# PROJECT SPECIFIC AGREEMENT BETWEEN THE UNITED STATES OF AMERICA AND THE KINGDOM OF SAUDI ARABIA CONCERNING THE ENHANCEMENT OF CRITICAL ENERGY INFRASTRUCTURE SECURITY

# Section 1 PURPOSE AND OBJECTIVES

- 1.1 The purpose of this Project Specific Agreement (PSA) between the United States of America (US) and the Kingdom of Saudi Arabia (KSA) (collectively herein the "Parties") is to provide direct and indirect assistance in conducting comprehensive System Effectiveness Analysis of critical energy sites, conceptual design analysis, performance testing, technical specification review, training related to security methodologies, review and comment on related documentation, identification of technical or procedural solutions to future security requirements for critical energy infrastructure sites and other critical supporting infrastructure and sites identified by the Ministry of Interior of the KSA (hereinafter "the project").
- 1.2 With the exception of Section 4.1 of this PSA, this PSA shall be implemented in accordance with the terms of the Technical Cooperation Agreement between the United States of America and the Kingdom of Saudi Arabia of May 16, 2008 (TCA). It will be implemented, on behalf of the US, by the U.S. Department of Energy (DOE), and on behalf of the KSA, by the Ministry of Interior (MOI). With the exception of Section 4.1 of this PSA, in the event of any inconsistency between this PSA and the TCA, the provisions of the latter shall govern.

# Section 2 AUTHORIZATION

- 2.1 This project will be carried out under the auspices of the Industrial Security Working Group (ISWG) of the United States-Kingdom of Saudi Arabia Joint Commission on Infrastructure and Border Protection (hereinafter the "Joint Commission") and in accordance with the provisions of the TCA. The ISWG co-chairs are: for DOE, the Deputy Assistant Secretary for Infrastructure Security and Energy Restoration; for MOI, the General Secretary, Higher Commission for Industrial Security.
- 2.2 The ISWG will consult closely with the Office of Program Management MOI and Program Management Elements for FSF support, also of the Joint Commission, to ensure effective coordination of, and avoid duplication between, activities conducted under this PSA and activities conducted by Program Management Elements for FSF support.

# Section 3 SCOPE OF WORK

The following sections describe the major tasks associated with this project.

# **3.1 SYSTEM EFFECTIVENESS ANALYSIS**

# 3.1.1 Goal and Threat Definition

The goal of this task is to enhance protection effectiveness against high level Design Basis Threat (DBT) threats facing critical energy sites in the KSA through the conduct of a System Effectiveness Analysis (SEA). Additionally, this project will explore potential upgrades that could significantly reduce risk to these facilities. This will be accomplished by using the DBT defined in July 2007 for critical KSA infrastructure, conducting a full threat spectrum SEA against this DBT at these sites, conducting an upgrade analysis that encompasses possible rapid upgrades and long-term comprehensive upgrades, identifying tactics and training that will help the on site security forces defeat the threat, and providing a conceptual design for rapid upgrade and comprehensive upgrades at these sites. The SEA Teams will refine and reach consensus on the DBT to be used for each SEA using the July 2007 DBT developed for MOI as a guideline.

# 3.1.2 Scoping and Logistics

Select SEA Team members will conduct a scoping and logistics visit to each designated site. The site characterization includes at least one scoping visit, which establishes the coordination and logistics requirements for the detailed characterization visit. The scoping visit determines the necessary access to the people, information, and facility areas that will be required. The SEA Team will develop and provide the MOI co-chair of the ISWG, at least three months prior to SEA commencement, a summary of the information collection requirements for the characterization phase of the project. The team will then work with the MOI co-chair of the ISWG (or designee) to finalize logistics, approvals, site visit plans, limited scope performance test (LSPT) plans, and development of the vital areas (critical targets) for the facility. The purpose of this coordination is to maximize the effectiveness of the full SEA Team when they arrive for the characterization phase.

### 3.1.3 Facility Characterization

The formal site characterization visit includes a thorough review of all Design and Evaluation Process Outline (DEPO) related systems and facility operations, some limited scope performance testing (LSPT), and a detailed response analysis. The job of the SEA Team is to accurately characterize and analyze the physical protection systems of the facility. This requires a mixed skill and knowledge set, including depth and breadth of expertise for facility protection, site operations, maritime operations, vehicle barriers, explosives detection and damage prediction, response forces, and electronic security systems. A sufficient number of team members will be included to provide the necessary level of expertise for each function.

# 3.1.4 Facility Baseline and Upgrade SEA

The methodology that will be used by the SEA Team in analyzing the site is:

- Identify the targets
- Define the threat
- Characterize the facility (land and maritime)
- Perform limited scope performance testing as required (LSPT)
- Determine protection system strategy
- Determine vulnerable states and most vulnerable paths
- Evaluate the physical protection system effectiveness (risk)
- Define potential upgrades, and then re-evaluate the system until desired risk reduction is achieved

This methodology is the standard applied in the United States for evaluation of ultra high consequence targets against a DBT.

# 3.1.5 ASSESS and JCATS Model Construction

The Analytic System and Software for Evaluating Safeguards and Security (ASSESS) computer code will be used for this project. ASSESS was developed for use by DOE sites to determine how effectively their Physical Protection Systems (PPS) protect against a spectrum of insider, outsider, and collusion threats. ASSESS consists of six modules: Manager, Facility, Outsider, Insider, Neutralization, and Collusion. The software is used to compute the probabilities of interruption, neutralization, and system effectiveness described above. This software is used to model extremely high consequence targets.

Probabilities of neutralization will be analyzed using ASSESS and Tabletop methodologies then validated using the Joint Conflict and Tactical Simulation (JCATS). JCATS is a multi-operator computerized engagement simulation developed for analysis of large-scale force-on-force engagements. The simulation contains large databases for weapons, equipment, and individual combatant performance, vehicle bombs, stand-off weapons, helicopters, and other items. The simulation is also capable of modeling operations on varied terrain, maritime, land/water nexus, and day/night conditions.

# 3.1.6 Analysis, Attack Simulations, and Upgrade Evaluation

For this task the SEA Team will model the facility, both inside and outside the fence and waterside, with ASSESS and JCATS. Detailed analysis and possible performance testing will be focused on access control, detection systems, delay systems, and the ability of the response force to defeat terrorists before they breach the existing alarmed perimeter or maritime protection and response mechanisms. These models will be used for upgrade analysis and will be of particular value to the facility in designing response force tactics and training.

Once sufficient data has been collected and analyzed, the risk associated with the protection system and the defined threat will be calculated. If the risk is assessed as acceptable, then the

analysis is complete. Otherwise, system weaknesses are identified and upgrades are postulated and discussed by the ISWG members. Steps two and three in the process are then repeated until satisfactory upgrades are identified which reduce the risk to an acceptable level.

The risk evaluation process the team will use is based upon the following assumptions:

- The probability of occurrence of an adversary attack is 1.0;
- Target consequence values are defined during the SEA process for critical facility sabotage targets;
- Adversary acts would be planned and executed at a time that would provide maximum opportunity for adversary success;
- The threat attributes used will be those identified in the DBT;
- The protection strategies to be evaluated will be those provided by the site security staff, as well as recommendations from the SEA Team; and
- The analyses will be conservative; i.e., in subjective areas, the advantage will be weighted towards the adversary.

# 3.1.7 SEA Report

The SEA Report documents all site characterization, threat information, existing system analysis, upgraded system analysis, and an overall risk evaluation. The report will also identify system and component performance testing needed to maintain or achieve effectiveness against the DBT level assaults.

# 3.1.8 Conceptual Design

The SEA Team will prepare a conceptual design report for rapid and comprehensive upgrades that includes technology, systems, and response force upgrades recommended to defeat the working DBT.

Rapid upgrades are generally those changes to an existing PPS that can be accomplished in less than six months, do not involve major design or construction activities, and include sound security practices. Rapid upgrades are often identified as a result of a scoping visit or during the facility characterization process. Rapid upgrades are dependent on both the DBT and the PPS goals and objectives.

Comprehensive upgrades are those changes to an existing PPS that require up to twenty four months to be implemented, involve major design and/or construction activities, and major increases to response force capabilities. Comprehensive upgrades are only recommended after being supported by a full SEA, and upgrade analysis and performance testing that demonstrate required risk reductions.

The SEA Team will avoid making upgrade recommendations that are not supported by a proven track record in a high security environment, or that are not part of a sustainable system level solution.

# **3.1.9 Deliverables**

The deliverables for this task consist of a preliminary report and briefings as required that reflect the initial findings, recommended compensatory measures and preliminary rapid and comprehensive upgrades. A final SEA report and briefing will be delivered that contains final recommendations based on detailed analysis of upgrades, required performance testing and review by the full SEA Team.

# 3.1.10 Period of Performance

The average estimated period of performance for completion of a SEA is thirteen (13) weeks, including work performed in KSA and in the U.S., depending on the size and complexity of the site. This estimate assumes that all necessary logistics, approvals and requested information are provided by the MOI sponsors per the agreed upon schedule. Delays in coordination will extend completion time.

The conduct of SEAs will be impacted by scheduled holidays observed by both KSA and the US.

The SEA project leaders will monitor milestone progress and resource utilization to ensure PSA compliance.

# 3.1.11 Scope of Effort

More than one SEA can be conducted during overlapping time periods with additional personnel and simulation assets. The one existing experienced SEA Team can reasonably be expected to accomplish three to four SEA's per year. The fielding of more than one SEA Team will require additional time. DOE intends to build SEA operational capacity to a twenty person element divided into five four-person teams that could conduct approximately four to five additional SEAs during the first year. It is estimated that if fully resourced and supported, each additional team could reasonably accomplish three SEAs per year, given resolution of normal operational requirements such as scheduling, holidays, travel and coordination.

Based on MOI guidance, and depending on the order of scheduling, complexity of the site, number of internal critical targets and available logistical support, SEAs will be conducted on the following sites within the 12 month period of performance of this PSA. The sites identified by MOI are:

- Ras Tanura Petroleum Export Facility including Al Ju'ayamah Export Terminal
- Jubail Industrial City including Jubail Desalinization Plant
- Al Safiniyah Offshore GOSP Platform and/or Al Safiniyah Onshore GOSP
- Al Khafji GOSP/Petref Facility
- Yanbu Industrial City with Emphasis on Maritime Approaches
- Qurayah Power Plant
- Shoaibah Desalinization Plant and Shoaibah Power Plant
- Finalization of the Abgaig Oil Stabilization Plant SEA

The SEAs can be conducted in two six month phases.

# 3.1.12 Cost

The cost of individual SEAs will vary depending on the site size, complexity and number of critical targets within the site boundary. Annex A, which is attached to this PSA and constitutes an integral part hereof, contains individual site cost estimates based solely on available information, without having visited the sites and scoped the effort.

The total estimated cost to conduct the SEA's listed above in paragraph 3.1.11. is \$6,253,540 USD.

# 3.2 NON-SEA RELATED PERFORMANCE TESTING

# 3.2.1 Goal

The goal of this task is to provide direct and indirect assistance to the MOI, in conjunction with the efforts of OPM-MOI, in the area of performance testing of systems, technology, tactics, techniques and procedures directly related to or providing support for enhancing the security of critical infrastructure in the KSA. Examples under this task would include projects such as the evaluation of frangible ammunition for the FSF, testing of vehicle barriers, evaluating intrusion detection sensors, advanced equipment for the FSF and pipeline security technology and techniques.

### 3.2.2 Scope

This task will generally address three areas of support:

- Testing of technologies that purport to improve the operational effectiveness of personnel, training or systems engaged in the protection of critical infrastructure.
- Testing of site or facility security systems to determine the effectiveness of the system as a whole, parts of a system or individual components. Testing of new technology components to determine their ability to integrate into existing systems and what effect the new components may have on the effectiveness of the system.
- Testing of new or modified tactics, techniques and procedures for the KSA's Facility Security Forces (FSF) to determine the effectiveness, efficiency and operational utility as applied to the FSF's mission set.
- Testing of new or modified tactics, techniques and procedures for the industrial security forces to determine the effectiveness, efficiency and operational utility as applied to the industrial security forces' mission set.

This task will normally be conducted using the following steps:

- Identify the system, component, tactic, technique or procedure to be tested.
- Identify the mission performance requirement. Procure test articles as required.
- Design the test.

- Conduct the test.
- Document the test parameters and results.
- Write the test report with results and recommendations.

# 3.2.3 Deliverables

The deliverable for this task will be interim briefings or reports if required and final detailed test reports and briefings with recommendations. The final reports will contain recommendations regarding development or employment of the technology, system, component, tactic, technique or procedure as requested by MOI.

# 3.2.4 Period of Performance

The time necessary to perform work under this task will vary depending on the size, type and complexity of the evaluation. The time necessary to acquire test articles will also influence completion times. An estimate of time required to complete each test will be furnished to the customer once the test parameters are known.

# 3.2.5 Cost

The cost for this task will vary depending on MOI needs and requirements. There is currently no work tasked or requested by the MOI in this area and no dollars associated with this support. When requirements in this area arise, DOE will provide, on request, a task order with a cost, schedule and deliverable estimate for MOI approval. Once this task order is approved, MOI will deposit the funds in accordance with paragraph 4.2 below.

# 3.3 TRAINING ASSISTANCE

# 3.3.1 Goal

The goal of this task is to provide training courses and other direct and indirect training assistance to MOI. Any training provided to FSF, will be coordinated with OPM-MOI, and be provided in a supporting role. Training requirements and topics will include:

- Training Needs Assessment for the MOI Regarding Security Methodology Training
- Security Methodology
- Human Reliability Programs
- Design and Conduct of System Effectiveness Analysis
- Design and Conduct of Performance Tests
- FSF Missions, Training and Force Development Requirements
- Industrial Security Force Missions, Training and Force Development Requirements
- Performing Initial Scoping and Design Work for Creation of a Security Engineering
- Curriculum at King Fahd Security College or Other MOI Designated College or University.
- Conduct Executive Training Courses as Requested by MOI
- Conduct SEA Preparation Training Classes or Seminars as Requested by MOI

### 3.3.2 Scope

This task area will include the provision of training classes in the KSA or in the US. This task may also include the design and execution of classes, production of training outlines and plans, training materials or other training related items or materials. This task area will also include assistance in the design, production and presentation of security related classes or curriculum as requested by MOI.

### **3.3.3 Deliverables**

The deliverables for this task will be the production of a written training needs assessment and execution of training classes in the KSA or in the US and any other training related items and/or materials as outlined in paragraph 3.3.1 above.

# **3.3.4 Period of Performance**

The time required to execute individual classes or produce training materials and plans will vary. Anticipated training classes range in length from three days to four weeks. The time required to produce materials and plans will be calculated and presented to MOI for approval once the mission, scope and requirements of the individual task is known.

# 3.3.5 Cost

The cost for each class or effort will vary depending on subject, length, complexity of the topic, number of instructors/technical personnel needed to execute the training, as well as the location of the training. The total estimated cost for this task is \$1,565,908.00 USD and will not exceed this amount. The daily billable amount for Senior Instructors will not exceed \$1970.00. This estimate includes the training needs assessment for the MOI, one National Training Course on Physical Protection and one Security Effectiveness Analysis Course and other training needs assessment. Annex B, which is attached to and constitutes an integral part of this PSA, contains a list of other available courses and their associated cost estimates.

# 3.4 CONCEPTUAL DESIGN AND TECHNICAL/PROCEDURAL SOLUTIONS

### 3.4.1 Goal

The goal of this task is to provide assistance in conceptual design and the identification of technical and/or procedural solutions to MOI requirements related to protection of critical infrastructure.

# 3.4.2 Scope

This task will include the provision of conceptual design assistance for security related components, sub-systems or systems. This task will also provide conceptual design assistance for those items requested by MOI that are not directly related to the conduct of a SEA. The actual flow of work under this task will vary depending on the size of the task and the technical complexity. The general flow used to accomplish this work consists of the following steps:

- The production of the MOI's requirements definition. This step insures the team understands the MOI's mission requirement, how the item or system will be used, the conditions under which it will be used, and the general concept of its employment.
- The conduct of a technical survey to determine available options and how they may be modified or integrated to satisfy the operational requirement.
- Performance of the concept design work and production of the final report containing findings and recommendations.

This task will also provide direct and indirect assistance to the MOI to identify technical or procedural solutions to emerging requirements supporting the enhanced security of critical energy infrastructure. This task will involve identifying existing technologies that meets operational requirements or the modification or integration of existing or emerging technologies that meets that meets the MOI's requirements. This task will also include the ability to provide rapid prototyping of requested items. Any items to be used by FSF will first be coordinated with OPM-MOI.

# **3.4.3 Deliverables**

The deliverables for this task will include written reports, plans, designs and surveys. Deliverables may also include prototypes, sub-systems or systems as required.

### 3.4.4 Period of Performance

The time required to accomplish individual tasks will vary based on scope, size, technical complexity, technological maturity and contracting requirements. Once the scope and requirements of the individual task is known, the team will provide to MOI a proposed time line for execution.

### 3.4.5 Cost

The cost for each conceptual design or technical assistance effort will vary depending on the scope, size, technical complexity, technological maturity and contracting requirements and number of technical personnel needed to complete the effort. An individual cost estimate for each effort will be prepared based on the mission requirement. A large or complex effort is projected to require two senior technical personnel working for ten (10) weeks, with smaller scope projects projected to require two senior technical personnel working for approximately five (5) weeks. The average daily cost for technical and engineering assistance under this task is

\$1770 USD per day per person. If this support is provided in KSA, then travel and per diem costs would also be required.

There is currently no work tasked or requested by the MOI in this area and no dollars associated with this support. When requirements in this area arise, DOE will provide, on request, a task order with a cost, schedule and deliverable estimate for MOI approval. Once this task order is approved, MOI will deposit the funds in accordance with paragraph 4.2 below.

# 3.5 REVIEW AND COMMENT ON TECHNICAL SPECIFICATIONS AND DOCUMENTATION

# 3.5.1 Goal

The goal of this task area is to provide assistance in the review and comment on technical specifications and documentation related to infrastructure security policy.

# 3.5.2 Scope

This task will include the provision of direct and indirect assistance to the MOI to review, comment on and/or assist in the production of technical specifications for technology, tactics, techniques and procedures supporting or relating to the security of critical infrastructure in the KSA. This task will also include the provision of direct and indirect assistance to the MOI to review and comment on various forms of documentation (policy, regulations, plans and programs) relating to internal security and the security of present and/or planned critical infrastructure.

# **3.5.3 Deliverables**

Deliverables for this task will include written comments and reviews, and direct and indirect assistance in the production of technical, regulatory and policy documents.

### 3.5.4 Period of Performance

The time required to accomplish individual tasks under this area will vary depending on the scope, length and complexity of the task. Once the scope and requirements of the individual task is known, DOE will provide to MOI a proposed time line for execution.

# 3.5.5 Cost

The cost for this task will vary depending on MOI needs and requirements, project length and the complexity of the effort. The total estimated cost for this effort is \$1,000,000.00 and will not exceed this amount. Upon receipt of a request for assistance by MOI, DOE will provide a task order with a cost, schedule and deliverable estimate for MOI approval. Once this task order is approved, work will commence. The average daily cost for one senior engineer or senior security analyst is \$1970 USD. If this support is provided in KSA, then travel and per diem costs would also be required.

### 3.6 PROGRAM MANAGEMENT AND SUPPORT

# 3.6.1 Goal

This task area will provide program management for all work conducted under this project, to include day to day direct support to the MOI through technical personnel residing in Riyadh for the purpose of performing liaison and technical advice and assistance tasks as required.

### 3.6.2 Scope

This task will provide project management services for all operational tasks performed under this project, both in the KSA and in the US. The work conducted under this task will include the oversight and management of cost accounting, reporting requirements, and scheduling. It will include the clarification of the MOI tasks and requirements and the resolution of issues that arise during the conduct of work under this project. This task area will also include facilitating and/or performing coordination required to conduct work under this project.

This task also includes funding for the augmentation of DOE teams with relevant subject matter expertise from other US Government agencies, to include the Department of Defense, Coast Guard, or others as required. Likewise, this task includes funding for DOE support to OPM-MOI activities, as required.

This task also includes funding for five engineers with expertise in all energy sectors, to include oil, natural gas, electricity, and petro-chemical processing and high security systems. These engineers will be stationed in KSA full-time at MOI headquarters, providing day to day technical advice and assistance to MOI in support of all activities included in this PSA. This task also includes funding for two local national hires to provide administrative, logistical and translation support to the five engineers at MOI headquarters. The CV's of the resident professional consultants/engineers shall be reviewed and accepted by the MOI prior to hiring or detailing to the above described positions.

This task also includes funding for three engineers with expertise in all energy sectors, to include oil, natural gas, electricity, petro-chemical processing, cyber security, and high security systems stationed in Riyadh at the US embassy. These engineers serve as primary members of the SEA teams and perform other tasks as required in support of this PSA.

# 3.6.3 Deliverables

Deliverables under this task area will include reports; briefings; coordination, both written and verbal; record keeping as appropriate; technical assistance and support to MOI; and attendance as required at meetings and working groups to insure the execution of this project.

# 3.6.4 Period of Performance

The period of performance of this task is the duration of this PSA, or whenever all activities under this PSA are completed.

# 3.6.5 Cost

The projected cost for the activities under this task area, to include both U.S. and KSA based support, and all associated travel costs, is \$6,940,171 USD. A detailed cost estimate is contained in Annex A.

# Section 4 PAYMENT TERMS AND CONDITIONS

- 4.1 Notwithstanding the last sentence of paragraph 2 of the TCA, the Parties agree that the KSA will pay for all costs of services performed, equipment provided and expenses incurred by the US under this PSA, including all costs of US Government direct-hire employees assigned to the KSA to perform services under this PSA.
- 4.2 The total estimated cost of this project is \$15,759,619 USD. Funds shall be deposited by the KSA in the dollar disbursement account (hereinafter "the Account") in the United States Treasury established pursuant to paragraph 3 of the TCA in this amount upon signature of this PSA and prior to the commencement of any work under this PSA. DOE shall use these funds to defray the costs of the project pursuant to this PSA. DOE shall request transfer of the funding from the Account after it has been deposited and will distribute those funds to the appropriate organizations that have been tasked to accomplish the work.
- 4.3 Should this estimate prove insufficient to complete the activities specified in this PSA, DOE will notify the MOI and provide an estimate of the additional funds needed to complete the project. The KSA will deposit these additional funds in the Account within a mutually agreed upon time after receiving this notification.
- 4.4 The costs for implementation of this PSA charged to the Account provided for in Section 3 of the TCA shall reflect the actual costs to the US Government. Contract costs reflect actual US Government contract prices plus standard hardship and other allowances and differential payments applicable for service in the KSA. The ISWG shall make available to MOI documentation of these costs as provided in Section 4.6 below.
- 4.5 All US Government policies and regulations concerning compensation, benefits and allowances and all other matters shall apply to all US Government employees assigned to the KSA to perform services under this PSA.
- 4.6 DOE shall keep accounts and records of the costs of the project, in accordance with its relevant regulations and generally accepted accounting principles, including those related to audits. DOE will provide the MOI with a monthly accounting of amounts expended to include remaining balances for all parties performing work under this PSA. Upon the completion of the individual tasks or the termination of this PSA, DOE shall provide the MOI with a final accounting of the amounts paid for the project within 60 days.

- 4.7 If this PSA is terminated for any reason, the MOI shall be liable for, and DOE shall retain payment for, all financial commitments of DOE made prior to the effective date of termination.
- 4.8 If, upon termination and the fulfillment of any financial commitments pursuant to Section 3, there are funds remaining with DOE, such funds shall be returned to the Account.

# Section 5 FINANCIAL MANAGEMENT

The Parties designate the following individuals to be responsible for financial matters relating to this PSA. DOE designates the Chief Operations Officer, Office of Electricity Delivery and Energy Reliability. MOI designates the General Secretary, Higher Commission for Industrial Security.

# Section 6 LOCAL SUPPORT

MOI shall, either directly or through other KSA ministries or agencies, support the project undertaken pursuant to this PSA by:

- 6.1 Identifying and providing appropriate MOI personnel to work with DOE and the personnel of other US Government departments and agencies participating in the project;
- 6.2 Providing all available data and other information which may be needed to perform the tasks mutually agreed to be undertaken under this PSA;
- 6.3 Locating and making available for US Government personnel participating in the project: suitable housing; office space and furnishings, office equipment, utilities, and telephone facilities; interpreter and translator services; and driving permits as agreed.
- 6.4 Providing other related support as appropriate to the assist US Government personnel in carrying out the project under this PSA.

# Section 7 TREATMENT OF INFORMATION

All security-related information gathered, and analyses and reports generated will be treated as "CONFIDENTIAL FOREIGN GOVERNMENT INFORMATION – MODIFIED HANDLING AUTHORIZED (C/FGI-MOD)". Furthermore, any information generated by the project will be marked "Program Designated Special Handling - No release authorized unless written approval is obtained by the co-chairs of the ISWG prior to release". In this case, the information, briefings, and reports generated by this project can be released by the ISWG only to personnel involved in the project or as designated by the ISWG co-chairs. Computer files generated during the data collection phase will be stored only on password protected and data encrypted laptops.

Data collection teams will maintain strict control of these laptops. All project files will be backed up daily.

# Section 8 RESOLUTION OF DIFFICULTIES

Any questions concerning the interpretation or execution of this PSA shall be resolved through consultations between DOE and MOI or between the Parties; or, as necessary, by consultations in the Joint Commission, and shall not be referred to any other body for resolution.

### Section 9

# ENTRY INTO FORCE, AMENDMENT, DURATION and TERMINATION

- 9.1 This PSA shall enter into force upon signature and remain in force (subject to paragraph 9.3) until the project has been completed, provided that the TCA remains in force.
- 9.2 This PSA may be amended at any time in writing by the Parties. Amendments that add additional major tasks to the Scope of Work in Section 3 shall be approved by the ISWG prior to amendment.
- 9.3 The Parties may terminate this PSA by mutual agreement in writing at any time. Either Party may terminate its participation in this PSA upon 90 days' advance written notice to the other.

DONE at Washington on the 15<sup>th</sup> day of May, 2009, and at Riyadh on the 19<sup>th</sup> day of May, 2009, in duplicate.

FOR THE UNITED STATES OF AMERICA:

C.Z.A. Alu

FOR THE KINGDOM OF SAUDI ARABIA:

### 3.1 SYSTEM EFFECTIVENESS ANALYSIS DETAILED COST ESTIMATE

Task/Objective – Perform a detailed and comprehensive security effectiveness analysis (SEA) on the facilities described below. The SEA will use a multi-step process consisting of: 1. Threat Definition, 2. Scoping and Logistics Requirements, 3. Facility Characterization, 4. Perform Analysis with Automated Tools and Simulations, 5. Formulate and Validate Upgrade Recommendations 6. Construct Detailed Report 7. Provide Conceptual Design Assistance as Required.

**Deliverables** – Deliver a comprehensive initial and final written report with recommendations for upgrades or procedural changes, deliver initial and final briefings regarding findings and recommendations as required by MOI, deliver written documentation concerning conceptual design assistance as required by the MOI.

Personnel - Each SEA will be conducted using two teams; a primary team and a support personnel team.

The primary team will consist of lead project engineers/subject matters experts in the various fields required to accomplish the SEA. They are the most experienced personnel in the program and most are nationally recognized experts in their field. They are the primary personnel used to do the facility characterization, conduct performance based evaluation of the technologies used to protect the sites, and evaluate possible upgrades or procedural changes to reduce the risk level of the facility against Design Basis Threat (DBT) level attacks.

The support personnel team will consist of vulnerability, industrial technology, security technology, and modeling and simulation engineers used to conduct detailed analysis of the sites based on the information obtained in the facility characterization phase of the project. These personnel will accomplish detailed target identification, scenario development, consequence analysis, and support the modeling and simulation, cost benefit, and risk evaluation for the SEA. Technical writing support is also included.

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Site Number One - Ras Tanura Petroleum Export Facility including Al Ju'ayamah Export Terminal

Description – The Ras Tanura Petroleum Export Facility and the Al Ju'ayamah Export Terminal are critical petroleum production and export facilities within the Eastern Province of the Kingdom of Saudi Arabia. These facilities are also critical pieces of KSA infrastructure that would have significant international impact should they suffer major damage or loss. These facilities are integral to the ability of the KSA to supply petroleum to the international market. The Ras Tanura Petroleum Refinery and Export Terminal is situated on the shoreline of the Arabian Gulf and has both land and sea approaches that must be controlled and secured. The Ras Tanura facility has over twenty four kilometers of perimeter that must be controlled along with at least seven major internal critical targets within the outer perimeter and vital loading berths for tankers extending into the sea. The Al Ju'ayamah Export Terminal has over eight kilometers of perimeter that must be controlled with multiple internal critical targets within the perimeter and vital loading berth that extends over eight kilometers out to sea. These facilities are large and complicated when viewed from a security engineering analysis perspective.

Primary Team:

- 1 Vulnerability Analyst
- 1 Insider and Personal Reliability Specialist
- 1 Response Force and Tactical Specialist
- 1 Physical Protection Specialist
- 1 Access Delay and Explosives Specialists

### Support Personnel:

- 2 Industrial System Engineers
- 2 Vulnerability Analysts
- 3 Computer Simulation Engineers
- 1 Scenario Specialist

A cost breakout structure for this task is provided below.

	Costs	Level of Effort
RasTanura		96 Man Weeks
Labor In KSA-Primary Team	75,691	Article and an and a
Labor in US-Primary Team	223,441	
Labor in US-Support Personnel	417,090,	
Travel	- 199,238	
USCG Contractor	78,675	
Total	994,134	

	Costs	Level of Effort
Al Julayamah		51 Man Weeks
Labor in KSA- Primary Team	38,450	SST L
Labor in US-Primary Team	260,681-	
Labor In US-Support Personnel	119,169	
Travel included in Ra Tanura Estimate	0	
Total	418,300	

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### Site Number Two - Jubail Industrial City including Jubail Desalinization Plant

**Description** – The Jubail Industrial City and the Jubail Desalinization Plant are critical petroleum and industrial production and export facilities within the Eastern Province of the Kingdom of Saudi Arabia. These facilities are also critical pieces of KSA infrastructure that would have significant international impact should they suffer major damage or loss. These facilities are integral to the ability of the KSA to supply petroleum and other industrial products to the Saudi and international market. Jubail Industrial City represents over \$400 billion in investments and is a major economic engine for KSA's economy. Loss or damage to Jubail Industrial City would affect petro-chemical markets worldwide and KSA's reputation as a dependable world supplier.

The Jubail Industrial City and the Jubail Desalinization Plant are situated on the shoreline of the Arabian Gulf and have both land and sea approaches that must be controlled and secured. Jubail Industrial City alone covers over eighty square kilometers with over fifty kilometers of perimeter plus King Fahd Industrial Port which is over nine kilometers in length with multiple berths and storage areas and a petrochemical loading berth stretching four kilometers. There are multiple internal critical targets within the outer perimeter. Jubail Industrial City is an extremely large and complex industrial facility with a multi-layered security system that must be characterized and then analyzed along multiple pathways.

The Jubail Desalinization Plant is considered part of the top tier of KSA's critical infrastructure. This plant provides eighty percent of the fresh water for Riyadh and the fresh water for Jubail City and Qassim. Additionally, this plant produces twelve percent of the electrical power for the eastern/central KSA power grid. The Jubail Desalinization Plant has over nine kilometers of perimeter that must be controlled with multiple internal critical targets within the perimeter. The plant also has vulnerable approaches from the sea that must be characterized and analyzed. The interdependency of the internal critical machinery and functions must also be understood, characterized and analyzed in a number of pathways to adequately determine the security system effectiveness. This facility complex is very large and complicated when viewed from a security engineering analysis perspective.

This effort does not include comprehensive analysis of individual targets within the Industrial City. The SEA for the Jubail Desalinization plant will be a comprehensive SEA of the entire facility.

### Primary Team:

- 1 Vulnerability Analyst
- 1 Insider and Personal Reliability Specialist
- 1 Response Force and Tactical Specialist
- 1 Physical Protection Specialist
- 1 Access Delay and Explosives Specialists

### Support Personnel:

- 2 Industrial System Engineers
- 2 Vulnerability Analysts
- 3 Computer Simulation Engineers
- 1 Scenario Specialist

A cost breakout structure for this task is provided below.

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AN	INT	EY	A
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	Costs	Level of Effort
Jubail Industrial Gity	e de la construcción de la constru	62 Man Weeks
Labor In KSA-Primary Team	75,654	The design of the second
Labor in US-Primary Team	148,961	
Labor In US-Support Personne	238,337	
Travel	199,238	
USEG Contractor	78,675	The second secon
Total	740,865	
	Costs	Level of Effort
Jubail Desalinization Plant		28 Man Weeks
Labor in KSA-Primary Team	38,450	
Labor in US-Primary Team	111,721	
	Charge and a state of the state	Added the state of and the post of
Labor in US-Support Personnel	59,584	The star of the start with the start of the
Labor in US-Support Personnel Travel Included in Jubail Industrial City Estimate	59,584	

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### Site Number Three - Al Safiniyah Offshore GOSP Platform

**Description** – The Al Safiniyah Offshore GOSP platform is a key petroleum production facility located in the Arabian Gulf servicing the offshore Safiniyah oil field. This facility is a critical piece of KSA oil production infrastructure that would have significant effect should it suffer major damage or loss. This facility is integral to the ability of the KSA to optimize petroleum production and export to the international market. The Al Safiniyah Offshore GOSP is situated in the Arabian Gulf and has three hundred and sixty degree sea approaches that must be controlled and secured. The Al Safiniyah Offshore GOSP facility consists of three platforms linked via walkways. This GOSP is a unique facility, critical to maintaining the desired throughput of petro-chemical products originating in the Safiniyah and Zuluf fields to onshore facilities for processing and export or domestic use. The facility contains gas oil separation, pumping facilities, maintenance, and living facilities.

Note: There are three offshore GOSP platforms in the Safiniyah field. This cost estimate details the cost for the first platform. The simulations and tools created for the first platform can be used for subsequent SEA's and will significantly reduce cost for the simulation tasks.

### Primary Team:

- 1 Vulnerability Analyst
- 1 Insider and Personal Reliability Specialist
- 1 Response Force and Tactical Specialist
- 1 Physical Protection Specialist
- 1 Access Delay and Explosives Specialists

### Support Personnel:

- 2 Industrial System Engineers
- 2 Vulnerability Analysts
- 3 Computer Simulation Engineers
- 1 Scenario Specialist

A cost breakout structure for this task is provided below.

	Costs	Level of Effort
Satiniyah Offshore GOSP Platform		54 Man Weeks
Labor in KSA-Primary Team	- 38,450-	
Labor in US-Primary Team	186,201	
Labor in US Support Personnel	178,753	and the second of the second s
Trave	92,746	
USCG Contractor	54,009	and the secondary and the second s
Total	550,159	

### Site Number Four - Al Safiniyah Onshore GOSP

Description – The Al Safiniyah Onshore GOSP is a critical petroleum production and export facility located in the Eastern Province of KSA. This facility is a critical piece of KSA infrastructure that would have significant international impact should it suffer major damage or loss. This facility is integral to the ability of the KSA to supply petroleum to the international market with a design output of up to two million barrels of oil per day. The Al Safiniyah GOSP facility has several kilometers of perimeter that must be controlled with at least five major internal critical targets within the outer perimeter. This facility is critical to the production of petro-chemical products originating in the Safiniyah and Zuluf fields. The facility contains gas oil separation, natural gas processing, crude oil storage, and pumping facilities. This facility is the primary onshore facility that receives crude from the Safiniyah and Zuluf fields.

Primary Team:

- 1 Vulnerability Analyst
- 1 Insider and Personal Reliability Specialist
- 1 Response Force and Tactical Specialist
- 1 Physical Protection Specialist
- 1 Access Delay and Explosives Specialists

### Support Personnel:

- 2 Industrial System Engineers
- 2 Vulnerability Analysts
- 3 Computer Simulation Engineers
- 1 Scenario Specialist

A cost breakout structure for this task is provided below.

	Costs	Level of Effort
Safin/yah-GOSP		75 Man Weeks
Labor In KSA- Primary Team	38,450	
Labor in US-Primary Team	223,441	
Labor in US-Support Personnel	297,921	
Travel	92,746	
Total	652,559	

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# Site Number Five - Al Khafji GOSP/Petref Facility

Description – The Al Khafji GOSP/Petref Facility is a critical petroleum production and export facility located in the neutral zone near the KSA and Kuwait border in the Eastern Province. This facility is also a critical piece of KSA infrastructure that would have significant international impact should it suffer major damage or loss. This facility is integral to the ability of the KSA to supply petroleum to the international market. The Al Khafji facility has several kilometers of perimeter that must be controlled with at least seven major internal critical targets within the outer perimeter and vital loading berths for tankers. This facility is critical to the production of petro-chemical products originating in the fields near the KSA/Kuwait border. The facility contains gas oil separation, refining, crude oil storage, refined product storage, pumping and tanker berthing facilities.

### Primary Team:

- 1 Vulnerability Analyst
- 1 Insider and Personal Reliability Specialist
- 1 Response Force and Tactical Specialist
- 1 Physical Protection Specialist
- 1 Access Delay and Explosives Specialists

#### Support Personnel:

- 2 Industrial System Engineers
- 2 Vulnerability Analysts
- 3 Computer Simulation Engineers
- 1 Scenario Specialist

A cost breakout structure for this task is provided below.

	Costs	Level of Effort
Al Khafji		72 Man Weeks
Labor In KSA- Primary Team-	75,691	
Labor In US-Primary Team	223,441	
Labor in US-Support Personnel	238,337-	
Travel	185,492	
Total	722,961	

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### Site Number Six - Yanbu Industrial City with Emphasis on Maritime Approaches

**Description** – TheYanbu Industrial City is critical petroleum and diversified industrial production and export complex located on the Red Sea Coast within the Madinah Region of the Kingdom of Saudi Arabia. This complex is also a critical piece of KSA infrastructure that would have significant international impact should it suffer major damage or loss. This facility is integral to the ability of the KSA to supply petroleum and other industrial products to the Saudi and international markets. Yanbu Industrial City represents billions of dollars in investments and is a major economic engine for KSA's economy. Loss or damage to Yanbu Industrial City would affect petro-chemical markets worldwide and KSA's reputation as a dependable world supplier.

Yanbu Industrial City is the west coast terminal of the 1200 kilometer cross country gas and oil pipelines from the Eastern Province and is economically strategic in nature as the outlet for Saudi pertrochemical products should shipment from the Arabian Gulf ever be temporarily interrupted. The Yanbu Industrial City is situated on the shoreline of the Red Sea and has both land and sea approaches that must be controlled and secured. Yanbu Industrial City covers a large number of square kilometers plus King Fahad Industrial Ports which contains 27 berths and service harbor. The petrochemical loading berths stretch several kilometers into the water. Yanbu Industrial City has over forty five kilometers of perimeter with land and sea approaches that must be controlled and secured. There are multiple internal critical targets related to the petroleum industry as well as other supporting industries within the outer perimeter. Yanbu Industrial City also contains power generation and sea water desalinization plants that must be characterized and assessed as critical internal targets. Jubail Industrial City is an extremely large and complex industrial facility with a multi-layered security system that must be characterized and then analyzed along multiple pathways.

Special emphasis will be placed on vulnerable approaches from the sea. The interdependency of the internal critical facilities and functions must also be understood, characterized and analyzed in a number of pathways to adequately determine the security system effectiveness. This facility complex is very large and complicated when viewed from a security engineering analysis perspective.

Note: This effort does not include comprehensive analysis of individual targets within the Industrial City. Special emphasis will be placed on the maritime approaches to the industrial city.

### Primary Team:

- 1 Vulnerability Analyst
- I Insider and Personal Reliability Specialist
- 1 Response Force and Tactical Specialist
- 1 Physical Protection Specialist
- 1 Access Delay and Explosives Specialists

### Support Personnel:

- 2 Industrial System Engineers
- 2 Vulnerability Analysts
- 3 Computer Simulation Engineers
- 1 Scenario Specialist

A cost breakout structure for this task is provided below.

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	Costs	Level of Effort
Yanbu Industrial City		67 Man Weeks
Labor In KSA- Primary Team	75,691	The second
Labor in US Primary Team	186,201	
Labor In US-Support Personnel	238,337	The second secon
Travel	185,492	
USCG Contractor	78,675	
Total	764,395	

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### Site Number Seven - Qurayah Power Plant

**Description** – The Qurayah Power Plant is a large turbine power plant located in the Eastern Province of the Kingdom of Saudi Arabia. This facility is critical to maintaining power supplies to petro-chemical production facilities in the Eastern Province and to the city of Riyadh. This plant supplies twenty five percent of the grid load for the Eastern Province and Riyadh. This facility is a critical piece of KSA infrastructure that would have significant negative national and international impact should it suffer major damage or loss. This facility is integral to the ability of the KSA to provide power for government and commercial activities.

The Quarayah facility has several kilometers of perimeter that must be controlled and contains large pieces of technical equipment that cannot be easily replaced or in some cases repaired. This facility is medium in size and moderate in complexity when viewed from a security engineering analysis perspective.

### Primary Team:

- 1 Vulnerability Analyst
- 1 Insider and Personal Reliability Specialist
- 1 Response Force and Tactical Specialist
- 1 Physical Protection Specialist
- 1 Access Delay and Explosives Specialists

### Support Personnel:

- 2 Industrial System Engineers
- 2 Vulnerability Analysts
- 3 Computer Simulation Engineers
- 1 Scenario Specialist

A cost breakout structure for this task is provided below.

	Costs	Level of Effort
Qurayah Power Plant		32 Man Weeks
Labor in KSA- Primary Team	38,450	Contract of the
Labor in US-Primary Team	111,721	
Labor in US-Support Personnel	189,376	All and a second s
Travel	92,746	
Total	332,293	

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### Site Number Eight - Shoaibah Desalinization Plant and Shoaibah Power Plant

**Description** – The Shoaibah Power Plant is a large turbine power plant located in the Western side of the Kingdom of Saudi Arabia. This facility is critical to maintaining power supplies to the two Holy Mosques, government facilities, industry and the population of western KSA. This plant supplies thirty percent of the grid load for western KSA. The Shoaibah Desalinization Plant is located nearby and is a critical facility that is the primary fresh water supplier to Makka, Taif and supplies fifty percent of the fresh water to Jeddah. These facilities are critical pieces of KSA infrastructure that would have significant negative national impact should they suffer major damage or loss. This facility is integral to the ability of the KSA to provide power for the Holy Sites, government and commercial activities.

The Shoaibah facilities each have several kilometers of perimeter that must be controlled and both facilities contain large pieces technical equipment that cannot be easily replaced or in some cases repaired. These facilities are moderate in size and moderate in complexity when viewed from a security engineering analysis perspective.

Primary Team:

- 1 Vulnerability Analyst
- I Insider and Personal Reliability Specialist
- 1 Response Force and Tactical Specialist
- 1 Physical Protection Specialist
- 1 Access Delay and Explosives Specialists

### Support Personnel:

- 2 Industrial System Engineers
- 2 Vulnerability Analysts
- 3 Computer Simulation Engineers
- 1 Scenario Specialist

A cost breakout structure for this task is provided below.

	Costs	Level of Effort
Shoaibah Power Plant	100 million 100 mi	32 Man Weeks
Labor in KSA-Primary-Team	38,450	
Labor in US-Primary Team	111,721	A DECEMBER OF
Labor in US-Support Personnel	89,376	210 200 Kang - 19 1.11
TraveFincluded in Desalinization Estimate	199,238	
Total	438.785	

	Costs	Level of Effort
Shoaibah Desalinization Plant		28 Man Weeks
Labor in KSA-Primary Team	75,691	
Labor in US-Primary Team	111,721-	Al manufacture and a second
Labor in US-Support Personnel	59,584	2)
Travel included in Power Plant	0	
Total	246,995	and Harry

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### Site Number Nine - Finalization of the Abqaiq Oil Stabilization Plant SEA

**Description** – The Abqaiq Oil Stabilization facility located in the Eastern Province of KSA is considered to be one of the most critical petro-chemical production facilities in the world.

Task/Objective - The initial and intermediate phases of a comprehensive Security Effectiveness Analysis (SEA) of the Abqaiq Plant have been completed. An initial report with preliminary results and proposed protection system improvements was delivered in late 2008. The focus of this initial analysis was protection against the Outsider Design Basis Threat. The Insider threat was not addressed in detail during the assessment team visit to the site.

The purpose of this task is to complete the System Effectiveness Analysis which was initiated in August, 2008. This task will be performed jointly by key Saudi personnel and by four personnel from SNL with expertise in the areas of: vulnerability assessments, insider threat protection, access control, and armed tactical response. Major steps remaining include an in-depth review of the current report, a comprehensive Insider analysis, consensus on improvements in security equipment and procedures, and validation of the effectiveness of proposed system changes. The Insider analysis will consist of site-specific characterization of potential insiders, development of Insider scenarios of concern, analysis of existing protection system effectiveness against these scenarios, and recommendations for improvements, if required. The end result will be final recommendations for improvement in all areas of the overall security system at Abgaiq.

The key Saudi personnel include representatives from each of the governmental and industrial organizations responsible for site security and operations, including MOI, MOP and ARAMCO. The participation of these personnel, with their broad knowledge of the laws, regulations, security situation, culture, industrial practices and the existing threat in the Kingdom of Saudi Arabia, will insure that any recommendations made in the final report are both workable and appropriate at this particular site, and are based on the best possible information.

The anticipated work flow would require one week of preparation in the US, two weeks of work on site in KSA with national subject matter experts, one week of simulations in the US and one week to finalize the written report.

**Deliverables** - Complete and deliver the final written report with recommendations for upgrades and/or procedural changes and provide conceptual design assistance as required.

**Personnel** – To finalize the Abqaiq SEA, two teams will be utilized; a primary team consisting of three engineers and support personnel consisting of four engineers and specialists.

#### Primary Team:

- 1 Vulnerability Analyst
- 1 Insider and Personal Reliability Specialist
- 1 Access Delay and Explosives Specialist

### Support Personnel:

- 1 Industrial System Engineer
- 1 Vulnerability Analyst

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- 1 Computer Simulation Engineer
  1 Scenario Specialist

A cost breakout structure for this task is provided below.

	Costs	Level of Effort
Abgaig Finalization		🛻 19 Man Weeks
Labor in KSA Primary Team-	42,529	
Labor In U.S. Primary Team	48,309	
Labor in U.S. Support Personnel	27,605	
Travel	63,895	And a state of the
Total	182,338	

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# 3.3 TRAINING ASSISTANCE DETAILED COST ESTIMATE

**Description** – Perform a Training Needs Assessment (TNA) for Security Methodology related training and assistance for the Ministry of Interior (MOI). This TNA will focus on the internal needs of the MOI and the needs of industry within the KSA in those areas where MOI has oversight of industrial security.

Task/Objective – The purpose of this task will be to produce a training needs assessment for the MOI that addresses the current and future training needs of the both the MOI and Industry within the KSA in the area of security methodology. The key work for this effort will be conducted in the KSA working directly with the High Commission for Industrial Security within the MOI and with representatives from Saudi industry. The major topics to be assessed include but are not limited to:

1. Security Methodology Training Needs Internal to the MOI

2. Requirements for Developing an Internal Security Effectiveness Assessment Capability within the MOI 3. Requirements for Training and Assistance within the MOI Regarding Advancement of Security Policy

and Regulations

4. Future curriculum needs for King Fahd Security College

5. Security Methodology Training Needs for Saudi Industry

The anticipated work flow for this task follows: 1) One week of preparation in the U.S.; 2) Three weeks of assessment in KSA with MOI and industry; 3) Two weeks of report formulation in the U.S.; 4) Deliver written report with detailed briefing in KSA (Two separate three day visits to KSA)

**Deliverables** – Deliver a broad scope written report that addresses the training needs for both the MOI and Saudi Industry related to security methodology and near term security policy and regulation. This document will also make recommendations for a "road map" to prioritize and schedule future training assistance.

Personnel – The training needs assessment will be conducted using one senior security engineer and one security analyst.

Estimate for 3.3 Training Assistan		
	Costs	Level of Effort
Training Needs Assessment		
Labor in KSA	54,493	33 Man Weeks
Labor In US	44,433	豊合
Travel	82,994	
Total	181,921	And a second sec
		Te - State
National Training Course on Physical Protection		5 Instructors
Preparation and Instruction Cost	133,500	15 Man Weeks
Travel	106,492	
Total	239,992-	
	and the second se	

A cost breakout structure for this task is provided below.



ANNEX A

2 Week SEA Course	-	LANG CONTRACT		- 3 In	structors
Preparation and Instruction Co	ost			100 9 Ma	in Weeks
Travel		T.	63,8	395	
Total			143,	995	Autority Constraints
Training Total		-	565,	008	

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3.0 PROGRAM MANAGEMENT AND SUPPORT DETAILED COST ESTIMAT	AM MANAGEMENT AND SUPPORT DETAILED COS	<b>T ESTIMATE</b>
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One-meter Program Managemeter Cales Suggest Con	idestimate of Sign		
	Costs	Level of Effort	
SNL Project Management			
Laborat	1,069,038	208 Man Weeks	
Travel	168,875	hars not	
Office Support	88,300		
Total SNL Project Management	1,326,215		
3 Resident Engineers - SEA Team Members		156 Man Weeks	
Labor	1,525,620		
Housing & Per Diem	432,121		
Travel to KSA	71,442		
Travel in KSA	6,804	The second secon	
Total	2,035,987	And Address of the Ad	
2 Local National History Translator, accretion, device dia	200 000	104 Man	
	200.000	weeks	
SNL Total	3 562 200		
DOE Project Management		Personal Trans	
ISWG Co-Chair and Project Lead Travel fouarterly meetings	and the second s	Lugar Charles and The art	
Jn KSA)		e	
Travel to and from KSA	44,800		
Per Diem (\$348 USD per day)	13.920		
DOE GS-15 Program Manager located in KSA (Federal			
salary, housing, etc.)	569,250		
5 Resident Consultants *** DOE Directed		260 Man Weeks	
Estimated Labor Costs	2,023,150		
Estimated Per Diem, Travel & Housing Costs	726,850		
Total	3,377,970	E las min	
Total SNL & DOE	6,940,171		

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# ANNEX B

### **Representative Training Course Costs**

The below courses are representative of the types of courses in Security Methodology that are available from the US DOE. Other courses can be prepared and delivered based on the results of the Training Needs Assessment and the desires and requirements of MOI.

# **Core Courses**

Title: Principles of High Security Systems (PHSS) Training Course

Acronym: FPPS

Duration: One week

Audience: Facility security managers, security policy personnel, Ministry and Government personnel Course Description: Overview of performance-based Physical Protection Systems (PPS) design. It will cover the Design Evaluation Process Outline, international terminology, and basic PPS design concepts and principles.

Prerequisites: None

Instructors: 3 Instructors

Cost Estimate: Labor (One Week of Preparation in US, One Week of Instruction in KSA) = \$53,400; Travel and Per Diem = \$55,648; Total: \$109,048

Title: National Training Course on Physical Protection

Acronym: NTC

Duration: Two weeks

Audience: Security personnel, system designers, SEA analysts

Course Description: Performance-based PPS design process. In-depth coverage of sensor selection, assessment systems, delay, access control, and response analysis.

Prerequisites: Basic security experience desired.

Instructors: 5 Instructors (up to 20 attendees)

Cost Estimate: Labor (One Week of Preparation in US, Two Weeks of Instruction in KSA) = \$133,500; Travel and Per Diem= \$106,492; Total: \$239,992

Title: Systems Effectiveness Analysis

Acronym: SEA

Duration: Two weeks

Audience: Security personnel, system designers, SEA analysts

Course Description: Performance-based evaluation of PPS. Single path, multi-path, and scenario methodologies and software. Upgrades analysis.

Prerequisites: Basic system design or analysis experience desired, computer skills required.

Instructors: 3 Instructors (up to 12 attendees)

Cost Estimate: Labor (One Week of Preparation in US, Two Weeks of Instruction in KSA) = \$80,100; Travel and Per Diem= \$63,895; Total: \$143,995

Title: Advanced System Effectiveness Analysis

Acronym: ASEA

Duration: Two weeks

Audience: Security personnel, system designers, VA analysts

**Course Description:** Attendees will conduct SEA at customer site in parallel with training. Perform interviews, data collection, performance testing, and security force evaluation. In-depth coverage of the formal analysis process, reporting, presentation of findings.

Prerequisites: Security experience, completion of NTC and SEA course.

### ANNEX B

Instructors: 3 Instructors (up to 12 attendees)

Cost Estimate: Labor (One Week of Preparation in US, Two Weeks of Instruction in KSA) = \$80,100; Travel and Per Diem= \$63,895; Total: \$143,995

Title: Security System Performance Testing Acronym: PT Duration: Two weeks Audience: Security system designers, VA analysts Course Description: Performance test planning and testing activities for system components, up to and including end-to-end systems functions. \*Preferred course location is Sandia National Laboratories, Albuquerque, NM Prerequisites: Security experience, completion of full VA course. Instructors: 5 Instructors (up to 20 attendees)

Cost Estimate: Labor in US (One week of preparation, two weeks of instruction in US) = \$133,500; Total: \$133,500

#### Specialty Courses

Title: Design Basis Threat Seminar Acronym: DBT Duration: 5 days Audience: Managers and security policy personnel Course Description: International process to develop a Design Basis Threat. Information collection, threat assessment, and DBT implementation. Prerequisites: None Instructors: 2 Instructors Cost Estimate: Labor (Three days of preparation in US, one week of instruction in KSA)= \$28,480; Travel and Per Diem= \$37,098; Total: \$65,578

Title: Access Delay Acronym: Delay Duration: 8 Instructional Days

Audience: Security personnel, system designers, VA analysts

Course Description: Function of access delay. Passive and activated delay concepts. Delay system design and performance testing. \*Preferred course location is Sandia National Laboratories, Albuquerque, NM.

Prerequisites: Basic system design or vulnerability analysis experience desired.

Instructors: 3 Instructors

Cost Estimate: Labor in US (One week of preparation, 8 days of instruction in US) = \$69,420; Total: \$69,420

Title: Prevention and Protection against Insider Threat

Acronym: Insider

Duration: One week

Audience: Security personnel, system designers, VA analysts, managers and security policy personnel. Course Description: International course for prevention and protection against insiders. Definitions, protection philosophy, protection procedures and technology, action sequence diagrams and scenario analysis.

# ANNEX B

Prerequisites: Basic security, system design or vulnerability analysis experience desired. Completion of NTC and VA course is also desired.

Instructors: 2 Instructors, up to 10 attendees

Cost Estimate: Labor (One week of preparation in US, one week of instruction in KSA)= \$35,600; Travel and Per Diem= \$37,098; Total: \$72,698

Title: Vital Area Identification

Acronym: VAI

Duration: One week

Audience: Security personnel, system designers, VA analysts, facility managers

Course Description: Identification of facility minimum target sets for prevention of sabotage.

Prerequisites: Security experience and completion of NTC and VA course desired.

Instructors: 2 Instructors

Cost Estimate: Labor (One week of preparation in US, one week of instruction in KSA) = \$35,600; Travel and Per Diem= \$37,098; Total: \$72,698