US Strategic Nuclear Policy

Part 2

Ambassador C. Paul Robinson, President, Sandia National Laboratories, 1995-2005

“The root word is ‘terre’, which means ‘to frighten with an overwhelming fear,’ and if you put the prefix de- in front of it you get ‘to frighten from carrying out acts’. It involves emotions as well, of self-preservation, preservation of regimes, preservation of countries.”

Admiral Richard Mies, Commander 1998-2001, United States Strategic Command

“Deterrence really rests on a strategy of war prevention, not a strategy of war fighting.”

Frank Miller, Special Assistant to the President, Senior Director for Defense Policy & Arms Control 2001-05, NSC

“The main purpose of the nuclear deterrent is to put an exclamation point on the end of the sentence that says, ‘If you do bad things to us, we will do even worse things to you, so you had better not do it in the first place!’ I think where the nuclear weapon made its biggest difference in history was in Europe during the Cold War.”

2.1 A Massive Retaliatory Deterrent

NSC-162/2 had formalized the concept of nuclear deterrence and extended that deterrent to Western Europe. Eisenhower’s challenge was to communicate this policy to the Soviets, the NATO allies and to the American public. Secretary of State Dulles, delivered an address to the Council on Foreign Relations in January 1954, publicly announcing the administration’s new national security policy that would “depend primarily upon a great capacity to retaliate instantly by means and at places of our choosing.”

George Quester, Professor of Government & Politics, University of Maryland

“Massive retaliation, the way Dulles and Eisenhower used it, in a way was a suicide pact that said if the Russians invade Western Europe we’re going to hit back with everything we have. We are not going to waste a lot of resources building tank defences against tanks.”

Ambassador C. Paul Robinson, President, Sandia National Laboratories, 1995-2005

“... and there has been no other time, I think, the US has ever believed that to an overwhelming conventional capability its only response was to escalate to the use of nuclear.”

The resulting controversy took Dulles and the President by surprise.

Michael Nacht, Dean, Goldman School of Public Policy, University of California at Berkeley

“People were very sceptical about Dulles’ announcement, about basically the credibility of the announcement. It was just not believable that, if there was going to be some incursion in what was then called French Indo-China, with communist forces, would it really be plausible that the United States would use nuclear weapons on its bombers and destroy Moscow? It just seemed such a disproportionate response.”
William Kaufmann, Professor Emeritus, Massachusetts Institute of Technology

“The introduction of nuclear weapons to deal with every possible contingency certainly struck me, and I think a lot of other people, as just being horrendous.”

James Schlesinger, Secretary of Defense, 1973-1975

“There were several reasons for the criticism, but the most important was that, unless the Soviets or the Warsaw Pact launched a massive attack, it did not seem to justify a massive response on our part.”

In 1954, William Kaufmann was among an emerging group of civilian strategists who argued that the credibility of retaliation was the key element of deterrence.

William Kaufmann, Professor Emeritus, Massachusetts Institute of Technology

“There was certainly a problem in the NATO community about the probability that the United States would really let loose its nuclear capabilities in the event of a Soviet invasion.”

Robert Bowie, Head of Policy Planning Staff, 1953-1957, US Department of State

“If the US was there, present, in the case of any attack it was bound to be involved, because its forces were involved.”

William Kaufmann, Professor Emeritus, Massachusetts Institute of Technology

“But it was not just a one-sided affair, where we could just blow away some targets, which were never specified, and that there would be no retaliation.”

Robert Bowie, Head of Policy Planning Staff, 1953-1957, US Department of State

“Massive retaliation was not seen by Eisenhower as the panacea for all forms of military conflict. On the contrary, it was addressed primarily to the question of how to prevent or conduct general war if that should be forced upon you.”

Michael Nacht, Dean, Goldman School of Public Policy, University of California at Berkeley

“Eisenhower never really, I think, came seriously close to considering the use of nuclear weapons. He was much more cautious. We had advantages – technology, air power, nuclear weapons – and they were trying to play to our strength. And I think it was fine with him to have in Dulles a pure ideologue, someone who was going to try to scare the hell out people. That is declaratory policy; whether it matches employment policy – what you actually do – is another matter.”
George Quester, Professor of Government & Politics, University of Maryland

“Eisenhower, by betting on massive retaliation, made European economic growth continue longer, fewer young men had to be in the military, we are all richer today because we took that chance in the 1950s of betting on massive retaliation.”

2.2 SAC Becomes Vulnerable to a First-Strike

James Schlesinger, Secretary of Defense, 1973-1975

“In the early 1950s, much of our deterrent force was based forward. The B-47s were based in Morocco, some of them were based in Saudi Arabia, and those were felt to be quite vulnerable.”

Harry Rowen, Senior Fellow, Hoover Institution, Stanford University

“It was a time when, not long after the Soviet Union had exploded its first nuclear weapon, and the question inevitably came up: suppose the Soviet Union were to drop a bomb on each of these bases, what would happen?”

This question was pondered by researchers at the RAND Corporation. Populated by a unique cadre of top US scientific talent, RAND was perhaps the first defence think-tank.

Harry Rowen, Senior Fellow, Hoover Institution, Stanford University

“It was a project with a very broad charter, a very broad scope; to look at challenges for aeronautics, space, warfare, from an Air Force perspective. There was a lot of talented people, some of whom were working on topics that were very relevant to questions of nuclear weapons and nuclear strategy.”

DOCUMENT: RAND, To the Air Staff, An Earlier Reconnaissance Satellite System, 12-Nov-57

One of those people was Albert Wohlstetter who, in 1954 issued a top secret report, warning that SAC’s overseas bases were vulnerable to a Soviet first strike.

DOCUMENT: R-266 - Selection and Use of Strategic Air Bases, April 1954, A.J. Wohlstetter, F.S. Hoffman, R.J. Lutz and H.S. Rowen,

George Quester, Professor of Government & Politics, University of Maryland

“Albert Wohlstetter led a team at the RAND Corporation that looked closely at the worst case possibilities of could the Soviets catch all our bombers on the ground and win World War III. He sort of convinced people that this was a real risk unless major reforms were made in the way SAC, Strategic Air Command, was based and stationed.”

Robert Bowie, Head of Policy Planning Staff, 1953-1957, US Department of State

“Eisenhower’s conception was that you might knock out some bases but you would not knock out enough of the capability altogether so that they were not faced with retaliation.”
George Quester, Professor of Government & Politics, University of Maryland

“The message was always that if one of their bombers gets in and gets over our base, it could destroy the whole base of 50 or 100 bombers and if they did that enough times they win World War III, and if we do that to them we win World War III, and that’s very nerve-wracking.”

James Schlesinger, Secretary of Defense, 1973-1975

“Air Force people, remembering the destruction in the Philippines, and in Pearl Harbour, always felt that it was important to get in the first blow. If one was coming to war, don’t let the enemy get in the first blow.”

Lynn Eden, Senior Research Scholar, Center for International Security & Cooperation, Stanford University

“‘There is a very deep military logic that would argue for pre-emption. It is better to get the enemy’s forces before they are launched or get you. That’s one aspect of pre-emption. Another is that if your forces are not survivable, there’s also a pressure to pre-empt.’”

Scott Sagan, Co-Director, Center for International Security & Cooperation, Stanford University

“Curtis LeMay once called it ‘anticipatory retaliation.’ The notion is that war is imminent, it’s unavoidable, and you are simply getting the first blow in to be able to destroy an enemy’s forces while they are being armed, while they are being fuelled.”

Herb York, Director, Livermore Laboratory, 1952-1957

“LeMay was prompted to propose pre-emption for the same reasons a number of other thinkers were and that was the realisation, correctly, that the only way to limit damage on the United States in a thermonuclear war is to go first.”

George Quester, Professor of Government & Politics, University of Maryland

“The most unstable situation is the situation where either side can win, depending on who strikes first and where neither side might want a war but each side says I’d rather have the war I start than the war they start.”

Scott Sagan, Co-Director, Center for International Security & Cooperation, Stanford University

“The Soviet Union, having their forces vulnerable, faced a similar dilemma. They would feel in a major crisis that if they waited for a full American attack they might not be able to retaliate.”

2.3 A Survivable Second-Strike Force

George Quester, Professor of Government & Politics, University of Maryland

“Bomber crews racing out to take off was very exciting to watch, it makes great cinema; very bad for the world political stability, and that makes everybody tense, it makes everybody in the mood to strike first when in doubt and it’s what we typically would call very low crisis stability or strategic stability.”
Soon, RAND would issue a new staff report, anticipating a Soviet first strike with thermonuclear weapons against the SAC bomber force based in the US. One proposed solution was to develop the capacity to retaliate after absorbing a full nuclear attack by the Soviets.

Document: RAND R-290, Protecting US Power to Strike Back in the 1950s and 1960s, 01-Sep-56

James Schlesinger, Secretary of Defense, 1973-1975

“The concept of the second-strike force was indeed developed at RAND, but it was something that was inherent in the Administration once the vulnerabilities of our force became clear.”

Killian Report

In April 1954, Eisenhower asked James Killian of MIT to direct a study of how science and technology could address the nation’s vulnerabilities.

Document: Meeting the Threat of Surprise Attack, Technological Capabilities Panel of the Science Advisory Committee, 14-Feb-57.

Robert Bowie, Head of Policy Planning Staff, 1953-1957, US Department of State

“The Killian Report was very important, particularly for the matter of assuring the survivability and the effectiveness of the nuclear deterrent. First, we must develop missiles as rapidly as possible – the ICBM would be much less vulnerable than was an airfield and a bomber.”

James Schlesinger, Secretary of Defense, 1973-1975

“A hypothetical Soviet strike at our bases led to an acceleration of the development of our missile programmes, both the Minuteman and the Polaris programme.”

Ambassador C. Paul Robinson, President, Sandia National Laboratories, 1995-2005

“... and then came the development to put weapons at sea, in the black oceans where they could not be found and attacked.”

The air force’s dominance of strategic delivery had sidelined the Navy in the late 1940s but had not left it idle. The world’s first nuclear-powered submarine was launched in January 1954. The Nautilus was significant, not only for its naval engineering, but also for the relentless efforts of Admiral Hyman Rickover to establish a nuclear navy. The capability to remain submerged for weeks and months at a time was essential to creating a survivable second-strike platform for nuclear weapons. Now the challenge was to launch a missile.


“The Navy Polaris programme started out with the idea of mounting liquid-fuelled missiles of a very large size on the outside of a submarine, which is of course kind of an abomination to sailors.”

Rear Admiral Robert Wertheim, United States Navy (retired)

“This was sort of a shotgun wedding between the Navy and the Army. The Army had the missile, the IRBM Jupiter, and the Navy was given the job of taking that missile, adapting it and taking it to sea.”
Herb York, Director, Livermore Laboratory, 1952-1957

“At both laboratories, work proceeded on the development of lighter and smaller thermonuclear warheads, specifically with missile delivery in mind. And Livermore decided to see what was the smallest two-stage weapon we felt we could design there in the early fifties.”


“After a couple of false starts, we at Livermore began to work on ways to reduce the weight of thermonuclear weapons to the point where they could go into modest-sized missiles.”

Herb York, Director, Livermore Laboratory, 1952-1957

“We came up with an idea which I then presented to the Atomic Energy Commission – we can get a megaton in 600 lbs. Now that was an exaggeration but we were serious about it.”

Rear Admiral Robert Wertheim, United States Navy (retired)

“... and that’s a huge change, and since the payload weight pretty much drives the size of the missile that’s going to carry it, that offered the prospects that we could have a small missile, hopefully solid-propelled, that could fit into a submarine hull.”

George Quester, Professor of Government & Politics, University of Maryland

“The Polaris submarine was developed in 1960, ahead of schedule. That doesn’t happen too often in the development of military weapons, and I’ve often said Admiral Raborn deserves the Nobel Peace Prize for getting it out there when he did because it took an awful lot of the attention and an awful lot of anxiety out of the nuclear confrontation.”

Rear Admiral Robert Wertheim, United States Navy (retired)

“With Polaris, the President was free to make a deliberate decision if, in the event of an assault, he could wait and make certain exactly what was needed and when.”

Ambassador Linton Brooks, Administrator, National Nuclear Security Administration, US Navy (retired)

“The ballistic missile submarine changed strategic policy because it became, in the early days, the embodiment of the notion of counter-value rather than counterforce.”

George Quester, Professor of Government & Politics, University of Maryland

“And, definitely, those missiles were counter-value missiles. Somebody once asked Admiral Rayburn whether a missile fired from the ocean would be accurate enough and his answer was, ‘If it even hits dry land, it’s accurate enough.’ And what he really meant was, ‘I’m not aiming at a military target, I’m not pretending to be accurate, I’m just imposing damage on the other side and they know that in advance and then the war will never happen in the first place.’”
Ambassador Linton Brooks, Administrator, National Nuclear Security Administration, US Navy (retired)

“If you are going to shoot in retaliation at cities, you place a great premium on getting some kind of communication through, but basically you need a very simple message - shoot/don’t shoot – and you don’t much care how long it takes to get there because you are going to survive.”

Key to the viability of Polaris as a deterrent force were improvements in command, control and communications. Developments in very low frequency radio technology would provide secure and constant at-sea communication. By 1960, it was clear that Polaris would represent a robust and survivable second-strike retaliatory force.

Admiral Richard Mies, Commander 1998-2001, United States Strategic Command

“The advent of the strategic submarine certainly brought a new dimension to survivability and clearly has enabled us to have a significant portion of our strategic submarine force at sea in a relatively relaxed posture but in a survivable posture and that survivability really enables you to essentially always be able to strike second, and that’s really what deterrence is about – it’s that responsive capability, not to strike first but to be able to always strike second.”

Arcane debates about strategic vulnerabilities, preserving crisis stability and survivable nuclear weapons systems like Polaris remained top secret and well out of public view in 1955.


2.4 Fear of Thermonuclear Attack in the 1950s

What stirred the public’s imagination was the fear of thermonuclear attack by Soviet bombers.

James Schlesinger, Secretary of Defense, 1973-1975

“The intelligence community had the hypothesis that they would build as rapidly as possible and it was this presupposition of maximum potential output that led to notions about the bomber gap.”

Returning from the Moscow Air Show in July 1955, Air Force Chief of Staff, General Nathan Twining, reported seeing scores of new Soviet Bison - intercontinental bombers. By 1956, Air Force Intelligence, using the presupposition of maximum potential output, predicted that within 5 years the Soviets could have as many as 800 bombers.

Richard Garwin, Senior Fellow for Science & Technology, Council on Foreign Relations

“Whole cities could be destroyed by bombs delivered by airplanes. What do you do? Well, you try to make an air defence. You look to the production of more nuclear weapons, improved nuclear weapons.”

Ambassador Henry Cooper, Director, Strategic Defense Initiative Organization 1990-1993, US Department of Defense

“I think what’s notable is that it was a natural inclination, at that time, to defend the entire country.”

One of the earliest defences to protect US cities was Nike-Ajax, a surface-to-air guided missile system, equipped with a conventional high-explosive warhead. By 1958, the Nike-Hercules system married a more accurate missile with a nuclear warhead.

“We had Nike locations all around the country; very extensive defence systems against aircraft. And so everybody, as a natural instinct, was in favour of defending themselves. When the civil defence programme started, that was a natural inclination as well.”

**Paul Boyer**, Professor Emeritus of History, University of Wisconsin

“The emphasis was, essentially, on individual citizen action; individual preparation. Civil defence is a component of massive retaliation. On the one hand, we’re signalling to the Russians: if you attack us, we will be prepared; we are taking steps to prepare and defend our people. On the other hand, if you attack us you will experience utter destruction. We will respond massively.”

Throughout the mid-1950s, the nation, together with the president and top government officials, participated in Operation Alert. This nationwide civil defence drill included a top-secret command centre in White Sulphur Springs, West Virginia.

**Paul Boyer**, Professor Emeritus of History, University of Wisconsin

“... and there were broadcast facilities there where the President could address the people and so the idea was continuity of government in the event of the destruction of Washington.”

**Dwight Eisenhower**, President, 1953-1961

“We are here to determine whether or not the government is prepared in time of emergency to continue the functions of government so there shall be no interruption in the business that must be carried on.”

But even as Eisenhower practised with the nation, he understood that civil defences and anti-aircraft defences were no match in a war with thermonuclear weapons. The Atomic Energy Commission began testing deliverable multi-megaton thermonuclear weapons in February 1954. The BRAVO test series served to galvanize public attention.

Newsreel: “The yield was almost three times the most probable value. Unfortunately, the effects of Shrimp were felt beyond our proving ground. The fallout was to the east, and relatively heavy for several hundred miles.

**Paul Boyer**, Professor Emeritus of History, University of Wisconsin

“The radioactive fallout from those tests was much greater than the scientists had anticipated. With the BRAVO test, the issue of radioactive fallout really gripped the public mind.”


“Eisenhower gave deep thought to the thermonuclear weapon. He began to see it as something going beyond anything that had been experienced in traditional warfare.”
Paul Boyer, Professor Emeritus of History, University of Wisconsin

“I think, in the period from the mid-50s through the early 60s, you see a process of gradually increasing public apprehension and awareness.”

Michael Wheeler, Senior Defense Analyst, Science Applications International Corporation

“Eisenhower had a grand conundrum that he was working: how do you talk about national security, and in particular how do you talk about nuclear weapons issues with the American public, where on the one hand you’re not scaring them to death and saying that everything is so desperate that it’s impossible, but on the other hand you’re not sugar-coating it or just not talking about it.”

Dwight Eisenhower, President, 1953-1961

“The great chore you have here is to give people the facts, show them what they can do, get the federal leadership, get the participation of the states and the municipalities, without terrifying people.”

Michael Wheeler, Senior Defense Analyst, Science Applications International Corporation

“Through his administration I think he tried to find that right balance.”


“We had three main instruments for our security: diplomacy, deterrence and actual defence, and actual military operations.”

Eisenhower grappled with conflicting intelligence estimates about a bomber gap, a public aroused to the dangers of nuclear weapons, and a defence community urging him to spend billions more. His promise of ‘security with solvency’ led to a reliance upon nuclear weapons for national security, but at the UN Eisenhower also initiated a diplomatic track to address widespread fears of thermonuclear war.

Dwight Eisenhower, President, 1953-1961

“The United States pledges before you, and therefore before the world, its determination to help solve the fearful atomic dilemma.” ['Atoms for Peace’ speech to the United Nations, 8 December 1953]

Ambassador Thomas Graham, Special Representative of the President 1994-97, US Arms Control & Disarmament Agency

“‘The ‘Atoms for Peace’ speech was a step toward attempting to control nuclear technology in a way that it could be used peacefully. I think it was a very good speech and an important initiative but had little to do with arms control. The Eisenhower administration did not really come to grips with arms control as a policy and a concept until the moratorium; the 1958 nuclear test moratorium, and that was just the beginning, but that was, as I see it anyway, the beginning.”

2.5 The Policy of Massive Retaliation Evolves

As he worked to assuage public fears about thermonuclear warfare, with a new generation of weapons and delivery systems, Eisenhower was about to receive a most unwelcome surprise. The launch of Sputnik, atop a Soviet SS-6 ICBM, set in motion a series of political and technological forces that would challenge Eisenhower’s policy of massive retaliation.
Lyndon B Johnson, President, 1963-1968 (then, Senator)

“The importance of this feat can not be underestimated. It brings mankind closer and closer to an actual escape into space.”

Dwight Eisenhower, President, 1953-1961

“But it will be some time before either we, or the Soviet forces, will have long-range missile capacity equal to even a small fraction of the total destructive power of our present bomber force.”

Richard Garwin, Senior Fellow for Science & Technology, Council on Foreign Relations

“President Eisenhower went on television and he explained that this was a tremendous accomplishment of the Soviet system, which showed that they could launch missiles, of course, but it didn’t change our basic deterrence.”


“Eisenhower continued to think that the nuclear confrontation was governing. The damage that would come from that was so apparent and so great that the Soviets were not likely to initiate such a conflict.”

David Holloway, Professor of International History, Stanford University

“Not for one minute did Khrushchev want a nuclear war. I think he was perfectly clear that this would be, you know, just devastating. That’s what his own scientists were telling him and I think he thought that Eisenhower believed exactly the same thing. What he thought was going on was a war of nerves.”

On the heels of Sputnik, came a new report to the President, warning of a precipitous Soviet technological advantage – and ICBM capability that could threaten a first strike as early as 1959.

DOCUMENT: ‘Deterrence & Survival in the Nuclear Age,’ Report to the President by the Security Resources Panel of the Science Advisory Committee, 7 November 1957

Richard Garwin, Senior Fellow for Science & Technology, Council on Foreign Relations

“People who had dire views of national security said, ‘Of course the Soviets are ahead, they did a better job with the German engineers, they have more missiles than we. There is a missile gap.’”


“But he said, ‘They haven’t told me a thing I haven’t been staying awake nights thinking about for many years.’”

Two years earlier, the Killian Report had recommended the acceleration of United States missile programmes. It also made another, equally important, proposal: the improvement of US intelligence gathering. This spurred the development of a high-altitude spy-plane to monitor Soviet missile deployment.
Robert Bowie, Head of Policy Planning Staff, 1953-1957, US Department of State

“The U-2 enabled Eisenhower to check areas where they might be producing these weapons and to assure himself that, in fact, they were not in a position yet to manufacture them.”

Yet, even with the benefit of new intelligence, an improved early-warning system and the promise of survivable retaliatory systems on the horizon, many felt that Eisenhower’s policy of massive retaliation was losing credibility.


“The rapid development of the H-bomb caused a number of American strategists, particularly at RAND, to recognise that this was going to be a two-sided game, ultimately.”

William Kaufmann, Professor Emeritus, Massachusetts Institute of Technology

“It was very uncertain, but you could certainly try to limit those kinds of operations by dealing only with targets that were military targets.”


“Counter-force arose because a counter force in Russia, so you wanted to try to do something about that. So it became natural to try to target the emerging Soviet nuclear capability.”

William Kaufmann, Professor Emeritus, Massachusetts Institute of Technology

“Nobody could guarantee that if you did counter-force, and not counter-city, that it would work out, but it was worth a chance.”

Michael Nacht, Dean, Goldman School of Public Policy, University of California at Berkeley

“There is the dividing line of people in the nuclear age, because some believe that nuclear weapons don’t fit this; that nuclear weapons will only produce such massive, horrific destruction, that no political objective could be achieved by actually using nuclear weapons. Others believe that they could be, if they were used in a calibrated fashion, if they were low yield, if they were proportionate to the aggression.”

Eisenhower continued to embrace a policy of deterrence by threatening to inflict unacceptable damage upon the Soviets. A new strategic concept, proposed to the President at the National Security Council, argued for greater flexibility. But Eisenhower regarded the strategy of ‘graduated retaliation-coercion’ as something akin to fighting with nuclear weapons.

DOCUMENT: NSC meeting, 7 April 1958


“But Eisenhower would have none of it. He was adamantly opposed to the idea of incremental engagement.”
Michael Wheeler, Senior Defense Analyst, Science Applications International Corporation

“Certainly, I think, that as an experienced commander from World War II, Eisenhower had little truck with that. The fog of war would just wipe away the nature of the signals we were sending.”

Dwight Eisenhower, President, 1953-1961

“All of us know that, whether started deliberately or accidentally, global war would leave civilisation in a shambles. This is as true of the Soviet system as of all others. In a nuclear war there can be no victors, only losers.”

James Schlesinger, Secretary of Defense, 1973-1975

“Eisenhower was a very complicated man with complicated thoughts. His view was that, if we had a boldly stated position, that that was part of deterrence in and of itself.”

2.6 The Need for Integrated Planning

For Eisenhower, the fleet ballistic missile submarine embodied the very notion of nuclear deterrence: a survivable weapon system that ensured strategic stability. But the deployment of Polaris would create serious new operational challenges. Beginning in the late 1950s, a technological momentum drove the development of US ballistic missile systems. The speed of this growth would overtake national policy and operational planning.

Robert Burnett, MINUTEMAN Program Director 1961-66, TRW Corporation

“MINUTEMAN-1 flew on the 63rd December, 1961. Sam Phillips was a young brigadier general. His bosses had told him, ‘You have to fly this thing in 1961’. We were all down at the Cape and this missile wasn’t ready to be flown in 1961. So I said to Sam, ‘Look. We’ll take this calendar; we’ll put it in the blockhouse; we’ll extend December until we get the thing flown. So we actually flew in on the 63rd of December. That was Flight Test: Missile 401. With that piece of data, we knew the thing would work.”

A year before the successful test of MINUTEMAN-1, the navy commissioned Polaris and developed separate targeting plans for their A-1 ballistic missile. A submarine-launched ballistic missile would now greatly complicate the nuclear planning process.

Michael Wheeler, Senior Defense Analyst, Science Applications International Corporation

“In the late 1950s, you had different commanders: a specified commander, SIGSAC (?), various unified commanders, UCOM PACOM, and so forth. Each of them developing their nuclear weapons plans independent of one another.

Todd White, Command Historian 2002-2004, United States Strategic Command

“The theatre commanders were identifying targets that the strategic commander also believed needed to be struck, so that you had more than one weapon being applied to a target when perhaps only one or two weapons was necessary.”

General Larry Welch, Chief of Staff 1986-1990, United States Air Force

“There was recognition among planners that the interface between deliveries, that fratricide was likely to ensue.”
Scott Sagan, Co-Director, Center for International Security & Cooperation, Stanford University

“We’d be killing our own forces, not just enemy forces, and yet the Air Force and the Navy did not have the capability to disengage their different war plans.”

Todd White, Command Historian 2002-2004, United States Strategic Command

“Eisenhower referred to the lack of integration as a monstrosity.”

In 1958, General Nathan Twining, Chairman Joint Chiefs of Staff, had proposed improving the nuclear planning process with the Joint Unified Command. Admiral Arleigh Burke, Chief of Naval Operations, vigorously opposed the idea and feared losing control of the Navy’s Polaris.

General Larry Welch, Chief of Staff 1986-1990, United States Air Force

“General Twining was certainly well aware that, to have an effective integrated plan, that he was going to have to make the Navy comfortable with this process. Twining, earlier, had pushed for some kind of a structured, coherent planning process.”

Todd White, Command Historian 2002-2004, United States Strategic Command

“The compromise, if you will, was that each of the forces would control their own delivery systems, but that targeting had to be combined in a joint staff.”

On August 11th, 1960, Eisenhower formally approved the proposal for the formation of a Joint Strategic Target Planning Staff, the JSTPS, envisioned by General Twining.

Michael Wheeler, Senior Defense Analyst, Science Applications International Corporation

“The decision was taken late in the Eisenhower administration to create this new body out in Omaha, Joint Strategic Target Planning Staff. The first thing that the Joint Strategic Target Planning Staff was going to do was put together a Single Integrated Operational Plan.”

Todd White, Command Historian 2002-2004, United States Strategic Command

“The Single integrated Operational Plan identifies targets and allocates weapons to the targets and it decides on how those weapons are delivered to those targets. SIOP is based upon the written guidance that begins with the President and is refined by the Secretary of Defense and then further elaborated upon by the Joint Staff.”

Michael Wheeler, Senior Defense Analyst, Science Applications International Corporation

“This is an extraordinarily elaborate undertaking. SIOP-62 was the first attempt to do that, in a very compressed time frame. It was an inflexible plan in the sense that it didn’t have a lot of options built in to it.”
Lynn Eden, Senior Research Scholar, Center for International Security & Cooperation, Stanford University

“SIOP-62 appeared to have a number of options, I believe it was 14, but there was no difference. All it was was how generated the forces were. So as more forces became generated, you had what looked like a different option.”

Scott Sagan, Co-Director, Center for International Security & Cooperation, Stanford University

“Each option included all countries in the Sino-Soviet bloc, giving the President virtually no capability to differentiate. Eisenhower himself began to doubt the wisdom of having only large-scale nuclear attack options.”

Michael Wheeler, Senior Defense Analyst, Science Applications International Corporation

“Eisenhower’s science advisor went out and took a look at SIOP-62 when it was being put together and came back and said it’s too inflexible. I think Eisenhower would have agreed in that.”

Scott Sagan, Co-Director, Center for International Security & Cooperation, Stanford University

“I think it’s fair to say that when Kennedy came into office he, and many of his senior civilian advisors, were quite shocked to find the kind of war plans they had inherited from the Eisenhower administration. Indeed, Kennedy was given a memorandum in July 1961 from McGeorge Bundy that said: ‘In essence, the current plan calls for shooting off everything we have in one shot, and it is so constructed as to make any more flexible course very difficult.’”

Janne Nolan, Director, International Programs, Eisenhower Institute

“The history, again, of nuclear weapons has been the ever-elusive effort to give the President of the United States flexibility and a choice about what attack options, what uses of nuclear weapons, he could choose in a crisis.”

Todd White, Command Historian 2002-2004, United States Strategic Command

“The significance of the relationship between the civilian policy of leadership and the military personnel who implemented that policy into the SIOP is perhaps the most significant story of the period from 1960 to 1990.”

Cold War tensions in West Berlin would launch a search for flexible nuclear options by a new administration; a search that would tap many of the strategic theories about nuclear war which had been percolating at RAND throughout the 1950s.

John F. Kennedy, President, 1961-63

“I think the most serious indictment that I have of this administration is that the relative power of the United States has declined in comparison to the Sino-Soviet bloc.”

“This administration has not met its responsibilities either at home or abroad.”

“Our task is to rebuild our strength.”

“I want the people of the world and Mr Khrushchev to know that a new generation of Americans has taken leadership of this country and that this free society speaks with power, force and a vision.”

2.7 Flexible Response

In 1960, John Kennedy campaigned on fears of a missile gap with the Soviets. A gap which later turned out to be more symbol than substance.
James Schlesinger, Secretary of Defense, 1973-1975

“The Soviets had paltry forces. At one point they had only four ICBMs. That was not enough for a major attack on the United States.”

Richard Garwin, Senior Fellow for Science & Technology, Council on Foreign Relations

“President Eisenhower offered Kennedy, or some of his advisors, a view of the highly classified information, but Kennedy and his team declined to have any official knowledge of this and, when they got in, discovered that the missile gap was in the other direction; that we didn’t have a problem in that way.”

Kennedy surrounded himself with what the Joint Chiefs would refer to as the ‘Whiz Kids’ and chief among them was his 44-year old Secretary of Defense, Robert McNamara.

Michael Nacht, Dean, Goldman School of Public Policy, University of California at Berkeley

“McNamara recruited from RAND people like Charles Hitch, who became a chief budget figure at the Defense Department; Alain Enthoven, who headed the office of systems analysis; Kaufmann himself, who had been at RAND, and these were people who applied quantitative methods to resolve some of the problems that McNamara wanted solved. And McNamara was a major supporter of these techniques being applied to military problems.”

William Kaufmann, Professor Emeritus, Massachusetts Institute of Technology

“The connection between RAND and the Kennedy Administration worked out very well and was very close.”

The Whiz Kids from RAND had new ideas about nuclear strategy and operations, which were unified by the notion that the President should have choices.

William Kaufmann, Professor Emeritus, Massachusetts Institute of Technology

“When he was briefed initially about the SIOP didn’t have any choice at all, Kennedy was so furious about this that he said he would never sit in on any one of these exercises again and he made it very clear to McNamara that he wanted choices.”

Robert S. McNamara, Secretary of Defense, 1961-68

“The one thing that shocked me almost more than anything else about the SIOP plans that I reviewed in March of 1961 at SAC was we essentially blasted our way through Warsaw Pact countries in order to get to the targets of our SIOP in the Soviet Union and I remember I thought, “My God, what are we going to do to Poland?”

Scott Sagan, Co-Director, Center for International Security & Cooperation, Stanford University

“Moreover, there was no differentiation in those attack plans between attacking nuclear targets, conventional military targets and urban-industrial targets.”
Michael Nacht, Dean, Goldman School of Public Policy, University of California at Berkeley

“McNamara was originally promulgating a ‘No-Cities’ strategy. Don’t go after the cities, go after the forces and do it in such a way as to limit the amount of damage. There’s no point killing people just to kill them; that’s not the point of this.”

Robert S. McNamara, Secretary of Defense, 1961-68

“The ‘No-Cities’ approach was an attempt to pursue some thoughts that some of the RAND experts had brought with them.”

William Kaufmann, Professor Emeritus, Massachusetts Institute of Technology

“The only way I could see that one could use nuclear weapons but still have some kind of control over the way in which the exchange might evolve was by avoiding cities.

Robert S. McNamara, Secretary of Defense, 1961-68

“We asked SAC to develop greater flexibility in their programmes, their plans, to provide withholding capabilities. I thought it was very important to provide other options to the President.”

As a review of planning guidance for nuclear weapons got underway in the summer of 1961, McNamara was briefing the President about a new crisis in West Berlin. By July, the NSC was considering a variety of military responses to a renewed blockade of West Berlin, including the use of nuclear weapons in Central Europe.

DOCUMENT: Memorandum, Subject: Briefing for Thursday NSC Meeting, July 12, 1961

John F. Kennedy, President, 1961-63

“The world is not deceived by the Communist attempt to label Berlin as a hotbed of war. There is peace in Berlin today. The source of world trouble and tension is Moscow, not Berlin, and if war begins, it will have begun in Moscow, and not Berlin.”

Robert S. McNamara, Secretary of Defense, 1961-68

“One of the most important events was the Soviet attempt to take West Berlin. At the time, of course, West Berlin was isolated from the rest of the NATO, located in East Germany. But about that time, I the SAC Europe Supreme Allied Commander, who was General [Lauris] Norstad, back to Washington and I said, ‘Look Larry, they did A, we did B, they did C, we did D. How is this thing going to evolve?’”

Scott Sagan, Co-Director, Center for International Security & Cooperation, Stanford University

“Flexible Response doctrine began when Kennedy and his advisors recognised the Berlin crisis was dangerous and that the utter lack of flexibility in nuclear war plans made it even more dangerous.”

By September 1961, a wall separating West and East Berlin reduced the immediate tensions, but it would stand as an enduring symbol of the Cold War for the next 28 years. After the crisis, McNamara issued his first Draft Presidential Memorandum that provided new guidance for SIOP-63 which, for the first time, included a secure reserve force.
SIOP-63 was a plan that included five primary attack options, designed to be executed under varying contingencies of pre-emption or retaliation. The plan allowed for ‘withholding attacks’ in a number of different ways and focused on the destruction of Soviet forces while maintaining a ‘secure reserve force’, capable of devastating the Soviet society. SIOP -63 was the first effort to control the escalation of a nuclear war.

DOCUENT: JCS SIOP, Single Integrated Operational Plan, Joint Chiefs of Staff,

Lynn Eden, Senior Research Scholar, Center for International Security & Cooperation, Stanford University

“The military tended to notions of, let’s say, escalation control, withholds, complications to the war plan.”

Scott Sagan, Co-Director, Center for International Security & Cooperation, Stanford University

“Many military officers, when asked to engage in more limited nuclear options, have withholds to protect Soviet cities in the hope that the Soviet Union would not attack our cities, felt that this was abstract theorizing by American civilians and they did not want to have any part of it.”

Theories of escalation control would also be complicated by rapidly increasing numbers of Soviet strategic nuclear forces, capable of inflicting unacceptable damage upon the United States.

Robert S. McNamara, Secretary of Defense, 1961-68

“So the attempt to avoid that by the publicly discussed policy of limiting damage to each side was considered impractical and we moved away from it very, very quickly, and we moved away from it to what became known as ‘flexible response’.”

Michael Nacht, Dean, Goldman School of Public Policy, University of California at Berkeley

“McNamara shifted from ‘damage limitation’ to ‘flexible response,’ and flexible response was basically saying, ‘We have to keep our options open. We need what we need to have for lots of different choices and let’s not lock ourselves in to one particular kind of strategy and let’s use the minimum of force necessary to achieve our goal.’”

Robert S. McNamara, Secretary of Defense, 1961-68

“Flexible Response, in a sense, was a withholding strategy. We would only use a portion of our force, hoping that the Soviets would only use a portion of theirs.”
**George Quester**, Professor of Government & Politics, University of Maryland

“The same kind of thing he endorses today; that nuclear weapons should never be used unless the other side uses them first, that we should endorse a ‘No First Use’ policy. The West European allies we had didn’t like that at all.”

**James Schlesinger**, Secretary of Defense, 1973-1975

“And the Europeans said, ‘Well, you’re going to fight a conventional war here and destroy Western Europe with non-nuclear munitions or we are going to be overrun, that does not sound like a very good deterrent. The Europeans preferred to have at least the public discussion emphasising nuclear weapons.”

**Robert S. McNamara**, Secretary of Defense, 1961-68

“Then NATO policy, in effect, would be supported by increasing the numbers of both strategic nuclear weapons and tactical nuclear weapons.”

Newsreel: “Today we have a flexible fighting team ready to deal with any threat, whether it be large or small. We are superior to the Communists in nuclear power and we intend to stay that way.”

**James Schlesinger**, Secretary of Defense, 1973-1975

“Indeed there were 7,000 tactical nuclear weapons in Western Europe. McNamara introduced those weapons as a way to reassure the Europeans that he was prepared to use nuclear weapons. I’m not sure that he would ever have used them, that was not his nature, but it was part of a symbol of American support.”

**Robert S. McNamara**, Secretary of Defense, 1961-68

“Despite my belief, which was shared by President Kennedy, that it would be contrary to the interests of the US and NATO to ever initiate the use of nuclear weapons, that was still the publicly stated NATO policy and it was the policy that underlay NATO’s war plans.”

**George Quester**, Professor of Government & Politics, University of Maryland

“… which in some ways is a lot like the official policy in the last years of the Eisenhower Administration: ‘We may try to hold you back without using nuclear weapons, but then we may bring nuclear weapons in.’ It was a policy that was clear as mud, deliberately clear as mud.”

2.8 Assured Destruction

Newsreel: “In the General Assembly, a vitriolic attack on a Philippine delegate who spoke of Soviet domination of Eastern Europe. Khrushchev falls to personal insult.

**David Holloway**, Professor of International History, Stanford University

“I mean Khrushchev in this way was like Stalin, he wanted to seem stronger rather than weaker. So this was a pretty high stakes game of politics, but I think to his mind, you know, nuclear war was just out of the question, so it was this ‘see who would blink first in a crisis’.”

Since the heady days of Sputnik, Khrushchev had impressed the West with his claims for Soviet technological prowess, but five years later the Soviet leader grew bolder. In October 1962, the United States had Jupiter missiles on NATO bases in Britain, Italy and Turkey and their flight times to targets in the Soviet Union were measured in minutes. In Khrushchev’s eyes the US had altered the strategic balance of power.
“One of the explanations for Khrushchev’s action in Cuba is to plug the gap in strategic forces by deploying systems that can strike the US.”

NEWSREEL: “On October 14, a recon plane returns with the first hard photographic evidence indicating the presence of Soviet offensive missiles in Cuba. Immediately, increased surveillance is ordered.

The discovery of Soviet missiles in Cuba tested US strategic nuclear policy at a time when it possessed an overwhelming nuclear superiority at a ratio of nearly 17 to 1. Yet the execution of pre-planned nuclear options contained in SIOP-63 was only remotely considered within ExComm, the Executive Committee established by Kennedy to deal with the crisis.

DOCUMENT: National Security Action Memorandum 196, Subject: Establishment of an Executive Committee of the National Security Council, October 22, 1962

“I agreed we had to get them out because they had been introduced under the cloak of deceit, but I stated we should be clear on one thing; they did not change the military balance.”

While all agreed that action was necessary, there was no consensus about the impact of the missiles in Cuba upon the strategic balance. The Joint Chiefs believed that Soviet missiles 100 miles offshore were massively destabilising.

NEWSREEL: “All of the western hemisphere, from Hudson Bay to Lima, Peru, is within their range. With the facts now before him, President Kennedy continues to meet with his top advisors.”

“And I said, ‘What the hell difference does it make whether there are missiles launched from 100 miles off the shore or 5,000 miles off the shore. Before they put those there you knew damned well that if we launched a first strike they would launch whatever survived of their force and we have all agreed that it would be sufficient to deter us from launching a first strike.’ So before they put those missiles there we didn’t have a first-strike capability but we did have a clear capability to deter. Now they’ve put those missiles there in Cuba, we still don’t have a first-strike, it hasn’t changed a bit, but we still have a deterrent.”

“They realised that they were very close to a nuclear war because, as they looked at the potential outcomes, in the heart of that crisis, they didn’t look very good.”

“The ExComm never really raised the issue of ‘What do we do with our nuclear forces?’ The only thing that made them think differently was when I pointed out to them that SAC was moving its forces down within range of the Cuban missiles, and at that point they began to recognise that this was a military as well as a political issue.”

“During the five or six days we debated two major alternatives. One was a quarantine and the other was an airstrike which, it was recognised, would have to be followed by a sea and land invasion.”
As Kennedy reviewed the options one last time he asked General Sweeney, the operation commander, if an airstrike would destroy all the missiles.

Robert S. McNamara, Secretary of Defense, 1961-68

“He said, ‘Mr President, I can guarantee you we will destroy more of those missiles than any other air force could, but can I guarantee you there won’t be one, two or five left? No.’ Now at that moment it was clear in my mind that Kennedy was not going to support the attack. What President would initiate action that would result in one, two or five nuclear warheads detonating on some of his major cities?”

NEWSREEL: Kennedy: “To halt this offensive build-up, a strict quarantine on all offensive military equipment under shipment to Cuba is being initiated. Should these offensive military preparations continue, thus increasing the threat to the hemisphere, further action will be justified. I have directed the armed forces to prepare for any eventuality. It shall be the policy of this nation to regard any nuclear missile launched from Cuba against any nation in the western hemisphere as an attack by the Soviet Union on the United States, requiring a full retaliatory response upon the Soviet Union.”

James Schlesinger, Secretary of Defense, 1973-1975

“I think that, ultimately, it was the sheer horror to McNamara of contemplating a serious nuclear war that led him to back off to the notion of assured destruction as sufficient to hold the Soviet Union at bay.”

Robert S. McNamara, Secretary of Defense, 1961-68

“Now this had an immense impact on my thinking about the use of nuclear weapons. I have often said publicly the Cuban Missile Crisis was the best-managed foreign policy or defence policy crisis of the last fifty years. But, in the end, we avoided nuclear war by the narrowest of margins because of luck. All of this influenced my thinking regarding nuclear strategy, nuclear force levels and particularly my advice to President Johnson.”


Scott Sagan, Co-Director, Center for International Security & Cooperation, Stanford University

“Later on, McNamara began to stress the ultimate deterrent, the ‘assured destruction’ capability as, not just a minimum deterrent, but as the essence of deterrence, because he wanted that to be a constraining force.”

Robert S. McNamara, Secretary of Defense, 1961-68

“After absorbing a Soviet first strike, a US capability of destroying 25-30% of their population and 50% of their industrial and military capability.”

DOCUMENT: Alain Enthoven

Richard Garwin, Senior Fellow for Science & Technology, Council on Foreign Relations

“They then said 400 one-megaton weapons on Russian cities and industrial capacity would do the job. So that from then on was the design goal for building forces to have 400 weapons assured of delivery despite their destruction before a launch, despite their possible attrition in going through defences.”

At its peak in 1962, with 283,000 personnel and 3,400 aircraft, SAC exercised considerable influence upon decisions about nuclear force requirements. McNamara’s initial guidance, supporting a policy of flexible response, had prompted the JSTPS to identify many more military targets.

“Flexible Response was driving the inventory. If you wanted to have flexible response, you wanted to have a large number of weapons, you wanted to develop new kinds of weapons.”

William Kaufmann, Professor Emeritus, Massachusetts Institute of Technology

“The Air Force immediately, not only rejoiced, but saw the opportunity to expand their capabilities, especially the MINUTEMAN ICBM, and they proposed buying 10,000.”


“McNamara, increasingly during his tenure in the Pentagon, became consumed with trying to put a lid on the nuclear forces.”

For McNamara, assured destruction became a rationale for sizing retaliatory forces of the SIOP, as well as a declaratory policy of deterrence.


“McNamara believed that he would be deterred by the threat of massive retaliation and he assumed that the Russians would feel the same.”

David Holloway, Professor of International History, Stanford University

“But I think that was a grave misunderstanding of how the Soviet leaders thought about nuclear weapons, and especially about the way in which the military thought about nuclear weapons which was in terms of, you know, fighting a war and because that was in a way their mission.”

Michael Nacht, Dean, Goldman School of Public Policy, University of California at Berkeley

“They tend to be very tough-minded about these things. They are always interested in much more force than they might ever need. They are very conservative that way, that’s their whole history.”

Ambassador Linton Brooks, Administrator, National Nuclear Security Administration, US Navy (retired)

“And I think that there was a substantial period of time when the Soviet Union built strategic forces for reasons that had to do with internal Soviet politics and internal resource allocations. Nuclear theory and nuclear strategy has made a lot of difference in the way we pointed weapons, but it has not made nearly as much difference as we like to claim in how many weapons we had. And I believe that is almost certainly true for the Soviet Union. [...] Harold Brown once said, ‘When we build, they build, and when we stop, they build.’”