Before Sunrise

Lethal and sustainable forward deployed forces

by LtGen Steven R. Rudder

Since World War II, the Marine Corps has excelled in amphibious operations and by 2027 became masters of expeditionary advanced base (EAB) operations with digitally interoperable maneuver warfare. From sea-based assets to sustained operations ashore, digitally-linked aviation capabilities are able to project ground forces rapidly and support them with manned and unmanned networking, strike, and close air support.

In this future age, the Marines continue refining and excelling as the contact and blunt layer force—forward deployed and ready for anything on a short fuse. Modern Marine forces will have the most lethal and sustainable force projection: self-sustaining, self-reinforcing, self-supporting, and self-sufficient.

In the fall of 2029, the Navy's mid-decade amphibious ship modernization and procurement plan is paying off as the Navy and Marine Corps are able to deploy a full-strength ARG of four ships.

With aviation and ground modernization complete, what would operations look like in 2030?

It is April 2030, and the Republic of Niwala is collapsing.

The United States Embassy is under siege. Americans who ignored the December 2029 evacuation order are now with the Embassy staff inside the walls of the Embassy, protected by Marines and a handful of local security.

Foreign military forces have been gathering in areas surrounding the east and the north of the country along the borders, the forces are moving across the grasslands and through the jungles in a desire to have a final confrontation with the weak—and weakening—government. These forces are a combination of guerrillas, irregular fighters, and former members of the army—all motivated by different reasons.

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LtGen Steven R. Rudder. *(File photo.)*

While the primary point of armed resistance to the government is nominally rebels, they have bolstered their numbers and capabilities and now far exceed Western pre-conflict intelligence estimates. Their capabilities include large numbers of modern surface-to-air weapons systems, as well as several larger heavier weapons of third party design and small arms. Non-persistent cyberattacks of unspecified origin have targeted Niwalan government information systems. Irregular, non-uniformed troops—unambiguously disguised high-end forces—are conducting attacks on Niwalan troops and civilians.

Most concerning is that third party contractors—with state-of-the-art air defense systems—support these forces. The United States determines that these third party contractors have not only supplied the rebels with new weaponry, but also with highly trained personnel to use them. Infiltrating over a period of years across Niwala's eastern border with Uganda and Tanzania, the range engagement rings of these air defense systems cover the city and Embassy.

The Niwalan government, weakening by the day, is requesting assistance from the U.S. to help deal with the situation. The U.S. Embassy has become a target of violent demonstrations and even indirect fire. Ambassador Wilson has called for both reinforcement and preparations for evacuation. Civilian atrocities and armed threats to the U.S. Embassy have instigated a swift U.S. response. Kenya and Tanzania have allowed overflight and limited access to airbases and infrastructure in support.

As indications of impending attacks on the U.S. Embassy increase, the 24th MEU pushes toward Niwala. The MEU command element begins planning efforts for dedicated reinforcement and a possible non-combatant evacuation. Strategic intelligence, surveillance, and reconnaissance (ISR) assets have indicated that most of the airfields near the city of Tsoshombe are not under the control of Niwalan government forces. The rebels are motivated, but disorganized—if they can unite, it will mean trouble for the country.

The 24th MEU, commanded by Col Scott Smith, deployed in February 2030, and is steaming through the Gulf of Guinea to the South Atlantic Ocean. The 24th MEU will serve as the nucleus of the newly designated Task Force Talisman. This MEU is at full strength in both personnel and equipment, with well-trained units that were

stabilized to begin workups at Camp Lejeune and offshore.

As the situation continues to deteriorate in Niwala, the combatant commander issues a warning order to Col Smith to prepare for a full range of military operations. Fortunately, Col Smith has stacked his staff with seasoned MAGTF officers, experts in the art of digital integration, logistics, and combined arms.

Mission: On order, Task Force Talisman conducts operations to reinforce Niwalan forces in order to deter the Niwala Defensive Front (NDF). Task Force Talisman postured to conduct offensive and non-combatant evacuation operations.

- Types: Reinforce host-nation forces, TRAP, CASEVAC, secure Embassy, non-combatant evacuation operations.
- Threat: High. Sophisticated surface-to-air threats.
- Weather: Poor and degrading.
- ACE: MEU ACE, shipborne.

The 24th MEU, afloat aboard four ships in the Atlantic Ocean, moving toward Niwala and the Angolan coastline, prepares its capabilities:

Afloat:
- 10 x MV-22.
- 8 x F-35B.
- 4 x CH-53K.
- 4 x AH-1Z.
- 4 x UH-1Y.
- Air Support Element (ASE) broken into Air Support Liaison Teams (ASLTs).
- 2 x Marine Expeditionary Unmanned System (MUX).

Land-based:
- 2 x KC-130Js.
- 2 x KC-130J with Harvest HAWK (tethered and staged nearby).
- 1 x MQ9 system staged with the KC-130Js.

In support afloat:
- USS *Carrier Strike Group*, with F-35Cs.

Marine Air Command and Control System (MACCS) Marines deployed with the MEU as two ASLT teams afloat. These Marines are supported by a mix of airspace command and control (AC2) systems, and work with their naval counterparts' process to integrate and operationalize the Navy Tactical Air Control Center as a nexus between aviation, surface/amphibious fleet, and Marine enablers—providing persistent sea-based AC2.

The Osprey departed the LZ. *(Photo provided by HQMC Aviation.)*

Synergistic efforts of Navy Tactical Air Control Center and MACCS ASLT watch-standers provide the mission commander a functioning operational space suited to provide efficient information flow to the MAGTF and GCE commander within the Landing Force Operations Center (LFOC) spaces. Simultaneously, they will account for the operational reach of ACE assets (F-35B, MV-22B, and tiltrotor MUX), which will exceed the communications limits of the organic radio systems afloat on the ARG's ships; however, between the airborne MQ-9 and MUX, these assets will create an objective area meshed network for the MAGTF.

The 24th MEU/ARG closes on the coastline. Logistics makes the Marine Corps expeditionary. Col Smith knows that he cannot support this effort from the ships alone; he needs to conduct expeditionary advance base operations (EABO) with arming and refueling points around the country. He immediately orders the long-range insertion of CH-53Ks and MV-22s using preplanned forward arming and refueling point (FARP) loads. Logistics experts from the Marine Wing Support Squadron (MWSS) plan for operations ashore working with the mission commander for the right mix of fuel and ordnance.

EABO requires the most up-to-date equipment for fueling and arming aircraft ashore, to include building the airfield itself—if needed. Scalable, pre-planned force packages that balance logistics, lethality, and signature, which can move on short notice are the key to EABO. These force packages are tailored and used for any aircraft in the Marine Corps and joint force inventory, and will be enabled by dedicated support from a range of Marine expeditionary enablers to support the FARP.

In the mid-2020s, the Marine Corps introduced advanced FARP operations, which could service aircraft across the joint force: Navy attack aircraft; P-8s; Air Force jets; and so on. The Marine Corps, long proud of being the most expeditionary arm within the joint force, realized that contributing such support to the pacing function of joint operations—logistics—was critical to the success of American operations in both permissive and hostile environments.

The FARP is just one type of EAB. The other three types are command and control (C2) EABs, ISR EABs, and those set up for fires. Though this operation is aviation-centric, this is simply one of many kinds of EABs under the EABO construct. EABO allows the MAGTF to extend its operational

reach and enable maneuver at longer ranges. Marine expeditionary enablers providing aviation delivered ground refueling, ordnance, and maintenance support allowing the ACE to support the joint force and operate at distances and in areas beyond the immediate coastline—extending maneuver space several hundred miles beyond the shore.

For this mission, MWSS Marines prepare to setup two FARPs. The FARPs laid out in the east of the country are impressive. An MV-22B Osprey can fly in the Tactical Air Ground Refueling System, or TAGRS. This is an MRZR, a four wheel-drive utility vehicle that looks like a combat dune buggy, which is towing a trailer. The trailer is loaded with a pump that can push 250 gallons of fuel-per-minute to hot-fuel aircraft. These Marines have laid down expeditionary lightweight matting, which replaced the 1960s-era AM-2 matting. Although the old style was extremely sturdy and well made, it was enormously heavy and very difficult to move in fast-moving operations. The MWSS can set up a FARP anywhere a commander may desire: a parking lot, on top of a building, in a field, a road, or on a runway.

The Marine ordnance team has ordnance built up aboard the ships and are prepared to be loaded in the back of an MV-22, CH-53K, or KC-130J, as all-up rounds. In the old days, Marines had to load individual bombs one at a time, or fly ordnance in pieces and build weapons up on site. Now, the ordnance arrives ready to go and is transportable on anything the MEU/ARG has at sea: helicopters, amphibious fighting vehicles, LCACs, MTVRs, or trucks.

Niwalan troops are engaged in operations throughout the northern and eastern portions of the country. Marine Corps forces will insert in the south and around the Niwalan capital, Tsoshombe, to support standup of those FARPs. Marines and Niwalan troops begin consolidating in several locations using overland and air routes to secure the remaining bases.

With these sites secure, the MEU takes over a standing airfield to set up their FARP, allowing the MV-22s and CH-53Ks to facilitate movement to air sites west of the capital. Heavy-lift CH-53K helicopters fly in fuel bladders and hoses to fuel the aircraft. They also fly in all types of ordnance, including the Small Diameter Bomb, Joint Air-Ground Munition, and Advanced Precision Kill Weapon System. One MHU-83 loader, a small tractor with a cantilevered lift in front, loads heavy ordnance onto aircraft.

One of the F-35s from the VMFA. *(Photo provided by HQMC Aviation.)*

During that operation, a Marine corporal runs off the ramp and pulls out a controller, no different from a video game console controller the corporal used growing up, and powers a small robot down the ramp under his control. This is the self-propelled ordnance transporter, called the SPOT, an unmanned, four-wheeled, battery-powered vehicle, which can carry 1,500 pounds of load. The SPOT came into the fleet in 2019 and was originally designed to be used on H-1 helicopters. The SPOT is here both carrying a rack of rockets and also towing its own trailer—called a CART, standing for carrier, ammunition, rough terrain.

The CART is loaded with all-up rounds and ready to deploy them onto an aircraft. The corporal directs the robot to the offload point, then sends it back up the ramp for another load. Simultaneously, two other Marines are setting up the hoses and pumps to be ready to fuel the aircraft circling to the west. Once those Marines hit the ground, they have the site up in twenty minutes, under the supervision of a sergeant. CH-53K helicopters cycle through with loads of fuel and weapons.

A young ordnance Marine is working on a laptop computer, scanning the barcodes on each piece of ordnance as if he were in a warehouse, each one beeping as he scans it. In this way, he is accounting for their reception and adding details about which aircraft is loading which piece of ordnance; this handheld tablet is tracking every bullet, bomb, rocket, and missile over a secure network and updating in burst transmissions the global ordnance stores databases. With the incredible amount of instrumentation on each aircraft, the ordnance community can monitor expenditures in near-real-time and "push" develop tailored Assault Support Request packages to FARPs when they see aircraft in that sector are "Winchester." That transparency minimizes assault support flights of hazardous cargo when not necessary and, more importantly, contributes substantially to maintaining tempo when tactically engaged.

This young Marine knows his role is critical, and while it is usually long periods of boredom punctuated by frantic periods or high-pressure work, the MAGTF would come to a grinding halt without him. When he runs short

of a type of weapon, the system on the ship orders it for him and stages it on deck—ready to be flown in.

As the enemy incursion into Niwala becomes more direct, aviation C2 becomes more difficult and airspace control more critical. The Marines working on this problem will utilize distributed operations, sensor integration and fusion, near-real-time data exchange, and information sharing. They will insert the most modern and effective systems: the Common Aviation Command and Control System (CAC2S), Ground/Air Task Oriented Radar (G/ATOR), and the Composite Tracking Network. These systems allow operational C2 reach from the ship across the entire battlespace to connect the FARP to amphibious shipping.

The FARP EAB is now at full strength with a TPS-80 G/ATOR and LAAD inserted by CH-53K from the ship to complete the control of the airfield and, more importantly, control of the airspace. Set up in defense of airfield, MACS detachment has an integrated operational picture of the security team, LAAD, MUX, F-35B, and AH-1Z weapons systems against air-to-surface and surface-to-surface threats.

The FARP is ready. The MEU begins operations with a family of unmanned aircraft systems (UASs). The persistent, long-range MQ-9 using the Sky Tower pod synthesizes information from the electromagnetic spectrum, imagery, and synthetic aperture radar (SAR), and provides it across the joint force's C2 network.

Depending on the scale and duration of the mission, MACCS personnel may be deployed in traditional "functional" agency fashion or could be broken down into smaller teams for a medium or low-end operations. Here they are established in a Cyberspace and Electronic Warfare Coordination Cell, or a CEWCC, ready to coordinate effects of the full spectrum electronic attack capability of the F-35, sensing and jamming pods such as Intrepid Tiger II mounted aboard the H-1 and KC-130J aircraft, ground sensors, and electromagnetic spectrum cyberspace attack. The MAGTF is ready to respond swiftly and decisively and new unmanned systems are the centerpiece of electronic warfare (EW) and establishing the network.

Over the past decade, the unmanned aircraft community has capitalized on advances in technology and can now track the adversary and jam their electronics remotely. Of course, they can see as well. Unmanned systems from the company to the MEF/MEB level enhance command, control, communications, battlespace awareness, EW, and kinetic fire support. From the MQ-9 all the way down to small-unmanned systems that Marines can carry in a backpack, the Marines have a persistent ISR and C2 capability.

The MUX is airborne as well. Digitally linked and working in conjunction with manned platforms, MUX provides additional capacity at the tactical level to the MEU. The MUX systems with modular payload capability will allow multiple systems distributed across the battlefield to conduct tailored missions and feed information across the airborne, ship-board, and ground digital network providing the commander and Marines on the ground with a current tactical picture. Tailored systems will give the Marine on the ground the ability to take control of the airborne payload in response to the changing tactical situation in order to achieve immediate desired effects.

Ahead of any assault package, MUX will provide pre-L-hour ISR and EW. Another MUX will launch at interval to provide continuous support.

The MUX payload includes an EW asset capable of electronic surveillance and electronic attack, to include the delivery of radio-frequency-enabled cyber payloads. This MUX will provide information operations and cyber support to the package. CEWCC personnel have planned EW and cyberspace operations as an integrated function with the overall scheme of maneuver; the payload is controllable and reprogrammable by a collaborative network of ground and shipboard stations.

CAC2S displays fuse the entirety of information. Though it looks confusing to the untrained eye, these displays detect, identify, and target low observable threats: a lance corporal fresh out of school can track anything from 5th generation aircraft to UAS, cruise missiles, rockets, artillery, and mortars.

NDF forces have increased attacks on the northern border in an attempt to gain territory and momentum prior to further buildup of U.S. forces. Attacks by non-uniformed troops on pro-Niwalan populace areas have resulted in significant increased civilian casualties. Cross-border excursions by Gen 4+ aircraft and attack helicopters have been reported, and an armed unmanned arial vehicle strike against a Niwalan army barracks has killed over 80 soldiers. Additionally, long-range double-digit SAMs are moved to the border of Niwala so that their employment ranges cover the northern 75 percent of Niwala, and mobile cruise missile systems are reported to be in place.

While overt involvement of third parties is assessed as unlikely, intel reports indicate that weapons are continuously being funneled to units in disputed areas. Of equal concern, the MEU begins to pick up interference in the cyber domain, indicating that they are engaged in active cyber warfare against U.S. forces.

The enemy frequencies are identified, confirmed, and located via SIGINT and digital fingerprints that are correlated by intel. The CEWCC uses communication jamming to herd the enemy leaders' communications onto a known, exploitable frequency. Using the communications on this frequency, the enemy location is further refined and ISR assets establish a pattern of life. The enemy identity and location are sent to the targeting board for prosecution.

The Niwalan government was struggling on several fronts. Coordinated and violent demonstrations, instigated largely by social media efforts, have paralyzed public services and led to fighting among the populace. MEU reconnaissance and FAST Company Marines will be phased into the country via MV-22 and CH-53K from the ship and ground via Kenya. Movement to the airfield, and actions once established, will capitalize on distributed operations, providing security and seizing sites around the airfields.

As reinforcing efforts expand to areas outside of Tsoshombe, a combined US-

Niwalan force is inserted near Kutaisi via four CH-53Ks to secure another airfield. In order to increase the mobility of the security force, two of those CH-53Ks launch with external loads: each carries an armored JLTV (joint light tactical vehicle).

While the airfield objectives were quickly accomplished, several partner forces are wounded in the ensuing action. At the casualty evacuation point, a squad leader updates the CASEVAC messages and taps "send." With the same indifference to the complexity that he shares Facebook posts at home, he informs the entire MAGTF that his machine gunner has a gunshot wound that is stable and that has been triaged by the corpsman. Within a few minutes he repeats a similar update to the MV-22's landing zone (LZ) diagram with changes in the winds.

As the CASEVAC MV-22 aircraft nears the LZ, its aviation survivability equipment sounds an alarm and sends the detailed location and threat identification to the nearest F-35. The Link track that pops up in the F-35 pilot's helmet mounted display receives indications of a suspected SA-15 operating northeast of the objective in NDF-controlled territory.

With a few taps, the F-35 Lightning II pilot hooks the threat and shares it digitally with the raid force and CASEVAC aircraft via a Link track. The F-35 pilot electronically suppresses the threat and refines the system's coordinates. Within seconds the APG-81's active electronic scanned array radar has painted a detailed picture of the threat, and the aircraft's systems have classified and confirmed the system as a SA-11 TEL.

The F-35 destroys the threat with a small diameter bomb, called the SDB II, and the assault support aircraft continue to the LZ with only a single turn in the holding area. The CASEVAC aircraft continue their mission, comfortable with the spontaneous developments that are readily transparent to them in the common tactical picture (CTP) both "on the glass" and on the Marine Air-Ground Tablets, or "MAGTABs," that the embarked Marines are constantly fiddling with to refine their scheme of maneuver. In the ensuing confusion of the extract, several Marines end up on the wrong aircraft, but the section egresses from the zone without any concern; the frequency reflectors in each Marine's uniform identifies them to an antenna in each of the assault support aircraft, and the system keeps track of who has left. The entire chain of command, to include the squad leader, is well aware of the fact that the team embarked on dash two of the Osprey section.

The LFOC was located onboard the LHA. *(Photo provided by HQMC Aviation.)*

Embassy

The American Ambassador to the Democratic Republic of Niwala (which everyone calls Niwala-Tsoshombe) is Lisa Wilson, a career diplomat, three times an ambassador already—Mongolia, Cambodia, and Afghanistan—and a veteran of events such as these. As with all ambassadors to countries in the toughest parts of the world, she is the best the American diplomatic corps can produce. The politically connected and wealthy take the ambassadorships to places like Paris, Rome, Tokyo, and the Court of St. James, where their job is to host parties, cut ribbons, and show the powerful in Europe and Asia that America will send only its most elite—and best-connected to the President—to those countries.

Career Foreign Service officer ambassadors, by contrast, are often sent to places in extremis, poor and far away, because these are the places where their talents are most needed. Ambassador Wilson is not a glad-hander, nor a politician. She is a professional—tough, smart, and experienced—and she is ready.

Ambassador Wilson knows the borders are seething with rebel activity and the streets are filling with angry Niwalan. She put out the call back to the United States to prepare for an in-extremis evacuation. She made clear to her leadership in Foggy Bottom and the White House that the situation is deteriorating rapidly outside the walls. The Marines' primary mission in the Embassy is protection of classified material. SSgt Carlos Lopez, the Marine Security Guard (MSG) detachment commander, makes sure his young Marines are calm but ready for a fight. The Major on the ground reinforces this message. Once the classified material is secure, he deploys his Marines to the wall.

The Ambassador is preparing her staff, supervised by the Marines and by

the station chief, to burn the paper files they have on site. All computers have their hard drives removed and ready for transport.

The staff is tense and ready. Their families inside the walls are frightened, but calm. Even the children, who can hear the gunfire only blocks away and can see the fires as buildings are systematically torched ever closer to the Americans, watch the adults to figure out how scared they should be. Seeing them calm, they follow their parents' example.

The Marines, many themselves just out of their teens, are to these children like big brothers who will protect them. The young riflemen not on watch entertain the children as best they can; for instance, the youngsters are fascinated with the rations each Marine carries in his cargo pocket. These rations have replaced the Meals Ready-To-Eat of ten years prior: they are high-energy and calorie-dense and very small, created in food laboratories for better taste and more nutrient-rich blends.

These laboratories began by making lightweight, high-energy rations on contract for extreme endurance events, such as climbing Mount Everest, skiing across the South Pole, sailing alone around the world ,and so on, when they came to the notice of Army and Marine Corps leaders. The little ones cluster around a 19-year-old Lance Corporal as he prepares a quick meal, and he hands bites of his calorie bar to each child. In this way, the Marine acts as a big brother figure—alleviating the fears of the young children.

The U.S. National Command Authority has committed to the defense of Niwalan sovereign territory; the President, in a prime-time address from the Oval Office, confirms that America is standing with its ally. Marine forces adopt a distributed posture until a more robust joint anti-missile and UAV defense can be consolidated, and are facilitating the flow of joint assets into the region.

It is now 1 May 2030. The violence is moving closer. The rebels try twice to breach the compound walls. The Marines kill nine of them. Ambassador Wilson calls for evacuation. The White House is leaning forward. The President is briefed in the situation room and she issues a one-sentence execute order: "Send in the Marines."

Execute

The network comes alive again and reads: "EXECUTE EXECUTE EXECUTE." The MEU commander now has the order to reinforce and secure the Embassy, and to evacuate American civilians.

Once this order comes down, the MEU staff launches into a Rapid Response Planning and Preparation process, known as R2P2.

In 2028, the Marine Corps formally updated the R2P2 process, to account for the increased C2 capabilities in assault support aircraft and to emphasize the control of tempo as a center of gravity for assaulting forces. Instead of six hours from mission receipt to launch, MEUs now trained to launch inside of four hours and fully expected to refine their scheme of maneuver while en-route to the objective area. The MEU leadership follows the simple edict they learned from their MAGTF Staff Training Program training: the one-third rule. By this rule, any time allotted is to be split into thirds: higher headquarters uses a third of the time and gives the other two-thirds to major subordinate elements. In this instance, the MEU commander takes just over an hour, and allots the remaining time to his subordinate officers: the GCE, ACE, and LCE commanders. They follow the same rule, and take only minutes, leaving the rest of the short time remaining to their infantry company and aviator and logistics mission commanders.

During the R2P2 process, the staff builds the force package:

- 8 x MV-22 with elements of the company landing team (CLT) embarked,
- 4 x CH-53K with the remainder of the CLT,
- 4 x F-35Bs, launched at intervals, as escort,
- 4 x F-35C from an aircraft carrier farther offshore,
- 2 x KC-130Js : aerial refueling support for the F-35Bs is provided by alternating KC-130Js and Air Force tanker assets,
- Family of UAS including 4 x MUX and the MQ-9s co-located with the KC-130s.

Refueling options are provided by an airfield in Kenya, should forces be deployed to the eastern part of Niwala. The two KC-130J Harvest HAWK assets are staged there, ready for the call to support the MEU once it comes ashore.

The main reinforcement force launches and transits to the sprawling Embassy compound. The CLT commander, Capt Jones, is on the lead MV-22 with a MAGTAB in hand, refining the fire support coordination measures (FSCMs) at his expected LZ. Once outside of the ARG's airspace, Capt Jones receives a message from one of the MSG Marines that advises modifying one of his machine gun sectors of fire to avoid endangering a family just outside of the Embassy that has been friendly to the MSG.

Jones confirms the modification and passes the updated overlay to his second squad leader on dash four of the MV-22 flight. When he finally lands in the LZ and steps off the MV-22, he knows exactly where to look for potential spotters highlighted by the CEWCC and thinks "this is so much better than the stories my granddad tells about using a compass to make sure the pilot got us to the right zone."

Before lifting, the crew chief on the Air Mission Commander's(AMC's) MV-22 taps the Execution Checklist (ExCheck) app on his MAGTAB and confirms "package inserted" by tapping on "Coors"—which is replicated across the CTP. Once the MV-22s clear out of the LZ and quiet returns, Capt Jones makes sure his elements are spreading out as planned and then takes cover to glance at his chest-mounted MAGTAB. Flipping it down, he sees familiar blue dots on the maps moving into preplanned sectors of fire; farther out are blue dots representing the C-130J on station to provide fuel and a MAGTF Agile Network Gateway Link, or MANGL, node where his messages will be translated and passed over Link 16 via the tactical targeting network to the ship. He knows that in extremis C-

130J gives him another set of precision fires with Harvest HAWK JAGM.

Based on organic and reach-back intelligence, the CEWCC has been able to build an actionable map of adversary integrated air defense system (IADS) and formal and informal C2 nodes and networks. Targeting of relevant nodes has been integrated with kinetic fires to best support commander's intent and the scheme of maneuver. The CEWCC has requested, when necessary, appropriate authorities to conduct tactical offensive cyberspace operations. EW, RF enabled cyber, SIGINT, information operations, and G/S-6 operations have been deconflicted during the planning process to ensure freedom of maneuver in and through the spectrum.

Additionally, the CEWCC has coordinated cyber effects that prepare the battlespace for insert, security operations, and possible extract. CEWCC personnel monitor, enable, and deconflict EA fires from the MUX and MV-22s in real-time. The KC-130J is also providing the gateway link (C2 reach-back) between the sea-based MAGTF and the air package. As a result, the MEU and joint force have the same CTP as they make operational decisions.

Weather on the objective is heavy overcast at 500 feet, which precludes the F-35Bs from using their electro-optical direct air support sensors to clear the Embassy surrounding area; they use SAR mapping instead. MUX has a SAR video capability and, thus, weather is not a factor for those aircraft. To complement the electronic vision provided by SAR, the MSG launches a UAS that provides streaming video of the LZ and immediate area around the Embassy to the MSG, CLT and—through C2 reach-back—the sea-based MAGTF and the joint force.

This small UAS is a quadcopter, part of the effort known as "quads for squads" that began in 2020. It has a unique capability: the Instant Eye, which can execute perching operations. Perching is a technique used to land a VTOL air vehicle on the edge of a rooftop or flat surface in order to observe a sector while saving battery life, allowing for continuous surveillance of an area, and reducing audible signature. This allows monitoring of an area without anyone knowing this is happening: the machine parks itself on a ledge and shuts down its engine but continues to scan. Instant Eye is a gimbaled camera system that can stare, pivot, or scan, and in the early 2020s infantry doctrine integrated SUAS operations.

While the F-35Bs build SAR maps used to assess the surrounding area and the Embassy security, captured SAR images with critical targeting location and identification information are transmitted to the assault force. Then, the software reconfigurable payload gateway receives the info, processed via the Mesh-Network Manager, and parsed to the associated Wi-Fi connectivity to the employed tablets while also reaching the sea-based MAGTF.

As the AMC assesses the ground situation prior to L-hour, aviation C2 Marines—part of an ASLT team—assist the AMC by de-conflicting airspace in the objective area while performing critical operator-in-the-loop processes and data translation. This process enables the F-35B to provide target sorting messages to the controlling platform, correlate the target identified, and parse the target as a surveillance and other associated protocols the mesh/software package employs.

Both MUX and F-35s detect a ZSU-23 northwest of the city. As the ZSU moves toward the Embassy, the target quality coordinates provided by the F-35B are loaded into the MUX weapons system and employed to destroy the ZSU.

From the LPD which has moved closer to the shoreline, another mixed section of skids are assigned to 30-minute strip alert on the Air Tasking Order. The Cobras bristle with ordnance on their stub wings, and Huey crew chiefs man the .50-caliber and 7.62 mini-guns hanging from each side. The pilots build and conduct their brief via the MAGTAB and proceed to ground turn their aircraft. Operations to the north have increased in intensity even though the rules of engagement remain restrictive. The skid ground checks are complete, and the pilots receive situational awareness updates via their MAGTABs.

Back in the LFOC, the Operations Duty Officer is also up on the CTP and is viewing the same data as the pilots, in this case the UAS in support of Alpha Company that is overhead the village. The LFOC Watch Officer hooks the UAS track and pulls up the UAS feed. A small village is in view and the watch officer overlays the Augmented Reality System feed to display the Gridded Reference Graphic, which automatically synchronizes with the Cobra pilots' MAGTABs. Alpha Company can be seen entering the village from the south.

The company commander is aboard the first Osprey and they proceed directly inside the Embassy compound nearest to the main building. He meets in person with the American Ambassador to discuss military operations into Niwala: Embassy reinforcement and operations to support the FARPs in the countryside. The captain and Ambassador Wilson discuss the operations the MEU will conduct.

CH-53Ks and MV-22Bs put in Alpha Company. Alpha Company plans to continue reinforcing operations to protect the Embassy from advancing forces. The objective is an urban enclave of Niwala near the Embassy, where the NDF is gathering people and building strength.

From the LZ, the first platoon commander approaches the southern edge of the compound and directs his unit to spread out. The other two platoons are providing security. He pulls out his MAGTAB device and links to the UAS feed via the wireless connection to his joint tactical air controller who is carrying a common datalink radio and encrypted wireless link. Seeing that there is very little movement in the adjacent buildings he directs his platoon to proceed to secure avenues of approach.

The Forward Air Controller (FAC) is co-located with the company commander inside the compound. While they were at the daily update last night, the FAC took the time to upload the company's scheme of maneuver to his MAGTAB and is verifying that the units are in the proper positions. He confirms the preplanned FSCMs will support the company commander's scheme of maneuver. He publishes

The SPOT with a load of rockets and towing a CART is a self-propelled ordnance transporter. ***(Photo provided by HQMC Aviation.)***

them to the augmented reality system and receives approval from the air officer located in the Supporting Arms Coordination Center, or SACC. The skid pilots note the FSCM updates and go through some last-minute rehearsals to make sure they are prepared when called.

The Battle Captain in the Tactical Air Command Center examines the CTP and notes that the Alpha Company commander has confirmed the beginning of the operation by passing the codeword "Amstel." This information is also indicated in the MAGTAB update to the ExCheck application. The Battle Captain passes the execution checklist, which hits simultaneously on every MAGTAB across the battlespace.

First squad begins the operation with second squad in overwatch and third squad in reserve. As first squad retires from the first house, a shout is heard from the north and the squad comes under fire. The first platoon commander immediately declares troops in contact to the company commander over his radio and reorients his force as they return fire.

These young riflemen have all grown up with rapid-fire communications and electronics, and to them swift decision making does not need to be taught; they move quickly through tasks without a thought.

The ACE Battle Captain receives the alert and sees the flashing icon in Alpha Company's location. He gives the order to the LPD to launch the alert skids and starts looking for aircraft not readily engaged but close enough to provide useful on station time without first hitting the tanker. The skid Operations Duty Officer had already received the alert at Alpha Company's position and informed the pilots to stand by for the order to launch. The skid section leader was looking at the CTP when the launch order came over chat, and the pilots ran to their aircraft to launch. Once the aircrew board the aircraft and establish network link for the MAGTABs, the updates are automatically pushed to each MAGTAB at once.

The Battle Captain orders the Marines from the Direct Air Support Center detachment aboard ship to re-task a section of airborne F-35Cs they were tanking from a MQ-25, which were launched from the carrier. The first section of F-35s penetrate the airspace honing in on the threat system.

The aircraft behind them are in what the pilots all call "Beast Mode:" loaded up with ordnance, "dirty" with bombs hanging from external pylons under the wings, ready to get into the fight as bomb trucks to support the Marines on the ground. They will hold offshore until the coast is clear of high-end threats.

Back in Niwala, first squad retreats to relative safety under the cover fire of the other two squads, and the shooting dies down. Third platoon to the north reports that their line is being probed. A couple of shots can be heard. The F-35s check in with the FAC and receive a situation update that includes a graphical depiction of all friendly positions. The F-35s accept the FAC's FSCMs into their systems. The two AH-1Zs and 1 UH-1Ys are now airborne and are receiving updates from the DASC, that relays that the F-35s are already on station. The FAC sees on his digital display that the H-1s are still several minutes out.

First platoon is decisively engaged to the north and begins returning fire toward the urban dwellings. The FAC earlier tasked the UAS to observe two high speed avenues of approach from the west and northwest. The UAS not only provides ISR but also EW. The CEWCC in the TACC is surveying the information environment, and as the TIC develops, they pick up enemy communications which are vulnerable to one of their standardized "exploits." The EW payload on the UAS, controlled by operators in the CEWCC, begins to jam the targeted communications.

The UAS operator texts the FAC a message to bring up his video feed of what appears to be dust clouds along the northwestern avenue of approach. The inbound skids see the same message and bring up the UAS operator's alert about the approaching vehicles and draw a reroute request to the DASC to investigate. The DASC approves their routing and all players can see that there are no friendly vehicles reporting their position in the vicinity of the avenue of approach.

The company commander requests authorization to engage the approaching vehicles with aviation assets. The battalion commander approves the use of air only if the enemy demonstrates hostile intent or a hostile act. The skids approach the dust cloud. The FAC hooks the skid track and pulls down their full motion video (FMV). The FAC and the skids can see six trucks with figures in the back. Two appear to be "technicals" with heavy machine

guns. Given the speed of the vehicles approaching from the northwest and the enemy's movement in the town, it seems clear to the company commander that the approaching vehicles are reinforcements.

The company commander draws a new scheme of maneuver on his device and sends it as displays on the ground and air see the new information populate the inflight displays and squads receive it on the ground. The FAC verifies the geometry of his FSCMs and changes the final attack headings and the location of the battle position. The platoon commanders accept the new scheme of maneuver and maneuver their forces to support an assault to the northwest. The skids check in with the FAC and he pushes them to the battle position, having already received a digital situation update.

The FAC catalogues the ordnance on the two sections of air and begins weapon-to-target match on the approaching vehicles. The F-35s designate the tracks as moving targets and continue to update the CTP as the vehicles approach. The company begins taking heavy machine gun fire from a low building to the northwest and the FAC immediately sends a preplanned 9-line designating building 9-1 as the target of a single JAGM, to minimize collateral damage.

The Air Officer located in the FSCC can see the geometry the FAC plotted, and he monitors the attack. The skids proceed initial point (IP) inbound for a "buddy- lase" lock-on-before launch shot at the target. The heavy machine gun fire stops when the Hellfire hits, but now a heavy volume of small arms fire picks up from the building further to the north. The Cobras, well aware of the friendlies' positions, and observing the enemy tracks designated by the F-35s, request an immediate re-attack using the same 9-line to suppress the approaching enemy vehicles. The Air Officer is immediately aware of the geometry, can see that it looks good, and continues to monitor the attack. The FAC clears the skids hot for a type two rockets and guns attack.

The UAS sends an indication that the vehicles have now reached the northwest corner of the village and are fanning out at high speed. The F-35s designate the targets and update the FAC that two vehicles are headed toward the south near their position. With the skids just pulling off, the FAC issues a preplanned 9-line for the center of the town and requests a gun attack from south to north to stop the trucks. The F-35s delay and wagon wheel overhead toward the final attack cone, timing it perfectly as the skids just clear the target area. The FAC clears them hot on the trucks now approaching the center of the town. Both trucks explode as the 25mm high explosive incendiary rounds rip through the trucks.

The FAC verifies the geometry of his FSCMs and changes the final attack headings and the location of the battle position. The platoon commanders accept the new scheme of maneuver and maneuver their forces to support an assault to the northwest.

The UAS verifies that the trucks were destroyed, but there are still figures moving around them. The shooting continues in the buildings and the other four trucks have stopped near the northwestern corner of the town. It appears on the UAS feed that the enemy is attempting to regroup, anchored on the two technicals. The FAC confers with the company commander, both having received the status updates via networked MAGTABs, and issues a 9-line for a combined sequential attack. The air officer continues to monitor the attacks and the fight, silently maintaining good situational awareness of where the friendlies have repositioned. He watches the F-35 icon move from the IP en-route to destroy the two trucks.

At the FARP, the TPS-80 G/ATOR detects indirect howitzer fire and directs a section of AH-1Z to target the threat and reroutes UAS in support. The targeting data is received by both aviation assets via software reconfigurable payload which facilitates their quickly finding and fixing the howitzers. The AH-1Z digitally acknowledges targeting and sends a digital update to the COC while engaging and destroying the enemy artillery.

Soon afterward a complicated air picture develops, multiple low slow bogeys inbound and trespassing, with several medium altitude bogeys holding north of the border. Some targets are detected by F-35s overhead, some are detected by TPS-80 G/ATOR, and all are fused on the CTP presented to all airborne assets. The TAOC directs targeting based on powder states and positioning to the air threat and within the known SAM threat rings. The F-35s are committed on the bogeys to the north in order to maintain pressure and ensure they stay in Niwalan airspace. Additional F-35s and AH-1Zs, each carrying air-to-air missiles, are committed to low/slow bogeys outside of the double-digit SAM range.

With the air picture solved, F-35s detect indirect fire via DAS, including point of origin, and mark this target and variable message format. The ASE receives the target sorting message and creates a hostile surveillance land point. CAC2S automatically forwards this point to C2PC and Advanced Field Artillery Tactical Data System, which has direct connections to the MEB FSCC, then generating a counter-fire mission with granularity on the specified target.

During this coordinated attack, TPS-80 G/ATOR detects an enemy low altitude, short endurance UAS and provides cueing to the LAAD teams providing air base ground defense. Target prosecution is coupled with a received air surveillance picture to enable high fidelity information to the new ground-based air defense (GBAD) directed energy replacement: ten-kilowatt systems called the High Energy Laser On-The-

Move, a rechargeable high-energy laser mounted on a JLTV, that can reach out to 30,000 feet.

Meanwhile, in the LFOC on board the LHA, a situation has developed where a missing U.S. sponsored humanitarian relief convoy has been located trying to make it to the secondary pick up point at one of the airfields. The MEU commander and his team assemble around the CAC2S display to look at where all the assets are.

The MEU staff gathers an updated threat laydown, snapshots from the On-scene Commander's Advanced Threat Warning and IRCM sensors, and an updated position of Alpha Company. Aircrews in the ready room use MAGTAB to set up the mission execution checklist, coordination measures, and mission briefs, as well as the Joint Mission Planning System.

The personnel recovery package is finalized: sections of F-35Bs, AH-1Zs, MV-22Bs, and CH-53Ks. Infantry will contribute two squads to secure the zone; these squads are from Alpha Company and will be aboard the dash-2 CH-53K. The AH-1Zs will launch from the LPD.

Specific mission information is uploaded for each aircraft type, and then uploaded to each aircraft. It helps that the ACE commander insisted on building and then rehearsing different-sized TRAP packages within his composite squadron during their pre-deployment training. He recommends TRAP package Alpha and the whole ready room goes into a controlled buzz of productivity, planning airspace control measures, and templated air support liaison teams (ASSLT/ASLTs). The synergy created from access to a CTP and other mission planning tools allows for the ship's air department to start getting recovery package aircraft off the ship within 30 minutes of mission notification.

The F-35Bs have executed a "re-role," and have landed at a FARP EAB to be rearmed, refueled, and re-tasked. Ordnance Marines move quickly and surely as the aircraft keep turning; using the MHU-83 loader, they move racks of bombs under the wings and lift them onto the external hard points under the wings, as well as lifting and loading bombs into the internal weapon bays on the centerline of the aircraft.

This is Beast Mode: the aircraft are no longer the stealthy, very-low observable high-threat penetration jets they were an hour ago. Those same jets are now dirty, heavily laden with bombs, ready to fight. They spin up, taxi away from the rearming point, and roar into the sky.

When they are en-route again to the objective area, their displays receive and provide the on-scene commander their current fuel status and weapon loadouts as they set up a combat air patrol to prevent any surface-to-air systems or air threats from entering the designated operations.

The F-35B pilots can also view the fuel and ordnance load of the AH-1Zs that have just gotten airborne from the LPD once overhead, the F-35B pilots authenticate and update the aircraft's positioned pass their FMV of an observed crowd gathering near the downed Americans.

The Air Mission Commander is embarked on an MV-22B serving as a MANGL, passing the FMV and CTP updates back to the ship, and making recommendations to the MEU commander. In the LFOC the MEU commander assesses the FMV and the CTP. He authorizes the F-35Bs to conduct a show of force. The AH-1Zs see that the F-35Bs have cleared their route. The F-35Bs provide potential LZs via their sensor point of interest which also provide the AH-1s images of the objective area.

As the Cobras approach the objective area the target tracks laid down by other aircraft become a reality as they start getting glimpses into the target area. The section of CH-53Ks approaches the zone, protected by the Cobras. Lead 53K circles well clear of the area while dash-2 King Stallion settles into the zone. The Marines run down the ramp, tracked by radio frequency identification (RFID) and their movement transmitted back to the ship. They fan out in to a perimeter, secure the zone, and make contact with the convoy personnel who are scrambling away from their vehicles.

As the MV-22s launch, they too immediately receive the same threat tracks as well as an improved location of the IP to use. In the back of the lead MV-22, the Rescue Force Commander (RFC) is using the MAGTAB to review and determine the orientation of the potential zone. He communicates the plan updates via MANGL to the RFC second element leader in the other MV-22. As the crowd is still advancing toward the downed crew, the F-35Bs are postured to engage—coordinating with the FAC on the ground with the infantry.

The lead F-35B provides a digital 9-line to the AH-1Zs. The Cobra pilots accept the 9-line and the pertinent FSCMs which also immediately appear on their moving map. The F-35B turns over FAC-A to the Cobra crew; this means the Cobras have brief, mark, and control, while the F-35B lead will retain management of the stack and flow of aircraft in and out of the objective area because of its high-fidelity COP. The Cobra crew proceeds directly to the battle position provided for them by the F-35.

The MV-22s also accept the 9-line and update the FSCMs with the initial point (IP). The F-35B computer recognizes that the rescue vehicle IP is too close to the fixed-wing IP, and it provides a warning to the aircrew. The F-35B pilot updates his geometry and accepts the change. A coordination altitude of 3,000 feet is used for the rotary-wing and fixed-wing separation, but both can communicate clearly with the LFOC on the ship through an MV-22 MANGL gateway.

The Aircraft Survivability Equipment on board the Cobras issues a Hostile Fire Indication report, and the point of origin of an anti-air artillery piece displayed automatically as a threat track to the Cobras, who verify the tracers and accept the track. A threat track message transmitted from the Cobras, to both the F-35Bs and the MV-22s on Link 16 and to the embarked troops, translates to a simplified threat icon. The point of origin of the threat is near the ingress route of the MV-22s which quickly change their route.

The MV-22s call "IP inbound" with situational awareness with respect to where the LZ is in relation to the Cobras and the CASEVAC extract site. The

flight lead makes a last minute "John Madden" of his scheme of maneuver and shares the overlay to the entire package through the MANGL gateway. The lead Osprey lands and the convoy personnel are loaded.

The entire package retrogrades to the LHA.

Maintenance crews are eager to turn around their aircraft and prep for the next deck cycle. Their efforts are jump started by the continual stream of maintenance performance data that has been streaming from each of the aircraft. By the time they land the avionics, Marines are already prepared with replacement components and the airframers already know which aircraft need servicing.

The F-35Bs continue to take fuel from the KC-130 tanker to station on station and when required dip into the FARP for fuel and ordnance.

The CH-53Ks return to pick up the personnel recovery security force: one aircraft pulls the Marines out while the other provides overwatch. The squads from Alpha Company run back aboard the aircraft as their RFID chips keep count of each Marine. They return to the ship.

A very quick mission debrief is executed leveraging the data captured by MANGL interface and rebuilt as an overlay which they play on Google Earth in the ready room. The aircrew identify where their geometries could have been improved, how their communications could have been clearer, and which products need refinement now that they have seen some of the LZs, FARPs, and FSCMs.

These flight crews have more work to do. The hostile outside force has wisely decided it does not want a proxy war with the United States, but the rebels have not given up on taking the Embassy.

The Embassy evacuation begins as dawn lightens the horizon.

The remaining Ospreys have inserted two more platoons from Bravo Company inside the Embassy walls, landing one aircraft at a time in a clearing just big enough for each aircraft's rotors. That company has taken up positions at strongpoints. The Ospreys have returned to the ship, now just ten miles offshore, to refuel and rearm.

The CH-53K deserves the name "Workhorse." *(Photo provided by HQMC Aviation.)*

The ACE is overseeing and executing the operation. UAS circle far overhead, providing full-motion video back to the MEU staff in the LFOC. The KC-130J is on tanker track to support the jets, tiltrotor and helicopter force.

A FAC from the BLT is on the ground with a small tactical air control party team, ready to control the air-to-ground battle. He also realizes that the air is filling quickly with aircraft of different sizes, capabilities, and times on station, so he takes control and establishes two aircraft stacks.

The first stack is over the Embassy—a good landmark everyone can see. He puts the KC-130J Harvest HAWK assets on top of the stack, at 20,000 feet, clear of all other aircraft and with good oversight of the operation. Below that aircraft is the MQ-9, in a wide track at 15,000 feet. Next down are the tiltrotor MUX aircraft at 13,000 feet.

He offsets the much faster F-35s in their own stack over a prominent highway intersection several miles away, to give them room to work and keep them clear of other aircraft. He gives each section a block: the first from 12,000 to 14,000 feet, the next section from 15,000 to 17,000 feet.

At the Embassy LZ the initial landing is smooth, but the second division of three Ospreys receives medium machinegun fire from a building to the west. The integrated aircraft survivability equipment aboard the MV-22s in the flight identifies the point of origin of the small arms fire, and automatically off-boards that information for the F-35s—holding above—to prosecute with precision ordnance. The F-35Bs have divided up the kill boxes with the division flight leader orbiting high overhead with a SCAR mindset, using systems to see the entire fight, looking for targets to prosecute.

With the surface-to-air threat destroyed, the F-35Bs have been reconfigured and all have external pylon auxiliary mission equipment on essentially making them "bomb trucks," loaded with a mix of GBU-54 Laser JDAMs, GBU-12 laser-guided bombs, GBU-49s, a gun, and retaining a air-to-air weapons load of AIM-120 advanced medium-range air-to-air missile, and AIM-9Xs. The inbound MV-22s divert their landing plans and proceed to a predetermined holding area while they wait for the F-35s to neutralize the threat.

With the threat suppressed, the assault package is able to return to the objective area and reinforce the Embassy.

Five of the MV-22s retrograde feet wet back to the ARG, which is making max turns to close on the coastline. The two remaining MV-22s deploy aerial delivered UASs over the objective to provide additional ISR for the inserted GCE. They then depart the objective

area, conduct air-to-air refueling, then remain on station in support of CASEVAC operations and to conduct follow-on information operations via their IT-II Block X. The F-35B continues to provide the air and ground picture via their APG-81 radar as it collects data.

The MV-22s land and the security force disembarks. As they do, the RFID sensors in the cabin of the MV-22 track each Marine as they step off the aircraft, using the RFID reflectors in their uniforms. As they run from the back of the Osprey the system marks them as "Disembarked" in the ASSLT application.

Back on the LHA, the MEU commander sees the disembarked status update on the MAGTAB and infers that the force had been inserted without any verbal checklist calls. The Remote Vehicle Commander confirms this assumption when the checklist item is checked off as complete in the ExCheck application and shared simultaneously across the network to every MAGTAB user. The Embassy personnel are staged close by the LZ and make connection with the rescue force.

The company XO takes a picture of each civilian and verifies each before putting them on an MV-22. A radio frequency identification chip on each of the rescue force Marine's uniform is automatically scanned as the force re-embarks, simplifying accountability of the force. The MV-22s call lifting, and the F-35Bs update the egress route based on the latest threat update.

As the package begins their egress, the F-35Bs fly a detached escort for the MV-22s. All players can see the location of all other players via the CTP. As the MV-22s climb over terrain outbound for the shoreline their Aircraft Survivability Equipment issues a Missile Warning System indication and automatically slews a laser (Common IR Countermeasures) to jam the threat causing the missile to optically break lock. At the same time, the threat message on their operational flight program is translated into a threat point of origin and sent via the ASE sensor linkage to the MANGL gateway to the networked MAGTABs of the escort sections of AH-1Z and F-35Bs.

Verifying the smoke trail, the pilots maneuver and accept the threat track which is then pushed to the F-35Bs and the AH-1Zs. The LFOC reroutes the AH-1s and orders the F-35Bs to engage the threat. The lead F-35B pilot matches the threat track passed with what the aircraft has simultaneously found via DAS and electro-optical targeting system callouts; he passes that information to his wingman, who destroys the threat.

The ARG commander sees on the bridge that the AH-1Zs are low on fuel and orders the LPD to steam closer to the shoreline. The F-35Bs, MV-22s, and AH-1Zs all can see the position of the ship on their moving map display from miles away as it steams toward them. They do not have to wait until they are within line-of-site for a voice report on mother's position.

... Ospreys and King Stallions return to their tiny LZ.

One at a time, the Ospreys and King Stallions return to their tiny LZ. The infantry Marines have set up a collection point, at which the civilians are gathered and assigned by family groups to sticks of six souls: this number facilitates their quick loading onto Osprey and CH-53K aircraft.

As each aircraft lands, a stick is loaded aboard. The Ospreys strain against the hot, humid summer air as they ascend out of the zone. The CH-53Ks, far more powerful, are each loaded with double the souls and lift in a whooshing roar into the night just fading into the beginning of dawn. As each aircraft lifts to the east the pilots are blinded, on their night vision, by the sun just below the horizon. They turn to the west, with relief, facing back into the darkness. They are now executing a challenging mission: flying from darkness into a breaking day. Their eyes adjust slowly, and they proceed safely feet wet.

The Air Boss has cleared the decks for recovery of aircraft and people. As each aircraft lands in sequence, the civilians are hustled to a triage area below decks. Most have only minor injuries: they are tired, hungry, and thirsty, and—except for a few twisted ankles and heat exhaustion—are for the most part unharmed.

The aircraft refuel and launch back ashore: they are to recover the infantrymen still inside the compound. Aircraft cycle on and off the deck. The number of riflemen in the Embassy dwindles as each aircraft lifts with most of a squad and all their weapons aboard. Finally, the last aircraft, a CH-53K, settles into the zone.

Ten Marines run aboard with a civilian in the middle of their group, forming a cordon around the Ambassador.

As the aircraft lifts into the dawn it takes a quick smattering of rifle fire, the last effort of an NDF fighter who will later claim that he drove the Americans back into the sea.

The aircraft commander radios to the ship that all Americans are out of the Niwala Embassy. The admiral relays this to the White House Situation Room; the President, on VTC, offers congratulations to the Marines and sailors of the ARG/MEU team and of Task Force Talisman.

The CH-53K, its pilots and crew chiefs exhausted after a night of flying, settles onto the last spot on the crowded deck. The engines spool down as the young riflemen walk off the ramp.

The ARG commander and the admiral are waiting on the deck, and they shake the hands of each Marine as they walk past. The aircraft engines shut down.

In the sudden quiet and early morning sun, the admiral and ship's commander shake the hands of the last two people off the aircraft: the mission commander and Ambassador Wilson.

The evacuation has been a success.

USMC