

FY21 ICBM FUNDING CHART

(All dollars in millions)

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RDT&E		FY21 PB	SASC	HASC	Auth Conf	HAC-D	SAC-D
		2/10/2020	6/10/2020	7/1/2020	12/3/2020	7/10/2020	11/12/2020
603851F	ICBM DEM/VAL	32.959	32.959	32.959	32.959	32.959	32.959
1020	ICBM Guidance Apps	3.608	3.608	3.608	3.608	3.608	3.608
1021	ICBM Propulsion Apps	6.954	6.954	6.954	6.954	6.954	6.954
1022	ICBM Reentry Vehicle Apps	22.397	22.397	22.397	22.397	22.397	22.397
0101213F	MINUTEMAN SQUADRONS	116.569	116.569	116.569	116.569	116.569	89.469
2983	MM Ground and Comm Equipment	15.879	15.879	15.879	15.879	15.879	15.879
2984	MM III Baseline Support	96.246	96.246	96.246	96.246	96.246	96.246
2986	MM Crypto Mods	4.444	4.444	4.444	4.444	4.444	4.444
	Restoring acquisition accountability: Concurrency of	FT3 Developmen	nt				Minus 25.6
	Restoring acquisition accountability: Schedule slip of	APTR					Minus 1.5
0604933F	ICBM FUZE MODERNIZATION	167.099	167.099	167.099	167.099	167.099	156.979
	ICBM Fuze Support	167.099	167.099	167.099	167.099	167.099	156.979
	Improving funds management: Forward financing						Minus 10.120
0605230F	GROUND BASED STRATEGIC DETERRENT	1,524.759	1,524.759	1,524.759	1,509.759	1,464.759	1,509.759
	Ground Based Strategic Deterrent	1,524.759	1,524.759	1,524.759	1,509.759	1,464.759	1,509.759
	Excess to need					Minus 60.0	
	Restoring acquisition accountability: Acquisition						
	Strategy for planning and design				Minus 15.0		Minus 15.0
0101328F	ICBM REENTRY VEHICLE	112.753	112.753	112.753	112.753	112.753	112.753
	674920: IW1/Mk21A	112.753	112.753	112.753	112.753	112.753	112.753
	TOTAL RDT&E	1,954.14	1,954.14	1,954.14	1,939.14	1,894.14	1,901.92

	PROCUREMENT		SASC	HASC	Auth Conf	HAC-D	SAC-D
			6/10/2020	7/1/2020	12/3/2020	7/10/2020	11/12/2020
1	MISSILE REPL EQ-BALL.	75.012	75.012	75.012	75.012	73.474	75.012
	Transporter Erector Replacement Program (TERP)	34.929	34.929	34.929	34.929	34.929	34.929
	Ballistic Items less than \$5M	0.385	0.385	0.385	0.385	0.385	0.385
	Payload Transporter Replacement	39.160	39.160	39.160	39.160	39.160	39.160
	PIGA/G6B4 ahead of need					Minus 1.538	
14	ICBM FUZE MOD AP	43.450	43.450	43.450	43.450	43.450	43.450
5915	ICBM Fuze Modernization (Service Life Extension)	43.450	43.450	43.450	43.450	43.450	43.450
	Advanced Procurement (FY19 for FY22)						
13	ICBM FUZE MOD	3.458	3.458	3.458	3.458	0	3.458
	Recurring procurement excess to need					Minus 3.458	
15	MM III Mods	85.31	85.31	85.31	81.137	57.453	81.137
5921	MM LCC Block Upgrades	30.080	30.080	30.080	30.080	30.080	30.080
5928	T-9 Launch Facility Trainer	0.287	0.287	0.287	0.287	0.287	0.287
5916	ICBM Cryptography Upgrade Increment II	31.907	31.907	31.907	31.907	31.907	31.907
5942	LGM 30G Launch Control Center Break in Kit	15.314	15.314	15.314	15.314	15.314	15.314
	Minus 23.684 LCCBU group B ahead of need. Minus 4.173 AF Initial spares requested transfer to line 18 (Note I added line 18)					Minus 23.684 and Transfer of 4.173	
	Transfer 4.173 AF Initial spares requested transfer to line 18 (Note I added line 18)				Transfer of 4.173		Transfer of 4.173
18	MISSILE SPARES REPAIR PARTS						
	Initial spares from line 15 transferred here				4.173	4.173	4.173
	REPLENISH SPARES/REPAIR PARTS+						
19	(PE has some non-ICBM\$'s so ONLY the 2 line items below are in total amount; not the entire PE of \$97.481M in FY19)	84.671	84.671	84.671	84.671	84.671	84.671
		5 1107 2	J.10.12	3.00.2			
	Initial M30MLG/Minuteman Squadrons	51 401	51.401	51.401	51.401	51 401	51.401
	Replenishment 4-LGM-30 MM/ MM 3 in 2021	51.421	51.421	51.421	51.421	51.421	51.421
	TOTAL PROCUREMENT	258.65	258.65	258.65	258.65	229.97	258.65
	GRAND TOTAL	2212.79	2212.79	<u>2212.79</u>	<u>2197.79</u>	2124.11	<u>2160.57</u>

Authorization Conference relevant language:

Military construction infrastructure and weapon system synchronization for Ground Based Strategic Deterrent (sec. 2881)

The House bill contained a provision (sec. 2404) that would provide for effective oversight of the military construction associated with the Ground Based Strategic Deterrent Program.

The Senate amendment contained similar provisions (secs. 2802 and 7802) that would authorize the Secretary of the Air Force to carry out military construction projects to convert Minuteman III launch facilities and launch centers to ground based strategic deterrent (GBSD) configurations under certain conditions.

The Senate recedes with a technical amendment. The conferees note the importance of managing the proposed transformation from Minuteman III to GBSD under existing military construction (MILCON) laws in order to maintain the right balance of flexibility and congressional oversight. The conferees note that this provision would allow the MILCON projects to be requested with each missile base as a single integrated project. Additionally, the conferees encourage the Air Force, when including these MILCON projects in the budget request, to group GBSD-related MILCON projects at no higher than a squadron level to facilitate appropriate oversight of the program.

<u>Prohibition on reduction of the intercontinental ballistic missiles of the United States (sec. 1635)</u>

The Senate amendment contained a provision (sec. 1654) that would prohibit the obligation or expenditure of fiscal year 2021 funds to reduce deployed United States intercontinental ballistic missiles' responsiveness, alert level, or quantity to fewer than 400. The provision would provide an exception to this prohibition for activities related to maintenance and sustainment and activities to ensure safety, security, or reliability. The House bill contained no similar provision. The House recedes.

Submission of reports under Missile Defense Review and Nuclear Posture Review (sec. 1673)

The House bill contained a provision (sec. 1672) that would require the Secretary of Defense to provide to the congressional defense committees, within 30 days of the enactment of the Act, all reports associated with the 2019 Missile Defense Review and 2018

Nuclear Posture Review.

The Senate amendment contained no similar provision. The Senate recedes with a technical amendment.

W93 nuclear warhead acquisition processes (sec. 3111)

The House bill contained a provision (sec. 3111) that would express the sense of Congress in support of the existing Stockpile Stewardship Program and maintaining the global moratorium on nuclear explosive testing. The provision would also include peer review and production facility review in various stages of the warhead design and production process and sets out detailed reporting, cost estimate, and certification requirements for said process. The provision would provide for the waiving of said requirements during a period of war as declared by the Congress. The provision would also include Phases 1 through 5 of the warhead lifecycle in existing requirements regarding acquisition reports and independent cost estimates. The Senate amendment contained a similar provision (sec. 3157) that would also include Phases 1 through 5 of the warhead lifecycle in existing requirements regarding selected acquisition reports and independent cost estimates. The Senate recedes with an amendment that would strike the sense of Congress and, among other alterations, specify the review, reporting, cost estimate, and certification requirements for the W93 program, and update the requirement to provide selected acquisition reports and independent cost estimates for new nuclear weapon system programs as well as nuclear weapon life extension programs at multiple phases of said programs. To the extent possible given cost and time constraints, the conferees urge the Administrator for Nuclear Security to leverage the use of peer review best practices, including consideration of a design competition between the nuclear weapons design laboratories, in development of the W93 warhead. The conferees further urge the Administrator to ensure the nuclear weapons production facilities are involved early and often during the design and engineering process of the W93 warhead program, including in Phase 1, in order to ensure production considerations appropriately inform W93 development. The conferees direct the Deputy Administrator for Defense Programs and the Director for Cost Estimating and Program Evaluation of the National Nuclear Security Administration, in consultation with the Nuclear Weapons Council, to provide the congressional defense committees a briefing, within 60 days of the enactment of this Act, on recommendations to strengthen governance, program execution, and program management controls with respect to the joint nuclear weapons life cycle process (as defined in section 4220 of the Atomic Energy Defense Act (50 U.S.C. 2538b). The conferees also direct the Deputy Administrator for Defense Programs for the National Nuclear Security Administration to provide the congressional defense committees a briefing on the National Nuclear Security Administration's implementation of the Non-nuclear Component Independent Review Team, including such activities undertaken by applicable laboratories and production facilities within the Administration's purview. This briefing should be provided no

later than March 31, 2021.

Earned value management and technology readiness levels for life extension programs (sec. 3112)

The Senate amendment contained a provision (sec. 3164) that would require the Administrator of the National Nuclear Security Administration to establish an earned value management program for life extension programs. The House bill contained no similar provision. The House recedes with an amendment that would move responsibility for review and surveillance of earned value management systems to an independent entity, strike the

requirement for cost estimate reconciliation with the Director of Cost Estimating and Program Evaluation, and exempt certain existing weapons acquisition and life extension programs from coverage under this provision.

Monitoring of industrial base for nuclear weapons components, subsystems, and materials (sec. 3113)

The Senate amendment contained a provision (sec. 3153) that would require the designation of a senior official within the National Nuclear Security Administration (NNSA) to monitor the nuclear weapons industrial base and the adequate resourcing of the designated official with respect to the monitoring mission. The provision would also require, to the extent practicable and beneficial, the designated official to consult with various Department of Defense and Department of Energy counterparts in the course of such monitoring. Finally, the provision would require the Administrator of the NNSA to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives on the designation of a responsible official and, once designated, the monitoring activities of said official on an annual basis. The House bill contained no similar provision. The House recedes.

Plutonium pit production (sec. 3114)

The House bill contained a provision (sec. 3115) that would require the Secretary of Energy to conduct an independent cost estimate of the Savannah River Plutonium Processing Facility and to provide the cost estimate, along with the confidence level of the estimators that the project can be

completed within estimated schedule and cost objectives, to the congressional defense committees. If the confidence level is lower than 90 percent, the Secretary of Energy would be required to submit to the congressional defense committees either a certification, without delegation, that the Secretary independently has sufficient confidence in the project, or a plan to achieve such confidence. In

the event of the independent cost estimate achieving a confidence level of less than 90 percent, the commander of United States Strategic Command (STRATCOM) would also be required to certify to the congressional defense committees whether or not requirements relating to plutonium pit production may be extended by 5 years without posing a grave threat to the national security of the United States. The Senate amendment contained no similar provision. The Senate recedes with an amendment that would extend the applicability of the provision to plutonium production efforts at Los Alamos National Laboratory, establish timelines for the completion and transmission of certain reports and certifications required by the provision, and alter the criteria under which the Secretary and the commander of STRATCOM would be required to provide certain certifications.

FULL COMMITTEE WILL MARK JULY 1

Relevant Language:

SUBTITLE D—NUCLEAR FORCES

<u>Section 1642</u>—Exercises of Nuclear Command, Control, and Communications System This section would require the President to participate in at least one largescale nuclear command, control, and communication exercise within the first year of assuming office, per term, and would include waiver authority on a case-by-case basis.

<u>Section 1643</u>—Independent Studies on Nuclear Weapons Programs of Certain Foreign States This section would require a federally funded research and development center to produce an open source analysis of foreign nuclear programs, to be made available on the internet. It

would also extend a requirement for the Secretary of Defense, in consultation with the Director of National Intelligence, to produce a report on foreign and U.S. nuclear weapons capabilities.

NUCLEAR FORCES

Manning and Personnel Optimization for Air Force Global Strike Command and Ground-Based Strategic Deterrence Program The committee notes that the 2019 RAND Corporation report "Managing Nuclear Modernization Challenges for the U.S. Air Force" states that "the sheer scale of the programs, which touch on nearly every part of the weapons, delivery platforms, command and control, and weapon storage, is daunting," that "this ambitious set of programs will need to be fielded by Air Force Global Strike Command, a relatively young command with a relatively small staff that has limited experience in fielding new systems," and that "all of this is happening in a tight fiscal period with some opposition to various nuclear systems in favor of other national priorities." The report identifies one of the challenges as a critical imbalance between workforce available to Air Force Global Strike Command and the major modernization programs that the command must execute to recapitalize 45 the nuclear enterprise, including the Ground-Based Strategic Deterrent and the strategic bomber programs. Additionally, this report identifies a number of deficiencies in critical skills, in nuclear certification and survivability testing of future nuclear systems. The committee is aware of similar findings from the Comptroller General of the United States regarding schedule risks and the expertise and personnel needs of the Air Force with regard to the Ground-Based Strategic Deterrent (GBSD) program, and the challenges within the Air Force in setting up a program office that will be able to conduct rigorous oversight of such a complex and large acquisition program. Therefore, the committee directs the Secretary of the Air Force, in coordination with the Commander of Air Force Global Strike Command, to submit a report to the Committees on Armed Services of the Senate and the House of Representatives by December 1, 2020, on the command's response to the findings and recommendations of the RAND report and the challenges in filling personnel positions and expertise needs in the Air Force program office. The report should also provide the number of unfilled personnel manning positions at the command and the GBSD program office, and the number of and type of personnel required to reduce schedule and technical risks to the major programs that the command and the program office are managing.

<u>Nuclear Employment, Strategic Conventional Strike, and the Law of Armed Conflict</u> The committee recognizes the importance of the rule of law in guiding U.S. military doctrine, planning, and targeting with regard to nuclear weapons. The United States adherence to the rule of law, and in particular the law of armed conflict, in the context of nuclear weapons and their use is a bedrock principle. Notably, under current Department

plans, by 2030 the Department of Defense will develop and deploy a range of new, long-range conventional strike systems, of which some will be under the operational control of Commander of U.S. Strategic Command (USSTRATCOM). Given the strategic implications of these systems, the committee encourages the Department to take additional consideration with regard to the strategic and legal implications of such systems. Therefore, the committee directs the Commander of USSTRATCOM to submit a report to the House Committee on Armed Services by February 1, 2021, on plans, policies, and guidance regarding nuclear weapons employment, including from a legal perspective. The report should include: (1) a detailed explanation for how current plans for nuclear employment apply the law of armed conflict, specifically the principle of military necessity, with illustrative scenarios; (2) a detailed description of how USSTRATCOM is planning to incorporate long-range conventional strike options in the context of nuclear planning through 2030; (3) a detailed legal analysis of how long-range conventional strike options might affect the legality of current nuclear strike options through 2030; (4) the aggregate number and a description of types of targets that cannot currently be held at risk with conventional weapons, and whether certain target categories may be held at risk with conventional weapons by 2030; (5) an analysis of the legal considerations regarding plans to respond with nuclear weapons, rather than conventional weapons, after a "non-nuclear strategic attack" as outlined in the 2018 Nuclear Posture Review; and (6) a legal review of the status of the doctrine of "belligerent reprisal" in U.S. nuclear doctrine.

Potential Delays to Nuclear Modernization The committee notes that the Commander, U.S. Strategic Command (USSTRATCOM) testified on February 27, 2020, that "many of the modernization and sustainment efforts necessary to ensure the deterrent's viability have zero schedule margin and are late-to need." The committee notes that this modernization effort is extremely complex, expensive, and requires the concurrent modernization of all legs of the triad, as well as the nuclear command and control systems. All three legs of the modernized triad, if on schedule, will begin to be deployed in the 2030 timeframe. Further, the Comptroller General of the United States noted recently that "the Minuteman III weapon system will be unable to meet full mission requirements after 2026." The Ground Based Strategic Deterrent is not planned to achieve first production until 2027, with initial operating capability not until 2029. Therefore, the committee directs the Commander, U.S. Strategic Command, in consultation with the Secretary of the Air Force, to provide a report to the House Committee on Armed Services not later than February 1, 2021, detailing plans in the event of a delay of a major weapons system. At minimum, the report should describe: (1) USSTRATCOM and Air Force planning in the event of a delay to initial operational capability of the Ground Based Strategic Deterrent program of at least 2 years; (2) USSTRATCOM and Air Force planning in the event of a delay to full operating of the Ground Based Strategic Deterrent program of at least 4 years; (3) specific risks to obsolesce of the Minuteman III weapon systems and their timelines; and (4) options to mitigate these risks, including costs, both within the land based leg of the triad and through a system approach.

SEC. 3113.Log 71444¿ INDEPENDENT STUDY ON EFFECTS 2 OF USE OF NUCLEAR WEAPONS. 3 (a) STUDY.—The Administrator for Nuclear Security shall seek to enter into an agreement with the National Academies of Sciences, Engineering, and Medicine under which the National Academies conduct a study on the atmospheric effects of nuclear explosions. (b) MATTERS INCLUDED.—The study under subsection (a) shall include the following: (1) An evaluation of the non-fallout atmos1pheric effects of likely and plausible scenarios for nuclear war, ranging from relatively small, regional exchanges to large exchanges associated with nuclear war between major powers. (2) An examination of the effects evaluated under paragraph (1) by— (A) the yield, type, and number of nuclear weapons; (B) the types and locations of targets; (C) the time distribution of the explosions; (D) the atmospheric conditions; and (E) other factors that may have a significant impact on the effects. (3) An assessment of current models of nuclear explosions, including with respect to— (A) the fires such explosions may cause; (B) the atmospheric transport of the gases from such explosions; (C) the radioactive material from such explosions; and (D) the soot and other debris from such explosions and fires, the atmospheric effects of such soot and debris, and the consequences of such effects, including the consequences relating to extreme weather, air pollution, stratospheric ozone, agriculture, and marine and terrestrial ecosystems. (4) Identification of the capabilities and limitations of the models described in paragraph (3) for assessing the impacts of nuclear war, including— (A) an evaluation of the relevant uncertainties; (B) a highlight of the key data gaps; and (C) recommendations for how such models can be improved to inform decision making. (c) REPORT.— (1) IN GENERAL.—Not later than 18 months after the date of the enactment of this Act, the National Academies shall submit to the Administrator for National Security and the congressional defense committees a report on the study under subsection 2 (a). (2) FORM.— The report under paragraph (1) shall be submitted in unclassified form, but may include a classified annex. (d) INFORMATION.—The Secretary of Defense shall provide to the National Academies the information of the Department of Defense necessary for the National Academies to conduct the study under subsection (a), including information relating to relevant scenarios described in subsection (b).

RELEVANT SASC LANGUAGE

SUBTITLE C—NUCLEAR FORCES

Modification to responsibilities of Nuclear Weapons Council (sec. 1651)

The committee recommends a provision that would provide to the Nuclear Weapons Council the authority to review proposed capabilities and validate requirements for nuclear warhead programs.

Responsibility of Nuclear Weapons Council in preparation of National Nuclear Security Administration budget (sec. 1652) The committee recommends a provision that would clarify the role of the Nuclear Weapons Council (NWC) in the planning, programming, budgeting, and execution process of the National Nuclear Security Administration, including by specifying NWC participation at each stage of preparing the budget.

Modification of Government Accountability Office review of annual reports on nuclear weapons enterprise (sec. 1653) The committee recommends a provision that would better align the Government Accountability Office review of the annual report on the nuclear weapons enterprise required by section 492a of title 10, United States Code, commonly known as the "1043 Report," with the schedule for submission of that report.

<u>Prohibition on reduction of the intercontinental ballistic missiles of the United States (sec. 1654)</u> The committee recommends a provision that would prohibit the obligation or expenditure of fiscal year 2021 funds to reduce deployed U.S. intercontinental ballistic missiles' responsiveness, alert level, or quantity to fewer than 400. The provision would provide an exception to this prohibition for activities related to maintenance and sustainment and activities to ensure safety, security, or reliability.

<u>Sense of the Senate on nuclear cooperation between the United States and the United Kingdom (sec. 1655)</u> The committee recommends a provision that would express the sense of the Senate on nuclear cooperation between the United States and the United Kingdom.

<u>Nuclear Command, Control, and Communications Enterprise Center</u> The committee continues to support U.S. Strategic Command's Nuclear Command, Control, and Communications Enterprise Center (STRATCOM NEC) and believes that the sustainment and modernization of the Nation's nuclear command, control, and communications (NC3) architecture is a critical element of the Department of Defense's most important

mission: nuclear deterrence. Given the diversity of systems and technology within the NC3 enterprise, success in this effort will involve input and cooperation from a variety of outside stakeholders, including commercial industry. Additionally, innovative modeling tools and concepts utilized by industry have the potential to accelerate efforts through enhanced simulation and testing. Therefore, the committee directs STRATCOM to include in its next briefing to the congressional defense committees on the plan for future systems-level architecture of the NC3 systems, as required by section 1679 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92), a description of the participation of federally funded research and development centers, university associated research centers, and commercial industry in the development of this architecture so far, as well as an assessment of the potential application of commercial industry modeling and simulation practices, such as the creation of a "digital twin," to the NC3 enterprise.

Qualification of the television as part of the intercontinental ballistic missile weapons system. The Minuteman III Launch Control Center (LCC), which resides in an underground capsule, is defined by the Air Force as part of the Minuteman III weapon system. All components of the weapon system require periodic maintenance and rigorous change specification by the Intercontinental Ballistic Missile System Program Office (SPO). Adding additional equipment to the weapon system definition often requires lengthy analysis by the SPO as well as requirements certification by Air Force Global Strike Command. One key piece of equipment to the combat crew within the LCC is a flat panel television that provides the ability to email and perform continuing education during the crew's 24-hour alerts. As currently defined, the television is not part of the weapon system, and, when it breaks, the SPO must go to great lengths to find a commercial vendor that can qualify a television to the electromagnetic interference requirements required for the LCC. As a result, a simple flat panel television that can be commercially purchased for several hundred dollars costs several thousand dollars, simply because it is not part of the weapon system. Due to the cost and paperwork, televisions remain broken for lengthy periods of time in LCCs. Accordingly, and because this item is important to the morale of the combat crews, the committee directs the Secretary of the Air Force to provide a briefing to the congressional defense committees no later than February 26, 2021, on what efforts are being made to make the television part of the weapon system to reduce cost and time to replacement and ensure that the combat crews can perform personal duties to enhance their morale during their free time in a 24-hour shift.

Transition from Minuteman III to the Ground-Based Strategic Deterrent The Minuteman weapon system began operational alert in 1962 and has been operating on a continuous alert status since. Many Minuteman III components, such as life support equipment, blast protection, and inertial guidance units, are beyond end of life and cannot be life extended. The replacement for this weapon system, the Ground Based Strategic Deterrent (GBSD), is planned to achieve Milestone B in the fourth quarter of fiscal year 2020, with initial operations beginning around 2030. Over the next decade, the Air Force must maintain continuous alert status of the Minuteman III while simultaneously replacing it with the GBSD across 450 launch facilities and launch control centers, at three missile fields, in order to provide the Commander, U.S. Strategic Command (STRATCOM), with forces to meet deterrence requirements. Accordingly, the committee directs the Secretary of the Air Force, in consultation

with the Commander, STRATCOM, to provide a report to the congressional defense committees, not later than February 26, 2021, on: (1) The drawdown schedule of the Minuteman III weapon system at each missile field, including the removal of the missile from the launch facility as well as the replacement of the launch control centers; (2) The launch facility insertion rate of the GBSD missile at each missile field; (3) The expected date of GBSD full operational capability for each missile wing and squadron; (4) The estimated annual costs of maintaining Minuteman III until its full retirement; and (5) Proposed actions during this transition period to account for any reduction or gaps in operational availability of the land-based leg of the triad in order for STRATCOM to meet its deterrence requirements.

Application of requirement for independent cost estimates and reviews to new nuclear weapons systems (sec. 3158) The committee recommends a provision that would extend existing requirements for selected acquisition reports and independent cost estimates of warhead life extension programs to new nuclear weapon systems.