

# Fighting a Peer Adversary

## Part II: Observations and recommendations from MAGTF Warfighting Exercise 1-20

by LtCol Chris Niedziocha

**O**bservations Continued  
 3. The infantry company gear set should enable awareness, decision making, and communications.

After watching two dozen platoon and company infantry assaults in both day and night during ITX, the biggest impediment to smooth execution was diminished awareness caused by stress, noise, and the inability to see clearly at night. Assaults broke down because riflemen reacted adversely to stress, could not hear fire commands, and could not see targets, signal plans, or hand and arm signals—especially at night. The intensity and volume of noise produced by an infantry assault is incredible. It is nearly impossible to think clearly—the environment is stressful.

Screaming as well as hand and arm signals are the only way to communicate, which adds to the confusion and chaos. The mindset and emotional state of Marines without years of experience caused by the chaotic environment is not conducive to following directions, demonstrating initiative, or the use of fine motor skills.

Wearing the required hearing protection complicates matters. These observations have been made many times by many people. ITX 1-20 validated this during the execution of eighteen runs at Range 410A, three runs at R400, three R230s, two mechanized assault courses, and the air assault course.<sup>9</sup>

The solution is simple, affordable, and ready now. Every Marine in an infantry company should have a suppressed weapon (including the medium machineguns). A highcut helmet and

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noise amplifying, radio ready headset hearing protection should be issued along with a set of AN/PVS-31Bs. These material solutions have been discussed many times before, including in the pages of the *Gazette*. These simple, proven, and affordable items would solve the problem identified with the infantry assault. The helmet and amplifying hearing protection enhance awareness by preventing the emotional and physiological effects of prolonged,

ear-splitting, thought eliminating noise while providing the ability to coordinate an assault using a radio. Suppressed weapons will make an infantry unit more responsive to commands and will enhance the awareness and mindset of rifleman. This will lead to better decision making and execution.

Suppressors also minimize the signature of the attacking unit. The sound of an advancing line of troops or support by fire element allows an enemy to orient on the threat and direct their fire. The additional time and difficulty in finding the unit slows adversary target acquisition. The step up in capability provided by the new night vision goggles is difficult to express. The level of increased awareness provided by the AN/PVS-31B over the AN/PVS-14s is



*We should consider suppressed weapons for infantry Marines. (Photo by Cpl Corey Matthews.)*

similar to the jump experienced by going from an unaided eye on a moonlit night to wearing the current goggles. Our current night vision goggles are at the end of their useful lives, and most units do not have enough to equip every Marine because of maintenance attrition. Fielding any one of these material solutions by itself would provide an incremental enhancement in capability. Fielding the helmet, goggles, headsets, and suppressor at the same time is a revolutionary step and would immediately enhance the lethality of the infantry company. For a service that will spend \$131 million dollars per aircraft for a CH-53K,<sup>10</sup> \$115 million per F-35B,<sup>11</sup> or \$71 million per MV-22,<sup>12</sup> I cannot understand why we do not have all this today.

**4. Maneuver unit C2 systems need to be mobile, survivable, and difficult to detect.**

Infantry battalions and the institution have been re-evaluating how we command and control (C2) units and the composition command posts for several years now. The days of stationary command posts with full motion video, multiple flat screens, dozens of chat windows, and every net required—voice and data are over. The never-ending quest for certainty and complete awareness, at least in 2d MarDiv, has ended for now. This is an incredible piece of institutional learning. To sustain this, infantry units need a light, mobile, and survivable “program of record” C2 node to realize this renewed emphasis on mobile and survivable C2 nodes.

Operational units have conducted amazing and innovative C2 experimentation and problem solving over the past few years. Each infantry battalion independently arrives at similar conclusions about how to C2 a maneuver element against a peer threat. Not a single infantry battalion (there were six) who participated in MWX used their program of record CapSet.<sup>13</sup> Units must manage the use of the electromagnetic spectrum, communicate well, and move frequently to survive. Data services, video, internet, and video teleconferencing have been pushed aside in favor of HF data, single channel radio,

blue force trackers, and the Network on the Move Point of Presence (NOTM POP or simply NOTM14). The LPD communications pathways are forced into HMMWVs and UTVs<sup>15</sup> with homemade antenna mounts, improvised workspaces, shelters, and an unbelievable hodge-podge of power sources. Most of it works and none of it really works well. We need something better than the shipping pallet, zip tie, and U bolts bought at Advance Auto Parts in Yucca Valley and powered by a Honda generator purchased at ServMart (which did not really work anyway) solutions units are using now.

A program of record battalion mobile C2 node must be developed and issued. So what would a program of record infantry battalion C2 set look like? It would be platform agnostic—you could ground mount it, put it in HMMWVs, UTVs, JLTVs, or whatever comes next. It should be modular. It should work seamlessly with a NOTM (NOTM-like capabilities should continue to get smaller and smaller). It should have vehicle antenna mounting brackets and the ability to remote the antennas up to a kilometer. There should be a way to wire in a defense. Our C2 vehicles (all our vehicles really) need a system of racks to store fuel, water, sustainment, communications gear, batteries, antennas, pioneer gear, and camouflage netting. Today, these things that could be rack mounted are carried in extra vehicles, further increasing our footprint, signature, and logistic requirements. A pop-up shelter to allow planners to work at night while maintaining light discipline is required.

Each battalion should have 4 of these C2 nodes providing a unit the ability to run 24-hour ops from an Alpha/Bravo command model, transfer control, and displace to keep up with a rapidly maneuvering main effort, run a rear command post, and have the ability to absorb combat losses. Multiple command posts were destroyed during MWX by an enemy who was actively hunting them. The adversary force used all means to locate and destroy C2 nodes including long-range rocket artillery, close air support, and 40 Commando, Royal Marines operating in rear areas.

We will lose C2 nodes in a peer fight if we do not minimize our footprint and signature. Units were able to make do at MWX and figure it out, but not every shortcoming was solved. The institution needs to take on the development and fielding of a survivable, mobile C2 node for maneuver battalions.

**5. Different small unmanned aerial systems are necessary to fight a peer competitor.**

Our fielded small unmanned aerial systems (sUAS) do not have the range, agility, persistence, or lethality to be effective elements of a peer adversary collections plan. During MWX we were only able to employ our fixed-wing sUAS once—the battalion spent the majority of its time in the defense. Current systems have limited range (approximately ten km), take too much time to set up and break down (even with a well drilled crew), and once airborne do not have the persistence to provide indications, warnings, or cross cueing for another asset. Current vertical takeoff and landing sUAS are good for force protection in the defense and “seeing over the hill crest” in the offense but are not meant to be integrated into a collection plan based on their flight characteristics, visual and acoustic signature, and limited persistence.

Fielded systems do not provide eyes far enough forward. In mobile warfare against a peer competitor, named areas of interest and target areas of interest have to be deep to be of value. Limited range provides other problems. Once launched, a sUAS can become a vulnerability. Does the C2 node displace to keep up with the unfolding situation and lose the UAS or wait and recover the system to have it for the next engagement? Greater range and persistence would overcome these deficiencies.

Current Russian systems fielded to battalion tactical groups have greater persistence and range than our systems. We need a system we can launch, pass off from ground control station (GCS) to GCS, loiter, and recover when the situation permits—not at a system-imposed time. The Lockheed Martin Stalker UAS answers these requirements and is fielded now. It has great range

and persistence, can launch and recover quickly, is mobile (can operate out of the bed of a full-sized pickup truck), and has first rate payloads.

None of our currently fielded sUAS kill. Having armed UAS for counter-reconnaissance or point target destruction would be welcomed. The Switchblade UAS is one such system. Having Switchblade operators and systems (or a similar persistent, lethal UAS) in companies would provide the ability to kill at range without unmasking artillery or mortars, which makes them vulnerable to counterfire. A final note: these systems have to be fielded to the infantry company, independent platoon, and sniper teams to be effective. The 81mm mortar platoon's true utility is responsiveness. It is part of an infantry battalion, and the battalion commander does not ask permission to fire it. 81s are not tasked by anyone else and their fires are approved "in house." Lethal sUAS employment needs to follow the same model. Centralized control of UAS is too slow in a peer fight. To beat a peer competitor, we need systems with greater range and persistence at the battalion level and below, and we need a lethal sUAS for infantry companies and mobile units.

#### **6. Air defense assets should be fielded to the GCE.**

During MWX, 2dMarDiv attached elements of 2d Low Altitude Air Defense Battalion (LAAD) to subordinate units. This highlighted the strengths and usefulness of the capability and showed us the shortcomings in the organization, training, and equipping of LAAD units. During MWX, where the adversary force had complete air dominance for several days, every infantry battalion and Division independent battalions employed stinger teams against the adversary force aircraft. Stinger teams were used in an uncoordinated, point defense manner and killed assault support aircraft, attack helicopters, and several jets. They also shot down several friendly aircraft through misidentification.

An infantry weapons company should have an air defense section consisting of 12 launchers and 24 to 36 Marines. This allows two launcher

teams to attach to each company and still have four teams in general support of the battalion, protecting command posts, mounted assets like anti-armor or heavy machinegun platoons, or the battalion rear area. Other units like tank, assault amphibian, and combat engineer battalions should have similar capabilities. Air defense should still reside in the MAW. LAAD battalions need a more capable, self-propelled system. I am not advocating taking LAAD out of the MAW, but maneuver units need an organic point defense capability, which was well illustrated during MWX. The Stinger was fielded to the Mujahedeen in the 1980s to great effect. An infantry battalion would be a much more capable force with an organic air defense section. The Marine Corps still needs a more advanced and capable air defense asset that bridges the gap between Stinger and the Army's Patriot PAC-3 (which is optimized for ballistic missile defense) for protecting high value targets such as artillery, armor, and command posts.

#### **7. Maneuver units need organic EW and Signals Intelligence assets at the company level.**

Marine Corps electronic warfare and signals intelligence assets are shrouded in secrecy, rarely integrated into combat formations, and do not provide commanders the tools to maneuver and fight a peer in the electromagnetic spectrum. During MWX we were never able to achieve desired effects with attached electronic warfare assets. Because of operational security and the classification level electronic warfare enablers are held at, a frank discussion in this forum is challenged so my points are broad.

Electronic warfare capabilities should be matched to the threat, decentralized, employed at the tactical edge, and routinely participate in unit training and events like MWX. Ideally, they would be part of a maneuver battalion's table of organization and the gear part of the table of equipment. Our currently systems did not seem well suited to fighting a peer competitor.

We have to be faster to effectively use signals intelligence assets. Signals intel-

ligence "hits" did not arrive in time to make relevant decisions during MWX. By the time a report was gathered by a collector, sanitized by the operational control element, and provided to the end user in a digestible and appropriately classified format, the information had been overcome by events and was no longer of value. The rules and processes we use do not enable the use of electronic warfare and tactical signals intelligence assets.

Electronic warfare assets and gear have to be right for the threat, and the assets must be organic to combat units. Battalions and companies must be able to jam tactical communications and direction find enabling cross cueing of other assets like sUAS and targeting. Battalions also need to "see how they look" in the electromagnetic spectrum to control their emissions. An anecdote illustrates the point: On day 2 of MWX we received word a Shout Nano<sup>16</sup> was active in our battlespace while in our most restrictive emissions control level. We verified a radio operator was told to "monitor it" even though the Shout Nano is easy to locate and should not have been on during the established emissions control. The device was turned off, but the lesson was learned: you can establish an emissions control, but you need a way to verify you are in it. Being able to see the electromagnetic signature is useful, and it enables emissions control decision making by answering questions like "How detectable is a waveform and power setting versus how valuable is the net?" Without the ability to monitor your signature and see it real time, you will never know. A related required capability is an electromagnetic decoy.

Deceiving an adversary complicates his decision making and targeting. The Marine Corps should ensure electronic warfare assets are relevant to a peer competitor, that leaders know how to employ them, and the assets and expertise are resident at the appropriate level.

#### **8. Towed cannon artillery is not responsive, survivable, or lethal enough for the peer fight.**

We will start the next war at a surface fires disadvantage. Our enemies have



*Artillery was slow to respond to calls for fire. (Photo by Cpl Cedar Barnes.)*

plentiful rocket artillery with incredible range, lethality, precision, and mobility. Their cannon artillery is largely mechanized, possessing great range, armor protection, a diverse loadout of ordnance, and the ability to rapidly displace. They also possess mechanized self-propelled mortars. Being outranged and outgunned while having no aviation overhead was no fun at all.

During MWX, our artillery was too slow. Towed tube artillery emplaces and displaces slowly. When artillery fires, it can be detected and targeted. Since our artillery could not quickly displace to a new position, the Division was reluctant to fire—especially when intelligence indicated a counterbattery radar was present. As a result, our artillery was silent for significant portions of MWX out of fear of losing it to counterfire. Our artillery’s range needs to be increased. The constant need to displace to keep up with advancing armor or mechanized infantry left the exercise force without artillery support during key events at MWX. I am not an artilleryman so I do not have specific recommendations, but it is clear that we must increase the survivability, mobility, and range of our artillery. Rockets are one suggestion and the Commandant has been clear on this issue. An existing, in production, currently fielded self-propelled artillery system could be purchased and fielded

quickly. An artillery variant of the soon to be fielded amphibious combat vehicle would be well suited to the contemporary operating environment and threat.

**9. You cannot be ready for major combat operations with global force management manning.**

The level of proficiency and preparation of infantry battalions at MWX varied widely because of how battalions are manned. Every infantry battalion was at a different point in their unit lifecycle. Some were close to deployment, while some recently returned. Some battalions had 800 Marines, while others had barely 400. Being ready to fight a peer means being ready now. Every battalion at MWX worked hard and fought with vigor and enthusiasm, but a 400 Marine unit without qualified leadership is not going to do well against a peer adversary.

Marine Corps infantry units are manned to meet global force management requirements. This means a unit is provided the right manpower as late as possible while still being effective. Typically, a unit receives its full complement of Marines and sailors about six months before a scheduled deployment. Quickly after deployment, large numbers are transferred out of the unit to other duty stations. The unit experiences degraded readiness during this

period of minimum manning until the decision is made to fill to strength in time for the next scheduled deployment. Units receive several hundred new Marines from the School of Infantry over a span of three months or less. This is often before they have the NCOs and SNCOs to lead, supervise, and develop them. Rifle companies with a half dozen NCOs (a company rates 36) are not uncommon. This high turnover has other issues. The poor leader-to-led ratio allows self-destructive and undisciplined behavior. The lack of expertise prevents the development of tactical excellence. Lance corporals are not equipped to lead and train other lance corporals. The constant and sometimes near total turnover of personnel between deployments prevents the development of SOPs or an effective unit culture. The type of proficiency required to fight a peer and win is impossible to attain when a unit is flooded with 300 PFCs from the School of Infantry in three months and does not have the NCO leadership required.

Do units make do and figure it out? Sometimes. Is there a better way? Absolutely. Fighting an amateur enemy who still managed to kill over 5,000 Americans over 15 years has led us to believe this model is good enough. I disagree. It is difficult to quantify the negative effect of global force management manning. One could ask “What is the problem?” or say that “it has always been this way.” That is a bad approach, akin to saying a 195 is a good enough PFT (passed right?) or marksman on the range is still qualified. We have a moral obligation to be as good as possible. Going from a global force management manning model to a major combat operations model—one where a small percentage of your unit flows in and out every month—would solve many problems.

Watching the Royal Marines was instructive. I have encountered them several times in my career. They always have a healthy leader-to-led ratio, well developed unit cultures, and enforced SOPs. They always demonstrate impressive tactical savvy across their force. They do not stick rifle barrels out of windows when fighting in a city, walk

on the topographic crests of hills, or stand on inter-visibility lines. They are masters of field craft, rigorously enforce noise and light discipline, and rarely—if ever—yell. I doubt they have the force preservation issues we do in our newly formed units. Why? Among other factors outside the scope of this article, they are older, always have the right amount of qualified leaders, they spend more time in their units, and do not cut their units down to the bone immediately after a deployment. If we are serious about beating a peer competitor, putting battalions together at the last possible minute then taking them apart immediately after deployment must stop.

### Conclusion

ITX and especially the MWX were challenging events that pushed everyone to near failure, forcing learning, and adaptation. The stress, chaos, and friction caused by fighting a well enabled, competent, and opposing will was real. The lessons learned were at times profound. Winning or losing was not the point—individual, unit, and institutional learning was the goal. Learning has occurred and it is time for action. The observations in this article are not criticisms but an honest look at the exercise and how units performed. The recommendations are one Marine's thoughts on a way to address observed shortcomings and be prepared on the first day of the next war. This article should be a jumping off point for discussion and action. Both sides acquitted themselves well but muddling through, which is what most of us found ourselves doing at times is not good enough when strategic objectives are on the line and the currency for transactions are our Marines' lives.

The cost of mediocrity in our business is appalling. If we do not change some things now, we risk not being able to win the next fight.

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### Notes

9. Range 410A, 400, 230, the MAC, and the AAC are ITX events. Range 410A is a day and night platoon attack range. Range 400 is a company attack range. Range 230 is a company live fire urban clear. The MAC is a company combined arms mechanized assault course. The AAC is a live fire company air assault.

10. Jeff Schogol, "Total Cost of CH-53K is \$131 Million Per Helicopter: Here's the Breakdown," *Defense News*, (April 2017), available at <https://www.defensenews.com>. For the record, I understand how money for Marine Corps aircraft is allocated. I quote these figures to illustrate a point—we are comfortable spending large (even by DoD standards) sums of money on aviation programs but unwilling to invest in close combat units despite the disproportionately high returns we receive when we invest in the GCE.

11. Staff, "F-35 Fast Facts: Producing, Operating and Supporting a 5th Generation Fighter," available at <https://f35.com>.

12. Information available at <https://www.aviation.marines.mil>.

13. CapSet refers to a combat operations center capability set. It includes tents, furniture, lighting, power generation, environmental control, and computer systems necessary to command and control a unit.

14. From the Marine Corps Combat Development Command, Combat Development & Integration website:

NOTM FoS is a Satellite Communications (SATCOM)-based on-the-move command and control (C2) combat capability for all elements of the Marine Air-Ground Task Force (MAGTF). Initially fielded in 2013 in response to urgent Marine

Corps Forces Central Command (CENTCOM) requirements, NOTM is an Acquisition Category (ACAT) IV(M) program with a budget of \$509 million across the Future Years Defense Plan (FYDP) and a total life cycle cost of \$1.7 billion. NOTM provides robust C2 wideband SATCOM capability, three external network enclaves (Secret Internet Protocol Router (SIPR), Non-secure Internet Protocol Router (NIPR) and Coalition) with access to the Global Information Grid (GIG), Next Generation Enterprise Network (NGEN), full motion video, Voice over Internet Protocol (VoIP), and Voice over Secure Internet Protocol (VoSIP) integrated onto United States Marine Corps (USMC) tactical vehicles. Ruggedized laptops with a full suite of Combat Operations Center (COC) tactical software (Joint Tactical Common Operational Picture (COP) Workstation (JTCW)/Command and Control Personal Computer (C2PC), Advanced Field Artillery Tactical Data System (AFATDS) Effects Management Tool (EMT)) and chat are connected between NOTM Point of Presence (PoP) vehicles to Staff Vehicles via Type 1 encrypted wireless local area networks. A force multiplier on the battlefield, NOTM provides forward and main integrated C2 capabilities for bounding assaults to the edge of the battlespace; commanders are no longer geographically tethered to the COC. The NOTM capability is currently employed both in ground and air platforms.

This information is available in Marine Corps Systems Command "Networking on the Move (NOTM) Family of Systems (FOS)," *Marines*, (December 2018), available at [www.mccdc.marines.mil](http://www.mccdc.marines.mil).

15. The Utility Task Vehicle is a four-seat, diesel powered, off road vehicle manufactured by Polaris Government and Defense. It is based on the civilian Polaris MRZR.

16. The SHOUT nano is a handheld satellite tracker that can send simple text messages. It uses GPS satellites to prove personal location information. It is manufactured by Iridium and is used for friendly force tracking.

