent Oversight activities, provide an adversary coordinator to aid with logistics and coordination of site activities and procedures. (The site adversary coordinator usually doubles as the Lead CAT Controller).

Site Being Evaluated

The site being evaluated will have the following test conduct responsibilities:

- Conduct all required safety and other test-related briefings.
- Establish and enforce critical simulated-task timelines.
- Prepare for and conduct exercises in accordance with approved procedures and the approved test plan; this includes all administrative, logistical, operational, security, and safety aspects of test activities.

Independent Oversight

The Office of Security Evaluations will have the following responsibilities during Independent Oversight activities and performance test conduct:

- Security Evaluations' Test Director, Exercise Coordinator, and Safety Representative will work closely with their facility counterparts (site Test Director, Senior Controller, and Safety Representative) and assist them in any way necessary to assure the success and safety of the performance test.
- Ensure that Evaluators are prepared for their tasks and attend the required pre-test briefings.
- Ensure that the adversary team carries out the scenario events and fulfills its other responsibilities according to the approved test plan.

5.5 Performance Test Logistics

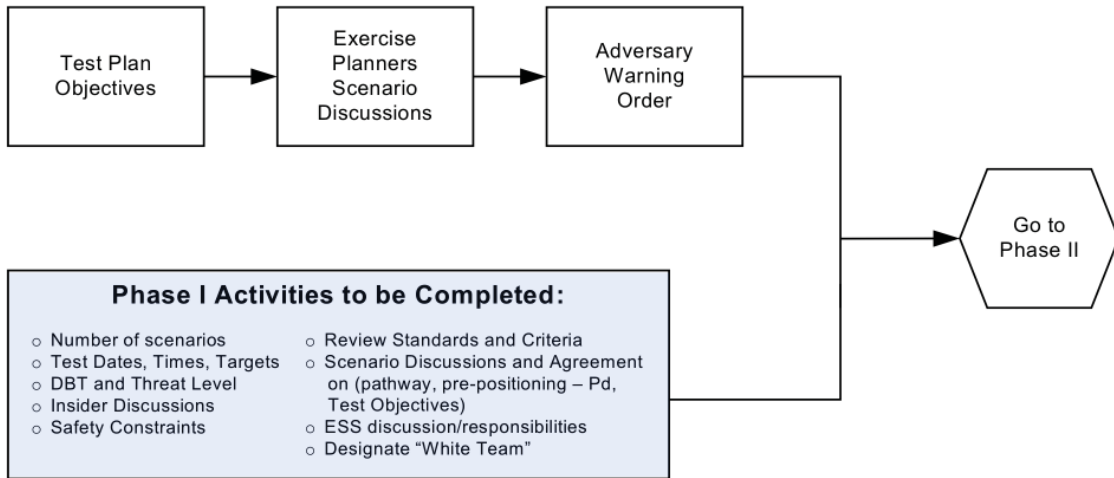
The inspected site will be responsible for providing all test-related logistical support, except that provided by Security Evaluations (see below). Logistics requirements will be provided to the site as early as possible, but not later than two weeks prior to the exercise, except in cases of Phase III changes (see Figure 1). These requirements are normally similar to those associated with internal site exercises, and include but are not limited to:

- All equipment, vehicles, and administrative transportation required for protective force participation in the performance test
- All equipment and transportation required by Controllers and Evaluators
- Provision of emergency services (fire, medical, maintenance) as required by local procedures and/or the approved test plan
- If available, site ESS equipment that records, stores, and provides a readout of engagement details
- If available, Control Net radios for selected Security Evaluations Evaluators
- If available, protective force (net) radios for selected Security Evaluations Evaluators
- Planning/training facilities for adversary team use before and after the performance test
- Vehicles for adversary team use during test play and/or for pre-test preparations
- Site authorizations and training for special activities (e.g., area access, and radiological and confined space issues.)

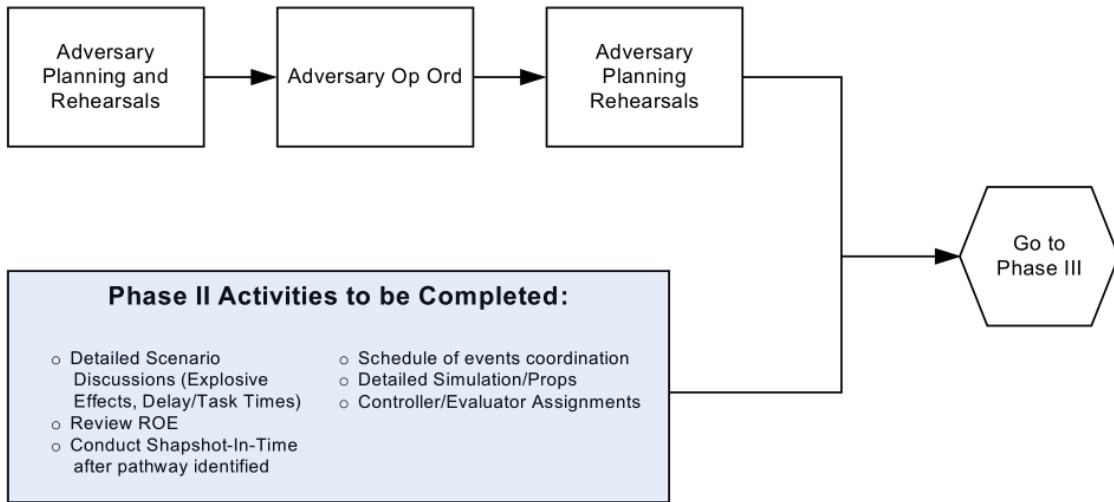
For Independent Oversight activities, the Office of Security Evaluations will coordinate the following logistics responsibilities (and may request site assistance):

- Arrange for the ESS equipment (and associated weapons), ammunition, smoke, and pyrotechnics necessary to equip all performance test players in accordance with test plans. ESS equipment will normally be the new generation of equipment that records, stores, and provides a readout of engagement details.
- Arrange for the coordination of props between the site and the adversaries.
- Arrange for and/or provide specialized equipment needed by the adversary team.
- Arrange for and/or provide specialized equipment needed by Security Evaluations Evaluators. This may include radios if the inspected facility cannot provide Evaluators with sufficient radios on the performance test Control Net.

Phase I



Phase II



Phase III

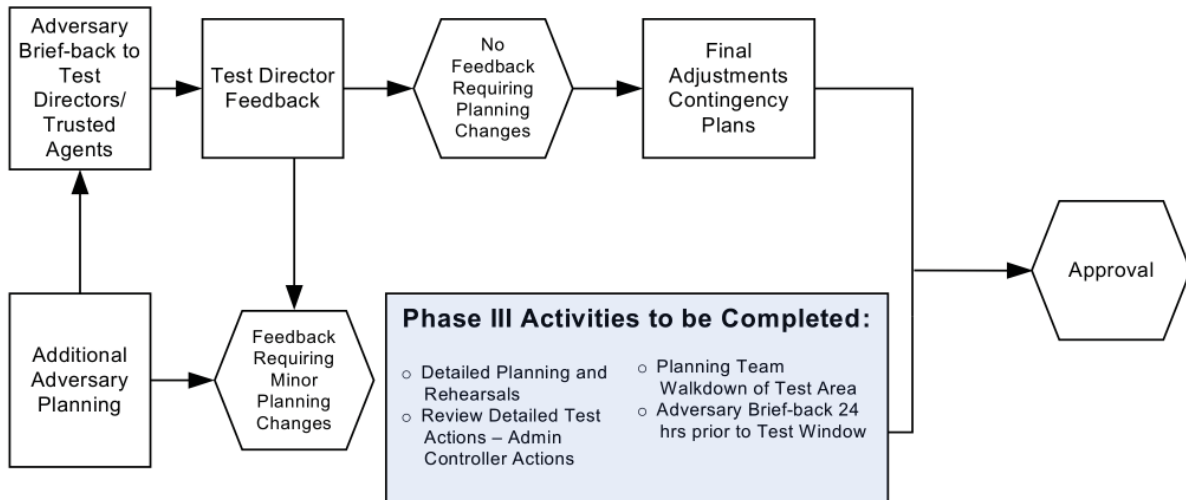


Figure 1. Scenario Development

6.1 Adversary Team Role

The role of the adversary team is to simulate, as closely as possible (within the constraints imposed by available time and equipment, safety considerations, and available skills), the actions of the postulated adversary for a specific test. Individual members of the adversary team – or the team in aggregate – are not required to possess all of the skills or knowledge that the adversary they are simulating (e.g., terrorist cell) might possess. The adversary team is not being tested in the performance testing activities, and members of the adversary team are not required to personally demonstrate some of the skills (explosives, electronic systems, pilot, parachutist, etc.) attributed to the role(s) they are playing. However, to achieve as much realism as possible during testing, the adversary team will be required to physically perform or simulate the actions associated with a specific scenario (for example, explosive breaching operations). Within the control and safety parameters established for the test, the adversary team will actually perform the normal physical and tactical activities (such as movement, communication, and use of simulated firearms and other equipment permitted by the DBT and Adversaries Capabilities List [ACL]) required to accomplish their assigned mission.

Where possible, use of an adversary force from outside the site being tested that is capable of utilizing the full range of attributes assigned in the DBT and ACL adds to the validity of the performance test and has proven effective at mitigating some variables in exercise scenarios. The use of external advisors, without a vested interest in the outcome, has also proven effective in achieving optimum results from performance testing while reducing potential issues.

6.2 Scenario Planning Responsibilities

The adversary team will be assigned a target and a mission by test planners. They also may be

given specific instructions regarding such things as methods and tactics, weapons, or equipment they are to employ when such specific instructions are important to test objectives. Within the bounds of such guidelines, the adversary team is free to develop specific plans to accomplish their mission. These plans are subject to approval by the Exercise/Test Directors in cooperation with the facility primary Trusted Agent(s). “Approval” review is a formal process that considers safety, realism, fairness, and capability to execute from a test control standpoint. Major exercises must receive approval from the appropriate Federal representatives.

When the facility has provided a person to play the role of an Insider, the Insider will be considered part of the adversary team and will fully participate in the team’s information gathering and planning process and rehearsals.

6.3 Intelligence Gathering and Reconnaissance

A wide range of information/data, including sensitive unclassified information, is practically unlimited because of the capabilities of modern intelligence-gathering equipment and techniques and the long timelines often available for collection. However, due to time and resource constraints, the adversary team has very limited opportunities to develop information for planning and conducting its missions. Consequently, the following guidelines will be followed regarding information that is provided to the adversary team and that the adversary team is allowed to collect. These are particularly relevant to those instances where the adversary players are “outside” parties, not site personnel. Obviously, adversary players drawn from the site population could already be intimately familiar with the facilities being evaluated.

- The adversary team will be provided with any open-source information they wish, including information concerning the facility, target, and site operations.

- The adversary team will normally be provided with classified information only if the scenario involves Insider assistance or if a pathway to specific classified information has been identified.
 - Data available through unclassified sources, such as the Internet or public reading rooms, will also be available to the adversary team.
 - If an individual is provided to play the part of an Insider, that individual will normally provide only classified information known to him or her or reasonably obtainable by him or her.
 - If an Insider is postulated, but is not provided, classified information will be provided to the adversary team, but will be limited to information that the specific type of Insider would have or could obtain.
 - If a surrogate building is used, participants may be provided a tour of the mock facility for orientation purposes.
- During the planning phase, adversary team members may observe the performance test area from areas generally accessible to the public and from controlled areas that can be accessed without significant chance of detection. Such observations will be conducted overtly so as not to raise alarm if detected.
 - Observations will be coordinated as necessary through the primary Trusted Agent(s), and any appropriate notifications will be made so as to avoid the possibility of a security incident should any of the team members be observed and reported.
 - Observation for the Security Evaluations' CAT is further defined as two (one daytime and one nighttime) supervised "windshield" tours.

7.0 Design Basis Threat and Adversary Team Capabilities

The capabilities attributed to the adversary team for performance tests will be within the scope of the DBT and any local threat statements. The adversary team may use all weapons, equipment, and other attributes commensurate with the approved DBT.

The ACL will be used to define the weapons, ammunition, explosives, and other equipment that will be considered part of the adversary team's inventory.

8.0 Participant Selection

The goal in selecting performance test participants (players) is to test a group that is representative of the protective force.

For major performance tests, an entire protective force shift, or that portion of a shift working at the targeted facility, may participate. The specific shift(s) tested will depend upon a number of factors, including the date and time of the test and the established shift work schedule. However, several factors should be stressed:

- **Realism:** The shifts tested should be operating in their normal environment or security area/facility in normal post configuration.
- **Broad Coverage:** Exposure of protective force personnel to the benefit of training and evaluation under simulated engagement

situations should be maximized to the greatest extent possible. When a series of scheduled FOF activities requires more than one day to complete, a different protective force shift should be tested each day.

- **Shift and Post Integrity:** Only personnel assigned to the tested shift should be tested, and all participants should be assigned to their normal posts/patrols/duties, according to a normal shift schedule. Personnel from other area/facility shifts should not be substituted, and shift personnel should not be assigned non-routine posts in an effort to improve performance by “hiding” personnel perceived to be weaker performers. The Test Directors must agree with any shift substitutions.

9.0 Safety

Safety is an important consideration in planning and conducting performance tests. For this reason, a Safety Representative is included as part of the test planning team and is responsible to the Exercise/Test Directors for working with assigned facility personnel to identify and help mitigate risks associated with testing activities. Controllers, instructors, any participant, and/or any individual may stop a performance test for safety or security reasons by announcing “EXERCISE FREEZE.”

Realism is also critical to performance testing and must be preserved to the maximum extent possible. The types of activities being tested often

involve inherent risks, such as those associated with operating vehicles, running, negotiating barriers, working in an environment posing various radiological and industrial hazards, and using small arms. However, risk should be minimized while achieving the necessary levels of realism. The goal is to achieve a reasonable balance so that meaningful tests can be safely conducted.

All FOF exercise safety plans must be reviewed and approved by the contractor or Federal Safety Representative. The Federal site office Safety Representative will concur with the safety plan for all major performance tests.

10.0 Trusted Agents

To ensure that site-specific, need-to-know aspects of sensitive and classified information are protected, performance test information must be properly categorized from a need-to-know standpoint. Furthermore, in some instances the need to protect such site-specific information must be specifically identified to test participants. This will customarily be done through the use of a non-disclosure agreement, designed to address such information. Non-disclosure agreements are not used to control the dissemination of performance test results through appropriate channels, and they may not be used to prevent or inhibit the necessary fulfillment of reporting responsibilities or the role of the program office representatives or Independent Oversight inspectors. However, it should also be noted that all performance testing activity is subject to the standard classification requirements spelled out in Departmental safeguards and security classification policy.

For Independent Oversight activities, the Office of Security Evaluations requires the Trusted Agent Form depicted in Figure 2. Trusted Agents involved in test planning and/or conduct must strictly maintain the confidentiality of the scenarios. The form must be completed and maintained by the Security Evaluations Performance Test Team. The primary Trusted Agent(s) must have the authority to approve scenario events and test parameters on behalf of their organizations. Other individuals involved in test planning, coordination, or approval – such as test planners, safety Controllers, and building managers – and who thereby gain some level of knowledge regarding a test are also considered limited Trusted Agents and must protect all test-related information.

11.0 Evaluation Standards and Criteria

The inspected facility may—at its discretion and for internal purposes—concurrently collect its own evaluation data (normally using site-supplied Controllers as Evaluators) independent of Security Evaluations Evaluators. Security Evaluations will prepare and provide trained Evaluators to observe and formally evaluate the performance of the elements of the site’s security system being tested. Security Evaluations will determine the number of Evaluators to be used, their physical locations during the test, and the evaluation criteria to be used.

For Independent Oversight activities, Security Evaluations uses the below standards and criteria for evaluating the conduct of a performance test.

- **Planning:** Planning provides predetermined sets of activities and orders to accomplish the overall security mission in any situation that could reasonably be anticipated; to provide for the expeditious and orderly development

of ad hoc plans to address situations that could not have been reasonably anticipated; and to enable the protective force to act and react in a confident, effective, and timely manner.

- **Communications:** Communications provide rapid, accurate, and understandable exchange of essential information between members of a protective force element, elements of the protective force, and appropriate command and control agencies without compromising friendly information or allowing the successful injection of spurious information.
- **Command and Control:** Command and control provides clear, effective, and in-depth control, coordination, and utilization of the protective force and other security assets in the pursuit of mission accomplishment.
- **Individual Tactical Skills:** Individual tactics are used to move, occupy positions, observe,

and/or deliver fire in a manner that is effective in neutralizing the effect of adversary observation, movement, and fire.

- **Team Tactical Skills:** Team tactics are used to move and deliver fire in a coordinated team effort that provides for mutual support, minimizes exposure to adversary observation, detection, or fire, and brings the maximum force practical to bear on the adversary at the optimum time and place for mission accomplishment.
- **Application of Force:** Protective force personnel apply the proper amounts and types of force required (and in a timely manner) to counter an immediate threat of death/severe bodily injury (to himself, other facility personnel, or members of the public) and/or to defend a facility (or transport) against intruders attempting to gain unauthorized access into areas/transportation vehicles containing strategic special nuclear material. Danger to protective force personnel and non-hostile personnel is minimized consistent with containment, denial of access, prevention of escape, or neutralization. Unnecessary escalation of the problem from excessive force is avoided.

- **Response Plan Execution:** Responding protective force personnel are well versed in protection objectives delineated in approved site protection policies and plans (e.g., denial of the adversaries' access to target and/or containment of intruders to preclude the removal of nuclear weapons, nuclear weapons components, or SNM) and effectively execute (in a timely manner and with appropriate forces) the response strategies and tactical skills mandated by those plans.
- **Evaluation of Controllers and Exercise Conduct:** Controllers are well versed and trained to safely conduct and monitor an ESS exercise. They are trained in Rules of Engagement to include weapons capabilities and effects. In addition, controllers are knowledgeable and sufficient in quantity to manage exercise guidelines and safety parameters. Controllers have jurisdiction of both Shadow Force and Exercise players. Site planners and Trusted Agents are knowledgeable about exercise protocols.

OFFICE OF SECURITY EVALUATIONS

MEMORANDUM OF UNDERSTANDING AND AGREEMENT REGARDING TRUSTED AGENT RESPONSIBILITIES

This memorandum summarizes the purpose, duties, responsibilities, and relationships associated with the use of Trusted Agents in connection with independent oversight performance testing.

When conducting performance tests in conjunction with independent oversight appraisals, the Office of Security Evaluations typically employs one or more Trusted Agents – appointed by the inspected facility/organization/operations office – who assist in planning and conducting the performance tests. The Office of Security Evaluations places a great deal of reliance on Trusted Agents – with their intimate knowledge of site configuration, organizations, and procedures – to ensure that the necessary detailed planning, coordination, and local resource allocation are achieved on an expedited basis. Since the Trusted Agent both represents his/her facility/organization and is privy to sensitive performance test information (e.g., scenario details), it is important that the Trusted Agent have the necessary authority to make appropriate decisions and that he/she and his/her managers understand the confidentiality requirements of the position.

Trusted Agents have two main responsibilities. First, they represent their facilities/organization in agreeing to various details of performance test planning and conduct. Such details may include but are not limited to the identification and selection of appropriate “insiders” or insider information, selection of realistic scenarios and scenario events, and the development of appropriate control measures and simulations. The Trusted Agent must have the authority to agree to such test details on behalf of the facility/organization. Sensitive scenario details or other planning details that could compromise scenario information cannot be referred for approval to higher managers or any other individuals who are not Trusted Agents. Second, they work closely with the Office of Security Evaluations planning team and site personnel to ensure that performance tests are rigorous, realistic, and safe. In this regard, they must willingly provide all information necessary to devise and conduct realistic, meaningful, and safe performance tests. Further, they must take the lead in working with other site personnel to assure that the necessary planning, coordination, and logistical requirements are accomplished; they must do this without divulging or compromising sensitive information that might affect the validity of test results.

Since these responsibilities place the Trusted Agent in a position that requires a high level of trust to be placed in him/her by both his/her own management and by the Office of Security Evaluations, it is important that all parties involved understand the trusted agent’s position and agree to bestow or accept the necessary trust. The signatures below formally acknowledge this understand and agreement.

TRUSTED AGENT:	_____	_____
	Name	Signature/Date
MANAGER:	_____	_____
	Position	Signature/Date
MANAGER:	_____	_____
	Position	Signature/Date
Office of Security Evaluations:	_____	_____
	Position	Signature/Date

Figure 2. Trusted Agent Form

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