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**UNITED STATES MARINE CORPS**  
MARINE CORPS WARFIGHTING LABORATORY  
MARINE CORPS COMBAT DEVELOPMENT COMMAND  
QUANTICO, VIRGINIA 22134-5014

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Subj: MARINE CORPS WARFIGHTING LABORATORY (MCWL) EXPERIMENTATION CAMPAIGN  
PLAN (ECP) FISCAL YEAR (FY) 2011 to 2015

1. Situation

a. General. The ECP establishes a five-year program and serves as the basis for resource allocation and other planning activities. It identifies experiment objectives that support the Commandant of the Marine Corps (CMC), Expeditionary Force Development System (EFDS) Title X responsibilities, and operating force initiatives. The ECP also provides guidance for coordination with U.S. Joint Forces Command (USJFCOM) concept development and experimentation. This plan is effective upon receipt for planning purposes and cancels MCWL ECP FY 2010 to 2014 effective 1 October 2010.

b. Categories of Experimentation. MCWL conducts four types of experiments.

(1) Service Oriented Concept-based Experiments. These experiments represent MCWL's primary effort. They seek to develop and test training, organization, and equipment innovations associated with emerging warfighting concepts. The results support the EFDS and typically transition to Training and Education Command (TECOM) and the Combat Development Directorate (CDD). In some cases, the success of the concept demonstrators used in these experiments may be useful to and be transitioned to Marine Corps Systems Command.

(2) Direct Support to the Operating Forces. MCWL reviews Urgent Universal Needs Statements (UUNS) and determines if prompt responses are feasible. MCWL also examines and responds to less formal operating force input. These experiments seek to identify and evaluate solutions to specific current challenges faced by operating forces. Transition of experiment results can occur directly from the Lab to deploying units or through other agencies.

(3) Joint Experiments. The ECP reflects Marine Corps support of, and participation in, USJFCOM-sponsored joint experimentation venues.

(4) Technology Investigations. MCWL also conducts experiments based entirely on opportunities identified from emerging technologies. These experiments examine and test new technology to determine the potential military applications and assess maturity levels. Depending on the results, these efforts may either become programs that provide direct support to operating forces in the form of concept demonstrators, or may be included in subsequent concept-based experiments.

c. Marine Corps Strategy & Vision 2025 provides CMC's long range combat development guidance. In it, he articulates six Core Competencies. It is our collective responsibility to ensure that our experimentation program supports them. Specifically, the Corps:

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(1) Conducts persistent forward naval engagement and is always prepared to respond as the Nation's force in readiness.

(2) Employs integrated combined arms across the range of military operations, and can operate as part of a joint or multinational force.

(3) Provides forces and specialized detachments for service aboard naval ships, on stations, and for operations ashore.

(4) Conducts joint forcible entry operations from the sea and develops amphibious landing force capabilities and doctrine.

(5) Conducts complex expeditionary operations in the urban littorals and other challenging environments.

(6) Leads joint and multinational operations and enables interagency activities.

d. Assumptions

(1) Availability of the operating forces to support experiment events will be limited.

(2) Funding levels will remain at or about the same levels as previous years. Unfunded projects will remain part of the plan until the responsible MCWL section determines otherwise.

(3) Improvised Explosive Devices (IED) will continue to be a threat to Marines beyond 2011.

2. Mission. MCWL will conduct a five-year campaign of experimentation from FY 2011 through FY 2015 in order to:

a. Critically assess, and potentially enable, current and emerging operational concepts.

b. Provide rapid-response training and equipment solutions to requests from operating forces.

c. Develop and test Doctrine, Organization, Training, Material, Leadership, Personnel and Facilities (DOTMLPF) solutions that enhance tactical level capabilities related to our concepts for seabased operations and irregular warfare.

d. Identify the potential military utility of emerging technologies.

e. Support and participate in USJFCOM-sponsored Joint Concept Development and Experimentation (JCDE) and joint capability development initiatives.

f. Act as the lead agency for all USMC IED defeat experimentation and as lead for Marine Corps interests in Joint IED Defeat Organization (JIEDDO) experimentation.

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### 3. Execution

#### a. Commander's Intent

(1) MCWL experimentation supports the CMC and CG, Marine Corps Combat Development Command (MCCDC) responsibilities for combat development. The principal goal of experimentation is to provide recommended solutions that satisfy critical capability gaps. Although this plan specifically directs the activities of the Lab over the next five years, it is not a static document. The Lab will update this plan as new requirements and opportunities arise. The intended effect of this plan is to provide a basis for current resource allocation, development of future resource requirements, and to set a starting point for detailed planning and execution.

(2) Priorities for resourcing experiment projects are: 1- concept-based experimentation, including joint concept experimentation; 2 - direct support to the operating forces; and 3 - technology investigations that evaluate the performance and potential value of emerging technologies.

#### b. Concept of Operations

(1) Concept-Based Experimentation. Warfighting concepts developed by MCCDC define how we intend to conduct future operations. Analysis of these concepts, supporting capabilities, and identification of capability gaps provide the rationale for MCWL experimentation that fits into this category. Capabilities Development Directorate, MCWL project officers, operating forces, or other sources may submit experiment proposals that attempt to address these gaps. Concept-based experimentation includes any aspect of "train, organize, and equip" that addresses capability gaps. Most of our large scale Limited Objective Experiments (LOE) in this category incorporate the use of and are, in some cases, dependent on the use of concept demonstrator technologies provided by the Lab's Technology Division, S&T Division or other partner S&T organizations. Attachment (1) describes the separate concept based experiments currently planned.

(a) Enhanced Company Operations (ECO) provided the basis for concept-based experimentation through FY 2010. ECO LOE 4 culminates this effort and is designed to bridge our efforts towards Enhanced MAGTF Operations (EMO). Experimentation based on EMO will span FY 2011 through FY 2015.

(b) To organize this effort, the Lab will organize the EMO campaign along five pathways: Maneuver, Fires, Logistics, C4/ISR, and Aviation. Each pathway effort will study the challenges presented by the EMO concept, identify opportunities for experimentation, coordinate the development of solution sets, and plan related EMO experiments. The campaign will feature one major MAGTF-level LOE each year. These major LOEs will focus on, but not be strictly limited to one of the functional area pathways. All of these experiments will be based on a MAGTF operational construct defined by the Maneuver pathway. This construct will be based on a Marine Expeditionary Unit conducting seabased operations with multiple, non-contiguous Company Landing Teams ashore.

(c) Due to the scope of this effort, EMO experimentation will rely extensively on Modeling and Simulation to substitute for or augment live-force experiment operations. In addition to the major LOEs conducted annually, smaller more functionally focused experiments will also be planned. Supporting projects aimed at providing EMO related experimental equipment concept demonstrators will be planned to meet the timelines of these LOEs. To ensure that our EMO efforts are relevant and to support transition of results,

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each EMO pathway will establish partnerships with HQMC, MCCDC, and other stakeholders.

(2) Attachments. Attachments (1) and (2) describe service and joint experiment initiatives that support the objectives cited above. Attachment (3) identifies the planning and budgeting milestones for the next year. Based on this plan, MCWL will develop its external budget requests, internal budgets, and assign project officers or project teams needed to plan and execute these projects. Detailed planning and management of each project is the responsibility of the sponsoring division identified on the project initiative sheet. On completion of the scheduled projects, MCWL ensures that the results of experiments are transitioned to our combat development partners so that the combat development process exploits the knowledge gained. Transition actions and coordination should start with the initial project planning, but are always the last step in completing the project.

(3) Experiments in Direct Support to Deployed Forces. As opportunities arise, MCWL will plan and execute projects in response to requests from deployed forces. Such requests take the form of Urgent Universal Needs Statements (UUNS) or can be more informal, generally coordinated through the Lab's liaison officers deployed forward. Projects that develop effective solutions will seek a rapid transition of the results to our operating forces. The most effective transition of experimental training and equipment occurs prior to deployment of the supported unit and includes, if applicable, technical support for experimental equipment. To more effectively support on-going operating force needs, project officers will arrange for user feedback. The transition of new capabilities to units already deployed will take place only when specifically requested by the deployed unit commander. At the completion of the planned deployment, experimental equipment may be either returned to MCWL or remain deployed and picked up by a new unit in the deployment schedule.

(4) Joint Experimentation. The USJFCOM J-9, in coordination with other combatant commands, Services, and DOD agencies plans and conducts joint experiments to examine emerging joint concepts and to evaluate supporting joint capabilities. MCWL supports this effort by planning and organizing Marine Corps participation in joint events, hosting and planning joint war games, and developing Marine Corps assessments of new joint concepts and capabilities. Attachment (2) lists joint initiative events planned for FY 2011 and beyond. Results from these programs will facilitate and provide Marine Corps input to emerging joint concepts and capabilities.

(5) Technology Investigations. Projects in FY 2011 through 2015 include a wide variety of initiatives to evaluate the potential applications and utility of new technologies. Initiation of these projects comes from MCWL project officer proposals or in response to external proposals to examine specific technologies. Planning, budgeting, testing, and reporting responsibilities lie with the proposing division in the MCWL. Identifying operating forces required to support these projects remains the responsibility of Experiment Division (Ex Div). Attachment (1) lists the currently planned projects that fall under this category.

c. Tasks

(1) Experiment Division

(a) By 30 April 2011, publish the next MCWL ECP, FY 2012 to 2016.

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(b) Build supporting budgets for all Ex Div projects and assist with the budget build for all MCWL experiments.

(c) Develop the non-materiel solutions, detailed concepts of operations, and integrate the material solutions developed by Technology Division into the live force experiments per attachment(1).

(d) Plan and execute experiment events listed in attachment (1), which list Ex Div as the lead agency.

(e) Publish updated versions of attachments (1), (2), and (3) of this plan to reflect changes prior to the publication of the next campaign plan.

(f) Coordinate all host unit support and operating force participation in MCWL service experiments.

(g) Develop Tactics, Techniques, and Procedures (TTPs), concepts of employment, and associated programs of instruction for all Ex Div LOEs to ensure the competence of the experiment forces is consistent with the innovations being examined.

(h) Identify and purchase non-experimental equipment needed to conduct experiments to include equipment for the experiment forces, equipment for experiment control, and data collection.

(i) Initiate and supervise contracting efforts for off-site services needed to conduct live-force experiments.

(j) Prepare post-experiment reports for all projects.

(k) Foster and maintain a close working relationship with the U.S. Army Maneuver Battle Lab and the MARFORPAC Experimentation Center.

(l) No later than 29 October 2010 issue the first version of the MEU EMO Experimental Concept of Operations (CONOPS).

(m) Conduct semi-annual pathway briefs to inform MCWL divisions and other EMO stakeholders on current plans and to stimulate on-going developmental efforts.

(2) Technology Division (Tech Div)

(a) Plan and execute events assigned to Tech Div per attachment (1).

(b) Obtain, test and assess experimental equipment intended for inclusion in concept-based experiment LOEs.

(c) Budget, coordinate and as needed contract for all operator training, transportation, on and off-site technical support (FSR type support) for all equipment developed or acquired by Tech Div to be included in LOEs conducted by Ex Div.

(d) Identify Commercial off the Shelf (COTS) and Government off the Shelf (GOTS) equipment needed to be purchased where there is no other technology insert from either the Lab or other supporting Science and Technology (S&T) agencies.

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(e) Prepare and forward new initiatives to Ex Div for initial review and inclusion in ECP revisions and project "B" Lists.

(f) Forward revisions to current initiatives to Ex Div.

(g) Prepare post-experiment analysis reports for all projects.

(h) Following the completion of experimentation events for each project, ensure that the transition actions are accomplished so that the benefits of Lab projects may be exploited and implemented by the combat development system.

(3) Wargaming Division

(a) Provide war game support per attachment (2).

(b) As required, provide support for events listed in attachment (1).

(c) Assist ExDiv in preparation of MEU EMO Experimental CONOPS.

(4) Joint Concept Development and Experimentation Division (JCDE Div)

(a) Support joint concept development initiatives and follow-on capability-based assessments.

(b) Support USJFCOM-sponsored joint prototype and lessons learned initiatives, and other joint capability development initiatives as directed.

(c) Support and participate in USJFCOM-sponsored joint experiments per Attachment (2).

(d) Director, JCDE Div will serve as the Marine Corps Liaison Officer to USJFCOM. He will execute his duties in coordination with Marine Forces Command, MCCDC, and Headquarters Marine Corps organizations as required.

(5) Counter Improvised Explosive Device (CIED) Division

(a) Coordinate the efforts of all Marine Corps stakeholders in the development of a definition and doctrinal template of the enemy with regard to his employment of the IED and the development of Marine Corps CIED doctrine.

(b) Find, develop, test and rapidly deliver emerging CIED capabilities to Marine Corps forces for current and future operations.

(c) Act as the single Marine Corps coordinating authority for all Joint Improvised Explosive Device Defeat Organization (JIEDDO) issues.

(6) Technical Director/Office of Science and Technology Information (OSTI)

(a) Plan and execute events assigned to OSTI per attachment (1).

(b) Identify opportunities for future technology investigations.

(c) Identify available technologies from the Office of Naval Research (ONR) and other Science and Technology (S&T) agencies that satisfy

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material gaps associated with either direct support to operating forces or concept-based experiment initiatives.

(d) Forward proposals for new initiatives to Ex Div (Plans) for initial review and inclusion in the revised plan.

(e) Forward revisions to current initiatives to Ex Div (Plans).

(f) Conduct detailed planning and execute experiment initiatives for which OSTI is the assigned lead.

(g) Publish post-experiment reports for projects conducted by OSTI.

(7) Business Financial Management Office (BFMO)

(a) NLT 26 June 2010, develop the draft FY 11 budget that supports this plan.

(b) Monitor execution of project budgets and recommend budget updates in support of the experimentation campaign.

(c) Provide assistance to project officers with preparing Funding Action Request packages and related contracting efforts.

(8) Center for Emerging Threats and Opportunities (CETO). Assist ExDiv in preparation of MEU EMO Experimental CONOPS.

d. Coordinating Instructions

(1) Staffing of all new experiment-related initiatives will take place through Plans Branch of Ex Div prior to submission at the Review Boards indicated in attachment (3).

(2) Plans Branch is the single point of contact (POC) for all host unit support requests from the operating forces. Upon assignment of a host unit and receipt of formal direct liaison authority (DIRLAUTH) with that unit, the Plans Branch will notify the project lead.

(3) The BFMO and Ex Div, supported by all other divisions as required, will coordinate efforts to provide external budget products that accurately reflect this ECP.

(4) Ex Div will forward to Tech Div all requirements for experimental equipment. Tech Div will be responsible for budgeting, selection, oversight of contracting efforts, testing, and technical support for all experimental equipment included in concept based experiments.

4. Administration and Logistics. Project officers are responsible for planning and execution of all logistics and administrative support for their projects.

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5. Command and Control. Division Directors will provide regular updates to CG MCWL concerning progress on planning and execution of their respective portions of this ECP. Significant changes to this ECP, to include cancellation of projects and major shifts in execution timelines must be approved by CG MCWL.



R. F. HEDELUND  
Brigadier General, USMC

Attachments:

- (1) Service Experiment Initiatives
- (2) Joint Concept Development and Experimentation Initiatives and Focus Areas
- (3) Long Range Planning Milestones