CHAPTER IV

Funding the Schlesinger Doctrine: Strategic Forces Budgets, 1973–1977

When James Schlesinger announced in January 1974 what would become known as the Schlesinger Doctrine, he insisted that a new, limited nuclear options in U.S. targeting policy did not require Washington to increase the number of warheads or total throw weight of the strategic arsenal, if the Soviets stopped their nuclear force buildup and agreed to further limit strategic forces in a second SALT agreement or treaty. Strategic parity, he told journalists, required the targeting shift, but the future size of the force would depend upon what the Soviets chose to do. If the Soviets continued to pack multiple independent reentry vehicles on their missiles, the United States would have to increase the number of warheads and their yield. Washington would not allow the Soviets to upset the nuclear balance and would do whatever was needed to maintain "essential equivalence" with Moscow, which he later explained to Congress meant symmetry in those "factors which contribute to the effectiveness of strategic weapons and to the perception of non-superpower nations."[1]

Schlesinger knew, of course, that the Soviet strategic forces buildup showed no signs of ending. Even as political tensions with the West abated because of détente, the Soviet military developed and deployed a new generation of ICBMs in hardened silos that took full advantage of the lack of MIRV limitations in the SALT I Interim Agreement. By publicly declaring in January 1974 the intent to develop limited nuclear strike options and the means to carry them out under a new nuclear employment policy (issued in April), Schlesinger hoped to restore the deterrent's credibility for defending U.S. allies and global interests, as Soviet leaders would be made less certain of what action might prompt Washington to use nuclear weapons (see chapter 3). For the doctrine to be credible, and to maintain an essential equivalence with the Soviet Union's arsenal,

the secretary would have to convince Congress that the United States could no longer rely on weapons meant to achieve assured destruction to deter the Soviets. Washington needed to spend more on upgrades to the strategic force, making it sufficiently flexible and capable to launch the variety of strikes he envisioned.[2]

In support of his change in targeting doctrine, Schlesinger would seek funding increases for upgrades to every leg of the nuclear triad. He had many tools to do so thanks to the centralization of budgetary authority in OSD by former Defense Secretary Robert McNamara. He would, however, have to carefully balance his aims with those of the military services as well as those of a Congress resistant to any Defense budget increases and with many members concerned his proposed changes might reignite the arms race with the Soviets. More accurate and powerful nuclear forces would not provide Washington with a destabilizing first-strike capability, he repeatedly stressed, but would instead stabilize the strategic balance and restore deterrence by convincing the Soviets that despite their nuclear buildup, Washington still had the will and capability to defend U.S. interests.

Aware of a defense secretary's limited time in office, which seemed especially true as Watergate engulfed the Nixon presidency in 1974, Schlesinger recognized he could accomplish more by aiming to achieve the possible rather than the ideal. He would thus prudently seek to use the Defense budget to modify those strategic systems already under development to support his doctrine, even when he found them overly expensive. When he took office, the Navy was completing the deployment of Poseidon SLBMs, and the Air Force was installing Minuteman III ICBMs. The military's focus was shifting toward those systems still in development, specifically the Minuteman III accuracy and warhead yield improvements, the Trident ballistic missile submarine (SSBN) program and its two new missiles, and the new B–1 strategic bomber.

Schlesinger would seek to convince Congress to fund modernization programs and increase the budget for strategic forces, which had fallen steadily since the early 1960s when adjusted for inflation.[3]

Table 1. U.S. Strategic Forces, FY 1974–1977

	FY1974	FY1975	FY1976	FY1977
Land-Based Missiles				
Titan II ICBMs	54	54	54	54
Minuteman I ICBMs	30			
Minuteman II ICBMs	494	444	444	394
Minuteman III ICBMs	420	500	500	550
Sea-Based Missiles				
Polaris SLBMs	128	112	128	112
Poseidon SLBMs	320	368	400	416
Aircraft				
B–52 Bombers	426	425	421	419
FB–111 Bombers	74	73	69	69
Air Defense Interceptors (Active)	167	143	156	152
Air Defense Interceptors (Guard)	391	231	170	170

Source: Office of the Assistant Secretary of Defense (Comptroller), Defense Management Summary, 21 Mar 1975, Table 100, folder 1975, box 826E; OASD(C), Defense Management Summary, 18 May 1977, Table 100, folder 1977, box 826F: both in Subject Files, OSD/HO.

Minuteman Modernization

Of the three legs of the mid-1970s U.S. nuclear triad, Schlesinger believed that with a slight modification in the Defense budget the United States could most easily upgrade land-based forces, and more specifically, the Minuteman III ICBM, to support his targeting doctrine. In 1973 the United States deployed over almost 500 Minuteman II ICBMs and was deploying a more advanced version, the Minuteman III, each equipped with up to three MIRVs (see Table 1). Schlesinger, however, doubted the existing ICBM arsenal had the accuracy to knock out Soviet ICBMs in the selective strikes he envisioned. He knew the Air Force tested Minuteman missiles by launching them from Vandenberg Air Force Base in California toward the Western Test

Range, located in the Marshall Islands in the Central Pacific. These test missiles traveled from east to west before landing near Eniwetok and Kwajalein islands. In actual war with the Soviet Union, however, Minuteman missiles would fly over the North Pole. Understanding that earth's gravity, magnetic field, and weather all affected the ICBMs' precision, Schlesinger doubted that the tests adequately forecast wartime missile accuracy. He warned Congress in March 1974, "The parameters of the flight from the western test range are not really very helpful in determining those accuracies to the Soviet Union. We can never know what degrees of accuracy would be achieved in the real world." The United States, he quipped, "could conduct a devastating attack on Eniwetok, but we are much less confident of our accuracy" against Soviet targets.[4]

Despite doubting Washington could ever be fully confident in missile accuracy over the North Pole, Schlesinger sought to improve confidence in the Minuteman III ability to take out hardened Soviet targets by allocating funds to increase payloads and improve the missile's guidance system. He later recalled his rationale: "I wanted to have a plausible way of initiating nuclear attack against the Soviet Union, and destroying their cities would simply evoke a response against our cities and therefore was not plausible." He pushed for the development of a new warhead that would be carried on the new Mark 12A reentry vehicle, which "could be precise and discriminate and could be used in selective targeting."[5]

Shortly after coming to the Pentagon, Schlesinger found the Air Force receptive to pursuing Minuteman III upgrades. The Strategic Air Command (SAC) in particular had long advocated the development of nuclear weaponry accurate and powerful enough destroy Soviet missile silos. The original Minuteman III carried up to three Mark 12 reentry vehicles, each carrying a 170-kiloton warhead. The new reentry vehicle Schlesinger promoted, the Mark 12A,

would carry a 375-kiloton warhead, more than doubling the explosive yield. In December 1973 Schlesinger also directed the Air Force to begin research on a maneuverable reentry vehicle (MARV). [6] Although MIRVs could strike multiple targets from a single missile, they could not maneuver on their final approach to the target. The MARV could, allowing it to better pinpoint its target. In January 1974 Schlesinger approved $77 million for the Mark 12A warhead, the guidance system improvements, and MARV research for the Pentagon's FY 1975 budget proposal.[7]

Schlesinger, however, faced deeply entrenched opposition in Congress, which had long squelched Air Force efforts to improve ICBM accuracy. In his first term, Nixon and Secretary of Defense Melvin Laird had assured Congress that the United States did not seek to attain first-strike capability, or the ability to knock out the Soviet strategic force in a surprise attack, but merely to modernize the arsenal to maintain the credibility of the nuclear deterrent as Soviet capabilities increased. Still, Congress had thwarted DoD efforts to improve ICBM and SLBM accuracy in fiscal years 1972 and 1973. In September 1972 the Senate passed a resolution stating Washington should not pursue a unilateral first-strike advantage by developing counterforce weapons. Many members viewed such efforts as dangerously destabilizing to the strategic balance between the superpowers. The Soviets, they argued, might respond by further building up their arsenal or even starting a nuclear exchange. If Washington appeared to deploy a force capable of knocking out Soviet strategic forces, the Soviets might strike first in a crisis, lest they wait too long and allow the Americans to cripple their arsenal in a first strike. In 1974 Senator Thomas McIntyre (D-NH), a disillusioned former supporter of the Vietnam War, led congressional opposition to the ICBM upgrades Schlesinger proposed, warning that they would make them counterforce weapons. Senator Hubert Humphrey, who had been Lyndon Johnson's

vice president and a liberal stalwart, questioned whether such costly upgrades were needed as the nation confronted so many pressing domestic challenges. Months before Schlesinger took office, McIntyre's subcommittee of the Senate Armed Services Committee closely questioned Air Force representatives to verify that there were no active programs to improve Minuteman accuracy. McIntyre would prove the greatest early foe to Schlesinger's attempts to modernize U.S. strategic forces.[8]

In February 1974 Schlesinger presented the Minuteman upgrade programs to Congress as part of the DoD FY 1975 budget proposal. Congress initially focused on Schlesinger's January 10 announcement of a change in targeting policy (see chapter 3). By early April, Senator McIntyre's Research & Development subcommittee of the Senate Armed Services Committee made its opposition to the Minuteman accuracy and yield upgrades clear. McIntyre suggested the administration was reneging on its past promises to not pursue a first-strike capability. Assistant Secretary of the Air Force (R&D) Walter B. LaBerge defended the upgrades, insisting, "The improved guidance offers an option which in small numbers does not work at all toward providing a preemptive strike capability, and only if you implement a whole force much larger than our present missile force can you even consider that it does." Other Minuteman-related requests proved less controversial. The Air Force had an ongoing program to harden Minuteman silos and was upgrading Minuteman targeting through the Command Data Buffer program, which would allow launch control centers to retarget the missiles and would dramatically reduce missile retargeting time.[9]

The Senate Armed Services Committee, chaired by Mississippi Democratic Senator John Stennis, supported Minuteman upgrades in FY 1975 and beat back McIntyre's efforts to eliminate them from the budget. On June 10, McIntyre submitted an amendment to the FY 1975

authorization bill that would bar the Pentagon from pursuing improved Minuteman guidance, the Mark 12A warhead, or MARV until the president certified to Congress that SALT II talks had failed to control MIRV deployments. Speaking against the amendment, Stennis argued that the Soviet nuclear buildup justified the upgrades and warned that Congress must not tie the president's hands in the SALT negotiations. Then, in a rare move, the Senate went into closed-session debate for over two hours, allowing discussion of the upgrades impact on accuracy and target destruction in more detail. A combination of Republicans and conservative southern Democrats defeated McIntyre's proposal 49 to 37, preserving Schlesinger's $77 million for Minuteman upgrades in the FY 1975 budget. Schlesinger and his team had succeeded in convincing Congress that the Soviet strategic force buildup necessitated a shift in thinking about how best to deter Moscow.[10]

Schlesinger wanted to complete Mark 12A research and development in FY 1977 and begin production. By the time the FY 1977 budget request had been finalized, however, Donald Rumsfeld had replaced Schlesinger as defense secretary. Rumsfeld kept the Mark 12A in development but moved production into FY 1978. He justified this change to Congress "as a demonstration of U.S. restraint" in the ongoing SALT II talks. In reality, as he later revealed to the Defense Review Panel in April 1976, he had deferred production to avoid another rancorous debate with Congress before the presidential election.[11]

Although Rumsfeld wanted to defer Mark 12A production until FY 1978, the floundering SALT II talks and increased tensions with the Soviet Union convinced House Republicans that the United States must move forward with modernization. In March, 19 House Republicans urged Ford to continue the Minuteman III production line. Texas Democratic Representative George McMahon, the powerful House Appropriations Committee chairman and President

Gerald Ford's longtime friend, pressed the administration to move forward with the upgrades and recommended expanded funds for strategic forces to the House Budget Committee. In March his committee recommended that Mark 12A warhead production begin in FY 1977 and Minuteman III production, which had been scheduled to end in FY 1977, continue. In early April the Defense Review Panel of Rumsfeld, Kissinger, Scowcroft, and OMB Director James Lynn discussed the House Mark 12A recommendation. Rumsfeld, Kissinger, and Scowcroft favored approving the House initiative. Intent on trimming the burgeoning Defense budget request, Lynn, balked, insisting "enough is enough." In late April, Ford sided with Rumsfeld, Kissinger, and Scowcroft and requested funds in an amendment to the FY 1977 budget to begin Mark 12A production.[12]

The House Appropriations Committee supported the amendment and Senate supporters defeated attempts to remove the Mark 12A funds. Rumsfeld ordered Mark 12A production to begin in December 1976, and the new warhead was deployed on 300 of the 550 Minuteman III ICBMs in the U.S. arsenal by the end of the decade. In combination with an improved guidance system that roughly doubled Minuteman III accuracy, the Mark 12A warhead significantly increased American capabilities to destroy hardened Soviet targets. The costs associated with the improvements would be miniscule relative to the projected costs for the Navy's program to improve its ballistic missile submarine force.[13]

Trident

Although the ICBM force gave Washington an accurate deterrent, allowing Soviet targets to be struck without requiring the advance deployment of any American combat units, the silos remained vulnerable to a Soviet attack, at least theoretically. The nation's nuclear-powered

ballistic missile submarine (SSBN) fleet, however, served as the ultimate assurance that the United States would be able to launch a devastating second strike against the Soviet Union. Even if Kremlin leaders recklessly gambled and somehow managed to destroy land-based ICBMs and the U.S. bomber fleet in a first strike, U.S. submarines scattered beneath the world's oceans were virtually impossible to detect and could launch devastating retaliatory strikes on the Soviet Union. Although less accurate than land-based ICBMs, the Polaris and Poseidon SLBMs in operation when Schlesinger took office could destroy Soviet cities. Schlesinger, however, wanted to make the SSBNs capable of acting as more than the final retaliatory tool in a total nuclear war. To accomplish that, he would wage a protracted persuasion effort with Congress to appropriate the funds required to allow SSBNs to fire more accurate and powerful missiles.[14]

Schlesinger had inherited Trident and was initially skeptical of the need for new, expensive submarines. Initially known as the Undersea Long-range Missile System, the new submarine and two new associated missiles had been renamed Trident in May 1972. The new submarines would be quieter than older submarines and capable of carrying more missiles with substantially longer ranges than the Polaris and Poseidon missiles they replaced. As with Minuteman III, Schlesinger wanted Trident missiles accurate and powerful enough to destroy Soviet missile silos in support of his change in targeting doctrine. The two new missiles became the Trident C4 (Trident I) and the Trident D5 (Trident II). The extended range of these missiles would allow the submarines to fire from a safe distance off the Eurasian coastline and further away from the Soviet navy. Schlesinger later reflected he initially had reservations about the Trident submarine's cost, because it meant the United States could construct and deploy fewer SSBNs. However, "the Trident," he recalled, "had become the symbol … of American strength."

Because the department's supporters in Congress were vocal advocates of the submarine, he thought "it was too late" to turn against it.[15]

The costly Trident program also had many detractors in Congress, and Schlesinger would have to overcome their opposition to prevent the program from floundering before the first submarine was built. Many members balked at the cost of building the ten planned SSBNs. A 1972 Senate Armed Services Committee effort to cut funding for the Trident submarine had failed by a single vote. Schlesinger sought $1.7 billion for FY 1974 to accelerate Trident submarine production with the first becoming operational in 1978. At hearings before the R&D subcommittee of the Senate Armed Services Committee in April 1973, Senator McIntyre said older submarines could be retrofitted to carry the Trident I, substantially improving their capability at much lower cost than building the new submarines, each then projected to cost $1.3 billion. Chief of Naval Operations Admiral Elmo R. Zumwalt Jr. rejected the idea, saying that while installing the Trident missile in old submarines would help them to evade the enemy "giving us 4½ times more water in which to hide," it would not result in the deployment of more missiles, the threat of which was needed to put pressure on the Soviets in SALT II negotiations "the way the Trident hull and additional missiles would." He failed to persuade McIntyre's subcommittee. On July 10, the R&D subcommittee voted unanimously to cut Trident funding by $885 million, which would delay by two years, from 1978 to 1980, the first Trident submarine's completion. Defending the massive cut, McIntyre said it would allow substantial savings "at a time when inflation is running rampant and the budget is being stretched to the breaking point." Because the program would only be delayed rather than terminated, he argued, Congress would not be depriving the administration of a bargaining chip in SALT II negotiations. He believed

Navy officials were exaggerating the need for Trident and was skeptical that the Polaris and Poseidon systems needed replacement.[16]

McIntyre nearly succeeded in halving the funding for Trident. On August 1, the full Senate Armed Services Committee upheld the massive cut by a close 8–7 vote. Furious with Senate budget cutters, Schlesinger told the press at the Pentagon that day that Washington was in a "period of the post-war follies," dangerously cutting military strength out of a mistaken view that the nation could make such cuts with the end of the Vietnam War and in an era of détente with the Soviet Union. McIntyre took Schlesinger's comments personally. He responded by calling them "imprecise and inflammatory" and called on Schlesinger to clean up "Pentagon follies." Admiral Zumwalt, however, moved to undercut McIntyre. He had found it suspicious that Senator Barry Goldwater's (R-AZ) proxy had voted for the cut. Goldwater had been against Trident but had recently reversed his position after being convinced by Admiral Hyman G. Rickover, the legendary longtime head of naval reactors, that the program was necessary. Zumwalt called Goldwater, then fishing off the California coast. The senator said he thought his proxy had misunderstood his instructions and sent a telegram to Senator Strom Thurmond, the ranking Republican member of the committee who had cast his proxy vote, stating he opposed the cut and asking the committee to vote again. On August 3, with Goldwater's vote in favor of Trident, the committee rejected the cut, 8–7.[17]

Senator McIntyre, however, had not abandoned his effort to cut Trident funding and prepared to take the fight to the Senate floor. Schlesinger then switched tactics to head off McIntyre and his allies. Rather than publicly berate Congress as he had in early August, he pursued a quiet persuasion campaign in the weeks leading up to the budget vote, speaking with key members by telephone or inviting them to dine with him at the Pentagon.[18] As the full

Senate vote drew near, top Navy officials, however, mounted an aggressive effort against McIntyre at odds with Schlesinger's new approach, deeply frustrating the secretary. Admiral Rickover portentously warned the Senate, "The raw fact is that for the first time since World War II, the U.S. Navy now has a naval opponent capable of challenging our ability to control the seas…." The Navy, he said, needed the longer range provided by Trident. Schlesinger knew the budget vote would be tight and feared such histrionics might push undecided senators into the opposition, dooming Trident and perhaps the overall Defense budget. He believed he had 47 votes for Trident while five appeared to be leaning toward voting for it but remained uncommitted. In late September he told his staff he thought the Navy's tactics were backfiring and warned them to avoid exaggerations and scare stories.[19]

The next day, Admiral Zumwalt undermined the secretary's efforts. When he left a meeting with several senators, an NBC reporter asked him whether the Soviets were lobbying members of Congress to oppose Trident. "The Soviets," Zumwalt replied, "in a host of ways, including the use of employees here, do make a concerted impact upon U.S. policy." Senator McIntyre professed himself "shocked, dismayed, and angered" by the insinuation that Soviet agents might influence his vote. Frustrated by the exchange, Schlesinger forbade the Navy's Trident experts from speaking with reporters in the days leading up to the budget vote. Explaining the press ban, Assistant Secretary of Defense for Public Affairs Jerry W. Friedheim said the debate "should occur on the Senate floor" and not in the press.[20] On September 27, as the Senate debated McIntyre's proposed reduction, Senator Henry Jackson led the Senate supporters of Trident. "If our strategic deterrent proves to be inadequate in the decade of the 1980s," he warned, "it will be because we failed to assure its adequacy in the 1970s. It will be too late then if we fail to act now." McIntyre's amendment failed by a thin 47–49 margin, and

the Senate fully funded Trident. The first new submarine remained on track to be completed in late 1978.[21]

Schlesinger feared the Navy's effort might yet backfire before the final appropriations bill was passed by the full Congress. In October he and Zumwalt had a sharp exchange. "I'm here," Zumwalt said, "to take on your recent shots at the Navy for overstating its case." The secretary responded that the Navy's claims of the "vast expansion of [the] Soviet Navy" that were made to the press were "bull shit." Seeking to calm Schlesinger, Zumwalt acknowledged that the Soviet navy had improved qualitatively, but only matched the U.S. Navy quantitatively. Schlesinger agreed, saying that while the Soviet navy still could not compete with the United States globally, U.S. capabilities had diminished. For Schlesinger, however, it had not been the Soviet navy but the Soviet strategic forces buildup that most concerned him and caused him to conclude Trident was necessary.[22]

In early December the House cut Trident funding by $240 million and the Senate agreed to the reduction on December 13. Although far smaller than McIntyre's proposed cut, the House reduction eliminated advance procurement funds for the fifth, sixth, and seventh submarines and slowed construction of the second, third, and fourth submarines. The Navy would receive $1.26 billion in appropriations for FY 1974 for Trident, allowing construction on the first submarine to start while slowing construction of future submarines.[23]

To disarm Trident's critics before congressional consideration of the FY 1975 budget, Schlesinger announced two changes to the Trident program in February 1974. After the first new SSBN was completed, the remaining submarines would be built at a rate of two per year, rather than three as originally planned. Furthermore, ten Poseidon-equipped SSBNs would be retrofitted with Trident I missiles beginning in FY 1979. As a result, congressional debate of FY

1975 Trident requests proved far less contentious than the prior year's. Congress provided the $1.7 billion requested to build two new SSBNs, cutting only $7.7 million from the budget proposal for Trident missile research.[24]

Throughout the Trident debate, Schlesinger was far more concerned about the two new missiles the submarines would carry rather than the naval vessels themselves. He was most interested in the Trident II, which he hoped would have the range, accuracy, and throw weight to support his doctrine. In late 1973 he asked Admiral Zumwalt whether SLBMs could be made accurate enough to destroy hardened Soviet targets. In response, Rear Admiral Levering Smith, head of the Navy's Strategic Systems Projects, met with Schlesinger in December to discuss Trident II and outline the challenges of improving SLBM accuracy. Smith's primary reservation, however, was philosophical. If SLBMs were made too accurate, he reasoned, they would destabilize the arms competition with the Soviet Union. Capable of stealthily moving close to their targets, submarines armed with highly accurate MIRVed missiles that could destroy ICBM silos and command centers would be viewed by the Soviets as potential first-strike weapons. The weapons, Smith stressed, should continue to provide the United States with a retaliatory deterrent by targeting Soviet cities. The extended range would further enhance the deterrent by making the submarines safer from detection. Schlesinger found such a capability an unnecessary, overly expensive redundancy. The United States already had more than enough weapons to destroy all Soviet soft targets. "Our problem," he recalled, "was that there was a growing target list of hard targets that we could not kill…." He believed, as defense secretary, he was in a better position to determine what strengthened deterrence than the Navy. On March 4, 1974, he announced an effort to measure and increase SLBM accuracy, which would become the Improved Accuracy Program, and directed the addition of funds for it in the FY 1975 budget.[25]

Admiral Smith and the Navy's Special Systems Projects continued to resist Schlesinger's repeated directions to pursue greater SLBM accuracy. The Navy, the admiral maintained, lacked sufficient information about SLBM performance in flight tests to improve accuracy. Schlesinger responded to such resistance by spending hours poring over the data with Smith in his office, stressing the need to better monitor SLBM flight tests in order to identify and eliminate sources of inaccuracy. To further push the Navy for greater SLBM accuracy, DDR&E issued a directive in January 1975 to focus the Improved Accuracy Program on the Trident II missile. The Navy, however, continued to resist accuracy improvements, and OSD continued to press the Navy after Schlesinger's departure in November 1975. In May 1976 Clements directed Secretary of the Navy J. William Middendorf to prepare the Navy to deploy the Trident II missile in the 1980s. Citing Schlesinger's nuclear weapons employment policy, issued in April 1974 (see chapter 3), the deputy secretary wanted the new missile to have "substantial accuracy improvement" compared to the Trident I. Congressional critics, however, began targeting the Trident II missile in 1975. Although Congress funded the Improved Accuracy Program, it rejected Navy requests for funding Trident II research and development from FY 1975 to FY 1977. Congress would not authorize Trident II development until FY 1978, when congressional attitudes shifted in favor of nuclear modernization.[26]

The Improved Accuracy Program for Trident missiles was relatively small, costing just over $172 million from its launch by Schlesinger in FY 1975 to FY 1977. The program would deliver the results Schlesinger sought, but only after the Soviet threat it had been built to counter began to evaporate. When deployed in 1990, the Trident II was at least twice as accurate as Trident I, had a far longer maximum range, and almost double the throw weight. The higher yield of the Trident II's warheads combined with the missile's greater accuracy gave it the

capability to destroy Soviet ICBM missile silos. But with the dissolution of the Soviet Union in December 1991, policymakers in Washington became less concerned about the threat posed by ICBMs than they were about Soviet warheads and scientists falling into the hands of terrorists or rogue states. The Trident program, however, would result in the creation of the *Ohio*-class submarine. The first would enter service in 1981, and 17 more would be completed by 1997, with each capable of carrying 24 missiles armed up to 10 MIRVs, making the *Ohio*-class the most powerful single strategic launch platform deployed by the United States during the entire Cold War and through the early decades of the 21st century.[27]

Rising Costs of the B-1 Bomber

Despite the advances in missile technology that promised to vastly improve the accuracy of land and sea strategic missile forces, the Air Force in 1973 remained convinced of the indispensability of the manned bomber. The generals who then headed the air force had mostly been bomber pilots and were enthusiastic about a plane that could penetrate Soviet airspace. Schlesinger and Rumsfeld's support of Air Force efforts to improve the bomber leg of the triad by introducing the supersonic B-1 would prove even more fraught with controversy than the Navy's trident program. The B-1 bomber developed out of the Advanced Manned Strategic Aircraft program launched in the early 1960s to replace the aging B-52 bomber force. Capable of supersonic flight, the B-1 would be designed to be harder to detect by radar and capable of operating at lower altitudes than the massive, subsonic B-52. Development of the B-1 began in 1969 at Nixon's direction, and by 1973 the Air Force and the B-1 contractor, Rockwell International, were preparing for test flights scheduled for early 1974.[28]

In preparation for congressional hearings on the FY 1974 budget request, the Air Force sent Secretary Elliot Richardson briefing materials on the B-1 that focused on military necessity, survivability, and cost. Some critics argued that a less expensive aircraft with fewer capabilities but equipped with long-range missiles could strike the same targets as a B-1 without coming within range of Soviet air defenses. Air Force generals held that a B-1 equipped with a mix of bombs and missiles forced the Soviets to deploy a variety of air defense systems and was more flexible than a less capable alternative. The B-1 could take off faster than the B-52, allowing more bombers to survive a surprise Soviet SLBM strike on SAC bomber bases. The B-1, however, was turning into one of the most expensive aircraft in U.S. military history. The cost of a single B-1 had risen from just over $20 million in 1968 to over $40 million by 1973. In June, Senator McClellan, chairman of the Senate Appropriations Committee, worried that the cost might rise beyond $50 million per plane. In the final FY 1974 budget passed by Congress, the Air Force received $448 million for B-1 research and development, a $25 million cut from the initial request.[29]

In August 1973 the Senate Armed Services Committee requested a comprehensive review of bomber forces to determine whether cheaper alternatives to the B-1 could be found. The resulting Joint Strategic Bomber Study, supervised by the director of Defense Research and Engineering, examined several alternatives including an enlarged FB-111 bomber, an upgraded B-52, and a new cruise missile-carrying aircraft. The study found each alternative unsatisfactory, as an enlarged FB-111 would only carry one-sixth the payload of a B-1, and long-range air-launched cruise missiles could not compete with the versatility provided by penetrating bombers like the B-1. They concluded a force of B-1s and upgraded B-52s was the most effective combination to meet the nation's strategic bombing needs.[30]

This study did not persuade congressional critics of the B-1, and the Senate Appropriations Committee called for another review of the bomber in the FY 1975 DoD budget. George Mahon, Chairman of the House Appropriations Committee, warned that "the B-1 is in trouble." The plane was too expensive to build in large numbers, especially as Congress was then seeking to trim the overall Defense budget. The estimated cost per plane now reached $61.5 million, a total cost of $15 billion for the planned force of 244 planes. Congress, however, provided $445 million for B-1 research and procurement of three prototype planes in FY 1975.[31]

On October 26, 1974, Schlesinger attended Rockwell International's roll out of its first B-1 prototype in Palmdale, California. As the plane left the hangar, an antiwar protestor threw himself on the ground in front of the plane. Schlesinger allegedly shouted, "Keep the plane rolling." In remarks after the roll out, he responded to the plane's critics. He argued that given the limitations on the number of strategic forces imposed by SALT I, "there is a powerful incentive to achieve high unit performance" in the systems that were permitted. The Pentagon, he added, had not yet decided whether to procure the B-1, and that determination would depend on the plane remaining "highly acceptable" throughout the R&D process. Privately, Schlesinger had some doubts about the program, reportedly telling Les Aspin, Democratic representative from Wisconsin, that the B-1 was one of "the Cadillacs I inherited." Although Schlesinger liked the idea of adding a bomber that would cause Soviet leaders to worry about U.S. strategic capabilities, he did not want the plane's high cost to force cuts to other programs important to him. He made clear that his support was conditional. If the plane's cost rose above $100 million, he warned the Air Force, Congress would not provide funding, implying that he would not continue to fight for the aircraft.[32]

In December 1974 Schlesinger told Secretary of the Air Force John L. McLucas that he did not want money for general purpose forces diverted to cover the B-1's rising cost, and directed him to study alternatives. Air Force Chief of Staff General David Jones, however, warned the secretary that the Air Force's four-star generals all strongly favored the B-1 over any alternative. Jones did not want to fracture his service when the consensus was so strong. Schlesinger concurred, and President Ford agreed to go forward on whatever schedule the Defense Department wanted. Early in January 1975, the secretary approved $672 million in research, development, test, and evaluation plus $77 million for B-1 procurement during FY 1976. Those figures would change in FY 1977 to $432 million and $1.2 billion, respectively, as serial production began.[33]

Schlesinger became increasingly aware that the Air Force was underestimating the plane's true cost. Assistant Secretary of Defense (Program Analysis and Evaluation) Leonard Sullivan Jr. cautioned him that the Air Force's February 1975 presentation on the B-1 to congressional committees for the FY 1976 budget "appears to be another example of the kind of self-deception on cost estimates that has gotten DoD into so much trouble in the past." The Air Force had identified a dozen money savers, such as eliminating an expensive escape capsule from the design and reducing the plane's maximum speed. Even with those projected changes, Sullivan viewed the Air Force's low-cost estimates as "highly suspect" and "certainly no credit to the program manager."[34]

Schlesinger, however, continued to defend the plane against congressional critics. In mid-March Senator McIntyre wrote to him, arguing that the B-1 was unnecessary as the secretary's own posture statement had indicated that in a war with the Soviets ICBM or SLBM attacks could so degrade air defenses that bombers less capable than the B-1 would reach their targets.

Schlesinger rebutted McIntyre in early April, writing that the senator dangerously assumed the ballistic missile force could alone destroy Soviet air defenses, which made the bomber leg of the triad completely dependent upon the missile force. The Soviets, moreover, were moving to more mobile air defense systems that might evade destruction.[35]

Congress tepidly supported the B-1, despite its rising costs. In July, House and Senate conferees approved $87 million to fund initial production of the bomber, though the House emphasized that this funding did not "represent a commitment on the part of Congress to production of the B-1 aircraft." The same month, the Air Force decided to reduce the plane's maximum speed as a cost cutting measure. OSD concurred, as the 1974 Joint Strategic Bomber Study had indicated that high supersonic speed was not essential for penetrating Soviet air defenses. The B-1 now had diminished capabilities, but its price continued to rise. By September 1975, cost estimates for 240 B-1s had climbed to over $20 billion, far in excess of the $13.7 billion estimate in 1973.[36]

By 1976 presidential election year politics drove the B-1 debate. In April, Rumsfeld, a former Navy aviator, donned a bright orange flight suit and took the controls of the B-1 prototype for 50 minutes over the Southern California desert. In an interview after the flight, Rumsfeld said the B-1 "handled very nicely…. There is no question but that this country has to have something to follow on behind the B-52, and I'm pleased the tests are going well." Responding to critics that argued the new cruise missiles under development, such as the AGM-86 air-launched cruise missiles, which could be fired from B-52s, would be more cost-effective alternatives to the pricey bombers, the defense secretary said, "It's just mixing apples and oranges. It's like talking about trade-offs between tanks and tactical aircraft as far as I'm concerned." The cruise missile offered a different type of strategic capability than the B-1. "It's

slow, subsonic," he said, while conceding that "the price is right," but added, "it's basically a pilotless aircraft, and that is not what the B-1 is designed to be." Rumsfeld asked for $483 million for FY 1977 to continue research and development and $1.05 billion for the first three production aircraft. [37]

With the presidential election nearing, the Democratically controlled Congress sought to delay production on the B-1. In May, by a 44–37 vote, the Senate accepted an amendment deferring a production decision until February 1977. In June the House rejected that amendment by 207 to 186, effectively killing the idea. The Democratic Party's platform, adopted in July, called for a $5 billion to $7 billion reduction in the Defense budget while Governor Jimmy Carter, the party's presidential nominee, publicly singled out the B-1 as wasteful and unnecessary and backed the idea of putting off a production decision. On 21 July the Senate Appropriations Committee revived the idea of delay, voting 15 to 14 (largely along party lines) to defer production. On September 1, House and Senate conferees agreed to leave the production decision to the next presidential administration while funding the B-1 program at $87 million per month until February 1977. This allowed Rockwell to keep its team employed and start work on the three bombers planned for the program's research and development phase.[38]

Backing for the B-1, however, was growing within the Pentagon. By October, the Air Force believed that B-1 production could proceed "with confidence," arguing that the plane's myriad technical issues had been resolved. After his representatives made on-site inspections, Assistant Secretary of Defense (Installations and Logistics) Frank A. Shrontz reported that the Air Force had adequately addressed all aspects of the airframe, offensive avionics, and engine contractors' readiness for production. Early in November, President Ford agreed in principle to go ahead with production. Director of Planning and Evaluation Edward C. Aldridge considered it

"clear that that the requirement for the B-1 is as great now, if not greater, than … when the program was initiated in 1969." In late November, John Walsh, deputy director of strategic and space systems, reminded Rumsfeld that though the B-1's unit cost had reached $94 million, not buying B-1s would require the purchase of more Trident missiles and M-Xs to perform the same task at comparable cost. The Defense Systems Acquisition Review Council, chaired by Deputy Secretary Robert Ellsworth, reviewed the B-1 program in early December. Although the council concluded the program manager's cost estimate might prove optimistic, it judged the B-1 to be the most cost-effective means to modernize the strategic bomber force and recommended initiating production. Deputy Director of Research and Engineering (Test and Evaluation) Walter E. Lotz Jr. assured Rumsfeld that the B-1 had undergone more rigorous testing early in its acquisition process than any earlier aircraft. The tests had detected no fundamental design or performance problems, reflecting "a design maturity equal to or better than any previous military aircraft program."[39]

The next administration, however, would view the B-1 differently. President Jimmy Carter would cancel the B-1 in June 1977 in favor of upgraded B-52s armed with long-range cruise missiles. The new president concluded that the B-1 was too expensive and provided capabilities that could be achieved by cheaper upgrades to B-52s. Rumsfeld, who thought Carter's cancellation was a mistake, later reflected on his approval of the plane, writing that "this supersonic, swept-wing replacement for the aging, workhorse B-52 bomber carried a high price tag, but its flexibility and its capability to serve our country's needs for many decades convinced me it was a sound investment." President Ronald Reagan would later approve the construction of the B-1B, a modified version of the bomber Rumsfeld had approved.[40]

Cutting Continental Air Defense

As the Defense Department sought to improve U.S. bombers' ability to penetrate Soviet airspace, it largely dismantled its own defenses against Soviet bombers. Schlesinger expressed doubts about the value of strategic defensive forces as early as the late 1960s, arguing that only a "limited initial investment" was warranted. Soviet strategic nuclear forces were overwhelmingly weighted towards nuclear missiles, especially ICBMs, relying far less on manned bombers than the United States did. An anti-ballistic missile defense system was thus the most logical defense against a Soviet strategic attack. However, the 1972 Anti-Ballistic Missile Treaty limited each signatory to two missile defense sites. Schlesinger concluded that anti-air defenses offered little protection to the United States from a Soviet nuclear strike and only diverted resources from programs that did enhance American security.[41]

In August 1973 Schlesinger ordered a change in the requirements used to determine the air defense force structure and a corresponding reduction in air defense forces. American air defenses were then structured around the requirement to defend against small attacks by Soviet bombers with a few days warning. The secretary decided for FY 1974 to change this requirement to simply provide warning of incoming Soviet bomber attacks and maintain surveillance of sovereign U.S. airspace. This could be met largely through radar surveillance with a smaller force of air defense interceptor aircraft. Schlesinger's directive was only the most recent reduction in air defense requirements and forces that had been gradually trimmed throughout the late 1960s and early 1970s.[42]

Table 2. U.S. Strategic Air Defense Forces, 1965–1973

	1965	1966	1967	1968	1969	1970	1971	1972	1973
Active-Duty Interceptor Squadrons	37	30	28	19	18	14	12	10	8
Nike-Hercules SAM Batteries	129	111	111	94	81	75	52	52	52

Source: Walter F. LeCates, "Trends in Strategic Air Defense and the Future," Air War College, Maxwell AFB, Montgomery, AL, Apr 1976.

Schlesinger then directed significant reductions in U.S. air defense forces through the FY 1975 budget. The U.S. strategic defensive force, then composed of 26 interceptor aircraft squadrons and 48 batteries of Nike-Hercules surface-to-air missiles (SAMs), cost roughly $500 million per year to operate. Schlesinger decided to eliminate all 48 SAM batteries and all but nine interceptor squadrons, though he later backtracked and allowed 12 squadrons. Over the course of five years these cuts would save $490 million, savings Schlesinger redirected toward Minuteman III production and ICBM research and development.[43]

The Air Force and the Joint Staff protested Schlesinger's decision in late August, warning that airspace sovereignty could not be assured with the reduced interceptor force. The proposed air defense cuts, they cautioned, might even impact Canadian willingness to contribute to continental air defense. The Joint Staff warned ominously: "The unilateral reduction in US air defense forces would be interpreted by Canada as an abrogation of Canadian/US Defense agreements, thereby jeopardizing NORAD [the North American Air Defense Command]." If air defenses were further cut, Air Force generals warned that Soviet bombers could drop more nuclear bombs on the United States. Schlesinger rejected such dire warnings, which he found exaggerated.[44]

On August 27, 1973, Schlesinger told General Brown, the Air Force Chief of Staff, that interceptors and surface-to-air missiles should be limited to denying the enemy a "free ride."

This would require between 100 and 200 interceptors instead of the current force of just over 350. Brown countered that U.S. defenses should be as good as those of the Soviets and be mobile for worldwide deployment. Schlesinger did not view such an argument as serious. Soviet air defenses consisted of thousands of interceptors and SAM batteries, which the secretary thought rendered any attempt to match it prohibitively expensive in the constrained budget climate of the mid-1970s.[45]

In February 1974 Schlesinger announced the reduction in air defense forces to Congress as part of the DoD FY 1975 budget proposal. In a statement to the Senate Armed Services Committee, JCS Chairman Admiral Thomas Moorer indicated his support for the change and stressed that the United States had never deployed an air defense system on the scale that the Soviets did. Moorer warned the committee, however, that "there are clear risks involved in reducing our capability" to defend against a bomber attack. Congress supported the air defense reduction, though some members were concerned about the impact on the Air National Guard. Most of the interceptor squadrons to be eliminated were Guard units, fiercely protected by their representatives. For FY 1975, Congress allowed some of the planned reductions to take place but mandated that Guard strength be kept at 91 squadrons, which delayed the deactivation of six Air Guard squadrons equipped with F-101 interceptors.[46]

During the next year's FY 1976 budget process the Joint Chiefs, tepid about reducing air defenses, tried to reverse Schlesinger's air defense cuts. In congressional testimony in February 1975, JCS Chairman General Brown echoed Moorer's testimony from the previous year, saying "I would be less than candid if I were to leave you with the impression that there are no risks in this phased-down [air defense] program."[47] The Chiefs' position was undermined, however, in

May 1975 when the Canadian government renewed the NORAD agreement with the United States.

Schlesinger pressed forward with the cuts. The 48 Nike-Hercules batteries were deactivated, and the interceptor force was reduced to 12 squadrons of F-106 Delta Darts; some of the Guard units were shifted from air defense roles to other missions. Although Washington already spent far more on offensive strategic forces than on defensive strategic forces, Schlesinger had used the power of his office to expand the disparity.[48]

Schlesinger successfully parried congressional attempts to slash funding for strategic forces by convincing members of Congress that strategic upgrades were needed to support his targeting doctrine change. By doing so, he ensured that even in a period of major budget constraints the United States pressed forward with major additions to the strategic arsenal. Congress funded the O*hio*-class submarines and the accuracy and yield upgrades to the Minuteman III and Trident II. Despite his private reservations about the B-1's cost, he and Rumsfeld publicly supported development of the bomber. Although the Carter administration would cancel the B-1, the Reagan administration would opt to produce the plane in modified form. By the time the upgrades to the strategic arsenal had been fully made, however, the Soviet threat had begun to vanish, with the dissolution of the Warsaw Pact and the Soviet Union itself in 1991. Many of the systems that Schlesinger and Rumsfeld had promoted, however, remained critical components of the U.S. strategic deterrent for the first decades of the 21st century.

Endnotes

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1. James Schlesinger, "Remarks to Overseas Writers Association," 10 Jan 1974, *Public Statements of James Schlesinger, Secretary of Defense, 1974*, OSD Historical Office, 1:21; Schlesinger, interview by Alfred Goldberg and Maurice Matloff, 1 Aug 1991, OSD/HO, 38–39. Schlesinger, *Annual Defense Report FY 1976* (5 Feb 1975), I-13.

2. Schlesinger interview, 1 Aug 1991, 38–39; Poole, *History of the Joint Chiefs of Staff and Military Policy, 1973–1976* (2015), 47.

3. Pavel Podvig, "The Window of Vulnerability That Wasn't: Soviet Military Buildup in the 1970s – A Research Note," *International Security* 33, no. 1 (Summer 2008): 122–123; Kaplan, *The Bomb,* 98; NSC, meeting minutes, 14 Sep 1974, *FRUS 1969–1976*, vol. 33, SALT II, 1972–1980 (doc 74); Brendan Green and Austin Long, "The Geopolitical Origins of US Hard-Target-Kill Counterforce Capabilities and MIRVs," in Michael Krepon, et al., ed., *The Lure & Pitfalls of MIRVs: From the First to the Second Nuclear Age* (Stimson Center, May 2016), 21. Schlesinger interview, 1 Aug 1991, 38. Office of the Under Secretary of Defense (Comptroller), *National Defense Budget Estimates for FY 2017*, 101. Freedman, *The Evolution of Nuclear Strategy,* 370.

4. Schlesinger, interview with Alfred Goldberg and Maurice Matloff, 7 Feb 1991, OSD/HO, 68. Donald MacKenzie, *Inventing Accuracy: A Historical Sociology of Nuclear Missile Guidance* (Cambridge, MA: MIT Press, 1990), 362; Schlesinger, *Annual Defense Department Report, FY 1975*, 51; James Schlesinger, "Nuclear Spread: The Setting of the Problem," in James Schlesinger, *Selected Papers on National Security, 1964–1968* (Santa Monica, CA: RAND, 1974), 15 (quote). Kaplan, *Wizards of Armageddon*, 374–376; Senate Committee on Foreign Relations, *U.S.-U.S.S.R. Strategic Policies: Hearing*, 93rd Cong., 2nd sess., 4 Mar 1974, 15 (quote); House Committee on International Relations, *The Vladivostok Accord: Implications to U.S. Security, Arms Control, and World Peace: Hearings*, 94th Cong., 1st sess., 24 Jun 1975, 4 (quote); Donald MacKenzie, *Inventing Accuracy*, 360–362; William Kaufmann, interview by Laurence Kaplan and Maurice Matloff, 14 Jul 1986, OSD/HO, 31–32; NSC Verification Panel, meeting minutes, 16 Jan 1971 in *FRUS 1969–1976*, vol. 34, *National Security Policy, 1969–1972*, ed. M. Todd Bennett (Washington, DC: GPO, 2011), 671 (doc 167).

5. Schlesinger interview, 7 Feb 1991, OSD/HO, 67–68 (quotes).

6. David Spires, *On Alert: An Operational History of the United States Air Force Intercontinental Ballistic Missile Program, 1945–2011* (Colorado Springs, CO: Air Force Space Command, 2012), 120; Senate Committee on Appropriations, *Fiscal Year 1975 Authorization for Military Procurement, Research and Development, and Active Duty, Selected Reserve and Civilian Personnel Strengths: Hearings*, 93rd Cong., 2nd sess., 2 Apr 1974, pt. 6:3366, 3368–3369, 3371, 3387; James Schlesinger, "The Changing Environment for Systems Analysis," in E.S. Quade and W.I. Boucher, *Systems Analysis and Policy Planning: Implications in Defense* (Santa Monica, CA : RAND, 1968), 381–382. Freedman, *The Evolution of Nuclear Strategy,* 170.

7. Brendan Green and Austin Long, "The Geopolitical Origins of US Hard-Target-Kill Counterforce Capabilities and MIRVs," in Michael Krepon, et al., ed., *The Lure & Pitfalls of*

MIRVs: From the First to the Second Nuclear Age (Stimson Center, May 2016), 19–54; memo, Secretary of the Air Force John McLucas for Schlesinger, 31 Jul 1973, folder 020 AF 1973, box 1, Acc 330-78-0002, OSD Records, WNRC; MacKenzie, *Inventing Accuracy*, 216.

8. John Collins, "Counterforce and Countervalue Options Compared: A Military Analysis Related to Nuclear Deterrence," Congressional Research Service Report UC 560A 72-240 F, 7 Dec 1972, 32–45; Eric Mlyn, *The State, Society, and Limited Nuclear War* (Albany: State University of New York Press, 1995), 102–104; Senate Committee on Armed Services (SCAS), *Fiscal Year 1974 Authorization for Military Procurement, Research and Development, Construction Authorization for the Safeguard ABM, and Active Duty and Selected Reserve Strengths: Hearings*, 93th Cong., 1st sess., 21 May 1973, pt. 5:3501, 3577; memcon, Schlesinger, Humphrey, 16 Jul 1975, folder 032 G-Z 1975, box 7, Acc 330-78-0058, OSD Records, WNRC.

9. James Schlesinger, *Annual Defense Department Report, FY 1975,* 51–52, 55; SCAS, *Fiscal Year 1975 Authorization for Military Procurement, Research and Development, and Active Duty, Selected Reserve and Civilian Personnel Strengths: Hearings*, 93rd Cong., 2nd sess., 2 Apr 1974, pt. 6:2922, 3388, 3390; Donald Rumsfeld, *Annual Defense Department Report, FY 1977*, 79.

10. "$22.2 Billion Authorized for Weaponry," in *CQ Almanac 1974*, 30th ed. (Washington, DC: Congressional Quarterly, 1975), 571–586; *Cong. Rec.*, 10 Jun 1974, 18483–18504. James Lindsay, *Congress and Nuclear Weapons* (Baltimore: John Hopkins University Press, 1991), 57 (quote).

11. Schlesinger, *Annual Defense Department Report, FY 1976 and FY 197T*, II-20–II-25; Rumsfeld, *Annual Defense Department Report, FY 1977*, 80; SCAS, *Fiscal Year 1977 Authorization for Military Procurement, Research and Development, and Active Duty, Selected Reserve and Civilian Personnel Strengths: Hearings*, 94th Cong., 2nd sess., 4 May 1976, pt. 13:7183; minutes, Defense Review Panel Meeting, 7 Apr 1976, *FRUS 1969–1976*, 35:311–319 (doc 76) (quote, 317).

12. House Committee on Appropriations (HCA), *Views and Estimates on the Budget Proposed for Fiscal Year 1977*, 94th Cong., 2nd sess., 15 Mar 1976, 10; *Supplemental Appropriations and Budget Amendments for the Department of Defense–Military*, 94th Cong., 2nd sess., House Doc 94-472, 27 Apr 1976; ltr, Representative Jack Kemp et al. to Ford, 10 Mar 1976, folder Minuteman 1976, box 75, Acc 330-79-0049, OSD Records, WNRC.

13. HCA, *Department of Defense Appropriations for 1977: Hearings*, 94th Cong., 2nd sess., 30 Apr 1976, pt. 8:1–32; SCAS, *Fiscal Year 1977 Authorization for Military Procurement, Research and Development, and Active Duty, Selected Reserve and Civilian Personnel Strengths: Hearings*, 94th Cong., 2nd sess., 4 May 1976, pt. 13:7182–7183; "Congress Approves $104.3 Billion Defense Bill," *CQ Almanac 1976*, 32nd ed. (Washington, DC: Congressional Quarterly, 1977), 762–780; Brendan Green and Austin Long, "The Geopolitical Origins of US Hard-Target-Kill Counterforce Capabilities and MIRVs," in Michael Krepon, et al., ed., *The Lure & Pitfalls of MIRVs: From the First to the Second Nuclear Age* (Stimson Center, May 2016), 23; memo, Rumsfeld for Ford, 11 Dec 1976, folder Minuteman 1976, box 75, Acc 330-79-0049.

14. George Baer, *One Hundred Years of Sea Power: The U.S. Navy, 1890–1990*, 352–359; Freedman, *The Evolution of Nuclear Strategy,* 336–337. Kissinger, *Years of Renewal,* 252; Schlesinger, interview by Alfred Goldberg and Maurice Matloff, 28 May 1991, OSD/HO, 29; Strategic Systems Program, FBM Weapon System 101, Ssp.navy.mil/fb101/submarines.html.

15. Spence Rich, "Senate Backs Nixon in Vote on New Sub," *Washington Post,* 28 Sep 1973, P-1; The Polaris A3 and Poseiden had an approximate range of 2,500 nautical miles, the Trident I had an approximate of 4,000 NM range, and the Trident II, still in operation, [redacted]. Strategic Systems Program, FBM Weapon System 101, Ssp.navy.mil/fb101/themissiles.html; Graham Spinardi, *From Polaris to Trident: The Development of US Fleet Ballistic Missile Technology* (New York: Cambridge University Press, 1994), 121. Schlesinger interview, 28 May 1991, 28–29. See also Douglas Dalgleish and Larry Schweikart, *Trident* (Carbondale, IL: Southern Illinois University Press, 1984).

16. Dalgleish and Schweikart, *Trident*, 56; SCAS; *FY 1974 Authorization for Military Procurement, Research and Development*, *Construction Authorization for the Safeguard ABM, and Active Duty and Selected Reserve Strengths*, 93rd Cong., 1st sess., pt. 2:627, 661, 680–681, 692–693; John Finney, "Senate Unit Cuts Trident Program," *New York Times*, 11 Jul 1973, 1.

17. Schlesinger (quote), "Remarks at Swearing-In Ceremony for Gen. George S. Brown, Chief of Staff, U.S. Air Force, Pentagon," 1 Aug 1973, *Schlesinger Public Statements*, 2:558; Elmo Zumwalt, *On Watch: A Memoir* (New York: Quadrangle Books, 1976), 159; John Finney, *New York Times,* 3 Aug 1973, 59 (McIntyre quote); Dalgleish and Schweikart, *Trident*, 64,

18. "Schlesinger Tries Quiet Persuasion to Avert Defense Budget Slashes," *Washington Post,* 28 Sep 1973, P-2.

19. BG Taylor Notebook, entry for 24 Sep 1973, folder 020 SD (31 Dec 73), box 7, Acc 330-78-0001, OSD Records, WNRC; Zumwalt, *On Watch*, 160–163; Shirley Elder, "Trident Funds Approved," *Washington Star,* 27 Sep 1973, 28 (Jackson quote).

20. "Pentagon Limits Press on Sub Issue Interviews," 27 Sep 1973, *Washington Post,* P-8.

21. Zumwalt, *On Watch*, 160–163; John Finney, "Senate Votes Cut of 110,000 Troops Overseas by 1976," *New York Times*, 28 Sep 1973, 1, 12. Schlesinger interview, 28 May 1991, 29.

22. BG Taylor Notebook, entry for 25 Oct 1973, folder 020 SD (31 Dec 73), box 7, Acc 330-78-0001.

23. John Finney, "House Panel Cuts Defense Budget," *New York Times*, 27 Nov 1973, 18; Michael Getler, "House Panel Cuts Budget for Military," *Washington Post*, 13 Nov 1973, 1, 7; Dalgleish, *Trident*, 63–65.

24. Schlesinger, *Annual Defense Department Report FY 1975*, 59; Spinardi, *From Polaris to Trident*, 122; "$22.2 Billion Authorized for Weaponry," in *CQ Almanac 1974*, 30th ed., 571–586; "Congress Sends Ford $82.6-Billion Defense Bill," in *CQ Almanac 1975*, 30th ed., 41–49.

25. Eric Mlyn, *The State, Society, and Limited Nuclear War*, 106; Graham Spinardi, "Why the U.S. Navy went for Hard-Target Counterforce in Trident II (And Why it Didn't Get There Sooner)," *International Security* 15, no. 2 (Fall 1990): 168–169; SCAS, *Fiscal Year 1975 Authorization for Military Procurement, Research and Development, and Active Duty, Selected Reserve and Civilian Personnel Strengths: Hearings*, 93rd Cong., 2nd sess., 1 Apr 1974, pt. 6:3288, 3292

26. MacKenzie, *Inventing Accuracy*, 270, 283–284, 287 (quote); Spinardi, "Why the U.S. Navy," 173–174 (quote); Schlesinger, 28 May 1991, 29 (quote); Spinardi, *From Polaris to Trident*, 147 (quote); Fen Osler Hampson, *Unguided Missiles: How America Buys Its Weapons* (New York: W.W. Norton, 1989), 105; James Lindsay, *Congress and Nuclear Weapons* (Baltimore: John Hopkins University Press, 1991), 72; "$22.2-Billion Authorized for Weaponry," in *CQ Almanac 1974*, 30th ed., 571–586; "Military Procurement: $25.5-Billion Provided," in *CQ Almanac 1975*, 31st ed. (Washington, DC: Congressional Quarterly, 1976), 365–379; "Congress Backs Ford on Arms Procurement," in *CQ Almanac 1976*, 32nd ed., 275–293; SCAS, *Fiscal Year 1978 Authorization for Military Procurement, Research and Development, and Active Duty, Selected Reserve and Civilian Personnel Strengths: Hearings*, 95th Cong., 1st sess., 25 Jan 1977, pt. 1:132; SCAS, *Department of Defense Authorization for Appropriations for Fiscal Year 1979: Hearings*, 95th Cong., 2nd sess., 9 Feb 1978, pt. 2:1037.

27. House Committee on Armed Services (HCAS), *Hearings on Military Posture and H.R. 5068, Department of Defense Authorization for Appropriations for Fiscal Year 1978*, 95th Cong., 1st sess., 8 Feb 1977, HASC No. 95-4, pt. 3:732; SCAS, *Department of Defense Authorization for Appropriations for Fiscal Year 1985: Hearings*, 98th Cong., 2nd sess., 13 Mar 1984, pt. 7:3426; Owen Cote, "The Trident and the Triad: Collecting the D-5 Dividend," *International Security* 16, no. 2 (Autumn 1991): 128.

28. Richard Davis, "Background Papers on Political Histories of Major Aircraft Programs: Rockwell B–1 and B–1B Bomber," Air Force History Support Office, 29 Jun 1999. Stephen Budiansky, *Air Power,* 397.

29 [ ] "B–1," attachment to "Systems Subjects," n.d. [1973], folder 020 DoD X-0898, box 1, Acc 330-78-0002; Richard Davis, "Background Papers on Political Histories of Major Aircraft Programs: Rockwell B–1 and B–1B Bomber," 29 Jun 1999; SCA, *Department of Defense Appropriations for Fiscal Year 1974: Hearings*, 93rd Cong., 1st sess., 27 Jun 1973, pt. 4:706, 709; "Congress Clears $73.7-Billion Defense Appropriation" in *CQ Almanac 1973*, 29th ed. (Washington, DC: Congressional Quarterly, 1974), 167–177.

30. Memo, DASD(Strategic Programs) E.C. Aldridge for DDR&E Malcolm Currie, et al., 24 Apr 1974, folder 452 B–1 (Jan–Apr) 1974, box 47; Joint Strategic Bomber Study, vol. I, Sep 1974, folder 452 X-3478 (1 Sep 74), box 46: both in Acc 330-78-0011, OSD Records, WNRC.

31. "Congress Sends Ford $82.6-Billion Defense Bill," in *CQ Almanac 1974*, 30th ed., 41–49 (quote).

32. Marvin Miles, "B-1 Bomber Rolls Out to an Uncertain Future," *Los Angeles Times*, 27 Oct 1974, 3; Nick Kotz, *Wild Blue Yonder*, 118 (quote); Remarks at Rollout Ceremony, 26 Oct 1974, *Schlesinger Public Statements 1974*, 9:2911 (quote), 2913 (quote); Frank Donnini, *Battling for Bombers: The U.S. Air Force Fights for Its Modern Strategic Aircraft Programs* (Westport, CT: Greenwood Press, 2000), 52 (quote). BG Taylor Notebooks, entry for 25 Apr 1974, folder 020 SD (31 Dec 1974), box 7, Acc 330-78-0001; Nick Kotz, *Wild Blue Yonder: Money, Politics, and the B-1 Bomber* (New York: Pantheon Books, 1998), 118–119.

33. OASD(PA), 25 Oct 1974, folder 452 B-1 (May-Dec) 1974, box 47; PBDs 95, 21 Nov 1974, and 95C2, 10 Jan 1975, folder 110.01 Decisions (PBD #90-140) (31 Dec 74), box 16: all in Acc 330-78-0011; MG Wickham Notebook, entries for 6, 12 and 14 Dec 1974, Schlesinger Papers,

Library of Congress; Michael Brown, *Flying Blind: The Politics of the U.S. Strategic Bomber Program* (Ithaca, NY: Cornell University Press, 1992), 260–261.

34. HCA, *Department of Defense Appropriations for 1976: Hearings*, 94th Cong., 1st sess., 27 Feb 1975, pt. 1:234; memo, Leonard Sullivan for Schlesinger, 8 Jan 1975; memo, Director, Cost & Economic Analysis Milton Margolis for Air Force Comptroller Lt. Gen. Joseph DeLuca, 27 Jan 1975; memo, Sullivan for McLucas, 28 Jan 1975; memo, Col. Perry Smith for Clements, 22 Jul 1975: all in folder 452 B–1 1975, box 48, Acc 330-78-0058; Brown, *Flying Blind*, 260–262.

35. Ltr, Senator McIntyre to Schlesinger, 14 Mar 1975; ltr, Schlesinger to Senator McIntyre, 9 Apr 1975: both in folder 452 B–1 1975, box 48, Acc 330-78-0058.

36. John Finney, "Conferees Back Arms Fund Rise," *New York Times*, 26 Jul 1975, 1, 11; "$90.5-Billion Defense Funding Bill Approved," in *CQ Almanac 1975*, 31st ed., 873–887 (quote). Brown, *Flying Blind*, 260–262.

37. Rumsfeld, interview with Copley Group, 19 Apr 1976, *Public Statements of Donald H. Rumsfeld, Secretary of Defense, 1975–1977*, OSD Historical Office, 5:1902; Norman Kempster, "B-1 Bomber Piloted by Rumsfeld," *Los Angeles Times,* 20 Apr 1976, 3.

38. SCA, *Department of Defense Appropriations for Fiscal Year 1977: Hearings*, 94th Cong., 2nd sess., 2 Feb 1976, pt. 1:73; John Finney, "Ford and Congress Clash Over Military Funds and B–1 Bomber," *New York Times*, 22 Jul 1976, 6; Finney, "Conferees Agree on Defense Fund," *New York Times*, 2 Sep 1976, 22; "Congress Approves $104.3-Billion Defense Bill," in *CQ Almanac 1976*, 32nd ed., 762–780.

39. Memo, Thomas Reed for DSARC Principals, 7 Oct 1976; memo, DASD (Material Acquisition) Jacques Gansler for Clements, 11 Nov 1976; memo, Rear Adm. Staser Holcomb for Scowcroft, 8 Nov 1976; memo, Dir, P&E for Rumsfeld, et al., 19 Nov 1976; memo, John B. Walsh for Rumsfeld, 30 Nov 1976: all in folders 452 B–1 (Jul-Oct and Nov-Dec) 1976, box 52, Acc 330-79-0049; memo, DepSecDef Ellsworth for Rumsfeld, 2 Dec 1976; memo, Dep Dir, T&E Walter Lotz for Rumsfeld, 2 Dec 1976: both in folder 452 B–1 (Nov-Dec) 1976, box 52, Acc 330-79-0049; Donald Rumsfeld, *Annual Defense Department Report FY 1978*, 134–135; PBD 291, 21 Jan 1977, folder 110.01 Decisions 1976, box 18, Acc 330-79-0049.

40. Rumsfeld, *Known and Unknown,* 240.

41. James Schlesinger, "The Changing Environment for Systems Analysis," in E.S. Quade and W.I. Boucher, *Systems Analysis and Policy Planning: Applications in Defense*, 364–387 (quote, 375).

42. Memo, Schlesinger for McLucas, 13 Aug 1973, folder 100.54 2 (24 Aug 1973), box 14, Acc 330-78-0001; Walter F. LeCates, "Trends in Strategic Air Defense and the Future," Air War College, Maxwell AFB, Montgomery, AL, Apr 1976, 5; attachment to memo, Sullivan for Schlesinger, 28 Jun 1974, folder 320.2 Strategic (X-1984) 28 Jun 1974, box 1, Acc 330-78-0010.

43. OASD (SA), Book III Issues, 21 Feb 1973, folder 020 DOD (X098) 7 Mar, box 1, Acc 330-78-0002; memo, Schlesinger for McLucas, 13 Aug 1973; Appendix A to memo, Schlesinger for McLucas, 13 Aug 1973: both in folder 100.54 2 (24 Aug 1973), box 14, Acc 330-78-0001.

44. Memo, McLucas for Schlesinger, 22 Aug 1973; Annex to Appendix A, memo, Vice Director, Joint Staff Major General Martin G. Colladay for Schlesinger, 21 Aug 1973 (quote): both in

folder 100.54 (21 Aug-31 Aug) 1973, box 14, Acc 330-78-0001; Poole, *Joint Chiefs of Staff and National Policy 1973–1976*, 50.

45. BG Taylor Notebook, entry for 27 Aug 73, folder 020 SD (31 Dec 73), box 7; Notes on SecDef Review of Major Program Issues, n.d. [Aug 1973], folder 100.54 (21 Aug–31 Aug) 1973, box 14: both in Acc 330-78-0001.

46. SCAS, *Fiscal Year 1975 Authorization for Military Procurement, Research and Development, and Active Duty, Selected Reserve and Civilian Personnel Strengths: Hearings*, 93rd Cong., 2nd sess., 5 Feb 1974, pt. 1:7, 73, 117 (quote),

47. Poole, *Joint Chiefs of Staff and National Policy 1973–1976*, 50; General George Brown, "United States Military Posture for FY 1976," 4 Feb 1975 (quote, 75), folder 110.01 Hearings 1975, box 1, Acc 330-78-0059, OSD Records, WNRC.

48. Center for Military History, *Department of the Army Historical Summary: FY 1974*, www.history.army.mil/books/DAHSUM/1974/ch02.htm, accessed 8 Sep 2016; Center for Military History, *Department of the Army Historical Summary: FY 1975*, www.history.army.mil/books/DAHSUM/1975/ch02.htm, accessed 8 Sep 2016; HCAS, *Hearings on Military Posture and H.R. 11500 Department of Defense Authorization for Appropriations for Fiscal Year 1977*, 94th Cong., 2nd sess., 17 Jan 1976, HASC No. 94-33, pt. 1:121; James Schlesinger, "Uses and Abuses of Analysis," in Schlesinger, *Selected Papers on National Security, 1964–1968*, 113 (quote).