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NUCLEAR ALERT AFTER THE COLD WAR

by

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Post-Cold War arms control and disarmament initiatives have left the impression that strategic nuclear forces have assumed a lower alert status, thereby increasing the stability of superpower relations.^{1*} The elimination of bomber alert announced by President Bush on 27 September 1991 and the stand-down of Minuteman II intercontinental missiles (ICBMs) received attention as symbols of the end of Cold War because the President himself said his purpose was "to further reduce tension."² "It will make the world a safer place," Secretary of Defense Dick Cheney said of the initiatives the next day.³

Presidents Gorbachev and Yeltsin responded positively to these and other unilateral initiatives. Yeltsin and Bush met at Camp David in June 1992 and agreed that the United States and Russia were no longer adversaries. Subsequently Yeltsin announced that Russian nuclear forces no longer targeted U.S. cities. Russian Defense Minister Grachev announced that Russian bombers were no longer mated with their nuclear weapons; Russian ballistic missile submarines almost ceased patrols altogether (according to the Defense Department, Russia has only a single SSBN on patrol at this time).⁴

Since the announcements in late 1991 and early 1992, almost no additional information has actually described the real status of U.S. nuclear forces. In fact, a common assumption is that U.S. and Russian forces have ceased their Cold War practices. This is not the true picture. While almost a thousand nuclear warheads were eliminated from alert as part of the September 1991 initiative, and more still have been removed with the retirement of older nuclear systems, the remaining force has increased its alert level to take up the slack.

Today, U.S. strategic nuclear forces maintain a routine alert level of some 3,400 warheads on MX and Minuteman III intercontinental ballistic missiles (ICBMs), and submarine launched ballistic missiles (SLBMs) able to strike targets throughout the former Soviet Union.⁵ This compares with an estimated day-to-day alert level of 5,000 warheads in 1985, a number that remained consistent through 1991.⁶ The fewer number of warheads on alert today reflects reductions in the overall strategic nuclear force and the removal of bombers and Minuteman IIs from alert posture. But overall, the ballistic missile submarine (SSBN) force began to increase its alert levels in 1989, and has subsequently maintained levels exceeding the Reagan years, a higher level of force readiness than any time since 1969. The fact is that while the size of the strategic nuclear force has declined by one-third (from 12,000 warheads in 1985 to 8,000 in 1993), the portion of the total on alert has remained as high as ever (41-43 percent of the force).

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"With respect to the submarine force," Chairman of the Joint Chiefs General Colin Powell said the day after President Bush announced that bombers would be removed from alert, "there is no

change."⁷ But new data released by the Navy under the Freedom of Information Act indicates that the level of alert for the ballistic missile submarine force actually increased.⁸ As bombers and Minuteman II ICBMs came off alert, a shrinking submarine force increased its patrol rates in order to compensate for the number of "lost" warheads.

It is not the case that the Navy has been acting contrary to U.S. policy. In June 1992, speaking before the Naval Submarine League, Vice Admiral H.G. Chiles, commander submarine forces, Atlantic Fleet, equated increased submarine force readiness with the bombers coming off alert: "In the day-to-day forces in place, the SSBNs now shoulder more of our country's strategic deterrence responsibility."⁹ Three months earlier, a Navy spokesman stated in a Congressional hearing that the end of the Cold War had not yet resulted in reduced submarine alert rates: "Those decisions on deployment and targeting issues are way above the pay grade here."¹⁰

The Navy spokesman was referring to the United States nuclear war plan -- the Single Integrated Operational Plan (SIOP) -- the primary driver that determines alert and readiness levels in the strategic nuclear force. While the overall size of U.S. forces has declined and target selection and damage criteria has been altered with the end of the Cold War, the fundamental nuclear policies regarding readiness for nuclear war and nuclear doctrine have remained unchanged. In fact, with routine implementation of the new war plan -- SIOP 94 -- on 1 October 1993, the Clinton Administration continues with a nuclear force governed by Reagan Administration presidential guidance.

As a sign of potential change, Secretary of Defense Les Aspin signed the "Terms of Reference" for a comprehensive "Nuclear Posture Review" at the same time that SIOP 94 went into effect. But until this review is completed (scheduled for March 1994), Clinton nuclear policy remains National Security Decision Directive 13 ("Nuclear Employment Policy"), signed in October 1981.

Status of the Nuclear Submarine Force

The current nuclear-powered ballistic missile submarine (SSBN) force consists of 13 Trident and six Poseidon submarines.¹¹ Of the Trident submarines, eight of the vessels are equipped with the Trident I C4 missile, operate in the Pacific, and are based at Bangor, Washington. The other five are equipped with the Trident II D5 missile and operate in the Atlantic, deployed at Kings Bay, Georgia. The older Poseidon submarines are equipped with Trident I C4 missiles and are deployed at Charleston, South Carolina (all Poseidons will be retired in 1995).¹²

The amount of time the SLBM force spends at sea is called its operating tempo. Normally about one-third of the operational submarines are on full alert, meaning that they are at their stations, points in the oceans where they are within range of their targets and could fire their missiles within minutes after receiving an order. Another third are in "modified alert," that is, in transit to or from their designated areas. They are still capable of launching their missiles but in most cases, it would take a matter of hours to reach their assigned launch areas.¹³ The remaining third are preparing for

another 60- to 70-day patrol (deployment) at sea.¹⁴ To maintain the high at-sea rate of each individual submarine, each is assigned two crews (a "Blue" crew and a "Gold" crew).

The history of submarine patrols, the number of patrols per year, the size of the submarine force, average patrols per submarines and patrol rate (percent of the year a submarine spends at sea) are displayed in the accompanying tables. From November 1960 to July 1, 1993, the ballistic missile submarine fleet completed a total of 3,080 patrols, conducted by a total of 53 submarines of three classes: 10 Washington-class Polaris boats, 31 Lafayette-class Poseidon and Trident I-"backfit" boats, and 12 Ohio-class Trident vessels. According to the new Navy data, the percentage of the year the SSBN fleet spent at sea has increased from 40-47 percent in the 1970s and 1980s to rates as high as 58 percent in 1992. (Because of the retirement of a large number of SSBNs in late 1991, the patrol rate that year -- 71 percent -- is a statistical anomaly.)

The United States has maintained its fleet of SSBNs at high levels of readiness, poised (as they have been for more than three decades) for instant nuclear attack. Despite the Clinton Administration's lack of action on this matter, Congressional interest has been expressed in reducing the alert rate of strategic submarines as a cost saving measure. The Congressional Budget Office (CBO) estimates that halving the patrol rate of an 18-Trident submarine force (from a nominal 12 to six submarines on alert at any time) would save \$300 million annually and \$4.5 billion through 2010.¹⁵ The House Armed Services Committee, as part of the fiscal 1994 defense budget review, called for the "operating tempo" to be reevaluated, with an initiative to reduce funding authorizations by \$100 million. The Navy and the Office of the Secretary of Defense lobbied strenuously to remove such a legislative restriction, arguing on cost grounds that there would be little savings, and that there would not be enough port space for additional submarines to come home.¹⁶ No final action has yet been taken in the FY 1994 budget.¹⁷

Nuclear Strategy at the end of the Cold War

In November 1988, one year prior to the fall of the Berlin wall, the Strategic Air Command (SAC) completed the most extensive revision of the strategic nuclear war plan -- the SIOP -- in a decade. The new plan incorporated more flexible targeting capabilities,¹⁸ but also reevaluated damage and target selection criteria in light of the significantly reduced projection of U.S. and Soviet force growth in the late 1980s. Given the collapse of the Warsaw Pact soon thereafter, and ongoing reductions in the Soviet arsenal, some 20 percent of strategic targets (2,500 of 12,500 individual sites)¹⁹ were trimmed from the SIOP. This was done as part of the routine annual revision of nuclear targeting, without any new national guidance.

In 1989, Secretary Cheney directed a "historic and unprecedented" 18-month review of strategic targeting (called the "SIOP Targeting Review"),²⁰ a review that was "separate and apart from the annual review . . ." ²¹ A joint DOD, JCS, and Defense Intelligence Agency (DIA) working group evaluated "network analysis" and targeting selection criteria, ultimately eliminating much layering and redundancy in target destruction that had crept into the plan over the years.²² The Review further reduced the number of warheads called for in various attack options, trimmed targets

in the "leadership" and "conventional military" sets, and deleted hundreds of SIOP targets located in Eastern Europe.²³ The result was the elimination of another 20 percent of the earmarked targets (2,000 of 10,000 sites).

As a revised SIOP was being implemented, the outline of future U.S. and Soviet strategic force structures was also taking shape in the START negotiations. But less than three weeks after the Treaty was signed on the last day of July 1991, the attempted August coup occurred in the Soviet Union, and President Bush directed an "urgent reassessment" of the U.S. nuclear posture.²⁴ General Lee Butler, commander of SAC (and now commander of the newly formed Strategic Command) stated at that time that his targeters had already "modified target sets and requirements." The limit of 3,000 warheads anticipated in START, he said, "would require different guidance because you couldn't cover today's target set according to today's weapons rules."²⁵ Butler was referring to layered targeting of hardened launching silos and underground shelters, accounting for almost one-third of the total of 4,800 "aim points" in the most aggressive retaliatory option.²⁶

The "urgent reassessment" resulted in a sweeping set of unilateral initiatives (called Presidential Nuclear Initiatives I, or PNI I) announced on 27 September. Amongst a number of moves to radically alter the nuclear force structure, PNI I removed U.S. strategic bombers and Minuteman II ICBMs (those slated for elimination under START over a seven year period) off alert status. Secretary Cheney called PNI I "the single biggest change in the deployment of U.S. nuclear weapons since they were first integrated into our forces in 1954."²⁷

After President Gorbachev responded with comparable Soviet initiatives on 5 October, the disarmament tempo slowed,²⁸ and strategic targeting started to be revised to catch up with the changes. A new SIOP was implemented in October 1991, but given the unilateral initiatives and the rapid changes going on in the Soviet Union, it was instantly apparent that further reductions in targets would have to be made to remove hundreds located in the newly independent republics, to adjust for significant changes in the nature of targets in the "leadership" set, and to account for the ongoing drawdown of forces.

President Bush offered a second set of initiatives (PNI II) in his State of the Union message in January 1992. The president cancelled several nuclear weapon programs and called on the new Commonwealth of Independent States to reciprocate, while proposing a scheme for the elimination of all MIRVed ICBMs. The next day President Yeltsin responded positively. Discussions were soon initiated to make more concrete the accumulated details of PNIs I and II.

In February 1992, Secretary Cheney established a Defense Policy Board (DPB) Task Force to examine the future of U.S. nuclear forces. The Task Force, headed by Fred Hoffman, was to provide the foundation for revising the national level guidance contained in the Reagan Administration's NSDD-13 of 1981 (the Task Force would provide "independent, informed advice and opinion concerning matters related to U.S. nuclear policy" according to its Terms of Reference).

When Presidents Bush and Yeltsin met in Washington the week of 15 June 1992, they

resolved the outstanding questions that had stymied preparatory work done by Secretary of State Baker and Foreign Minister Kozyrev. The outcome was the Joint Understanding (the Washington Summit Agreement), which agreed to eliminate all MIRVed ICBMs, and introduced dramatically reduced force levels. The concept of "one-for-one parity" -- which Cheney called "a relic of the Cold War"²⁹ -- was eliminated as a requirement of further negotiations, with a range of 3,000-3,500 strategic nuclear weapons agreed to as the reduction goal in START II by the year 2003 at the latest.

A forty percent reduction in targets had already occurred in the SIOP 92 cycle (3,200 of 8,000 sites), to include further drawdowns of non-Russian and now-disarmed targets, as well as the elimination of many targets related to the Soviet Union's former conventional power projection capabilities, that is, threats to Europe or Asia.³⁰ While SIOP 93 was in preparation, General Powell stated in mid-1992 that it would "reduce the target base already shrunken by the collapse of the former Soviet Union."³¹ According to General Powell, "When we compared the level of damage against the smaller target base that results from the START reductions, we determined that our modern, more capable weapons systems will allow us to maintain approximately the same levels of damage and target coverage that we can achieve today."³² The post-START reevaluation also included further justification for higher alert levels for SSBNs, to maintain a "credible secure reserve force" after a nuclear war.³³

Third World Planning and the Submarine Force

With the election of Bill Clinton in November 1992, nuclear policy-making at the national level came to a halt. The Hoffman Task Force had completed its report in the fall, and briefed their conclusions to Under Secretary of Defense Paul Wolfowitz in October. But at that time the Bush Administration was in the midst of a losing election campaign, and the report's observations were never translated into policy. Secretary of Defense Les Aspin undertook a "bottom up review" of U.S. forces upon taking office, but even that review deferred consideration of nuclear matters until completion of a separate "Nuclear Posture Study."

In February 1993, barely one month into the new administration, General Butler, now STRATCOM commander, said that, "Our focus now is not just the former Soviet Union but any potentially hostile country that has or is seeking weapons of mass destruction."³⁴ Butler reported to Congress in April that his command had established a new global-oriented Joint Intelligence Center, a center that would "monitor forces and analyze targets . . . to assess from STRATCOM's operational perspective the growing threat represented by the global proliferation of weapons of mass destruction." STRATCOM, Butler said, at the behest of General Powell, was "working with selected regional Unified Commands to explore the transfer of planning responsibilities for employment of nuclear weapons in theater conflicts."³⁵ Under such a scheme STRATCOM would be the sole global targeter.

"However warm our relations might grow with the new former-Soviet republics," Colin Powell told a Navy audience on 25 April 1992, "however close our friendship becomes -- we will always, always place our faith in our boomers [SSBNs], and not in anything else." Powell was the

honored speaker at a ceremony in King's Bay, Georgia, to commemorate the return of the USS *Tennessee* (SSBN 734) from the 3,000th ballistic missile submarine patrol.³⁶ Powell of course was aware of the heightened role of the submarine force at the end of the Cold War, a force that not only had increased its patrol rate, but was acquiring new and expanded targeting roles outside of the former Soviet Union-oriented SIOP.

The genesis of Trident's nuclear role against potential adversaries other than the former Soviet republics remains a mystery. National Security Decision Directive 178, signed by President Reagan in July 1985, and dealing with strategic forces and policy, has been referred to in Navy testimony to Congress as the justification for expanding the targeting capability of the newer submarines. Testifying before Congress on 11 May 1993, Rear Admiral John T. Mitchell, U.S. Navy Director of Strategic Systems Programs, discussed the SLBM Retargeting System (SRS):

The SRS is in response to National Security Decision Directive 178 and is being implemented in three phases between 1992 and 1998. The objective is to provide increased SLBM retargeting capability, thus enhancing the flexibility of the nation's sea based deterrent. Three improvements will be made: to the fire control system to quickly, accurately, and reliably retarget missiles to targets; to the SSBN radio room to transfer targeting change information to the fire control system; and at the Naval Surface Weapons Center, Dahlgren to allow timely and reliable processing of an increased number of targets. In a world of more diffuse threats than those imagined even five years ago, this is both an important and timely investment.³⁷

In other words, the submarine force, at continued high alert rates, would be able to target new U.S. government adversaries (those capable of, or developing "weapons of mass destruction" according to Secretary Cheney's post-Gulf War nuclear weapons employment policy guidance to the Joint Chiefs), and assume primary responsibility for nuclear war planning against China, a role previously assigned almost exclusively to the B-52 bomber force.³⁸

In February 1992, Secretary Cheney reported to Congress that "the possibility that Third World nations may acquire nuclear capabilities have led the Department to make adjustments to nuclear and strategic defense forces **and to the policies that guide them.**"³⁹ The 1992 *National Military Strategy*, released in January, also addressed the global role of nuclear weapons:

Detailed target planning is done to enhance responsiveness and to provide options. Specific target selection and the alert status of the force are functions of **the world situation** at any particular point in time.⁴⁰

General Butler told Congress in April that, "the JSTPS [Joint Strategic Target Planning Staff] is working hard to develop a more flexible and adaptive planning process, one that will accommodate a world in which nuclear threats to our vital security interests are evolving in scope, diversity and potential."⁴¹

In August 1992, it was reported that Butler's command had already established "adaptive targeting" capabilities "to re-aim land-, sea- and aircraft-based strategic nuclear weapons at new targets within 30 to 40 minutes."⁴² The Defense Department, in a written response to questions posed by the newsletter *Inside the Air Force* in August, stated that "Nuclear weapons will...play an

increasingly important political and deterrent role against the increasing number of nations in possession of -- or seeking to acquire -- weapons of mass destruction.⁴³

In 1993, Butler could report that STRATCOM was "developing a flexible, adaptive operational planning capability that will be more responsible to the potential for spontaneous threats that defy precise preplanning. This will provide senior decision makers with an array of options to apply in acute crises requiring a prompt, exacting response."⁴⁴ Butler's initiative, in response to the vague post-Gulf War Defense Department guidance, was given a further boost in one of the Secretary's final reports to Congress, *Defense Strategy for the 1990s: The Regional Defense Strategy*:

In the decade ahead, we must adopt the right combination of deterrent forces, tactical and strategic, while creating the proper balance between offense and active defense to mitigate risk from weapons of mass destruction and their means of delivery. For now this requires retaining ready forces for a survivable nuclear deterrent, including tactical forces. In addition, we must complete needed force modernization and upgrades.⁴⁵

STRATCOM planners had already embarked on the compilation of prospective new targets outside the former Soviet Union and China, and began to evaluate new weapons requirements, conventional and nuclear, that would be appropriate for the Third World contingencies.

In June 1993, Rear Admiral Mitchell told the Naval Submarine League that Navy planners were now looking at new missions for Trident missiles and submarines to target non-former Soviet adversaries. Among the possibilities being evaluated was development of a conventional warhead for the Trident II missile, a single warhead nuclear version able to conduct more discriminating attacks, and development of a new smaller missile.⁴⁶ Vice Admiral William A. Owens, deputy chief of naval operations, also told the Naval Submarine League that placing Tomahawk sea-launched cruise missiles on Trident submarines, particularly if arms control reduced the number of missiles and thus left "empty holes," was a feasible option.⁴⁷

When the increased attention of STRATCOM to nuclear planning outside the former Soviet Union was first widely revealed in February 1993, White House officials said that they were "too busy" with other pressing matters in the first five weeks in office to review the initiatives.⁴⁸ Ironically, a number of voices were heard, particularly among the very Navy planners responsible for Trident, expressing skepticism about the deterrence function against Third World foes. "The nuclear deterrent is just not credible, I believe, in the Third World," Rear Admiral Thomas Ryan, director of the Navy's submarine warfare division, said.⁴⁹ Yet the new administration offered no new guidance to STRATCOM and the service nuclear planners vis-a-vis the expanded roles; their focus on non-proliferation, however, was seen by nuclear advocates, according to Defense Department sources, as enough justification and impetus for the creation of new "options."

On 1 April, President Clinton was blindsided during the Vancouver summit with President Yeltsin when the Russian President publicly raised as one of three "irritants" in superpower relations, continued covert U.S. attack submarine patrols near Russian waters, particularly after a

recent U.S.-Russian collision.⁵⁰ Clinton would ultimately direct that U.S. attack submarine operations be revised, and Secretary of Defense Aspin announced in June that changes had been made in procedures after a rapid study by the Joint Chiefs.⁵¹ The event exemplifies the autonomous operations of secretive and sensitive elements of the U.S. military and the inattention of the civilian leadership, as well as the extraordinary stimuli needed to change old Cold War practices.

1. Alert status refers to the readiness of nuclear forces to be employed. For ICBMs, it refers to the level of day-to-day operations (e.g., those missiles not under repair or involved in testing or modification). For bombers, it means those aircraft loaded with nuclear weapons and sequestered in special alert areas on air bases with their crews. For submarines, it means those at sea (on "patrol").
2. Address by President George Bush to the nation from the White House, 27 September 1991.
3. DOD News Briefing, Saturday, September 28, 1991, 10:00 AM, p. 1.
4. "No new subs," *Aviation Week & Space Technology*, 23 November 1992, p. 25.
5. This is calculated as a 90 percent alert rate for 50 MX missiles with 10 warheads each and 500 Minuteman III missiles with three warheads each, and nine SSBNs on patrol (seven Ohio-class and two older Poseidon-class).
6. This is calculated as a 90 percent alert rate for 550 Minuteman III missiles with three warheads each, and 450 Minuteman II missiles with one warhead each; 400 bomber weapons on ground alert on approximately 40 bombers; and 16 SSBNs on patrol (two Ohio-class, five Poseidon backfits, and nine older Poseidon-class). It is important to note that the submarine force in 1985 numbered 37 vessels, while in June 1993, it was 21.
7. DOD News Briefing, Saturday, September 28, 1991, 10:00 AM, p. 7.
8. Letter, Department of the Navy, to Greenpeace, 16 July 1993.
9. Address to NSL [Naval Submarine League] Tenth Annual Symposium, 10 June 1992, in *Submarine Review*, October 1992, p. 13.
10. Captain David S. Bill, Director, Surface Combat Systems Division, Office of the Chief of Naval Operations, before the House Appropriations Committee on the DOD FY 1993 Budget, 25 March 1992 (HAC, FY 1993 DOD, Part 5, p. 255).
11. The thirteenth Trident, USS *Maryland*, was commissioned 13 June 1993.
12. A total force of 18 Trident submarines is planned by the end of 1997; eight in the Pacific with the Trident I missile, and ten in the Atlantic with the Trident II. The 18-sub fleet represents a reduction compared with the Navy's earlier plans for 20-25 Trident boats (President Bush announced in 1991 that the U.S. would halt production after the 18th).
13. According to Colin Powell, "Roughly two-thirds of our submarine fleet is in a condition of alert. One-third actually on alert, another third moving in transit to alert status. So we consider them alert because they are at sea and survivable and could be assigned targets. So the most survivable part of our fleet remains on alert with roughly two-thirds of our assets on alert at any one time;" DOD News Briefing, Saturday, 28 September 1991, 10:00 AM, p. 7.
14. The new Navy data indicates that the traditional portrayal of one-third of the "force" on alert is overstated. The data reveals that such a portrayal is true only if the submarines in overhaul are not counted. When the entire fleet is counted, the rates are much lower than two-thirds on patrol.
15. CBO, *Rethinking the Trident Force*, July 1993.
16. "Navy pushes Congress to remove language cutting Trident OPTEMPO," *Inside the Navy*, 16 August 1993.
17. The Navy, ironically, is already taking internal steps to increase the overall lifetime of its newest Trident II-equipped submarines in the fleet (now considered the most important asset in the strategic nuclear arsenal), by lengthening the scheduled refit periods and shortening the patrols; Vice Admiral H.G. Chiles, Address to NSL [Naval Submarine League] Tenth Annual Symposium, 10 June 1992, in *Submarine Review*, October 1992, p. 13.
18. Richard Halloran, "U.S. Revises Its War Plan For New Age," *New York Times*, 2 November 1988, p. A7. According to the *Times* story, Minuteman III computers previously programmed with 100 combinations for each flight of 10 missiles, each with three warheads that could be aimed at four targets, were being increased in capacity to 2400 combinations. Even the number of options per missile on the single warhead Minuteman Iis was increasing from 200 to 2400.
In 1985, the JSTPS was reorganized "to improve our ability to replan the SIOP more efficiently." Execution of nuclear strikes would emphasize "flexibility for

rapid replanning and new adaptive planning requirements;" JSTPS, "Unclassified History of the Joint Strategic Target Planning Staff," March 1989.

19. The SIOP is not one attack option, but a series of options constructed from a single set of targets contained in the National Target Base. This set of targets equaled some 12,500 at the end of the 1980s. Not all targets would be hit under every option, and many targets are geographically close enough together to be destroyed by one nuclear weapon. Some targets, because of their hardness, however, are also assessed as requiring to be hit with more than one weapon. Given calculations of the reliability and performance of surviving U.S. forces under a variety of scenarios, sets of "ground zeros" are designated for attacking forces. Within a ground zero, one or a number of targets might be located.

20. Larry Grossman, "SAC's Twin Triads," *Air Force Magazine*, August 1991, p. 56.

21. U.S. Senate, Defense Appropriation Subcommittee, FY 1991 Defense Appropriations, hearings transcript, 12 June 1990. An article in *Defense Week* stated that the Office of the Secretary of Defense was studying whether small changes in detailed nuclear warfighting requirements could dramatically reduce U.S. weapons needs; David J. Lynch, "Nitty-Gritty Of Nuclear Targeting Draws Scrutiny," *Defense Week*, 16 April 1990, pp. 1, 3.

22. The *Washington Post* reported that the new plan would reduce the number of targets by some 1000; the actual number was closer to 3000. R. Jeffrey Smith, "U.S. Expected to Reduce Number of Nuclear Targets," *Washington Post*, 19 April 1991, p. A17.

23. Smith, op. cit., 19 April 1991, p. A9; R. Jeffrey Smith, "U.S. Trims List of Targets in Soviet Union," *Washington Post*, 21 July 1991, p. A1.

24. Testimony of Secretary of Defense Cheney before the Senate Armed Services Committee (SASC) on the Strategic Arms Reduction Treaty, 28 July 1992, p. 2.

25. Larry Grossman, "SAC's Twin Triads," *Air Force Magazine*, August 1991, p. 56.

26. In addition, while the vast bulk of the targets comprise ICBM silos and mobile garrisons, support bases, bomber bases, submarine ports, nuclear storage bunkers, and command and communications nodes, approximately 20 percent continue to be related to general war supporting military industry and the infrastructure supporting conventional military forces.

27. DOD News Briefing, Saturday, September 28, 1991, 10:00 AM, p. 1.

28. According to Secretary Cheney, this was because "The Soviet approach placed its primary emphasis on reductions in the number of warheads for their own sake, without regard to whether the force structures that remained were more or less stable;" Cheney, SASC, 28 July 1992, p. 4.

29. Cheney, SASC, 28 July 1992, p. 6.

30. Cheney, SASC, 28 July 1992, p. 10.

31. Statement of the Chairman of the Joint Chiefs of Staff before the Senate Foreign Relations Committee, 26 June 1992, p. 6.

32. Powell, 26 June 1992, p. 6. Amidst the reduction of overall targets, the Defense Department undertook to revise the analytic method for determining "military sufficiency" --previously defined as the ability to absorb and retaliate to a full scale Russian first strike. Likewise, the traditional measures of effectiveness--target coverage, the level of damage desired and expected, the numbers and types of survivable warheads, the required reserve nuclear force posture, and the status of day-to-day and generated forces--would be applied to evaluate the arsenal.

33. Statement of General Lee Butler, USAF, Commander in Chief Strategic Command before the Senate Armed Services Committee, 22 April 1993, p. 5.

34. Eric Schmitt, "Head of Nuclear Forces Plans for a New World," *New York Times*, 25 January 1993, p. B7.

35. Butler, 22 April 1993, p. 3.

36. Paul Taylor, ". . . From the sea: Sub force moves toward 21st century," *All Hands*, December 1992, p. 6.

37. Statement of Rear Admiral John T. Mitchell, U.S. Navy, Director Strategic Systems Programs, before the Subcommittee on Nuclear Deterrence, Arms Control and Defense Intelligence of the Senate Armed Services Committee, 11 May 1993, pp. 6-7.
The Navy stated in their report, *Submarine Roles in the 1990's and Beyond* (18 January 1992, pp. 11-12) that:
In the near term, ballistic missile submarine nuclear deterrent patrols are not likely to change in nature or scope. However, if nuclear, chemical, or biological weapon proliferation continues and adversaries other than the successors to the Soviet Union develop a capability to strike the United States or a close ally, patrol patterns, targeting packages, and command control procedures can be easily revised to account for these changes.
38. China was removed from the SIOP in 1982, and a new separate war plan was prepared for nuclear war with that country. B-52 bombers were almost exclusively earmarked in that plan, but because of their removal from alert in 1991, SSBNs took on a more central role vis-a-vis China, obviating the potential provocation of ICBMs being used in a nuclear war plan against the Asian country. Based in the United States, the use of ICBMs would necessitate flight paths "over the pole" in the direction of Russia in order to hit Chinese targets, thereby making SSBNs a better choice. It also might cause the Russians to think they were under attack.
39. Secretary of Defense Dick Cheney, *Annual Report to the President and the Congress*, February 1992, p. 59 (emphasis added.)
40. *National Military Strategy 1992*, p. 13 (emphasis added.)
41. Statement of General Lee Butler, Commander in Chief Strategic Air Command to the Senate Appropriations Committee Defense Subcommittee, 9 April 1992, p. 7.
42. "DOD Has 'Significant' Ability to Alter Nuclear Weapons Targeting on Short Notice," *Inside the Air Force*, 7 August 1992.
43. *Inside the Air Force*, 7 August 1992.
44. Butler, 22 April 1993, p. 4.
45. Secretary of Defense Dick Cheney, *Defense Strategy for the 1990s: The Regional Defense Strategy*, January 1993, p. 14.
46. "The growing world of Tridents," *Navy Times*, 12 July 1993, p. 30. See also Captain F. Mark Conway III, USN (Ret.), "We Need Conventional Warhead Submarine Launched Ballistic Missiles," *Submarine Review*, October 1992, p. 93; Richard D. Lanning, Jr., "Drawbacks to Conventional Warhead Submarine Launched Ballistic Missiles," *Submarine Review*, January 1993, p. 102; Robert Holzer, "U.S. Navy Targets Conventional Deterrence," *Defense News*, 10-16 May 1993, p. 6.
47. "The View From OPNAV," VADM William A. Owens, USN, Luncheon Address, 11 May 1993, Submarine Technology Symposium, in *Submarine Review*, July 1993, p. 18.
48. Eric Schmitt, "Head of Nuclear Forces Plans for a New World," *New York Times*, 25 January 1993, p. B7.
49. Robert Holzer, "U.S. Navy Targets Conventional Deterrence," *Defense News*, 10-16 May 1993, p. 6.
50. "Excerpts from Clinton-Yeltsin News Conference," *Washington Post*, 2 April 1993.
51. Secretary of Defense Aspin revealed that "major changes" were being made in attack submarine operations that would "significantly reduce the probability" of future collisions; See Melissa Healy, "Aspin Tries to Get Ukraine to Give Up A-Arms," *Los Angeles Times*, 7 June 1993; Michael R. Gordon, "Russian Fault U.S. on Shifting Ukraine's Arms," *New York Times*, 7 June 1993, p. A1; R. Jeffrey Smith, "Russian Rebuffs U.S. Plan on A-Arms," *Washington Post*, 7 June 1993.