

VIDEO: U.S. Strategic Nuclear Policy: A Video History, 1945-2004

Sandia Labs Historical Video Documents History of U.S. Strategic Nuclear Policy

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Region: <u>USA</u>

Theme: Militarization and WMD, US NATO

War Agenda

In-depth Report: Nuclear War

Photo: Waking Up To Reality in the White House. Art Nuko series by Carl Chapman

Interviewees Include Robert McNamara, Brent Scowcroft, James Schlesinger and Last Strategic Air Commander-in-Chief Lee Butler

Includes Revelations on "Out of Control" Nuclear Targeting During the 1980s

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Washington, D.C., October 11, 2011 Twenty five years ago, when President Ronald Reagan and Soviet leader Mikhail Gorbachev met at Reykjavik, Iceland on 11-12-October 1986, their far-reaching discussions involved proposals to abolish nuclear weapons by first moving toward a zero ballistic missiles option. Weighed down by mistrust and competing objectives, the discussions on ending the nuclear arms race collapsed. That Ronald Reagan supported nuclear abolition at Reykjavik is a lacuna in an otherwise informative and highly professional video documentary on the history of U.S. nuclear policy produced by Sandia National Laboratories obtained under the Freedom of Information Act and published today for the first time by the National Security Archive.

One of the most distinctive productions of the Department of Energy, "U.S. Strategic Nuclear Policy," is a four-part nearly four-hour long oral history/video documentary. Completed in 2005 by Sandia under the direction of staffer Dan Curry (scriptwriter and interviewer), this is an engrossing piece of work that that will be a significant resource for historians, social scientists, students, and the interested public. Starting with World War II and the atomic bombing of Japan, this policy-oriented documentary takes the story of U.S. nuclear policy, with a focus on the history of nuclear deterrence through the course of the Cold War, and then from the early post-Cold War period to the aftermath of 9/11.

Among the topics covered are:

■ The atomic bombings of Hiroshima-Nagasaki

- The impact of World War II bombing operations on nuclear strategy
- The Cold War and the origins of deterrence
- The creation of the Strategic Air Command
- The invention and impact of thermonuclear weapons
- Debates over massive retaliation and flexible response
- The origins and development of the Single integrated Operational Plan (SIOP)
- The Cuban Missile Crisis
- Détente and arms control
- The search for limited nuclear options
- The end of the Cold War and the reform of nuclear targeting
- Concern during the 1980s that nuclear targeting was "out of control"
- "Rogue states," nuclear proliferation, and missile defense
- The impact of 9/11 and debates over deterrence during G.W. Bush administration

Curry interviewed a number of key decision-makers and mid-level officials from the Cold War years, some more recent (as of 2004) defense officials and advisers, and academic specialists, including a few skeptical and dissident voices (See annex C for the list). Providing multiple perspectives on a variety of issues, the interviewees include a variety of senior and mid-level officials such as former Secretaries of Defense Robert McNamara and James Schlesinger, Eisenhower administration officials Robert Bowie and Andrew Goodpaster, former national security adviser Brent Scowcroft, and the last commander-inchief of the Strategic Air Command, General Lee Butler. Also interviewed were university researchers including Stanford University professors Lynn Eden, Scott Sagan, and David Holloway, University of Pittsburgh professor Janne Nolan, University of Wisconsin professor Paul Boyer, and the late Randall Forsberg, a peace activist/scholar affiliated with the City College of New York.

Many of the issues covered by the interview subjects and the narrative will be familiar to students of nuclear history. Nevertheless, the use of interview material and film footage makes for some fascinating viewing. The coverage of nuclear war planning and targeting, from war plans during the early Cold War to the creation of the first SIOP are particularly arresting. Besides using film footage of nuclear tests, summit meetings, and the like, the producers use, to good effect, images of government documents produced during all the phases of U.S. nuclear history, from the Cold War into the 1990s. Viewers even see the

cover pages of documents that remain classified, such as the SIOP of the 1980s, although sometimes blurring the text to preserve secrecy.

Sandia director Thomas Hunter explains at the beginning of the film that one of the purposes of the documentary was to promote discussion of two questions: 1) what will be the role of nuclear weapons, and 2) what will be future requirements for nuclear weapons? The language on the film box, referring to the "timeless" relevance of nuclear deterrence, suggests that the producers of the film assumed that the answers would take for granted the necessity of nuclear weapons. This affirmative approach plainly fits Sandia's objective of assuring the reliability, safety and security of the U.S. nuclear arsenal. That the likely audience for the documentary was government and military officials might have reinforced the "don't rock the boat" approach, although such audiences probably have diverse views about the worth of nuclear weapons. Nevertheless, even after taking into account institutional bias, the limits of oral history, and inevitable errors and omissions in the coverage, the four disks achieve credible results in using interviews and other source material to recount a complex and consequential story.

Sandia also produced a classified version of "U.S. Strategic Nuclear Policy," for which the National Security Archive has submitted a declassification request. It probably includes information on targeting policy, nuclear weapons, warning systems, and strategic intelligence collection that the producers considered too sensitive to discuss in a public release. Certainly, viewers of the non-classified version will notice a few gaps, such as the non-discussion of satellite intelligence, although the CIA and the National Reconnaissance Office have declassified some of the basics years ago.

The following material is reproduced with the permission of Sandia National Laboratories.

Disk 1: 1945-1954: Chapters 1 through 9

Disk 2: 1954-1964: Chapters 10 through 17

Disk 3: 1965-1983: chapters 18 through 23

Disk 4: 1984-2003, chapters 24 through 29

Annex A. Reproduction of DVD Box (front and back)

Annex B. Table of Contents

Annex C. List of Interviewees

What follows is a subjective report on some highlights of the 4 DVDs with a sometimes critical assessment of the coverage. Viewers should skip (or postpone reading) the report, so they can see the documentary without preconceptions. Some may find the commentary useful later as they consider what they have seen and revisit some of the chapters.

Disk 1, 1945-1954: Chapters 1 through 9

These chapters cover the story of nuclear weapons policy from the bombing of Hiroshima and Nagasaki to the emergence of "massive retaliation" during the first years of the Eisenhower Administration. Besides the atomic bombings, some of the key moments in the

chapters are the Berlin Crisis (1948), the origins of nuclear deterrence policy, the impact of the Soviet atomic test (1949) and the Korean War, Eisenhower's "Basic National Security Policy" the development of thermonuclear weapons and the implications for "nuclear plenty."

U.S. Army Air Force bombing operations during World War II usefully frame the early chapters, with Lynn Eden and Robert McNamara explaining how they informed nuclear strategy, including basic concepts of deterrence. For example, Eden discusses the impact of World War II on target categories and the calculation bombing damage, with blast effects becoming the chief measure of destruction. Taking the generally accepted view that the fire bombings of Japanese of Tokyo helped to legitimate the strategy of atomic strikes against more Japanese cities, the narrative treats the bombings of Hiroshima and Nagasaki as a "culmination." According to George Quester, the "basis of deterrence" can be found in the atomic bombings. He argues that some Japanese government officials would have said to themselves, "I can't stand seeing that many people killed." In other words, the prospect of further destruction deterred Tokyo from continuing the war.

The coverage of the atomic bombings includes an oversight and an error. The only observation about the impact of the Hiroshima and Nagasaki bombings is Admiral Wertheim's assertion that they were decisive for ending World War II in the Pacific-"tipped the scale" as he put it. Wertheim is entitled to his opinion, but letting his words shape the narrative makes one wonder what happened to the Soviet declaration of war on Japan, 8 August 1945, Historical debate continues over what exactly led to the surrender of Japan, but no one disagrees that the Soviet declaration had a critically important impact 1 and it should have been mentioned to avoid perpetuating a myth. An error creeps in when the narrator refers to—and the viewer sees—a memorandum from Truman to Secretary of War Stimson, 31 July 1945, as the "release order" for the use of the bombs. This memorandum was, in fact, a reference to a press release that was to be issued after the first bomb was detonated. 2

To put the history of U.S. nuclear strategy in context, the film's narrator points to three major variables. The first is the impact of successive presidential administrations. The second is the pressure caused by changing world events. The third is the evolutionary development of nuclear weapons systems. These are relevant to understanding the history, but the editor could have taken into account an additional variable: the concepts of national security that influenced policymakers and helped shaped their decisions. While a film like this cannot go into this matter very deeply, it could have acknowledged the ideological, economic, and strategic concerns that made U.S. top officials believe that the United States had to play a major role in world politics and which shaped the diplomatic and military strategies of presidential administrations throughout the Cold War. Indeed, without taking into account the strategic interests which U.S. policymakers had already fought world wars to secure it is difficult to understand why they would even consider making the threats that comprised nuclear deterrence.3

On the context for nuclear policy immediately after World War II, Paul Boyer helpfully captures the "ambivalence" of U.S. security policy and diplomacy. That the U.S only had a handful of "functional" nuclear weapons during 1945-1947 exemplified the ambivalence. So did the Truman administration's proposals for international control of atomic energy, although the degree to which the Baruch Plan set back the possibility of control goes unmentioned.4

David Holloway makes fine contributions on Stalin and Soviet policy, but the narrative on the origins and early phases of the Cold War is workmanlike and traditional. It is largely a story of Soviet expansion with little hint of the considerations (concern about European stability and other national security objectives) that led the Truman administration to engage in a Cold War with the Soviet Union. The coverage of nuclear strategy is stronger, with the Berlin crisis treated as a "driver" (and as David Holloway explains, Stalin's reaction to Western moves to create a separate West German state). The emergence of the Strategic Air Command as a force that was being prepared to fight a nuclear war gets appropriate weight as does the key role of General Curtis LeMay in building the new organization.

The discussion of early nuclear planning is fascinating and so are the details on the early war plans–Half-Moon and Offtackle, and their relationship to World War II targeting. Lynn Eden explains the major target categories (Bravo: nuclear forces, Delta: urban-industrial, and Romeo: mobilization capabilities), although her explanation should have been used in a post-1950 context when those categories became integral to SAC planning. The chapter on "How Much is Enough for Deterrence" shows how "keeping ahead" of Moscow became important and why momentum for the H-bomb decision became compelling at the White House level.

The Korean War and the decisions on NSC 68 increased pressure for "Building the 'Super.'" John S. Foster credits Edward Teller as the "driving force" in the thermonuclear weapons program, although he does not show how stymied Teller and the H-bomb project were before Stanislas Ulam introduced the concept of compressing deuterium. Nevertheless, Ulam's contribution is made clear enough. The major focus is not on the inventors, but the impact of the H-bomb on the weapons stockpile. As Richard Garwin points out, with the H-bomb it became "possible to have vastly more weapons with a limited stock of "fissional material. The film footage of H-bomb tests illustrates their terrifying power, but what nuclear planners thought they would do does not get clear treatment. Nevertheless, a major Project RAND report declared that "thermonuclear weapons will be killers and fantastically destructive." "The heat will be sufficient to kill people and start fires miles from the point of burst." 5

The discussion of "Basic National Security Policy" and nuclear deterrence during the Eisenhower administration cites NSC 162 for the position that nuclear weapons were "available for use as other weapons." This amounted to a repudiation of Truman's firm conviction that the atomic bomb was an "an instrument of terror and a weapon of last resort." Truman's post-Nagasaki revulsion to nuclear weapons use is not spelled out very sharply except for references to his "apprehension" and his "personal understanding of the damage" that nuclear weapons would do. Nevertheless, Truman's thinking would become typical as a "taboo" against nuclear use became institutionalized owing to the impact of world and domestic opinion, alliance politics, and the moral concerns of policymakers. Indeed, by the end of the 1950s, a more experienced Eisenhower had come to believe that nuclear weapons could not be used as "other weapons." As he put it in 1958, "when you use nuclear weapons you cross a completely different line." 6

Disk 2: 1954-1964: Chapters 10 through 17

These chapters cover the rise of formative concepts for Cold War nuclear strategy: the debates over massive retaliation and flexible response, the impact of the RAND Corporation on strategic planning, Air Force thinking on the need for a preemptive strategy, the

emergence of "assured destruction" and the second strike force concept, and the origins of the Single Integrated Operational Plan (SIOP), the U.S.'s first comprehensive nuclear war plan.

The influential role of the RAND Corporation is spelled out clearly, from the debates over massive retaliation to Robert McNamara's early tenure as Secretary of Defense. The late William Kaufmann, RAND consultant and MIT professor, explains why he thought Eisenhower-Dulles nuclear strategy was not only "horrendous" but incredible. The discussion of the RAND base vulnerability study demonstrates the close connection to Air Force interest in preemptive strategies. As Eden and James Schlesinger observe, the problem of survivability would raise pressure, during a crisis, to preempt and "get in the first blow."

The concept of a "survivable second strike force" is important to the history of nuclear deterrence by demonstrating the futility and risk of a first strike and preemptive attacks. The chapter on a "survivable second strike force" gives credit to RAND and the 1955 Killian Report for stimulating thinking along those lines, but credit should also go to the Navy. Submarine-launched ballistic missiles (SLBMs) launched from a virtually undetectable platform epitomized the possibility of retaliation by a survivable reserve force. The chapter provides useful background on the development of a SLBM warhead and the development of low frequency radio systems to maintain command and control of SLBMs. Polaris's key role in as deterrent force is well explained, but not mentioned is the concepts of finite deterrence developed by Navy leaders. CNO Arleigh Burke argued that the Polaris force could provide the basis for a more stable and safer deterrent than the Air Force's quick-reaction, preemption-oriented, and vulnerable land-based missiles and bombers.

The chapters on "Fear of Thermonuclear Attack" and the evolution of massive retaliation evoke the atmosphere of the late 1950s in both the larger society and in the world of the policymakers and the nuclear planners. The nearly direct line from the terrifying Castle test series in the Pacific to the emergence of arms control policy later in the decade is manifest. The coverage of the debates over massive retaliation is interesting, but William Kaufman never gets a chance to explain that the Air Force hated his counterforce strategy because it was inconsistent with their plans for a comprehensive nuclear onslaught. The chapters also cover anxieties over a bomber gap and the missile gap, but the Air Force's inclination for worst case analysis is handled with kid gloves (and that the Soviets tricked Air Force intelligence with repeated over-flights during an air show is not mentioned)7. The discussion of the U-2 is interesting but does not make it clear what its role was in clearing up the bomber gap.

"Integrated Planning" provides good coverage for the development of the first SIOP. Due attention is given the "shock" that top Kennedy administration officials felt when they became aware of the huge size and inflexibility of the first SIOP, but the plan's scale and scope is muted. The viewer gets no sense of the numbers of weapons assigned to the initial strike or the numbers of designated ground zeros (DGZs) that they targeted. Yet, those numbers have been available for years, in Fred Kaplan's and David Rosenberg's classic accounts of early nuclear strategy. Moreover, the chapter tiptoes around the concept of "overkill," although Rosenberg demonstrates why it is central to understanding SIOP-62. Exemplifying the "overkill" is that using SIOP-62 damage criteria, SAC target planners estimated that destroying a target like Hiroshima would require 300 to 500 kilotons, 20 to 30 times the yield of the weapon used in 1945.8

The discovery that "missile gap" favored Washington, not Moscow opens the chapter on "flexible response," but the viewers do not learn that what made that possible is the Corona photographic reconnaissance satellite, declassified back in the 1990s. Robert McNamara's "whiz kids" had RAND connections and their role in the development of flexible response, including SIOP options, receives due prominence; so does William Kaufmann's "no cities"/counterforce (although the preemptive aspect of is not spelled out). McNamara describes flexible response as a strategy of "withholding," and further recounts his famous advice to President Kennedy: "it would be contrary to the interests of the US and NATO to initiate the use" of nuclear weapons. While Western European objections to conventional strategies are clear enough, the debate over a deterrence based on a higher or lower threshold for nuclear weapons use does not come across. Notwithstanding the U.S. interest in more conventional forces, the U.S. deployed 7,000 theater nuclear weapons as "symbols of American support."

"Assured Destruction" begin with the Cuban Missile Crisis. The emphasis for Khrushchev's motivation is on the Jupiter missile deployments in Italy and Turkey (although confused with the Thors deployed in Great Britain), but Moscow's concern about U.S. threats to Cuba are not mentioned. The presentation on why Kennedy rejected an airstrike is sharp, but how the crisis was settled is not. We never learn what happened to the Jupiters; some judicious editing would have created room for the basics of the secret deal. The missile crisis quickly segues into discussion of the concept of "Assured Destruction," a tool used for "sizing" or measuring the adequacy of strategic forces. What measured "assured destruction" was whether U.S. strategic forces had a second strike capability to destroy 30 percent of the Soviet population and 50 percent of industrial capability.

Disk 3: 1965-1983: chapters 18 through 23

The chapters on this disk cover anti-ballistic missiles [ABM], "mutual assured destruction" [MAD], the emergence of multiple independently targetable reentry vehicles (MIRVs), détente and Strategic Arms Limitations Talks [SALT], strategic targeting from Nixon to Carter, the "Second Cold War," strategic policy during the early Reagan administration ("From Countervailing to Prevailing"), and the controversy over the Strategic Defense Initiative [SDI].

The discussion of the Soviet ABM system and early U.S. missile defense programs, Sentinel and Safeguard, leads to the momentous decision to MIRV ballistic missiles. MIRVs would enable the offense to work around and strike targets defended by ABMs. Because MIRVs greatly improved "offensive capabilities" by creating thousands of new warheads, they created a serious arms control problem. Thus, Robert McNamara retrospectively says "I think I was wrong" to support MIRVs when he was Secretary of Defense.

The coverage of détente necessarily focuses on the relationship with deterrence and arms control, capturing well the ambiguity of the U.S.-Soviet relationship. As Kissinger's former deputy, General Brent Scowcroft observed, the purpose was to "calm things down" while allowing both sides to "keep on building systems." The presentation does not clearly show what made that possible: the SALT [Strategic Arms Limitation Talks] I agreement froze numbers of ICBMs for both sides, allowing the Soviets to catch up with the United States in deploying thousands of MIRVed nuclear warheads on the latest generation of Minutemen ICBMs. That the Minuteman force was on a highly risky quick-reaction, launch-on-warning posture is never discussed.

A major element in these chapters is the growing interest in limited nuclear options, which became codified in National Security Decision Memorandum 242 and then updated and modified in Jimmy Carter's Presidential Directive 59. A key issue was the credibility of deterrence, with advisers from Kissinger to Brzezinski worried that even the "smaller" SIOP options were so huge that they reduced the credibility of deterrence. Although Michael Nacht notes that some worried that creating smaller options could make the use of the weapons more likely, Schlesinger counters that this was "not our view" because the new policy made war less likely (presumably by increasing the dangers).

Interviews with former top officials on strategic targeting policy during the late 1970s provide interesting results. Senior Pentagon nuclear planner Frank Miller argues that U.S. policy had fallen into an "intellectual trap" by taking "what would deter us" and "mirror imaging" it on Soviet policy. Statements by the late Leon Sloss, a State Department official who directed the Carter administration's strategic targeting review, suggest what Miller had in mind: evidence that the Soviets were building underground shelters in the Moscow area suggested that "the leadership was plainly serious to survive a nuclear war." The Kremlin believed that it could "survive and control a nuclear war." Thus, the Carter administration sought to disabuse the Kremlin of that notion by creating "pre-planned" strike options that directly targeted the Soviet leadership. James Schlesinger was critical of the new approach because attacking leadership targets would "destroy all possibilities of restraint," but secretary of defense Harold Brown suggested that the Soviets would be impressed and deterred by the reminder that "they would never survive nuclear war."

The narrative and interviews reproduce the outlook of nuclear strategists during the 1970s and 80s, but do not probe the claims that Moscow saw nuclear war as "survivable." Years after the end of the Cold War, it ought to be worth exploring whether Soviet-era sources confirm, modify, or refute such assumptions, but no such effort is made here. Had the Sandia researchers looked into it, they might have located an unclassified contract study for the Pentagon from the mid-1990s, based on interviews with former Soviet generals. It concluded that the U.S. government "[Erred] on the side of overestimating Soviet aggressiveness" and underestimated "the extent to which the Soviet leadership was deterred from using nuclear weapons." According to the study, the Soviet military high command "understood the devastating consequences of nuclear war" and believed that nuclear weapons use had to be avoided at "all costs." In 1968, a Defense Ministry study demonstrated that Moscow could not win a nuclear war, even if it launched a first strike. Although Soviet ideology held that survival was possible, no one in the leadership believed it. In 1981, the General Staff concluded that "nuclear use would be catastrophic." 10

The Pentagon study was buried in relative obscurity until released through the FOIA in 2009. Nevertheless, a valuable and telling summary by John Battilega, an authority at SAIC on the Soviet military, was published in 2004. 11 The use of Battilega's evidence could have encouraged a more nuanced presentation of Soviet strategic thinking and facilitated a better understanding of the "intellectual trap" created by misunderstanding Soviet policy. This problem may point to a problem with the interview selection. Although Sandia tried to compensate by including experts like David Holloway, interviews with a few Russians with personal knowledge of Soviet nuclear history may have brought even more credibility to the enterprise.

The Carter administration saw its "countervailing" strategy as one that could terminate hostilities but never saw "winning" nuclear war as a possibility. By contrast, the Reagan administration's initial emphasis was on "prevailing" in nuclear war, which, Frank Miller

concedes, was "unfortunate rhetoric." Acknowledging Reagan's anti-nuclear inclinations, the final chapters on the disk show that his administration's strategic modernization programs "fuel[ed] public fears," triggering a nuclear freeze movement at home and a Euromissile crisis abroad, also sparking debate over "nuclear winter." The coverage of Reagan's 1983 SDI proposal is evenhanded, with critics noting that there were "no deployable systems" or a possibility for "comprehensive defense." The last chapter ends with the crisis of the fall of 1983, the "lowest point" in the Second Cold War.

Disk 4: 1984-2003, chapters 24 through 29

These chapters cover the story of the "quiet revolution" in nuclear strategy from Ronald Reagan to George H. W. Bush, the end of the Cold War, arms control during the Clinton administration and the emergence of "new threats," the impact of 9/11, and the prospects for nuclear weapons and nuclear deterrence.

The "quiet revolution" is a fascinating account of the internal debates and decisions over nuclear targeting policy during the 1980s and early 1990s, sparked by the concern of civilian and military defense officials that strategic targeting at was getting out of control. Following assumptions about damage expectancies that were quite severe, SIOP planners argued that "we did not have enough warheads" to destroy threatening targets. General Lee Butler (the last commander-in-chief of the Strategic Air Command), among others, concluded that "something was quite wrong here." Recognition of these problems led to major reform during 1985-1988 so that nuclear war plans actually reflected presidential guidance. Further changes, including more "reasonable damage expectancies," took place under Secretary of Defense Richard Cheney during the early 1990s. Of particular interest is the coverage of Trident II whose ballistic missile took on counterforce missions, thus adding to the lethality of U.S. strategic forces. 12 As Harold Brown observes, Trident II RVS had a "fair chance of destroying land-based missiles and bomber bases" in 15 minutes.

The impact of ABLE ARCHER '83, a NATO nuclear command post exercise, is central to the coverage of the end of the Cold War. According to the narration, the Soviet "overreaction" to what was considered a routine NATO operation had a "sobering" impact on President Reagan, who began to drop his combative rhetoric during and after 1984. The real impact of ABLE ARCHER on Moscow remains a matter of debate, but there is no question that after the war scare of the early 1980s, détente got "back on track." 13 Nevertheless, Reagan's commitment to SDI complicated the relationship with the new Soviet leader Mikhail Gorbachev, undermining any possibility for sweeping arms control proposals discussed at Rykjavik in 1986. Significantly, the narrative cites Gorbachev's support for nuclear abolition, but Reagan's parallel interest in abolition and his Zero Ballistic Missiles proposal are never mentioned.

With the events of 1989-1991 bringing the Soviet Union and the Warsaw Pact to an end, "Changing Priorities" led to restructured nuclear forces and reorganized command structures as well as new strategic arms control deals with the Russian republic. The "Emerging Threats" chapter also chronicles restructuring: the Nuclear Posture Review, the ending of underground nuclear tests, and the closing of obsolete and hazardous fissile materials production facilities.

"Emerging Threats" also recounts emerging concerns about ballistic missile and other threats from "rogue states." After citing the 1998 Rumsfeld Commission report on prospective ICBM threats from Iran, Iraq, and North Korea, the narrator declares that a North

Korean missile test three weeks after the report's publication "dramatically confirmed the Commission's findings." This is a debatable claim about an alarmist report which concluded that Iran and North Korea "would be able to inflict major destruction on the U.S. within about five years of a decision to acquire such a capability." Plainly, the Iranians and Koreans have needed more than 5 years to acquire an ICBM capability. 14 This is an issue where the Sandia history would have benefited from multiple perspectives instead of ex cathedra statements.

The last two chapters "New Context for Deterrence" and "Strategic Redirection" overlap, with both covering developments during the early George W. Bush administration and the role of nuclear weapons and deterrence. "New Context" has interesting interview excerpts, e.g., Robert McNamara on "no role for nuclear weapons except to deter," General Butler on the "half century tradition of non-use of nuclear weapons" (one of the few references to the "nuclear taboo" concept), and General Ellis's contrasting view that nuclear weapons will "lose their deterrent value if they can't be used."

Some statements demonstrate the risk of including predictions in an historical documentary. Frank Miller, then serving as a White House adviser, asserted that the 2002 Moscow Treaty on Strategic Offensive Reductions "would be [the] last treaty that would be central to US-Russian relations." The centrality of the recent New START Treaty to the Moscow-Washington relationship can be debated, but it demonstrates that the Moscow Treaty was not the "last" important arms control treaty. A statement by Linton Brooks that he's "not worried about arms races anymore" also sounds overconfident.

"Strategic Redirection" focuses on the implications of 9/11 for deterrence looking at such issues as whether non-state actors or rogue states can be deterred, as well as the direction of relations with Moscow and Beijing (e.g., whether China will be a "status quo" or "aggressively upwardly mobile country"). The question of preemptive and preventive options gets examined and so does the possibility of substituting advanced conventional weapons for nuclear weapons. Robert McNamara and Randall Forsberg suggest that the Bush administration's position on nuclear weapons invited further proliferation: "we will maintain our weapons in perpetuity, but you don't need them (McNamara)." Not surprisingly, the film concludes affirming the status quo, with Frank Miller implying that nuclear deterrence is necessary and will be available as long as the United States has the "policy, plans, forces, the wherewithal to carry out the plan, and the will to do so."

It is worth noting that some of the documentary's interviewees, including Lee Butler, Randall Forsberg, and Robert McNamara, have been (or had been) outspoken proponents of nuclear abolition, but any statements they may have made about that to the interviewer (and it would have been surprising if they had not) are not included (there are only hints). It may have been difficult for the producers to include such testimony because it would have been inconsistent with the documentary's purposes and U.S. policy at the time it was produced. Yet two years after the film was produced the "Gang of Four "(Henry Kissinger, George Shultz, William Perry, and Sam Nunn) published their abolitionist op-ed in The Wall Street Journal and in 2008, the victor in the presidential campaign supported that goal. If the film had been produced more recently, Sandia may have felt obliged to take this issue into account.

Selected Clips

Curtis Lemay and the Strategic Air Command (SAC)

The Hydrogen Bomb and the Growth of the Stockpile during the 1950s

The Kennedy Administration and Flexible Response

Nuclear targeting during the 1980's

Debate over nuclear weapons and deterrence

Notes

1 The argument has been over the importance of the Soviet declaration of war compared to the atomic bombings. See Tsuyoshi Hasegawa, *Racing the Enemy: Stalin, Truman, and the Surrender of Japan* (Cambridge: Harvard University Press, 2005) and Hasegawa, ed., *The End of the Pacific War: Reappraisals* (Stanford: Stanford University Press, 2007).

2Sean L. Malloy, *Atomic Tragedy: Henry L. Stimson and the Decision to Use the Bomb Against Japan* (Ithaca: Cornell University Press, 2008), 217, note 68.

3See, for example, Melvyn P. Leffler, *A Preponderance of Power: National Security, the Truman Administration, and the Cold War* (Stanford, Stanford University Press, 1992) and Walter LaFeber, *America, Russia and the Cold War, 1945-2000* (New York; McGraw Hill, 2002).

4See James. G. Hershberg, *James B. Conant: From Harvard to Hiroshima and the Making of the Nuclear Age* (New York: Knopf., 1993): 263-269

5RAND Corporation, "Implications of Large-Yield Nuclear Weapons," 10 July 1952, copy on Digital National Security Archive.

6Matthew Jones, *After Hiroshima the United States, Race, and Nuclear Weapons in Asia,* 1945-1965 (Cambridge: Cambridge University Press, 2010), 271, 277. For the nuclear taboo more generally, see Nina Tannenwald, *The Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons Since* 1945 (Cambridge: Cambridge University Press, 2009).

7John Prados, *The Soviet Estimate: U.S. Intelligence Analysis and Russian Military Strength* (New York: Dial Press, 1982). 42-43.

8David A. Rosenberg, "The Origins of Overkill: Nuclear Weapons and American Strategy, 1945-1960," *International Security* 7 (1983): 48-49; Fred Kaplan, The Wizards of Armageddon (Stanford: Stanford University Press, 1991).

9Bruce Blair, *The Logic of Accidental Nuclear War* (Washington, D.C.: The Brookings Institution, 1993).

10John Hines, Ellis M. Mishulovich, and John F. Shulle, *Soviet Intentions 1965-1985, Volume I: An Analytical Comparison of U.S.-Soviet Assessments During the Cold War* (BDM Federal, Inc., September 22, 1995) at http://www.gwu.edu/~nsarchiv/nukevault/ebb285/index.htm

11John Battilega,"Soviet Views of Nuclear Warfare: The Post-Cold War Interviews" in Henry D. Sokolski, ed. *Getting MAD: Nuclear Mutual Assured Destruction, Its Origins and Practice* (Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, 2004),151-174.

12Lynn Eden, "The U.S. Nuclear Arsenal and Zero: Sizing and Planning for Use – Past, Present and Future," in Catherine McArdle Kelleher and Judith Reppy, eds., *Getting to Zero: The Path to Nuclear Disarmament* (Stanford, CA: Stanford University Press, 2011).

13See for example, Vojtech Mastny, "How Able Was "Able Archer"? Nuclear Trigger and Intelligence in Perspective," *Journal of Cold War Studies* 11 (2009)

http://muse.jhu.edu/journals/journal_of_cold_war_studies/v011/11.1.mastny.html

14Greg Thielmann, "The Missile Gap Myth and Its Progeny," Arms Control Today (May 2011)

http://www.armscontrol.org/act/2011 05/Thielmann

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