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All testimony herein submitted represents the personal views of Bryan McGrath

Thank you Chairman Forbes, Ranking Member Courtney and members of the Seapower and Projection Forces subcommittee for the opportunity to testify and to submit this written statement for the record.

It is especially gratifying to be asked to give testimony on the role of surface forces in presence, deterrence, and warfighting. I served for 21 years in our nation's surface forces, from 1987 until 2008, with tours in frigates and cruisers and command of the Destroyer BULKELEY out of Norfolk. It was an honor and a privilege to take to sea under our nation's flag, and in my present-day work, I continue to advocate for powerful and numerous surface forces as part of our Navy's approach to meeting its global commitments.

Presence, Deterrence, and Warfighting

It is fortuitous that the Committee has chosen to hear testimony on the topic of presence, deterrence, and warfighting, as these are the three primary functions of this nation's Navy, and achieving the right mix and balance among the forces necessary to accomplish all three is crucial.

Naval presence, often referred to as forward presence, serves a variety of ends. It demonstrates our commitment to the responsibilities of world leadership by ensuring ready and capable forces are never far from where disaster may strike. Furthermore, it is a sign to our friends and allies of our continuing commitment to the security and prosperity gained from the free movement of commerce on the earth's oceans. The primary attribute of a force optimized for presence would be its size, primarily measured in the number of ships. The combat capability of those ships would not be nearly as important as how numerous they were.

Moving up the scale of violence, we come to deterrence. Deterrence is a function of two attributes, the first being the capability of the force available, and the second being the proximity of the force. Clearly, numbers matter in deterrence, but in order to achieve its noble ends, those platforms must have capability. Essentially, they must be powerful enough to convince a potential adversary that the pain he will suffer in response to his aggression outweighs the benefit he will gain from it (deterrence by punishment), and/or the capability arrayed against the aggressor must be capable enough to convince him that his aggression will not succeed (deterrence by denial). Finally, and this is where forward presence comes in, these forces must be close enough to be able to interpose themselves meaningfully between an aggressor and his desires.

Finally, we come to war-fighting, which for the modern U.S. Navy means projecting power ashore in contested environments from the sea, after first having imposed operationally relevant local sea control. This link between sea control and power projection is often overlooked, but it is iron-clad. A Navy wishing to project power ashore must control the seas from which it wishes to operate and the skies above them.

All naval platforms are not alike when it comes to the relative contributions that they make to these the three primary functions of presence, deterrence, and war-fighting. For example, the modern, VIRGINIA Class SSN is a marvel of warfighting capability. It can locate and destroy enemy ships and submarines, it can attack key targets ashore, and it can silently lurk off the coast of an adversary's mainland conducting sophisticated surveillance operations. The key of course to its warfighting prowess is the fact that it operates below the surface of the ocean, where due to both the professionalism of the submarine corps and the technology it operates, they are virtually undetectable. If the United States goes to war against any nation fielding a Navy of any kind, our SSN's will likely punch way above their weight in terms of a contribution to combat effectiveness.

However, attack submarines contribute little to presence and only modestly to conventional deterrence, both of which are the inevitable downside of the platform's competitive advantage in combat – its ability to remain un-located.

Surface ships on the other hand, make essential contributions across the spectrum of operations, though there are differences among surface ships. For instance, the LCS, with its relatively low cost and innovative crewing concept, is an excellent presence platform. Because of its size and draft, it can be accommodated in a wide range of ports, and as it is only modestly armed, it is a good fit for operating with partner nations of limited naval capability. The utility of the LCS as a deterrent and a war-fighting platform is relatively less than its utility as a presence vehicle. It is not without value in these functions, it is simply optimized for the presence mission. The added capability that will be integrated into the FF class raises the platform's value in both deterrence and warfighting, especially with regard to naval adventurism.

BURKE Class destroyers on the other hand are effective as vehicles of presence, deterrence, and warfighting. Bristling with combat power in its weapons and sensors, ton for ton these ships are among the most valuable assets in the U.S. Navy today by virtue of their utility in peace, war, and the space in-between. That said, a new generation of threats, a decline in surface force proficiency in some vital missions, and a

lack of operational imagination raises important questions about the future of the surface force.

How Did We Get Here?

The Navy I was commissioned into in the Summer of 1987 was near the zenith of its Reagan-era power, with nearly 600 ships and 15 carrier battle groups operating forward in the Mediterranean, the Arabian Gulf, and the Western Pacific. Not only was that Navy large, but it was capable and proficient. My first ship was a fourteen year old, single screw Knox Class frigate. It did not have anything resembling what we call today a “Combat System”; rather, it had a number of sensors and weapons that were only marginally networked together. But those weapons and sensors were applied day in and day out in the pursuit of mastering a peer competitor in the Soviet Navy. By way of explanation, I was commissioned at the University of Virginia on a Saturday, graduated the next day, and reported to my ship two days later. Within a month, I was standing watch on the bridge of a ship that was actively tracking a Soviet ballistic missile submarine operating in the Western Atlantic. While we did not field an integrated combat system, we had a capable anti-submarine warfare (ASW) suite and a team of Sonar Technicians and operators who had been tracking Soviet submarines for their entire careers.

One year later, we deployed to the Mediterranean Sea, and we operated in proximity to units of the Soviet surface force. For days at a time, we would passively track electronic emissions from those units in order to localize them, maintaining fire control solutions which could be readily fed into our Harpoon surface to surface missile system should the need arise.

The point of this excursion is to state without reservation that the ship on which I served was one of the *least capable combatants* in the Navy of the time, yet it could still track and neutralize Soviet submarines and localize and engage Soviet surface forces far beyond the visual horizon.

The Berlin Wall fell, and the United States Navy emerged as the uncontested master of the seas. Throughout the 1990’s and in the absence of a viable threat to our ability to control the seas, the Surface Force placed additional emphasis on overland strike with the Tomahawk Land Attack Missile and in maritime security tasks such as Visit, Board, Search and Seizure – including non-compliant boardings. Anti-submarine Warfare (ASW) and Anti-surface Warfare (ASuW) were de-emphasized, as the threat in each area had dramatically receded. We also leveraged the investment the Navy made in the AEGIS weapon system and concentrated on mitigating the anti-ship cruise missile

threat, while we de-emphasized all of the tactics and procedures that we learned in the 1980's to deal with the Soviet Outer Air Battle threat – because that threat had also largely ceased to exist.

By the time I assumed command of the destroyer USS BULKELEY in 2004, much had changed. The ship I commanded was one of the most sophisticated warships on the face of the earth with a truly integrated combat system and a command and control suite without parallel. But that ship – commissioned only three years before I took command – had no over the horizon surface to surface missile system. Put another way, we were a destroyer that could not destroy – other ships at least. As part of the peace dividend and in recognition of the lack of a blue water threat, the Harpoon missile system was removed from the Flight IIA Arleigh Burke Destroyers as a corporate Navy decision was made to rely on the carrier air wing and the submarine force to perform the ASuW mission. As a matter of fact, the United States Navy has not built a ship that could kill another ship over the horizon since the USS PORTER (DDG 78) was commissioned in January of 1999.

And while my ship the USS BULKELEY had an outstanding Sonar Suite – far better than that which I had on my first ship in 1987 – years of decline in surface force ASW proficiency due to the mission having been de-emphasized resulted in an unshakable conviction that if I had to face a submarine threat, I would rather have done it on the old, loud frigate with the highly proficient team than on my new destroyer whose complement of sonar technicians had declined along with their proficiency. The war on terror and the post-USS COLE force protection measures that we piled on our ships created a situation in which my sonar techs were unfortunately more likely to find themselves manning .50 caliber mounts or serving on boarding teams than they were to be hunting submarines. This was the reality of the post-Cold War Navy. We were great at boarding dhows in the Persian Gulf, at firing TLAMS hundreds of miles away, and at dealing with anti-ship cruise missiles (ASCM) close aboard. The blocking and tackling of killing ships and submarines was a fading memory.

The Rising Threat

True turning points in history are difficult to pinpoint, and trying to do so without the accumulated benefit of time is fraught with complexity. However, the Taiwan Strait Crisis of 1996 may prove to have been just such a turning point. Without retelling the history here, it is not illogical to believe that the nearly 20 year program of naval modernization underway in China and the development of its Anti-Access and Area Denial (A2AD) capability are in no small measures associated with a realization by the

PRC in 1996 that American naval dominance in East Asia must be contested. During this twenty years, the U.S. Navy has gotten smaller even as it (as discussed earlier), purposefully de-emphasized the capabilities that now are required to counter the PRC's A2AD complex.

Not only has the Navy gotten smaller, but it has concentrated its striking power in the aircraft carrier and its associated air wing, perhaps with the exception of the OHIO Class SSGN program. The Navy of today will fight in Carrier Strike Groups (CSG), and the surface vessels associated with those CSG's are will rarely stray far from the protective cover of the air wing during war. This is the direct result of investment decisions of the 1990's discussed earlier (the de-emphasis of ASuW in particular) and an untested, risk averse, and unimaginative method of employing surface forces in wartime. This approach leads to an unsatisfactory outcomes. The concentration of naval forces reduces the complexity of the targeting problem we present to an adversary. This is not meant to infer that the process of finding naval forces at sea who wish to hide has become elementary. Quite the contrary, it is still a difficult undertaking and will remain so in an era of Joint combined arms approaches to power projection. However, our operational approach would suggest to a crafty adversary that once they had indeed located the aircraft carrier, the overwhelming majority of additional naval power available is likely to be found in close proximity. Not only does this greatly reduce the adversary's targeting complexity, but it also sub-optimizes one of the greatest attributes of naval power, that of the mobility of surface forces.

The situation described in the previous paragraph is at the heart of some analyst's angst about the viability of surface forces in naval combat. After years of neglecting ASW and ASuW, we are now faced with a rising peer competitor who is forcing us to face this neglect. We have a surface force that is less capable of destroying enemy surface and submarine forces than its Cold-War predecessor, and we have a carrier air wing that has privileged short-range manned overland strike to the point where its effectiveness in traditional war at sea tasks is questionable.

I will leave for another day my thoughts on how the carrier air wing should evolve to meet the challenges of contested operations in an A2AD environment, and turn now to some thoughts on how the U.S. Navy Surface Force must rise to meet the challenges of future high end warfare.

Offensive Sea Control

I use the term "offensive sea control" guardedly, as purists reading this document will quite rightly take issue with it. True sea control is neither offensive nor defensive; it is

more a state of being with a temporal and geographical limit. However, I have begun to use the term to convey a sense of action, a sense of movement, a sense of going on the offense. In the future, sophisticated sea denial strategies will drive the U.S. Navy to look at “seizing” temporary and limited pockets of sea control in order to enable other operations. Over time, the CSG has – with the exception of its overland striking power – become an instrument of defense. Primarily, an instrument of defending itself. In an era of little or no threat, the Navy packed in its defense around the carrier and it positioned itself relatively close to an adversary in order to generate maximal combat sorties. Against a high end, near peer implementing an A2AD strategy, this will no longer be possible. The CSG will have to fight its way to portions of the ocean from which it can then execute strikes, and then quickly retire and/or relocate. In essence, this resembles the island-hopping campaign of the Second World War, except that whereas in those battles, islands were seized (and often held) to enable follow on operations, in the future, naval forces will “seize” and “hold” pieces of the ocean and the skies above them in order to strike targets ashore and to hold enemy fleets at risk.

Critical to any concept of offensive sea control is a more lethal, mobile, and innovatively employed Surface Force. We must begin to more holistically evaluate risk, and we must recognize that our current concepts of force employment provide a determined foe with increasingly less complexity.

What is to be Done?

Naval forces in general and the Surface Force in particular need to become less predictable and disaggregate in meaningful ways that cause an adversary to expend precious intelligence, surveillance, and reconnaissance (ISR) resources in trying to locate them. In order to ensure adversary ISR is siphoned off, those surface forces must be more lethal than those we currently field, holding more – and more diverse – adversary targets at risk. Additionally, a more powerful and disaggregated surface force will necessarily force an adversary to apply a limited amount of weapons against a larger number of targets, diluting constructive weapons assignments against any single target.

It will not be enough to simply increase the weaponry on existing surface ships without operating them differently. The Navy must begin to assume additional risk in dispersing the fleet into powerful surface action groups capable of defending themselves and conducting sea control and power projection operations. A mindset has taken hold in Navy campaign planning that suggests a reticence to operate surface ships without air supremacy – air supremacy that is assumed to be established and

maintained by the carrier air wing. This approach is necessarily limiting, and reinforces the unimaginative, aggregated CSG formations that present so little a challenge to a peer competitor's targeting complex. The Navy has been allocating considerable resources for over thirty years to producing the world's most sophisticated air dominance combat system, the AEGIS weapon system, and it is currently resident in over eighty cruisers and destroyers. Early in the next decade, the SPY 6 radar – also known as the Air and Missile Defense Radar – will join the fleet on the first Flight III DDG. The power of these air dominance systems must be relied upon to give surface action groups some measure of disaggregation from the air wing, in order to hold a greater number of adversary targets at risk. This does not mean that the surface force should steam blindly into the teeth of the A2AD architecture, but it does mean that in those battlespace volumes where we are able to assume additional risk, surface ships should be tasked with operations that support further roll-up of adversary capability.

Priority Recommendations

The Navy's plan to "upgun" the LCS to the FF is a great first move, but why stop there? Steadily and opportunistically, the Navy must regain its ability to impose sea control with its surface forces. The Chairman of this subcommittee has written about our Surface Force being "outsticked" by Peoples' Liberation Army Navy (PLAN) surface vessels with long range surface to surface anti-ship cruise missiles, and he was correct in this assertion. We must address this asymmetry and ensure that we reverse course and begin building every surface combatant with an effective long range surface to surface missile system, even as the DDG's built without them since 1999 are back-fitted with alacrity.

In the realm of land attack, a weapon with ranges in-between the DDG 1000's Advanced Gun System range of 65 miles and the 1000 mile range of the TLAM should be fielded. An affordable, land attack weapon in the 400-500 mile range should be studied and war-gamed, and it should be compatible with existing launching systems.

As my colleague Bryan Clark has written, surface forces actually hunting down and killing submarines may not be as efficient as using surface forces to ward off submarines from lucrative, high value targets. The Surface Force currently fields the sophisticated AN/SQR-89A(V)15 Anti-Submarine Warfare processing system with the Multi-Function Towed Array (MFTA), a combination that provides detection and tracking of modern, quiet submarines scores of miles from the ship. The submarine may however, be aware of the ship's presence, and submarines are increasingly fitted with long range anti-ship cruise missiles. The surface force should consider developing

a standoff weapon that can be fired at the extended detection ranges offered by its sensitive sonar systems. This weapon, perhaps a rocket assisted depth bomb or even a rocket assisted torpedo, would almost instantaneously put the adversary submarine on the defensive, rather than giving it time to get off its own attack on the U.S. surface ship.

A more disaggregated Surface Force operating in a wartime environment against a near-peer will almost certainly operate in a satellite and network denied environment, which would likely cut these units off from the ISR provided by the air wing, land-based UAV's and the P-8. The Surface Force must develop the capability to launch and recover Medium Altitude Long Endurance UAV's to provide organic Surface Action Group ISR, communications relay, and aerial layer networking in the absence of larger warfighting networks.

Finally, the Navy must actively experiment and war-game in order to evaluate the effectiveness and logistical sustainability of a more disaggregated force. The current aggregated force is only tenuously supported by the Navy's logistics ship inventory, and any large scale disaggregation will stress this under-resourced but critical capability.

Conclusion

A more powerful, numerous, and disaggregated surface force fielding new and improved weapons and sensors will increase the targeting complexity of potential adversaries, dilute their available ISR assets, and diminish their constructive attack density against any single target. Such a move by the Navy would – on a relatively economical basis – extend surface force effectiveness across the span of naval functions, from presence, to deterrence, to warfighting.

Thank you.