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SERVICES COMMITTEE

STATEMENT OF

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BEFORE THE

SUBCOMMITTEE ON READINESS

OF THE HOUSE ARMED SERVICES COMMITTEE

ON

INSTALLATION RESILIENCY: LESSONS LEARNED

FROM WINTER STORM URI AND BEYOND

MARCH 26, 2021

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Chairman Garamendi, Ranking Member Lamborn and distinguished members of the Subcommittee, thank you for the opportunity to testify on the resilience of Navy installations and the lessons learned from recent extreme weather events.

Navy installations provide the foundation from which the United States Navy develops, generates, projects and sustains naval power. Therefore, it is imperative that our installations rapidly prepare for, adapt to and recover from extreme weather events and changing environmental conditions. Winter Storm Uri and the recent hurricanes in Florida and on the Gulf Coast highlight the importance and urgency of Navy's efforts to enhance the resiliency of our installations. We must continue to harvest lessons learned from these events and apply them across the Navy shore enterprise.

The Navy conducts rigorous operational planning to ensure our critical missions will continue regardless of any natural or man-made threat. All Navy installations have extreme weather plans, and Installation Commanding Officers work with local communities to plan for natural disasters and collaborate on shared environmental challenges. When a destructive weather event threatens our operations, every Navy installation is prepared to plan, coordinate and direct action to protect our people and sustain mission-essential functions. In the aftermath of any traumatic event, Navy installations work to restore full mission capability as quickly as possible.

In coordination with U.S. Fleet Forces Command, Navy Installations Command conducts an annual exercise every year before the hurricane season to prepare our installation staffs and test our instructions, processes and communications in a training environment. The Navy takes the continuity of our operations very seriously, and our leadership and staff are dedicated to putting in the time and resources needed to get it right.

Working hand-in-hand with mission commanders and operators at Navy bases, installation management personnel ensure that our facilities and structures can survive threats coming from many fronts. Thanks to the hard work and professionalism of the Navy's more than 500 professional civilian facility planners, we are adapting our infrastructure to mitigate the environmental challenges that each installation faces according to its unique mission and location. Sometimes it is as simple as siting an administrative building at a higher elevation. In other areas, we must change the structural design of a hangar to resist the possibility of intense winds. For example, as a part of a major renovation of Pier 8 at Naval Base San Diego, we are elevating the pier's replacement piles to account for modeled sea level rise data. At Naval Support Activity Panama City, Florida, we are designing a new Test Range Support Facility to better withstand hurricanes and flooding.

Over the last several years, the Navy has been steadily incorporating resiliency planning into all aspects of the facilities management lifecycle, from installation master planning to the design of new construction and major renovation projects. As directed by the Fiscal Year (FY) 2020 National Defense Authorization Act (NDAA), the Navy is adding a resiliency component to our installation master plans. The Navy has identified 17 "high risk" installations that are most vulnerable to climate change and begun incorporating resiliency into their installation master plans. Naval Magazine Indian Island was the first Navy installation to fully integrate a resilience component into their master plan in February of this year. The remaining resilience components for Navy's most "high risk" installations are being prioritized for completion, and we are targeting to complete another four installations by the end of 2021. The Navy is aggressively training our workforce of professional civilian planners to support this effort. We

are currently on track to incorporate resiliency into all Navy installation master plans by the end of 2022.

Region and installation facility planners are utilizing updated Unified Facilities Criteria, Department of Defense Sea Level Rise studies, the Department of Defense Coastal Risk Management tool and the new Navy Climate Change Installation Planning Handbook to mitigate risks to shore infrastructure. These tools provide a framework and decision support process to aid in developing climate change response strategies for their particular locations and mission sets. It is imperative that we incorporate new design criteria and the latest industry standards to help mitigate the impact of extreme weather and a changing climate.

The recent hurricane season in the Southeast and Middle Atlantic Regions and the 2019 earthquake at Naval Air Weapons Station China Lake have tested the strength of our existing infrastructure to withstand extreme weather and natural disasters. When we assess the damage caused by these extreme events, it is starkly clear: Modern facilities improve survivability as opposed to older facilities built to now-outdated codes and criteria. As we rebuild at China Lake, we will be engineering stronger, more resilient facilities capable of withstanding future earthquakes and other threats.

Unfortunately, it is simply not feasible for the Navy to rebuild all of our outdated infrastructure at once. To tackle installation resiliency challenges today, the Navy must collaborate with local communities, States, other federal agencies, and industry leaders to develop regional plans that protect military capabilities. Navy Region Mid-Atlantic has several partnerships to increase understanding of current and future risks to the greater Hampton Roads area in Virginia, which will assist us in identifying and addressing specific conditions, including recurrent flooding, coastal storms, and erosion, which have the potential to affect Navy

operations. To address wildfire risk, Navy Region Southwest successfully worked with the California Department of Forestry and Fire Protection (CALFIRE) to promote joint training opportunities in an effort to protect key infrastructure and communities within San Diego County. Navy squadrons conduct semiannual joint training with CALFIRE to ensure interoperability and an immediate response capability in support of local authorities. In Hawaii, the Navy has partnered with Kauai Island Utility Cooperative to improve energy resiliency at Pacific Missile Range Facility Barking Sands. There we have designed a 19 MW solar and 70 MWh battery energy storage system sited on Navy land, which -- during normal operations -- will supply energy to the local grid. The project also features a micro-grid functionality, which can immediately switch to provide the installation with local, stable, renewable power in the event of a grid outage.

Navy installations rely on resilient energy sources to power essential shore-based operations. To manage our installation energy security investments, Navy Installations Command has established the Energy Mission Integration Group (EMIG) that works across the entire Navy shore enterprise to prioritize energy security gaps, determine the most effective solutions based on data-driven decisions, and execute the best course of action using the appropriate funding strategy, to include third-party-financed projects. Since FY 2019, the EMIG has identified 45 projects that are in various stages of development and execution. In addition, every Navy installation has developed an installation energy plan to support future planning and better integrate installation energy requirements to the EMIG process. Finally, we are developing an Energy Resilience Readiness Exercise (ERRE) process that will include multiple phases that begin with table top exercises and finish with “pull the plug” events. These exercises will measure the installation’s resilience to conduct critical and essential missions while

disconnected from the commercial power grid. We have already completed table top exercises at Kings Bay, Georgia, and in San Diego, California. We are on track to complete five more by the end of FY 2022.

Acknowledging that water resilience is also critical to mission success, we have incorporated water resilience analysis into our EMIG process to identify gaps and prioritize investments against other commodities. In the FY 2020 EMIG, we tested water resilience criteria for Navy Region Southwest and prioritized necessary water resilience projects at Naval Base Coronado and Naval Air Station Lemoore. In the FY 2021 EMIG, we opened the analysis of water resilience to the entire enterprise and are currently developing eight projects to address mission-critical gaps. The identified solutions for our water resilience gaps range from utilities privatization to Energy Resilience and Conservation Investment Program (ERCIP).

The Navy's mission requires the majority of our installations to be located in coastal areas. So we are particularly mindful of the risks posed by sea level rise and storm surge, especially in areas that are prone to hurricanes and typhoons. The Navy is working to protect our installations from sea level rise and storm surge by incorporating mitigation measures into the overall design of our new construction and facilities restoration and modernization projects. Where required, we will develop specific projects like the military construction project currently underway at Norfolk Naval Shipyard to build flood protection walls around the submarine maintenance dry docks and low-lying portions of the shipyard.

The Navy is also taking a deliberate approach to sea level rise as we execute our Shipyard Infrastructure Optimization Program (SIOP). As part of SIOP, we will complete a sea level rise study for each of our four public shipyards. These studies will ensure that Shipyard Area

Development Plans incorporate sea level rise mitigation in all future development, in addition to specific projects that may be required to mitigate sea level rise impacts.

In accordance with the FY 2020 NDAA, the Navy is using sea level rise scenarios in the Department of Defense Regional Sea Level Rise database to analyze all budget-year projects to ensure designs can mitigate and withstand potential flooding. For current and future projects located in 100-year floodplains, we are assessing flood hazards and vulnerabilities during design and implementing necessary mitigation efforts to address these vulnerabilities. For example, sea level rise data for the year 2100 was used during the environmental planning and design phases of the new Coastal Campus project at Naval Base Coronado in California. The design configuration of five buildings was modified to incorporate the 1.6- to 6.5- foot science-based projected range to resist sea level rise over the buildings' projected lifecycle.

We appreciate Congressional support for the Readiness and Environmental Protection Integration (REPI) program, which Navy has successfully used to enhance military readiness by preventing, mitigating and reducing restrictions caused by encroachment near our installations and ranges. We have used a combination of Department of Defense funds, REPI funds and partner contributions to specifically address resiliency and climate initiatives. For example, the Navy is partnering with the Virginia Institute of Marine Science to restore more than three acres of Navy-owned land and stabilize more than 900 feet of shoreline in an area critical to the mission of Naval Weapons Station Yorktown.

As we continue our efforts to increase installation resilience, we will leverage the authorities granted by Congress to execute Intergovernmental Support Agreements, Other Transaction Authority, Utility Privatization, Energy Savings Performance Contracts, Utility Energy Service Contracts, Enhanced Use Leases and the Defense Community Infrastructure

Program. In concert with Executive Order 14008 and the newly-established Secretary of Defense Climate Working Group, the Navy will continue to incorporate climate risk analysis into installation planning and deploy new solutions to strengthen the resilience of key capabilities at our installations. I appreciate this subcommittee's unwavering support as the Navy confronts our resilience challenges today and in the future.