MEMORANDUM FOR THE COMMANDANT OF THE MARINE CORPS

From: Brigadier General George W. Smith, Jr., Director, Marine Corps
Force Innovation Office

Subj: UNITED STATES MARINE CORPS ASSESSMENT OF WOMEN IN SERVICE ASSIGNMENTS

Encl: (1) Research Organizations
(2) OAD Research Integration Report
(3) TECOM LOE 2 - Entry Level Training Research Assessment and Findings
(4) MCOTEA LOE 3 - GCEITF Report
(5) University of Pittsburgh GCEITF Physiology Report
(6) United Kingdom Women in Ground Close Combat Review
(7) MCFIP Research Products Table of Contents

I. Marine Corps Force Integration Plan

The Marine Corps Force Integration Plan is the deliberate, measured and responsible implementation effort in response to then-Secretary of Defense Panetta’s rescission of the Direct Ground Combat Definition and Assignment Rule (DGCDAR) in January 2013. This revised policy directed the Services and U.S. Special Operations Command to integrate female service members into the remaining closed occupational specialties and units throughout the Department of Defense. Imbedded in the Secretary of Defense memo are the Chairman, Joint Chiefs of Staff Guiding Principles, which included the following: “assimilation of women into heretofore ‘closed units’ will be informed by continual in-stride assessments and pilot efforts.”

The rescission of the DGCDAR and the directive to integrate women into previously closed occupations and units is not about women in combat, as some have framed the discussion. Our female Marines have proudly served in combat for decades, most notably throughout over a dozen years of continuous combat in Iraq and Afghanistan. Moreover, visits to several allied militaries to better understand their gender integration experiences revealed that our female Marines very likely have more actual combat experience than any servicewomen in the world.

Our analysis highlighted that 422 of the 443 Combat Action Ribbons earned by female Marines since the inception of that award were for service in Iraq and Afghanistan. There is no more compelling evidence that our female Marines have served very capably and courageously in combat and have distinguished themselves in those non-linear, extremely complex operating environments. However, none of those awards reflected a female Marine having to “locate, close with and
destroy the enemy" in deliberate offensive combat operations. Rather, these actions were all in response to enemy action in the form of IED strikes, enemy attacks on convoys or friendly bases, or attacks on female Marines serving in the Lioness Program or on Female Engagement Teams.

Today, 94% of primary MOSs are open to female Marines (315 of 336 PMOSs). The Marine Corps' comprehensive research and analytical effort designed to inform final integration decisions has been focused on the 6% of primary MOSs (21 of 336 PMOSs), over half of which are in the 03XX occupational field, that have remained closed to female Marines and are associated with direct ground combat. Central to the overall research framework has been a broad-based effort to fully understand the unique physical requirements and associated performance standards within these occupations and units, while recognizing the unchanging nature of ground combat and the physiological differences between men and women.

This comprehensive approach included multiple Marine Corps analytical agencies as well as a number of external research partners, as reflected in enclosure (1). The synthesis of all of these research efforts is found in the Operations and Analysis Division's (OAD) report at enclosure (2). The research methodology for the Ground Combat Element Integrated Task Force (GCEITF) was peer reviewed by the Operations Analysis Department at George Mason University and an almost year-long external Red Team was organized and facilitated by Dr. Maren Leed of the Center for Strategic and International Studies (CSIS). This Red Team challenged our research methodology and focus at regular intervals, which served to continually tighten the analytical connections and enhance the overall research product. The Marine Corps was exceptionally well-served by the energetic support of this highly accomplished and diverse group.

Finally, it should be noted that any element of the research dealing with human subjects - Marine volunteers - was closely supervised by the Marine Corps' Institutional Review Board. This board's singular focus was the strict adherence to the Human Rights Protection Protocols surrounding the health and welfare of the participating Marines.

At the heart of the research effort was the analysis of female Marine volunteer performance at ground combat arms entry-level, MOS-producing formal schools and the performance of both male and female volunteers in the GCEITF. The research focused principally on physical performance and physiological characteristics of performance in physically demanding occupations, while also analyzing the more subjective aspects of unit cohesion and morale.

The results from the Training & Education Command entry-level training research provided insights into relative propensity among new female Marines to serve in various ground combat arms occupations, as well as relative success and injury rates and causes, by gender. These
results are captured within enclosure (3). Since the programs of instruction at these formal learning centers necessarily focus on 1000-level basic individual tasks, this research alone was unable to answer the broader questions: "What does it actually take to do the job in the operating forces within these MOSs?" And, "What is the impact of female integration in ground combat arms units on collective task performance under conditions that most closely approximate combat?" Because formal congressional notification requirements precluded simply introducing female Marines into previously closed ground combat units to answer the above broader questions, it was necessary to build a unit from whole cloth designed specifically to conduct such research - the GCEITF.

II. Performance Standards

Research at entry-level MOS-producing schools highlighted that the Marine Corps has long relied heavily on the fundamental assumption that simply because a Marine in a particular ground combat arms MOS is a male, he should be capable of performing all of the physical tasks associated with the regular duties of that MOS. For all intents and purposes, that has been the only physical standard or screen applied in accessing new Marines into physically demanding ground combat arms occupational specialties. In turn, that assumption has resulted in certain programs of instruction being focused on the more technical aspects associated with an MOS. In some cases, such a technical focus did not adequately ensure that individual Marines possessed the baseline physical capabilities through demonstrated performance of physically demanding tasks directly associated with service in a particular ground combat arms occupation.

The National Defense Authorization Acts of 2014 and 2015 served as the impetus for each of the Services to validate that standards across all occupational specialties are operationally relevant, occupation-specific, gender-neutral, and reflect the knowledge, skills and abilities necessary to perform the tasks associated with a particular occupational specialty. In reviewing the standards associated with previously closed ground combat arms occupations and units, it became clear that the Marine Corps standards focus within the Ground Combat Element (GCE) has been largely on the collective/unit standard. That stands to reason, since Marines fight as units. To meet the congressionally-mandated requirement to review, validate and develop individual standards and ensure gender-neutrality, it was necessary to essentially deconstruct many collective ground combat arms tasks to identify what individual tasks and standards an individual Marine must achieve as a member of a team, squad or crew to be a fully contributing member of that unit.

This is perhaps the single-most important result of this almost three year process. Moving forward, the Marine Corps in general and the GCE of our Marine Air Ground Task Forces (MAGTF) in particular, will be more capable as a result of more clearly defined individual performance standards that will ensure that Marines are assigned to
MOSs for which they are best and most fully qualified. These additional MOS-specific performance standards included in the various entry-level programs of instruction will focus principally on the most physically demanding occupational tasks and will be preceded by MOS classification physical standards at the Recruit Depots.

In concert, these standards will serve to reduce some of the "wastage" that occurs in our ground combat arms units due to Marines being physically incapable of meeting the demands of service in those occupations. Succinctly, while this comprehensive review of standards has been driven by the broader female integration issue, at its core the necessity of this physical standards review is independent of that issue and will be of great utility in increasing the combat readiness of the force—today and into the future.

III. Risk and Mitigation

As reflected in the Marine Corps Test and Evaluation Activity (MCOTEA) report on the GCEITF, collective task performance was evaluated at the Marine Corps Air Ground Combat Center, the Marine Corps Mountain Warfare Training Center and in the waters off of Camp Pendleton. Female Marines demonstrated that they were capable of performing the physically demanding tasks, but not necessarily at the same level as their male counterparts in terms of performance, fatigue, workload, or cohesion.

The assessment across all occupational specialties revealed that gender integrated teams, squads, or crews demonstrated, with very few exceptions, degraded performance in the time to complete tasks, move under load, and achieve timely effects on target as compared to all-male teams, squads, or crews. Most performance shortfalls observed in the low-density gender integrated teams, squads or crews were magnified in like units with a higher-density gender integration. The results detailing the specific performance results and potential operational significance are included in enclosure (4).

For context, it should be noted that the female volunteers within the GCEITF were universally considered to be an above average-to-well above average representation of the PFC-Sergeant female population throughout the Marine Corps, as one would expect of a self-selected population with much to prove. The male volunteers were considered by their unit leaders and research observers as being an average representation of their male peers within the same ranks and MOSs throughout the Marine Corps, with arguably less to prove.

The Marine Corps experiences some degree of risk today in its ground combat arms units as a result of heretofore insufficiently codified individual standards, specifically those designed to ensure that each Marine possesses the requisite physical capability to perform all the duties associated with his ground combat arms MOS. This risk manifests itself in myriad ways within the category of personnel readiness—the "wastage" previously referenced—and is borne mainly
by unit commanders. Bolstered physical performance standards at different points in the accessions and entry-level training continuum will likely mitigate much of that risk in the future within newly opened MOSs. This includes potential risks associated with the physiological differences between male and female Marines related to the physical demands of a particular ground combat arms occupational specialty.

It is my assessment that despite vastly improved and codified individual standards, some level of risk will remain in the infantry and special operator MOSs that I do not believe can be fully mitigated by simply applying a minimum standard. That risk is associated with the unique physical demands of service in the infantry, reconnaissance and special operations occupations that place a premium on the ability to conduct dismounted movements under load.

Marine infantry is very different from the various forms of Army infantry. While much of the Army’s infantry sub-communities are organized differently and are platform specific such as Stryker and Air Assault battalions, Marine infantry is of uniform organization and, as importantly, is platform agnostic. This is not to say that Marine infantry does not plan or train to employ various methods of tactical conveyance. But, at its foundation, a Marine infantry unit must be fully capable of regularly moving dismounted for extended distances with heavy loads. This has been the coin of the realm for Marine infantry throughout history, and the requirement for more distributed operations with less reliance on external logistics support reflected in Expeditionary Force 21 now places even greater demands on the individual infantry Marine.

The associated risk is directly linked to the physiological differences between males and females. Simply, size matters when executing a dismounted movement under load. Within that, the actual body composition of the individual Marine is of utmost importance. Our research, as well as reviews of the research conducted by several allied militaries on this subject reveal that lean body mass and absolute VO2 max are the two primary predictors of success for this particular infantry task. The physiological differences in body fat between males and females - body fat being synonymous with “dead weight” to be added to whatever external equipment load is already being carried in order to determine the true overall load, places females at a significant disadvantage from the start in infantry-related tasks.

On average, females possess significantly less lean body mass, a slighter build that affects stride length and stride frequency as loads increase, less absolute VO2 max production, and less power and anaerobic/aerobic capacity than males. The combination of these factors constitutes a potential risk to combat effectiveness for a force that must be self-sufficient for movement and fully capable of extended dismounted operations within the highest intensity portion of
the combat spectrum. The detailed results of the University of Pittsburgh's physiology study on the GCEITF are at enclosure (5).

These realities are clearly not insurmountable nor are they always manifested during a one-time march under load that reflects an entry-level performance standard. Rather, the risk lies in the cumulative impact of this physiological disadvantage over the course of regular, recurring and increasingly more challenging dismounted movements under load in the operating forces. This is exacerbated by other physiological factors that, in concert, make females much more susceptible to injuries, either caused by a specific event or through the cumulative impact of repetitive dismounted movements under load. The disparity in injury rates between males and females at the Infantry Training Battalion (ITB) and during the conduct of the GCEITF assessment, due principally to multiple marches under load, provides an early indicator to that effect.

The United Kingdom review on "Women in Ground Close Combat" at enclosure (6) highlighted 21 factors likely to change based on the integration of women into ground combat arms specialties, 11 of which would have a negative impact, three of those 11 negative impacts that they assessed could not be mitigated. Among the three factors that would negatively impact combat effectiveness without known mitigation strategies are survivability and lethality. This conclusion is based on the analysis that "a woman who is performing to the same physical performance standards as a man, will be working closer to her maximum capacity when carrying the same absolute combat load, and will fatigue sooner than her male counterpart." This conclusion was reinforced in our own research during the GCEITF assessment that highlighted the disparity between males and females in relative movement rates and lethality with various individual weapons within the infantry occupations. In particular, the overall accuracy of the female 0311 infantry volunteers declined and the disparity in accuracy relative to their male counterparts increased as the weight of the individual weapon system increased.

An additional consideration is the likely very small numbers of females that would potentially be serving in infantry MOSs throughout the operating forces in a steady state integration scenario. Based on individual propensity and the ability to meet minimum standards, it is difficult to project a number of female infantry Marines that does not exceed what could be viewed as tokenism. As a frame of reference, the Canadian Armed Forces have been fully integrated for over 25 years. After a quarter century of integration and with unquestionably much lower physical standards than the U.S. Marine Corps, the Canadian Army has .4% female enlisted infantry. The potentially very small number of female infantry Marines could pose a distinct challenge within the assignment process, as well as for commanders charged with leading infantry battalions of nearly 1,000 Marines.
Finally, in viewing this decision through a talent management lens, the Marine Corps risks losing a number of highly talented female Marines prematurely due largely to the often extreme physical demands of these infantry, reconnaissance and special operations occupations. The inextricable linkage between physical capacity and job performance in the infantry, reconnaissance and special operations occupations, specifically in the early stages of a young officer’s or enlisted Marine’s career, is very different from the vast majority of occupations throughout the military Services. Service in these uniquely physically demanding occupations will place the majority of female Marines at a competitive disadvantage relative to their male peers due to the heavy emphasis on demonstrated physical strength, anaerobic power, and anaerobic/aerobic capacity. These are physiological factors that directly impact physical performance and, in turn, inform the performance evaluation of an individual Marine.

The Marine Corps Recruiting Command (MCRC) has diligently worked to significantly increase the number of female accessions, both officer and enlisted, to unprecedented levels in the past few years. We need to continue to attract, develop, and retain our female Marine talent to meet future challenges across the range of military operations. The likelihood of a female Marine being less competitive in these significantly more physically demanding occupations may adversely impact the Marine Corps’ ability to retain top female talent and enable their progression into more senior ranks. Simply, any loss of this MCRC-established momentum, or worse a downward trend in retaining our top female Marines, would be a tremendous loss for the Corps.

IV. Policy Implementation

The integration of female Marines into ground combat arms occupations to the fullest extent possible will expand the Marine Corps’ talent-base to face the highly complex operational realities highlighted in Expeditionary Force 21. Clearly articulated and codified individual occupational standards will undoubtedly enhance our ability to place the best and most fully qualified Marines in the right occupations and increase the overall combat effectiveness and readiness of our MAGTFs. The critical element of successful policy implementation will be an unwavering adherence to these standards, which will: provide reasonable assurance of physical capability while mitigating injuries impacting combat effectiveness and readiness; enhance competitiveness and promote career viability, supporting individual Marine success and positively impacting retention; and, be the primary driver in overcoming gender bias through clearly demonstrated performance standards, which is fundamental to a cohesive unit with high morale.

As with any policy change in the Marine Corps, leadership will be the most critical component to successful gender integration into ground combat arms occupational specialties and units. Fully invested and unwavering demonstrations of support by commanders and leaders must set the example for Marines at all levels — “what right looks like” — and set the conditions for success within individual units and
throughout the institution. All of the analysis of allied military experiences as well as our own previous integration experiences speaks to the absolute primacy of leadership. Without a full 360° step by leadership at all levels toward embracing integration of female Marines into the ground combat arms, this integration effort will very likely be fraught with friction and unduly protracted - potentially a greater drain on combat effectiveness and unit readiness.

Gender integration into the ground combat arms will be a multi-step process. First, we must define gender integration success. Second, we must identify the challenges associated with gender integration. Third, we must involve stakeholders across the institution to develop and implement plans, policies and practices designed to ensure success. Fourth, we must design and initiate a long term assessment plan specifically to understand the results of gender integration as it occurs. Lastly, we must create the feedback mechanism that enables senior leaders to provide guidance throughout the process.

Successful Integration Defined
- Combat effectiveness and readiness are enhanced

- Validated operationally-relevant, occupation-specific, gender-neutral physical performance standards are universally applied to Marines serving in physically-demanding ground combat arms military occupational specialties (MOSs) and units

- Marines can compete for any MOS if they have the propensity and are fully qualified

- Systems, policies, and practices are in place that screen, classify, train, and develop Marines for physically demanding MOSs and assignments

- Commanders and leaders at all levels create positive command climates that lead to full recognition and acceptance of the best and most fully qualified Marines in the occupational specialties where they can make the strongest contributions to the Corps’ missions

- Viable career paths are available to Marines across all MOSs

- Internal and external audiences understand that decisions and actions are rigorous and valid, empirical and fact-based, and withstand legal and societal scrutiny

Potential Challenges to Integration
- Identifying physiological and/or physical screening tools that accurately predict performance and mitigate injuries during entry-level training
- Codifying physical standards for occupations and assignments that are operationally-relevant, gender-neutral and highly predictive of physical performance in the operating forces

- Developing training to capitalize on the physical abilities of all Marines, regardless of gender

- Developing assignment policies and practices that discourage gender-favoritism, discrimination, and/or exclusion

- Identifying and overcoming institutional and individual gender bias

- Establishing task cohesion early in the gender integration process to ensure increased combat effectiveness and unit readiness

- Communicating the rationale of decisions and recommendations to internal and external audiences

- Marginalizing female Marines due to gender bias and misconceptions about female performance

Left unaddressed, these challenges at best leave combat effectiveness unchanged, or worse, compromised. The MCFIP applies the gender integration lessons learned from previous Marine Corps experiences, as well as lessons learned from allied militaries, to ensure combat effectiveness and readiness are ultimately enhanced.

**Path to Success**

- Codify and validate quantifiable, operationally-relevant, gender-neutral physical standards

- Enhance training for all Marines in developing their physical ability to meet those physical standards

- Update orders and directives as required to develop gender-neutral assignment policies and practices to place the best and most qualified Marines in the right billets, regardless of gender

- Create task cohesion in units as early in the gender integration process as possible, conducting unit training, field exercises or physical training to demonstrate that all Marines can actively and positively contribute to mission success

- Institute gender education packages for leaders and Marines, empowering them with knowledge to ensure a smooth transition
V. Long-term Study & Assessment

Unlike previous integration experiences, the MCFIP will include a Long Term Assessment Plan designed to provide a detailed, quantitative assessment of all aspects of female integration to assess the relative success of implementation as well as inform in-stride policy adjustments, as required. As this is largely a personnel issue, the Deputy Commandant for Manpower and Reserve Affairs (DC, M&RA) will serve as the Office of Primary Responsibility. This multi-decade plan will involve key stakeholders across the Deputy Commandant's (DCs), Training and Education Command (TECOM), Recruiting Command (MCRC), Marine Corps Systems Command (MCSC) and Marine Corps Forces Commanders (MARFOR Commanders).

The assessment will collect data from current manpower, recruiting and training systems. It also identifies additional data to collect specifically to understand individual motivations regarding a Marine Corps career. A proposed longitudinal study will evaluate physical performance in ground combat MOSs against physical training, nutrition and injury rates in a population of male and female Marines. The Center for Naval Analyses (CNA), RAND and others will support with studies on cohesion and morale in ground combat units compared with logistics or aviation units; case study research designed to understand the impacts of gender integration on deployability; studies designed to identify material and non-material adaptations to support gender integration, and others. The Long Term Assessment Plan calls for semi-annual updates to Marine Corps senior leaders (CMC/ACMC) during the first four years of integration, with annual updates thereafter for twenty years.

Specific metrics within the long-term assessment include:

Recruit
- Female and male propensity and reasons to serve/not serve in the USMC (JAMRS data)
- Female and male propensity and reasons to serve/not serve in ground combat arms PEFs/QSNs (JAMRS data)
- PEF/QSN "take-rates" by gender
- PEF/QSN qualification rates by gender
- PEF/QSN reclassification rates by gender and reason
- Recruiting costs by gender and PEF/QSN
- Officer ground, air, and law contract rates by gender
- Officer MOS assignment by gender, class rank, and preference
Train

- Training continuum performance (academic, military skills, leadership, physical events, etc.) by gender, MOS, age, fitness/health, and height/weight/body composition
- Training continuum (ELT, PME, and Continuing Education) attrition rates and reasons by gender, MOS, age, fitness/health, and height/weight/body composition
- Injury rate and type by gender, age, MOS, and unit (during training continuum and in the OpFor)
- MOS reclassification rates and reasons by gender, unit, and age
- PPT/CFT cumulative and individual event scores by gender, rank, age, MOS, and unit
- Rifle/pistol qualification scores by gender, MOS, and unit
- MCMAP belt qualification by gender, MOS, and unit
- Swim qualification by gender, MOS, and unit
- Assignment to body composition program (BCP) rates by gender, MOS, and height/weight
- Height/weight and body fat estimation of BCP Marines by gender, MOS, and unit

Develop

- Formal unit assignments by gender and MOS
- Billet assignments by gender and MOS
- Assignment to key billet rates in occupational field by gender, MOS, and unit
- Selection rates for CCLEB/CPIB by gender, MOS, and unit
- Selection rates for resident PME and Continuing Education by gender, MOS, and unit
- Pro/Con scores by gender, MOS, rank, age, and unit
- FITREP relative value by gender, MOS, and unit
- MOS continuation rates by gender, MOS, rank, age, and reason
• Promotion rates by gender, MOS, and unit
• Selection rates for command by gender, MOS, and unit
• Remove by request (RBR) for command screening - rates and reason by gender, MOS, and unit
• Command climates (receptive to female Marines? Attitudes on gender integration, diversity, inclusion, etc.)

Deploy
• Non-deployability rates and reasons by gender, MOS, and unit
• Light/limited duty by gender, MOS, and reason
• Pregnancy rates by MOS, unit, and rank
• Training days lost by gender, MOS, and reason
• Work days lost by gender, MOS, and reason
• Misconduct rates and type by gender, unit, and MOS
• Hazing, sexual harassment, and sexual assault rates by gender, unit, rank, and MOS
• Admin separation rates and reason by gender, MOS, and unit
• Cost, use, performance, and effectiveness of material and non-material adaptations by gender, MOS, and unit

Retain
• Retention rates by gender, MOS, and unit
• Reasons for separation by gender, MOS, and unit
• Reasons for retention by gender, MOS, and unit
• Medical separation rates and reason by gender, MOS, unit, and time in service (first-term and career force)

Unlike in previous Marine Corps integration experiences, senior leaders must be able to assess at regular intervals the relative success of the integration plan and, most importantly, institute in-stride adjustments. This comprehensive assessment effort cannot be personality-based, subject to steady erosion over time as a result of
senior leader assignment turbulence. Rather, to be successful it must be stitched tightly into the fabric of our 21\textsuperscript{st} Century Talent Management Strategy.

VI. Winning

The following passage from the 1992 Presidential Commission on the Assignment of Women in the Armed Forces, which upheld the restriction on women serving in ground combat occupations and units by a vote of 10 to 0, with 2 members abstaining, is central to the broader integration issue and worthy of reflection when considering not only research findings, but policy implementation strategies as well:

"A military unit at maximum combat effectiveness is a military unit least likely to suffer casualties. Winning in war is often only a matter of inches, and unnecessary distraction or any dilution of the combat effectiveness puts the mission and lives in jeopardy. Risking the lives of a military unit in combat to provide career opportunities or accommodate the personal desires or interests of an individual, or group of individuals, is more than bad military judgment. It is morally wrong."

In addition to the above reference to winning being "often only a matter of inches" I would add the following passage from Marine Corps Warfighting Doctrinal Publication 1, Warfighting, when considering the totality of research findings:

"Of all the consistent patterns we can discern in war, there are two concepts of universal significance in generating combat power: speed and focus. Speed is rapidity of action. It applies to both time and space. Speed over time is tempo - the consistent ability to operate quickly. Speed over distance, or space, is the ability to move rapidly. Both forms are genuine sources of combat power. In other words, speed is a weapon."

Affording equitable opportunities to the maximum extent possible for all Marines to request and subsequently compete to serve in occupational specialties for which they are most fully qualified is the right thing to do and aligns with our Corps' broader 21\textsuperscript{st} Century Talent Management Strategy.

In that vein, the 1992 Presidential Commission also stated,

"Service members are encouraged to pursue opportunities and career enhancements in the Armed Forces, limited only by the needs and good of the Service. But when it comes to combat assignments, the needs of the military must take precedence over all other considerations, including the career prospects of individual service members."

This fundamental tenet that is as relevant today as it was nearly a quarter century ago must remain at the forefront of any decisions on integration, despite the significant cultural shifts toward increased
opportunities and inclusion within our nation since the Presidential
Commission reached its conclusions. In the main, such shifts have
been positive for our country in a broader context, but have perhaps
diluted the paramount importance of winning in battle against our
nation's foes - the sole reason for the existence of a Marine Corps.

To move forward in expanding opportunities for our female service
members without considering the timeless, brutal, physical and
absolutely unforgiving nature of close combat is a prescription for
failure. Our future enemies will be the ultimate arbiter of such
decisions - when lives of our Marines are in the balance. Those who
choose to turn a blind eye to those immutable realities do so at the
expense of our Corps' warfighting capability and, in turn, the
security of the nation.