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**Naval Surface Warfare Center (NSWC) Detachment Fallbrook Comment:**

The BRAC Military Value analysis and scoring of NSWC Detachment Fallbrook, Marine Corps Programs Division (MCPD) appears technically correct based on the criteria and methods used. MCPD scored highest in Weapons Technology T&E, and lowest in Weapons Technology D&A. However, the end results do not present an accurate account of how the operating forces (in particular the Marine Corps and the Special Operations Command (SOCOM)) will be negatively affected by the proposed relocation of MCPD to Picatinny Arsenal.

**Discussion:**

MCPD is a rather small (118 government employees + 83 contractors) dynamic organization that provides its customers with rapid response to serious issues affecting safety, reliability, and readiness. A 24- to 72-hour response time is the norm, and not the unusual.

MCPD provides customers (Marine Corps, Army, Navy, and SOCOM) with a unique combination of technical and operational experience/knowledgeable personnel that understand and relate to the operational forces and their combat fighting techniques. Eighty-seven of MCPD employees have tactical experience with the Services, and are recognized technical experts in their commodity.

MCPD is strategically located on the West Coast to allow for an optimum relationship with the warfighter (I MEF, etc.), and to provide close proximity to the operational training and test ranges at Marine Corps Air Ground Combat Training Center (Twentynine Palms, California), Marine Corps Base Camp Pendleton, Marine Corps Mountain Warfare Training Center (Bridgeport, California), and the Marine Corps Lance Corporal Carter Test Range (Hawthorne, Nevada). Through this Tester/Operator relationship, MCPD is able to provide rapid turn-around of pressing issues that have an immediate affect on the Global War on Terrorism.

The facts are that relocation from NSWC Detachment Fallbrook (presently within 3 miles of Camp Pendleton and I MEF) to Picatinny Arsenal, New Jersey will have a serious impact on our troops fighting in Iraq, Afghanistan, and other locations in the world. This negative impact will occur because of the loss of personnel, location, relationships, and West Coast testing advantages. It is estimated that only 15% of MCPD employees will relocate to Picatinny Arsenal. Just the loss of knowledge and experience would take years to replace through a priority hiring and training process, and it still would not address the synergy associated with West Coast testing. The loss of our West Coast location near test ranges and the deterioration of our relationships with the fighting forces will result in reduced effectiveness and efficiencies if performed from an East Coast location. MCPD will become just another engineering center incapable of truly relating to the warfighting needs of our service men.

To highlight the type of combat assessment issues MCPD resolves for the warfighter, we are attaching NSWC Crane letter 5400, Ser 409/5187 of 21 June 2005, which contains five specific Point Papers across different commodities.

**Bottom Line:**

DoD and the operating forces would be better served if NSWC Detachment Fallbrook were not relocated to Picatinny Arsenal. This would allow MCPD to continue to provide the Services with rapid turn-around quality responses, that incorporate operational assessment needs, to their safety and reliability concerns.



DCN: 5167  
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IN REPLY REFER TO:

5400  
Ser 409/5187  
21 JUN '05

From: Commander, Crane Division, Naval Surface Warfare Center  
To: BRAC-05 Representatives

Subj: POINT PAPERS

Encl: (1) MCPD Point Papers

1. The Point Papers provided in enclosure (1) demonstrate how the Marine Corps Programs Division (MCPD) and its own controlled and operated test range are optimally positioned on the West Coast. Our West Coast location enables MCPD to provide DOD, and in particular the U.S. Marine Corps, with timely and responsive support for planning, executing, and reporting on weapon systems assessment, developmental tests, operational tests, technology demonstrations, malfunction investigations, and associated engineering.

2. A unique combination of technical and operationally experienced/knowledgeable personnel, close geographic proximity to operating test ranges and Active Duty Operational Forces, and proven history of providing satisfied customers with high quality, rapid turn-around support make MCPD a key link in providing the warfighter with weapon systems and equipment in the highest possible state of readiness needed to conduct the Global War on Terrorism and provide for homeland defense.

3. Please direct any questions to Mr. Carl Shaver at DSN 873-3668, commercial (760) 731-3668, or email [carl.shaver@navy.mil](mailto:carl.shaver@navy.mil). Send correspondence to Marine Corps Programs Division (Code 40), NSWC Crane, Detachment Fallbrook, and 700 Ammunition Road, Fallbrook, CA 92028-3187.

A handwritten signature in black ink that reads "W. E. Ventuleth".

W. E. VENTULETH  
By direction

DCN: 5167

## **MCPD Point Papers**

Encl (1)

# Support for the Linear Demolition Charge Surveillance Quality Evaluation Program

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## Problem

The Marine Corps Systems Command (MARCORSYSCOM) has a critical requirement to ensure the long-term safety and reliability of existing M58 and M59 Series Linear Demolition Charge (LDC) assets. This requirement is fulfilled through complex functional surveillance testing and malfunction investigations. The quantity of explosive involved severely limits where functional testing of this item can be conducted, since the LDC—a unique brute-force weapon system—contains the unusually large amount of 1,750 pounds of explosives. The West Coast-located Marine Air Ground Task Force Training Center (MAGTFTC) at Twentynine Palms, California, is designated as a primary test site. Detailed planning and specific test range scheduling to accomplish safe, reliable, and timely LDC testing is an ongoing and demanding challenge.

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## Discussion

The Marine Corps Programs Division (MCPD) is tasked to meet the LDC test and evaluation requirements, as established by MARCORSYSCOM. This task is accomplished through an involved series of periodic test evolutions, where approximately \$2,000,000.00 in ammunition assets is expended per test.

Each LDC test evolution is a complex undertaking involving a series of approved steps to include coordination, liaison, scheduling, test setup, testing, and reporting. The following key organizational elements typically participate in LDC testing.

- MCPD provides personnel and test equipment for the LDC evaluation. MCPD is located at Fallbrook, California.
- First Combat Engineer Battalion (CEB) is the organization that fires the LDCs for the test. The CEB is based at Camp Pendleton, California.
- Third Assault Amphibian Battalion is the unit that provides vehicles to tow the trailer-mounted LDC to the firing position. The battalion is located at Camp Pendleton, California.
- Base Explosive Ordnance Disposal (EOD) platoon is the organization that performs failure diagnosis on unexploded LDC assets. The unit is based at Twentynine Palms, California.

- Center Magazine Area (CMA) is the main ammunition storage site where LDC weapon systems are stored. The site is located at Twentynine Palms, California.
- Range Scheduling/Control. This test support function is provided by Twentynine Palms, California.
- Base Safety. This test support function is provided by Twentynine Palms, California.
- Tactical Training and Exercise Control Group (TTECG). The group is located at Twentynine Palms, California.
- Natural Resources and Environmental Affairs (NREA) office. This function is located at Twentynine Palms.
- First Marine Expeditionary Force (I MEF). The I MEF headquarters and operating forces are located at Camp Pendleton, California.
- Force Service Support Group (FSSG). FSSG (part of I MEF) is located at Camp Pendleton, California.
- First Marine Division (First Mar Div). This infantry division (part of I MEF) is located at Camp Pendleton, California.

A successful LDC test must be approved, coordinated, and executed with participation from all the above organizational elements and performed within the timeframe set forth by MARCORSSYSCOM. Each participating organizational element also has its own mission-related requirements that must be satisfied and constraints that it must operate within. LDC test evolutions represent only one of those requirements. In addition, the real-world requirements of active duty units involved in the Global War on Terrorism (GWOT) can create significant scheduling challenges.

Although the actual test should normally require about three weeks to accomplish, the entire evolution (planning, preparation, coordination, testing, etc.) generally requires approximately nine months. MCPD is the designated Test Coordinator throughout this entire evolution.

As in any complex endeavor, mistakes and miscommunications will occur no matter how carefully the endeavor is executed. The only viable solution is the quick discovery of each error followed by an equally prompt correction. For the discovery and correction process to be effective, the Test Coordinator (MCPD) must closely observe the pertinent administrative processes and must be in close communication with all the participating organizations. Accordingly, for necessary close observation and communication, a substantial amount of formal and informal contact in all of its various forms (telephone, e-mail, face-to-face meetings, etc.) must occur.

A complex endeavor, such as LDC testing, requires the close proximity of the MCPD coordinator to the participating organizations during the entire evolution in order to achieve the necessary observation and communication that is required for success. Since the participating organizations are all located in Southern California, the LDC Test Coordinator should also be based in the same location.

As an example of the synergy generated from the close geographic location of all organizations participating in an LDC test, in FY01, MCPD was tasked to carry out the largest and most complex LDC test evolution since the beginning of the LDC test program (over \$3,000,000.00 in ammunition assets were involved). This test evolution had many problems in spite of the careful planning and preparation that went into it. There were many instances where this entire test evolution was on the brink of failure. The evolution was saved from failure and completed successfully due to the quick identification of and response to the numerous problems that were encountered. This quick reaction was only possible because MCPD and other participating personnel were either on site or in the close proximity of the test ranges. Had MCPD, functioning as LDC Test Coordinator, been located on the East Coast rather than on the West Coast, it is highly unlikely that the test would have been completed successfully.

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## **Recommendation**

Retain MCPD at its current West Coast location so that the close working relationship that has been established with the West Coast operational forces and other participating DOD organizations can be maintained.

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## Point Paper

### Optics and Non-Lethal T&E Support

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#### Problem

The Marine Corps Systems Command (MARCORSYSCOM), Program Group Infantry Weapon Systems (PG-IWS), Program Manager Optics and Non-Lethal Systems (PG-ONS) has an identified requirement to correct existing issues with currently fielded Optics and to field a family of expanded capability Optics. These critical deficiencies were identified by Marine operational forces during the Global War on Terrorism (GWOT), specifically Operation Enduring Freedom (OEF) and Operation Iraq Freedom (OIF) I, II and III.

PM-ONS is working closely with the Marine Corps Operational Testing and Evaluation Activity (MCOTEA) in order to expedite the fielding of the new Optics currently in the PM-ONS pipeline. Currently, there are over a dozen items preparing for fielding during the next year (prior to the GWOT, only one to three items were fielded per year). MCPD is involved because PM-ONS is not adequately staffed to create the detailed test plans, execute the comprehensive evaluations, execute the multiple vendor source selection Limited User Evaluations (LUE), collect the data, and prepare the evaluation reports required to conduct full fault analysis necessary for the complete fielding of a new system.

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#### Discussion

MCPD is an irreplaceable member of the PM-ONS Optics T&E team. One of the main factors permitting MCPD to successfully support these efforts has been its ability to utilize resident organizational knowledge in Optics T&E to rapidly respond to PM-ONS emergent real world evaluation requirements dictated by the operational forces combat requirements. To support this effort, a Congressional plus-up in excess of \$800 million dollars was allocated during FY05 with additional plus-ups expected in out years.

A prime example of MCPD's Optics T&E ability was a recent emergency live-fire test on the AN/PVS-17 (nightsight) Scout Sniper Scope that PM-ONS requested in order to validate a possible solution to a known deficiency discovered during OIF II. The test was identified by BGEN Catto, Commanding General MARCORSYSCOM, as the most important MARCORSYSCOM effort at that time. MCPD was notified late on a Wednesday and executed the test on the following Tuesday. Upon notification on Wednesday evening, MCPD immediately started the planning process to support the test, and requested 20,000 rounds of ammunition, 12 night vision sights, and six M249 Machine Guns (MG).

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The receipt of the six M249 MG weapons was only possible because MCPD is located within driving distance of the MCB Barstow, logistical facility. A detailed test plan was completed and vetted with PM-ONS. A temperate conditioning chamber was modified to allow firing from within the chamber at temperatures ranging from -40°F to +125°F. In addition, an automated remote firing device was modified to allow the use of the M249 MG. PM-ONS was very impressed with the MCPD professionalism that existed throughout the test.

The one factor that truly allowed this test to be a success was that MCPD has its own testing range at Hawthorne, Nevada where tests can be rapidly rescheduled in order to meet real world operational needs. Of interest, this test was originally planned to be conducted on the MARCORSSYSCOM Ordnance Test Facility (OTF) and, after 30 days of planning, it was determined that the test could still not be conducted within another 30 days. Since this AN/PVS-17 test, MCPD has been designated as PM-ONS sole field evaluation and testing agency.

A second AN/PVS-17 test was conducted during April 2005. Notification for this test was on a Friday and on the following Monday personnel were deployed to Hawthorne, Nevada to conduct the test starting on Tuesday. For this evaluation a new range was constructed and cleared because the original AN/PVS-17 test range was being used for a 120mm Mortar shoot.

Members of the PM-ONS staff have visited and participated in MCOTEA and other agency testing at other facilities around the country and consider the Hawthorne, Nevada facilities to be better suited to support Thermal weapon sight evaluation when compared to facilities at other CONUS and OCONUS locations due to its long field of views, varying terrain, and rich mix of targets.

During the next 30 days MCPD will support PM-ONS in the following efforts:

- Rifle Combat Optics (RCO) Source Selection, Hawthorne, Nevada, 27 June to 02 Jul 2005.
- Scout Sniper Day Scope (SSDS) Source Selection, MCB Quantico, Virginia, 06-11 July 2005.
- AN/PVS-17 validation firing, Hawthorne, Nevada, 13-17 July 2005.
- Medium Range Thermal Imager and Long Range Thermal Imager Source Selection, Hawthorne, Nevada, 18-29 July 2005.

The Rifle Combat Optics (RCO) AN/PVS-17 validation will be a full test consisting of over 250,000 rounds being fired from multiple weapon systems and multiple variations of the AN/PVS-17 sight. The RCO allows the Marine user to engage the enemy at much further distances than was ever possible in the past. Accordingly, the Marine Corps decided to procure one RCO for each USMC M16 and M4 in the inventory.

During May to June 2005, MCPD supported PM-ONS at three major events. During the rest of FY05, multiple other efforts are planned in support of the aggressive but manageable field plan being implemented by PM-ONS directly in support of the operational Marine Forces currently in combat.

It should be noted that during Hawthorne testing events, operational forces from MCB Pendleton, MCB Twentynine Palms, MCB Bridgeport, and Seals from the Naval Facilities at Coronado Island participate in the (LUEs) tests.

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## **Recommendation**

Retain MCPD at their current location so that the close working relationship that has been established with West Coast operational forces can be maintained. Additionally, the irreplaceable emergent and emergency use of the Hawthorne, Nevada test range is required to continue quick turnaround support of PM-ONS and Marine Operational Forces.

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## **Point Paper**

### **Ammunition Malfunctions**

#### **TOW IIB (Ground Version) and TOW IIA (Aviation Version)**

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### **Problem**

MCPD is chartered to evaluate USMC reports of ammunition failures (malfunctions) and to provide a rapid turn around of recommended solutions.

Areas addressed are:

- Technical assessment of why the failure occurred
- Assessment of the safety and reliability of the item
- Recommended actions
- Impact to ammunition stockpile

**Note:** Actual firing malfunctions require immediate turn-around (a 24-hour solution is required in the event of death, serious injury, or an immediate safety concern. Otherwise a 72-hour deadline exists). Also, development of a solution generally dictates access to Active Duty Marine Units (e.g., interface with local I Marine Expeditionary Force [I MEF] expertise) in order to obtain first-hand details of problems encountered by the operators/gunners.

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### **Discussion**

#### *TOW IIB (Ground Version)*

Marine units firing the Tube-launched, Optically-tracked, Wire-guided (TOW) IIB missiles (that down-fire when passing over the target) encountered several operational problems in-theater. While training in Kuwait, units experienced difficulty in acquiring targets (14 malfunctions out of 14 firings detonated prematurely or beyond the targets). MCPD was contacted and utilizing in-house ballistic test data and expertise (acquired on MCPD test ranges), immediate technical guidance was provided, through I MEF, on proper target engagement techniques (correcting user/operator sighting and firing techniques not previously experienced by Marines with limited TOW IIB missile training opportunities when firing this complex/expensive weapon system).

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## *TOW IIA (Aviation Version)*

Marine Air Wing units in Iraq raised concern over recent TOW IIA missiles that failed to capture (i.e., the system failed to track fired missiles in flight). Failures have occurred (rates are increasing) on missiles that have accumulated a large number of flight hours on the aircraft (i.e., exposed to extended "captive carry" time) when the missiles are subsequently fired from the COBRA helicopter "gunship" platforms.

Following repeated malfunction reports, an Engineering Investigation was initiated by NAVAIR, on behalf of the Marine Corps, to evaluate missile components that may be degrading with extended captive carry time. Missiles with high "captive carry hours" will be shipped to Twentynine Palms for assessment by MCPD.

The approach will be to perform a thorough visual inspection of the rounds, perform several non-destructive tests and diagnostics, and perform a functional firing test of the missiles. Tests will include participation by Active Force units and representatives.

The missiles will be fired from a verified ground platform or a fixed launcher (to take the aircraft out of the loop and thereby ensure that only the missiles are being evaluated). The live firings will be heavily instrumented to document missile track information, monitor wire commands, and record missile flight events. If performance concerns are identified during the firings, sample missiles may also be recommended for disassembly and component testing. Following MCPD tests, appropriate recommendations will be provided to resolve this critical weapon system performance issue.

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## **Recommendation**

Retain the MCPD capability to combine an experienced workforce in close proximity to the Operational Forces and test ranges to facilitate rapid resolution of malfunction issues directly impacting the Global War on Terrorism (GWOT).

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## **Point Paper**

### **Lightweight 155mm Howitzer**

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#### **Problem**

Marine Corps Operational Test and Evaluation Activity (MCOTEA) was chartered to conduct a Milestone C, or full rate product decision, for the Lightweight 155mm Howitzer (LW155). This high visibility program demanded timely reporting and detailed information. The duration of the test, over two months in time and firing over ten thousand rounds, resulted in the need for an automated data collection and reduction system coupled with logistic precision during execution.

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#### **Discussion**

The Marine Corps Programs Division (MCPD) provided a turnkey operation in planning, executing, and reporting the LW155 Operational Test (OT). This included all analytical and logistical aspects of test planning and execution. MCPD used its expertise in artillery employment, and its knowledge of the OT process, to develop a firing matrix to collect all data needed to fully address the questions of Operational Effectiveness and Operational Suitability.

This firing matrix, when combined with other scheduling documents, provided the foundation for all logistical planning conducted by MCPD. The close proximity of MCPD to the ranges and Operating Forces provided for close and continuous coordination between the planning and executing agencies. This effort resulted in building working relationships that were able to adjust to unseen requirements during OT execution.

A data collection plan was overlaid on top of these documents. MCPD programmed automated data collection equipment to electronically collect the information needed to generate the report. The electronic nature of this information, coupled with databases built to reduce the data, resulted in rapid turnaround for this decision document. This effort resulted in a fielding decision for the LW155mm Howitzer, which will provide firepower for future conflicts as the fielding plan for the weapon system matures.

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## **Recommendation**

Retain the MCPD capability to combine an experienced OT workforce in close proximity to the Operation Forces and test ranges to facilitate rapid material acquisition of weapon systems supporting the Global War on Terrorism (GWOT).

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## **Point Paper Expeditionary Fighting Vehicle**

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### **Problem**

The Marine Corps Operational Test and Evaluation Activity (MCOTEA) is chartered to conduct a series of Operational Test (OT) events to support the development and acquisition of the Expeditionary Fighting Vehicle (EFV). This high cost program is on-going and demands Department of Defense (DOD) Operational Test and Evaluation (DOT&E) oversight. The level of planning and execution support needed to conduct this event is beyond the scope of the MCOTEA organizations to support.

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### **Discussion**

The Marine Corps Programs Division (MCPD) provides support to the EFV program and has co-located a planning element at MCOTEA to assist the customer in meeting the entire requirement placed on them by DOT&E to achieve an acceptable OT in terms of rigor and intensity. To date, MCPD has conducted two Operational Assessments and observed numerous small Developmental Test (DT) events. These were conducted to monitor the progress of this program and provide the program office with an independent assessment of the weapon system's growth.

The first two events focused on land mobility and gunnery. MCPD is currently working closely with the Amphibious Vehicle Test Branch (AVTB) at Camp Pendleton, California to monitor the progress of the DT events. The close proximity of MCPD to the Pacific test ranges allows for smooth coordination between the DT agencies and its OT counterpart. MCPD has developed, and stores at Fallbrook Naval Weapon Station, the targets needed to complete the rigorous live-fire testing of the EFV weapon system. MCPD's location on the West Coast allows us to maintain and position targets as needed to support OT. MCPD developed the Range Safety Diagram for the EFV at its own (controlled and operated) test range in Hawthorne, Nevada. This site was selected when other DOD locations were not available due to higher precedence tests being conducted by their own service.

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## **Recommendation**

Retain the capability to combine an experienced OT workforce (MCPD) in close proximity to the Operation Forces and its own (MCPD-operated) test range to facilitate rapid material acquisition of this high visibility Acquisition Category I (ACT I) weapon system.

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# **Point Paper**

## **Aviation Command and Control Test and Evaluation of the Theater Battlefield Management Core System**

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### **Problem**

The Marine Corps Operational Testing and Evaluation Activity (MCOTEA), as part of a Joint ACT I program with DOD Operational Test and Evaluation (DOT&E) oversight, was chartered to conduct a series of Operational Test (OT) events in support of a spiral acquisition strategy for the Theater Battlefield Management Core System (TBMCS). This demands on-going coordination with Joint and Marine Corps Operational and Testing communities.

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### **Discussion**

The Marine Corps Programs Division (MCPD) used resident organizational knowledge in aviation command and control to plan, execute, and provide a Marine Corps position report staffed through the MCOTEA chain of command to a Joint roll-up report. This required a continuous effort by MCPD personnel to coordinate with the Operational Force on the various employment aspects of this software to ensure their views were represented during Joint review and accreditation.

MCPD representatives were able to coordinate with local forces to communicate testing requirements and ensure the need for operational forces was clearly articulated during all phases of the planning process. These efforts have resulted in the fielding of a command and control product currently being used in the Global War on Terrorism (GWOT). Additionally, this same expertise is forecast to support additional aviation command and control testing that will occur at Nellis AFB, NAS Fallon, NAWCWPNS China Lake, and MCAS Yuma, all of which are geographically supportable from the West Coast located MCPD.

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### **Recommendation**

Retain the capability to combine an experienced OT workforce (MCPD) in close proximity to the Operation Forces and test ranges to facilitate rapid material acquisition of weapon systems supporting the GWOT.

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## Point Paper C4I Support

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### Problem

The Marine Corps Systems Command (MARCORSYSCOM), Program Manager-Command, Control, Communications, Computers, & Intelligence (PM-C4I) has been working with the Office of Naval Research (ONR) to correct one of the critical deficiencies within the Naval Forces regarding the lack of ability to communicate effectively "On-The-Move (OTM)" and "Over-The-Horizon (OTH)". Improvements in C4I capability directly or indirectly support all aspects of the Global War on Terrorism (GWOT).

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### Discussion

MCPD has established itself as an irreplaceable member of the ONR Communication evaluation team, based upon its resident organizational knowledge in Communication Systems, Command and Control, Data Collection, System Analysis and Integrated reporting. One of the main factors to MCPD success in supporting these C4I efforts has been its ability to rapidly respond to ONR's emergent real-world evaluation requirements and effectively forge productive evaluation teams with multiple organizations. These organizations include, but are not limited to, the Naval Research Laboratory (NRL), the Marine Corps Warfighting Laboratory (MCWL), the Marine Expeditionary Center (MEC), the Expeditionary Forces Development Command (EFDC), the Marine Corps Combat Development Command (MCCDC), and the Marine Corps Tactical Systems Support Activity (MCTSSA).

In support of formal Milestone Decision Quality Reports, MCPD directly contributed to many C4I systems by conducting multiple system evaluations and system user surveys to gather and compile data used to assist in managing and improving various programs. These diverse programs included, but were not limited to, (1) the new USMC MARCORSYSCOM (MCSC) program of record standard Command and Control On-the-Move Network, Digital Over-the-Horizon Relay (CONDOR), (2) the MARCORSYSCOM Secure Wireless LAN (SWLAN) technology effort, and (3) the MCWL OTM Command Operations Center (OTMCOC). The majority of all ONR and MCSC formal reports on these systems were produced by MCPD.

In direct support of operational forces fighting in theater, in support of the GWOT, MCPD has developed/enhanced its already successful web-based "User Survey Tool" that allows the real-time gathering of data from the operational

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forces. This enhancement, which was primarily funded by ONR, has been so highly received by its user audience (the operational customer) that there have been discussions of making it the standard automated data collection tool for the entire Marine Corps.

Supporting the GWOT at home, the MCPD web-based User Survey Tool has also allowed for the forming of an exciting Joint Industry and DOD effort to rapidly gather critical site data from priority Department of Homeland Security identified sites.

Recognizing that robots are critical to current and future weapon systems (in various applications, to include their OTM and OTH Command and Control), MCPD is involved in a joint effort with the Palos Verdes Institute of Technology (PVIT), a group that is being formed from the members of the Palos Verdes DARPA Challenge robotics competition team. Supporting members include Boeing, Honda, Toyota, UCLA, Palos Verdes High School, and many other large and easily recognizable organizations. Their DARPA Challenge robot has made it into the second round of competitors for this year's competition (reduced from 110 entries to 40 competitors). PVIT has been formed to rapidly assist in the conversion of useable combat technologies from the DARPA Challenge robotics test bed to the near-term deployment of viable weapon systems into the hands of the operational forces.

MCPD's location in Southern California is within 30 miles of MCTSSA, the Consulting and Engineering Next Generation Network (CENGEN) organization, and the Ocean Systems Engineering Corporation (OSEC). These are three of the key players (ONR communication field leads) in the development of the next generation of C4I and sensor technologies. MCPD's close geographic location to these three organizations provides a significant advantage in accomplishing timely and direct C4I-related project coordination.

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## **Recommendation**

Retain MCPD at its current location, so that the close working relationship that has been established with West Coast operational forces, industrial leaders, and other DOD organizations can be maintained.

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## Point Paper Special Warfare Support

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### Problem

Recommendations from the BRAC could reduce West Coast testing efforts, specifically Naval Special Warfare Command's (NAVSPECWARCOM, Coronado, CA), ability to quickly and adequately assess and evaluate the Special Operations Command (SOCOM) items of interest.

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### Discussion

NAVSPECWARCOM is in the process of being approved to act as a subordinate Operational Test Agency (OTA) under SOCOM's OTA capabilities, subject to SOCOM's review and approval. As one of SOCOM's components, NAVSPECWARCOM is concentrating their testing expertise on small arms, ammunition, Visual Augmentation Systems (VAS), and maritime capabilities. Their development and testing of the MK46 (5.56mm caliber) and MK48 (7.62mm caliber) Lightweight Machine Guns (LMG) resulted in acquiring and equipping their SEAL teams with these improved weapons. As a result of the success of SEAL units with those LMGs, the Rangers are in the process of acquiring and equipping their units with MK46s and MK48s.

NAVSPECWARCOM is the only SOCOM component located on the West Coast. There are several testing areas in the local Southern California (SoCal) area that NAVSPECWARCOM routinely uses for testing efforts: Camp Pendleton, La Posta (offers Korea like terrain), Niland (Desert Warfare Training Center), and San Clemente Island (maritime environment).

NAVSPECWARCOM has several valid reasons for testing at SoCal locations: familiarity with the area, experienced with the management practices at those locations, longer testing periods due to mild weather, and access to a supporting staff. Members of the NAVSPECWARCOM staff have visited and participated in SOCOM testing at other facilities around the country and consider SoCal facilities to be better situated than comparable facilities at other CONUS and OCONUS locations.

NAVSPECWARCOM is not adequately staffed to create the test plans, collect the data, and draft test reports. As a result, NAVSPECWARCOM contracts those services with the Marine Corps Programs Division (MCPD). MCPD's first project with NAVSPECWARCOM was the operational assessment of the MK48 LMG. MCPD was chosen after NAVSPECWARCOM used another testing agency in testing the MK46 LMG and NAVSPECWARCOM was not satisfied

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that adequate testing and reporting had occurred. MCPD has supported NAVSPECWARCOM with testing armor for their Ground Mobility Vehicles. The test report indicated that the armor (as tested) was better than what was currently available, yet did not meet certain key threshold conditions. The vendor has improved their product, successfully undergone further testing, and is now in the process of providing armor protection packages to SEAL and other SOCOM units currently engaged in the GWOT. Being in close proximity to NAVSPECWARCOM has facilitated MCPD's efforts to conduct joint site surveys and conduct face to face meetings in order to fully understand NAVSPECWARCOM's positions, requirements, methodologies, and determine common sense solutions.

SOCOM has also expressed a concern with the BRAC recommendation of moving MCPD to Picatinny, New Jersey. Through NAVSPECWARCOM and the MK48 LMG project, MCPD is currently working on the SOCOM Combat Assault Rifle (SCAR) project. SOCOM is pleased with the attention to detail that MCPD is providing to the SCAR project as well as the timely product submission and understanding of SOCOM's methodologies. They consider MCPD as an agency that provides timely, useful information that they can use to their benefit.

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## **Recommendation**

Retain MCPD at their current location, serving the interests of NAVSPECWARCOM and SOCOM.

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## **Point Paper**

# **Integrated Analytical Capability at MCPD**

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### **Problem**

The realignment of MCPD according to BRAC proposal will significantly diminish the quality, efficiency and effectiveness necessary to perform integral services relating to the Service Life Prediction for the Life Cycle Management of ammunition and weapons systems. Such a movement directly impairs the gamut of MCPD customers, from the field Marine—dependent on highly reliable and safe ammunition, to the Program Manager of Ammunition (PM-AM) at Marine Corps Systems Command (MARCORSYSCOM)—dependent on MCPD products as the fundamental building blocks to global inventory management and outyear plans and budgeting for the Marine Corps stockpile.

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### **Discussion**

MCPD analysts, comprised of statisticians and mathematicians, provide highly specialized, multi-faceted support to all engineering disciplines (functions) at MCPD, projects and final products. Successful cross-functionality between the engineers and analysts requires co-location to maintain continuity in product development with respect to test design, execution, analysis and reporting. Coupled with the cross-functional relationship between engineers and statisticians, is the readily accessible ammunition system expert advice from in-house technical teams regarding weapon design and functionality, quality control in acceptance testing, inventory management, malfunction and reclassification tasking, pre-positioning processes and multi-year corporate knowledge on the life cycle of ammunition systems. Fundamental to the accurate capture of ammunition service life for inventory, usage and budget forecasting is the application of appropriate test methods. The success of MCPD's specialized mission thrives on accessibility to testing and training facilities for the ballistic test and evaluation of ammunition and weapon systems, namely Hawthorne, Nevada; Camp Pendleton; and Twentynine Palms. These facilities provide end-user (Marine war fighter) and infrastructure (weapons and peripherals) support of live fire and user interface not afforded by laboratory environments, yet essential to the sound assessment of each ammunition and weapon system.

In effect, due to the accessibility of USMC testing and training facilities and the Hawthorne test ranges, a unique and mission critical synergy has formed with MCPD's engineering and analytical capability at Fallbrook. This synergy promotes a "hands on," interactive approach for increased reaction time to

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problem-solving USMC stockpile management issues, as well as remarkable process advancements in rapid test execution, analyses and reporting. The capability to supplement and maintain vast databases of ballistic performance for benchmarking ammunition systems' reliability and quality against laboratory measurements differentiates MCPD above all other test and evaluation (T&E) facilities in the weapons assessment community. As a result, MCPD's reputation has attracted external organizations such as the Los Alamos National Laboratory and NSWC Corona for the advancement of scientific application in reliability modeling, due for journal publication in Spring 2006.

With the BRAC proposal for east coast realignment of T&E services and west coast location of operational units and ranges, the integrated analytical capability of MCPD will diminish due to the splintering of internal (engineering) services to conduct T&E with the Marine Corps Operations communities on the west coast:

- Delayed/reduced information and data transfer due to the distance barrier and inaccessibility to Marine Corps operations, proposed for west coast centralization
- Loss of corporate expertise due to loss of key personnel on-site and with the organizational realignment
- Reduced user-interface and Marine Corps weapons community interaction
- Delayed product delivery due to insufficient test facilities, small and large caliber test ranges, inclement weather
- Untimely delivery of key recommendations essential to the efficient and effective Life Cycle Management of Class V(W) ammunition and weapon systems will impair PM-AM's ability to project Marine Corps stockpile requirements for acquisition, maintenance and global positioning and formulate budgetary plans and forecasts.

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## **Recommendation**

Retain MCPD at NWS Fallbrook in close proximity to the Hawthorne test ranges, Camp Pendleton and Twentynine Palms to maintain the highly specialized, integrated analytical capability. Because T&E is core to MCPD's mission, proximity to the operational environment is inherent to the success of the war fighter and MCPD's ability to support the Global War on Terrorism and Homeland Defense.

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**Naval Surface Warfare Center (NSWC) Detachment Fallbrook Comment:**

Relocating NSWC Detachment Fallbrook to Picatinny Arsenal, as proposed by BRAC Recommendation TECH-0018B, is not the optimal solution for DoD or the warfighter. Consideration should be given to either retaining MCPD at its present location (Fallbrook) and Command structure (Naval Surface Warfare Center Crane); or realigning MCPD with Naval Surface Warfare Center Corona, which performs an identical function of independent assessment across both technical and operational communities.

**Discussion:**

NSWC Detachment Fallbrook, known as the Marine Corps Programs Division (MCPD), was set up to perform independent assessment of new/updated Marine Corps ammunition systems to ensure they meet specified operational requirements and to mitigate operational and safety risks to the warfighter. As part of this core responsibility, MCPD also provides DoD a quick response asset for independent evaluation of malfunctions or incidents dealing with munitions related issues.

BRAC Recommendation TECH-0018B proposes to "Create an Integrated Weapons & Armaments Specialty Site for Guns and Ammunition" by realigning and relocating NSWC Detachment Fallbrook personnel to Picatinny Arsenal. Picatinny Arsenal is home to the Army Research, Development, and Engineering Command (ARDEC). ARDEC is the major acquisition command for both Army and Marine Corps munitions and weapon systems. Such a relocation/realignment will cause a conflict of interest between the acquisition function and the independent assessment function, which in turn, could lead to interoperability issues across DoD and a negative impact to the combat operator these munitions and weapon systems support.

MCPD is presently located within five miles of I MEF Headquarters at Marine Corps Base Camp Pendleton. This close proximity to the operating force allows MCPD to build synergy with the warfighter in better understanding his objectives and requirements, while at the same time providing independent assessments that streamline the acquisition process. Separation of MCPD from the operating forces will impact our ability to integrate our assessment to true battlefield conditions, increase the timeframe to respond to our customers, and negate our ability to effectively incorporate human engineering into our assessments.

MCPD is located aboard the Naval Weapons Station (NWS), Detachment Fallbrook. BRAC 2005 made no recommendations to "close" or "realign" NWS Detachment Fallbrook. The proposed relocation of MCPD to another site created no cost savings to BOS operations at NWS Detachment Fallbrook. Likewise, if MCPD were to stay located at NWS Detachment Fallbrook there would be no increase in operating costs.

**Bottom Line:**

DoD and the operating forces would be better served if NSWC Detachment Fallbrook was not realigned and relocated to Picatinny Arsenal. This would retain MCPD's independent assessment capability and the attendant efficiencies that go with it.

**Naval Surface Warfare Center (NSWC) Detachment Fallbrook Comment:**

BRAC scenarios TECH-0017 and TECH-0002D included a Fallbrook response that specifically addressed the T&E component as part of the realignment action to Picatinny Arsenal. However, the Technical JCSG recommendation did not address T&E. We are unsure if the recommendation intended to include RDA only, or if the recommendation intended to include both RDA and T&E.

**Discussion:**

BRAC scenarios TECH-0017 and TECH-0002D requested a response to "Realign NAVWPNSTA Fallbrook (N32893) Guns/Ammo RDAT&E and relocate to Picatinny Arsenal (ARDEC W4MKAA) and appropriate offices." When NSWC Detachment Fallbrook responded to these BRAC scenarios, we did so knowing that all our work is classified as T&E. Nowhere in the BRAC data call was it asked to breakout the RD&A work from the T&E work.

The BRAC Recommendation to "Create an Integrated Weapons & Armaments Specialty Site for Guns and Ammunition" (TECH-0018B) is very specific in nature. Realignment for each identified activity states "by relocating gun and ammunition Research and Development & Acquisition to Picatinny Arsenal, NJ." There is no mention in the BRAC Recommendation of any T&E work being realigned to Picatinny Arsenal.

Evidence exists that suggest the BRAC Recommendation, as written without T&E, is correct. The Technical Joint Cross-Service Group Meeting Minutes of 2 March 2005 include a copy of a read ahead presentation given by the Technical JCSG Red Team on RDAT&E Facilities. In the candidate recommendation summary to realign Guns and Ammo to Picatinny, T&E is excluded, and the stated justification is to "maintain Navy unique capability for large caliber gun T&E" (at Dahlgren) and to "retain existing Army test sites." NSWC Fallbrook performs T&E for the Army, Navy, Marine Corps, and SOCOM.

Our parent Command, the Naval Surface Warfare Center, Crane Division has requested clarification from DoD as to whether or not T&E was included in this BRAC Recommendation. To date, we have not received a response.

**Bottom Line:**

NSWC Detachment Fallbrook performs T&E for the joint services and, therefore, its 118 employees should not have been included in the TECH-0018B realignment and relocation action to Picatinny Arsenal.

**Naval Surface Warfare Center (NSWC) Detachment Fallbrook Comment:**

BRAC 2005 Recommendations IND-0047 and IND-0053 proposed closing Hawthorne Army Ammunition Depot and relocating its' Storage and Demilitarization functions to Tooele Army Depot in Utah. No mention was made in the recommendation regarding the Marine Corps' Lance Corporal Carter Test Range which has an operating agreement with the U.S. Army and Hawthorne AAD to perform T&E for the joint Services.

**Discussion:**

The Lance Corporal Carter Test Range provides DoD with a full range of test capabilities that are not encumbered by encroachment, are FAA cleared, are fully environmentally compliant, and are not impeded by adverse weather. The Range supports DT, LUT, LAT ACTD, In-Service, and OT testing of weapons systems ranging from small arms through mortars, rockets, and artillery. Since FY01, the Range has averaged over 55 test events each year, and over 120,000 labor hours of testing per year.

The Lance Corporal Carter Test Range is instrumented to the point that test data can be collected by computerized equipment and analyzed the same day. Examples of instrumentation include radar tracking systems, environment condition chambers, video analysis cameras, and robotic range clearing equipment.

Because the Lance Corporal Carter Test Range is under government control, its' test priorities can be adjusted daily to support the needs of the warfighter. This could mean, an emergency Lot Acceptance Test to accept ammunition into the serviceable stockpile so that it can be flown to Iraq, or the malfunction investigation test to find the cause of a combat malfunction so as to declare the ammunition safe or unsafe for future use.

This test priority flexibility, together with the Marine Corps Programs Division's (MCPD) operational knowledge and experience, creates a team of experts capable of assessing/solving the Services most critical ammunition performance problems in a rapid fashion to maintain the highest state of combat readiness possible.

If the Lance Corporal Carter Test Range would be closed, the impact would be felt first by MCPD and then the warfighter. Without such a test capability, MCPD would be unable to provide the Services with rapid turn-around quality responses to their safety and reliability concerns. Concurrently, the warfighter would lose a valuable resource to assess the readiness of its' assets. The end result would be a higher risk of going into combat with inferior equipment.

BRAC 2005 Recommendations IND-0047 and IND-0053 never included the costs of moving or closing the Lance Corporal Carter Test Range. Both costs would be rather high, and would change the overall COBRA Model for payback on closing Hawthorne AAD.

**Bottom Line:**

A solution to maintaining the Lance Corporal Carter Test Range is needed in order to provide the necessary combat assessment support to MCPD and the warfighter.