

Statement of Admiral James F. Caldwell
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U.S. Department of Energy
on the
Fiscal Year 2019 President's Budget Request
Before the
Senate Committee on Armed Services
Subcommittee on Strategic Forces

March 14, 2018

Chairman Fischer, Ranking Member Donnelly, and Members of the Subcommittee, thank you for the opportunity to present the President's Fiscal Year (FY) 2019 budget request for Naval Reactors. In 1955, the United States experienced a step-change in naval dominance when USS NAUTILUS (SSN 571) reported "*Underway on nuclear power*". Since NAUTILUS, follow-on classes of ever more capable U.S. nuclear-powered submarines and aircraft carriers have ensured our warfighting edge over potential adversaries. Forward deployed fast attack submarines exert influence throughout the world, safeguarding vital commercial sea-lanes, protecting aircraft carrier and expeditionary strike groups, and operating virtually undetected in all the world's oceans, even under the Arctic ice. Our Navy's ballistic missile submarines provide strategic deterrence capability to our country and have done so for six decades. Virtually undetectable when submerged, these ballistic missile submarines form the most survivable component of the nuclear triad. Our nuclear aircraft carriers provide the nation highly mobile, sustainable, sovereign territory from which to project flexible, rapid, visible, and credible U.S. military power to keep the peace, deter conflict, and protect American interests around the world. Nuclear propulsion enables these warships to conduct missions vital to national security by providing unique tactical mobility and flexibility, responsiveness, and sustainability – these key attributes ensure our nuclear fleet can meet the demands of forward presence and crisis response world-wide. Today, over 45 percent of the Navy's major combatants are nuclear powered (11 aircraft carriers, 14 ballistic missile submarines, 53 attack submarines, and 4 guided missile submarines) capitalizing on the mobility, flexibility, and endurance of nuclear power that enables the Navy to meet its global mission.

Over the past year, with Naval Reactors support, the Navy deployed 39 submarines and conducted 33 strategic deterrent patrols. At any given time, there were at least 49 of 71 submarines deployed or ready to deploy within days. Our carriers, USS NIMITZ (CVN 68), USS DWIGHT D. EISENHOWER (CVN 69), USS RONALD REAGAN (CVN 76), USS THEODORE ROOSEVELT (CVN 71), USS CARL VINSON (CVN 70), and USS GEORGE H.W. BUSH (CVN 77) successfully conducted deployments, and this past November, REAGAN, ROOSEVELT, and NIMITZ conducted the first tri-carrier operations in a decade off the Korean Peninsula.

In nuclear shipbuilding, this past year also saw the keel laid for the attack submarines Pre Commissioning Unit (PCU) OREGON (SSN 793), the christening of PCU INDIANA (SSN 789) and PCU SOUTH DAKOTA (SSN 790), the delivery of PCU COLORADO (SSN 788) and

finally, the commissioning of USS WASHINGTON (SSN 787) – the fourteenth VIRGINIA-Class fast attack submarine to join the fleet. In addition, construction of the aircraft carrier JOHN F. KENNEDY is well underway and the third carrier of the FORD-Class, ENTERPRISE, starts construction activities this year.

Another recent accomplishment was commissioning USS GERALD R. FORD (CVN 78) last July. I personally participated in the sea-trials of this incredible ship which has the first new design aircraft carrier propulsion plant in 40 years. FORD matches the high speed of our NIMITZ-Class ships while delivering 25 percent more energy and three times the electrical operating capacity, reduces maintenance by 30 percent, and reduces propulsion plant manpower by 50 percent. This historic milestone represents the culmination of almost 20 years of dedicated and sustained effort by Naval Reactors and its field activities, our Department of Energy (DOE) laboratories, nuclear industrial base suppliers, the Navy design team, and the nuclear shipbuilders.

In addition to supporting the operational nuclear fleet, we continue to safely maintain and operate two nuclear powered land-based prototypes – both over 40 years old – to conduct research, development, and training. We also continue to safely maintain and operate two Moored Training Ships to train our nuclear operators – these are both over 54 years old and are the oldest operating pressurized water reactors in the world. These four platforms allow us to train 2800 students per year and provide highly qualified operators to the nuclear fleet.

The strong support of this subcommittee enabled safe operation of the nuclear fleet, progress on our key projects, and our oversight and regulation on all areas across the Naval Nuclear Propulsion Program. Naval Reactors' budget request for FY 2019 is \$1.79 billion, an increase of \$309 million, or 21 percent, over the FY 2018 requested level and is consistent with the plan of record provided in previous budget requests for major projects we have underway. This year's request represents our peak budget year in the Future Years Nuclear Security Plan. The overall increase to the budget request is primarily driven by the planned funding ramp for two national priority projects – the refueling overhaul of a research and training reactor in New York, and the construction of the new Naval Spent Fuel Handling Facility in Idaho. The increase also allows research and development efforts for advanced reactor plant components and improved reactor cores for installation on future VIRGINIA-Class submarines. This reactor plant technology development will also underpin the demanding and critical design requirements of future classes of nuclear powered warships.

Major Projects

This past year marked the peak in our design efforts for the COLUMBIA-Class strategic ballistic missile submarine propulsion plant. Delivering the life-of-ship reactor core and electric drive propulsion system remains a top priority. The COLUMBIA-Class is the Navy's number one acquisition priority and we are on track to start reactor plant component procurement in FY 2019 to support the start of ship construction in FY 2021. FY 2019 funding of \$138 million will provide for propulsion plant component design, development, and testing to support FY 2019 long-lead component contract placement in addition to supporting reactor plant testing and safety analysis.

FY 2019 marks the start of the land-based prototype refueling overhaul. The \$250 million request in this year's budget will support the refueling overhaul which is vital to the nuclear propulsion program, enabling 20 additional years of Naval Reactors' commitment to research, development, and training in New York. As part of this refueling activity, we will insert newly manufactured COLUMBIA-Class type fuel modules with the prototype refueling reactor core, enabling testing and demonstration of core manufacturability necessary for production and delivery of the COLUMBIA-Class reactor.

Naval Reactors FY 2019 budget request includes \$287 million in construction funding to continue the Spent Fuel Handling Recapitalization Project. The project broke ground last year, and we are conducting site preparation. Full support from Congress has enabled us to keep this project on track and on budget. The total estimated cost for this project remains unchanged. Continued Congressional support will ensure the facility is ready to receive spent nuclear fuel from aircraft carriers in FY 2024 and be fully operational by 2025.

Base Funding

In addition to our three priority projects, Naval Reactors maintains a high-performing technical base to: 1) execute nuclear reactor technology research and development that supports today's fleet and ensures our Navy remains technologically ahead of adversaries and, 2) provide the necessary equipment, construction, maintenance, and modernization of critical infrastructure and facilities. The funding required for this base also supports the lean federal workforce that provides the regulatory oversight necessary to carry out this important technical work safely and efficiently. By employing an effective technical base, the teams of talented and dedicated people at our four Program sites – the Bettis Atomic Power Laboratory in Pittsburgh, the Knolls Atomic Power Laboratory and Kesselring Site in greater Albany, the Naval Reactors Facility in Idaho, and our Washington, DC headquarters – can perform the research and development, analysis, engineering, and testing needed to support today's fleet at sea and develop more capable nuclear-powered warships for tomorrow's fleet. Our labs perform the technical evaluations that enable Naval Reactors to thoroughly assess approximately 4,000 emergent issues annually and deliver timely responses that ensure nuclear safety and maximize operational flexibility.

In the past, I have spoken to the importance of the technical base regarding its support of the nuclear fleet and our essential work on new technologies. This year's budget demonstrates this synergy by developing new technologies that will modify our current VIRGINIA-Class reactor plant design to advance reactor plant components and deliver improved capabilities for next generation submarines. Investing in these core technologies alone will result in an estimated \$50 million per ship savings on future warships relative to current technology.

Additionally, there are two other distinct areas of the base that are essential to the Program. First, we will be increasing our efforts in decontamination and decommissioning (D&D) older facilities that have been in existence since the start of the Program in the early 1950's. We have an estimated \$7.4 billion in environmental liabilities requiring D&D efforts - about half of these facilities are no longer in use. The Program's positive track record on environmental safety is of the utmost importance to me, and is a core part of the Program's mission. This year's funding

request will enable us to reduce these outstanding liabilities and ultimately reduce our caretaking burden. The second focus area is recapitalizing our Naval Nuclear Laboratory facilities and infrastructure systems, many of which have supported the Program since its inception over 60 years ago. Maintaining these laboratory facilities directly support nuclear fleet operations and advanced research and development efforts that make our nuclear navy the finest in the world.

I want to assure the committee that the planning efforts we execute in budgeting for current and future projects are done with extreme rigor. Our budget profile never deviates far from projections in earlier Future Years Nuclear Security Plan submissions. Investments we make today in research and development efforts not only advance capabilities, but will result in cost savings far into the future. In developing our request, I worked closely with the leadership of the National Nuclear Security Administration (NNSA), the DOE, Office of Management and Budget, and the Department of Defense (DoD). This budget not only reflects my priorities for Naval Reactors but also integrates them with the other important work of my colleagues at NNSA and DoD. There is clear recognition of the valuable capabilities Naval Reactors provides and our history in effectively meeting our obligations. I understand the difficult budget environment in which Congress must craft legislation and I respectfully urge your support for aligning allocations with the FY 2019 budget request.