

China in U.S. Nuclear War Planning

China has been a target for U.S. nuclear forces beginning soon after the founding of the People's Republic of China in 1949. During the Korean War, after Chinese forces entered the conflict in October 1950, President Harry Truman considered using nuclear weapons against China, and even deployed nuclear-capable B-29 bombers and nine non-nuclear components to Guam in 1951 to be within range of key targets. President Dwight D. Eisenhower had his own series of crises with China in 1954 and 55 and in 1958 in the Taiwan Strait area, and the United States contemplated using nuclear weapons. These actions surely spurred Mao to decide to build a bomb.

Until 1960, however, nuclear war planning against China was mainly an ad hoc, contingency-based effort. Throughout the late-1950s regional commanders sought to incorporate many of their new nuclear weapon systems into a growing number of contingency plans. Beginning in 1960 the Pentagon attempted to assemble the various strike plans under a coordinated execution planning system so as to avoid duplication. The result was the Single Integrated Operational Plan (SIOP). The first SIOP, dated December 1960, contained only one “plan,” under which the United States would launch all of its strategic nuclear delivery vehicles immediately upon the initiation of general war with the Soviet Union. Although the Soviet Union was the main focus, the single target list also included Chinese and Soviet satellite state cities, as well as airfields and other military bases and facilities within or on the outskirts of these cities. Under this first war plan there was no provision for an attack on the Soviet Union that did not also involve attacks on China and the satellite states. No strategic reserve forces were held back; everything was used.³¹⁰

For U.S. Pacific Command (PACOM), this development meant incorporating its existing regional war plans into the larger SIOP.³¹¹ *General War Plan Number*

1-61 was the first PACOM general war plan to include directives that supported the SIOP. Work began in July 1960,³¹² six months before the first SIOP took effect, and construction of Command and Control (C2) facilities needed to support the new requirements included an alternate communications link between Clark Air Force Base (AFB) in the Philippines and Taiwan “to ensure adequate back-up to facilities serving ‘Quick Strike’ and Single Integrated Operations [sic] Plan (SIOP) forces.”³¹³



But intertwining Soviet and Chinese nuclear strikes soon proved to be impractical. During the 1961-1962 revisions of the SIOP, the war planners separated attacks on China and Soviet satellite states for targeting purposes from strikes against the USSR.³¹² Strike forces were divided into alert and non-alert forces, and the targeting of China gradually became more complex. The SIOP-62 that went into force on April 1, 1961, for example, called for the destruction of 78 urban industrial complexes in China. Of these 49 were assigned to the alert force,³¹⁴ and would have been destroyed in the first wave.

Once the basic SIOP organization was established, analysts and targeteers began the exhaustive and meticulous process of identifying suitable targets, calculating the force needed to destroy them, assessing U.S. capabilities to deliver nuclear warheads onto the targets, designating individual warheads to the aimpoints, and assigning forces for follow-up attacks to ensure pre-determined levels of destruction. This target-focused planning process resulted in inflating the number of

targets and as a consequence the number of warheads that would be needed to ensure their destruction, with improved platforms to deliver them.

At this early stage China did not have a nuclear weapons capability, but a 1963 *Special National Intelligence Estimate* from the CIA reassessed the predictions about China's nuclear future. Based upon new evidence, mainly from photographs, the SNIE concluded that the Chinese had embarked on "a more ambitious advanced weapons program than we had earlier thought likely." China probably would have enough fissile material to conduct a nuclear detonation in early 1964, and might be capable of producing one or two crude weapons a year by 1965. It estimated that medium-range ballistic missiles (MRBMs) probably would not be ready for deployment before 1967, and added that "China is not likely to develop [a missile-compatible] warhead until 3 or 4 years after a first detonation."³¹⁶ The predictions were partially met in October 1964, when China detonated its first nuclear device.

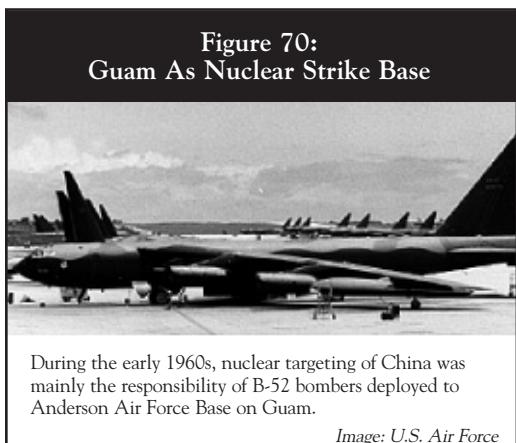
The nuclear explosion underscored U.S. concern over a new member of the nuclear club and solidified China's status as an adversary to the United States in the region. A comparison of China's nascent nuclear capability with that of the United States was totally one-sided. Not counting weapons at sea or in the United States, the Pentagon had some 2,400 nuclear weapons deployed in Asia, specifically in Guam, South Korea, Okinawa, the Philippines and Taiwan.³¹⁷

A RAND study conducted shortly before the first Chinese explosion concluded that U.S. theater forces augmented by a wing of B-52s on Guam and a single Polaris equipped strategic submarine "could virtually eliminate China's offensive air and missiles capability while incurring very small losses." Even if China managed to attack U.S. and allied bases in the Far East first with aircraft and missiles, the augmented forces which survived the attack would be capable of "substantial destruction of Chinese offensive air and missile capability."³¹⁸

U.S. targeting requirements during the first part of the 1960s were met mainly by deploying long-range bombers with nuclear weapons to bases in the Pacific within range of mainland China.³¹⁹ Although bombers and nuclear weapons had been sent to the region on an ad hoc basis in the mid- and late-1950s, SIOP planning resulted in more permanent forward deployments. The SIOP-63 plan that took effect in August 1963 included the forward deployment of 12 B-47 bombers to Anderson Air Force Base (AFB) on Guam,³²⁰ with 10 more bombers

added that fall because of the Cuban Missile Crisis.³²¹ SIOP-64 in January 1964 replaced the B-47s with the new B-52 bombers³²² with much longer range. By April 1, 1964, coinciding with Change 1 to SIOP-64, the B-52s assumed permanent alert status on Guam.³²³

In the first half of the 1960s, the individual aircraft and crews deployed in three-month cycles under the so-called Reflex program. After completing a cycle they returned to their main bases in the United States and a new squadron would



take over alert status in the area. After the Reflex program was discontinued in July 1965, the Strategic Air Command (SAC) forward deployed a “dual contingency/SIOP force” of 20 alert aircraft to Guam,³²⁴ apparently tasked to cover both “pure” strategic targets under the SIOP and any regional contingencies such as North Korea and Taiwan. This

arrangement was continued in Revision 8 to SIOP-64, which was introduced in April 1966. This plan not only included the 20 B-52 alert bombers on Guam but also an additional 10 bombers flying on the new Far East Airborne Alert route fully loaded with nuclear weapons, providing “improved coverage of Chinese targets.”³²⁵

This evolution in the Chinese target coverage coincided with a fundamental shift in the U.S. targeting philosophy for China. The Joint Long-Range Strategic Study FY 77-86, prepared by the Joint Chiefs of Staff (JCS) in 1966, identified concerns about “uncertainties” in U.S.-Soviet or Soviet-China relationships in a possible U.S.-China confrontation. The study concluded that uncertainties “required a China-oriented strategic nuclear deterrent and ICBM defense that would pose no threat to the USSR.”³²⁶ In other words, any targeting of China should be undertaken on its own merits and not as an appendage to targeting the Soviet Union.

The recommendation was incorporated into the Joint Strategic Objectives Plan (JSOP) the following year stating that U.S. strategy should “focus increasingly on China itself” as opposed to “the peripheral manifestations of the threat.”

According to the Commander of Chief, U.S. Pacific Command (PACOM), the JSOP stated:

Notwithstanding the value of a strong, flexible force disassociated with specific threats, the U.S. force, particularly the nuclear force, targeted against deterrence of Communist China, and particularly China's nuclear capability, should be distinguishable from that against the USSR and it should have maximum flexible nuclear and non-nuclear capabilities in response to the overall threat.³²⁷

This new China-focus was based on the principle of targeting facilities that the Chinese leadership valued most, essentially mirroring the well-established practice of how to target the Soviet Union. China's growing nuclear weapons program resulted in numerous important facilities that U.S. planners soon identified and targeted. CINCPAC estimated that by targeting the Chinese leadership they would be better deterred. The 1967 Joint Intelligence Estimate for Planning (JIEP), which covered the period through June 1977, predicted that while China might engage in smaller contingencies against neighboring areas, its leaders were unlikely to initiate any action that could result in major confrontation with the United States if it risked significant destruction of mainland China. At least until 1977, the JIEP concluded, Chinese vulnerabilities to nuclear attack would "make it infeasible for the Chinese to initiate a major war with a major power."³²⁸

By 1967 the State Department's intelligence branch stated that the United States had increased its targeting of China. "China also has become a factor in the strategic equation, causing us to earmark a larger portion of our force against PRC [People's Republic of China] targets,"³²⁹ according to the study. This was evident from the SIOP war plan at the time, which included significant targeting of China.³³⁰ Yet despite the recommendation to make targeting of China "distinguishable from that against the USSR," the SIOP that entered in effect in November 1969 (SIOP-4F) still appeared to contain joint Soviet and Chinese targeting in its three target destruction tasks:

- ALPHA: To destroy Sino-Soviet strategic nuclear delivery capabilities located outside urban areas. As part of this task, the highest Soviet and Chinese political and military control centers would be attacked – the Moscow-Peking Missile Packages (MPMP).
- BRAVO: To destroy other elements of the Sino-Soviet military forces and military resources not included in ALPHA which are located outside the major urban centers.

- CHARLIE: To destroy Sino-Soviet military forces and military resources which were excluded from ALPHA and BRAVO because of their location within urban centers and at least 70 percent of the urban industrial bases of the USSR and Communist China.

These three tasks were further subdivided into five attack options, of which the “smallest,” a pre-emptive strike on the ALPHA targets, involved 58 percent of all U.S. SIOP committed forces.³³¹ The basic attack options are shown on Table 13.

Table 13:
SIOP Attack Options 1969^a

	Attack Options	Tasks Normally Included	Tasks Withholdable
Pre-emptive	1	A	(MPMP)
	2	A, B	-
	2X	All	-
Retaliatory	3	A, B, C	B & C, or C
	4	All	-

^a The SIOP in effect in November 1969 was the SIOP-4F, which went into effect July 1, 1969.³³²

During a National Security Council meeting on U.S. defense strategy in August 1971, Secretary of State Henry Kissinger explained how the mission of U.S. strategic forces included “some counterforce capability (particularly against Communist China).” Although the United States at the time did not possess a disarming capability against the Soviet Union, Kissinger said that, “we do have some against China.” He explained further that, “as long as we have a disarming capability we can use it to regulate their actions in local situations.” But the geographic location of China “behind” the Soviet Union meant that ICBMs could not be used in this mission. We “cannot use our land-based missiles against China (over USSR); we have to use our bombers and submarines.”³³³

By January 1972, according to a unique National Security Council study obtained by the independent National Security Archive, the SIOP contained the same three options but further explained that SIOP attacks against China and North Korea could be carried out without also ordering SIOP attacks against the Soviet Union or other communist nations.³³⁴ At the same time President Richard was attempting to normalize relations with Beijing, China had become an independent strategic target for U.S. nuclear war planning.

The study explained that U.S. operational capabilities against China were different from those against the Soviet Union. “In particular, destroying large percentages of the population is much more difficult, destroying industry is much easier, and limiting damage is substantially easier than is the case against the Soviets.” The reason it was difficult to destroy China’s population was that only 11 percent lived in cities. But 80 percent of China’s industry was in the cities. Therefore, “an essential element of U.S. deterrence policy is a capability to destroy PRC cities.” The study used the following overview (Table 14) to illustrate “the relative vulnerability of China’s industry and the effects on her dispersed population” compared with the Soviet Union and the United States:³³⁶

Table 14:
Damage From 100 Arriving Warheads (1 MT)³³⁵

	United States	Soviet Union	China
% Population	21	17	6
% Industry	19	32	42
Population (millions)	49	43	51
%Urban population	35	34	70

In January 1972, approximately 600 SIOP warheads were targeted on China. Employment of these weapons in accordance with the strike plans would have destroyed about 70 percent of the industry and 70 percent of the urban population (about 60 million people or seven percent of the total population). It would also have destroyed most soft military targets (nuclear and conventional) and hardened, non-time-urgent targets.³³⁷

According to the report, at the time the United States had a “disarming strike capability against known Chinese nuclear threats” but future deployment of mobile missile systems and development of a launch-on-warning capability would “seriously erode” that capability.³³⁸

The Role of Non-Strategic Nuclear Weapons

Normalization with China required the United States to remove its nuclear bombs from Taiwan, a demand that Mao forced upon Nixon. The bombs were first deployed at Tinan Air Base in January 1960. During the peak years of 1967 to 1969 there were about 55 nuclear bombs, which decreased to about 25 by 1973.

The last bombs were removed in 1974 and moved to Clark Air Base in the Philippines. The move also forced the Joint Chiefs of Staff to drop a requirement to forward deploy SIOP bombers at Tinan Air Base.³³⁹

While the removal of nuclear bombs from Taiwan satisfied Mao and led to improved relations with the United States, it also forced nuclear war planners to compensate for the loss and find substitutes. By the early 1970s, the United States deployed some 1,700 non-strategic nuclear bombs in the Pacific, many of which directly supported SIOP targeting against China. In fact, tactical delivery systems

covered a higher percentage of strategic targets in China than against the Soviet Union. As of January 1972, as many as 32 percent of all SIOP weapons planned against targets in China were non-strategic nuclear weapons.³⁴⁰

The non-strategic SIOP force included nuclear fighter bombers deployed in Japan, South Korea and the Philippines. Combined, the 3rd Tactical Fighter Wing at Clark Air Base in the Philippines, the 8th Tactical Fighter Wing at Kunsan Air Base in South Korea, and the 18th Tactical Fighter Wing at Kadena Air Base in Okinawa, formed a nuclear strike force against China.

At Kunsan Air Base, only 240 miles from China and 620 miles from Beijing, four F-4D Phantom jets of the 8th Tactical Fighter Wing (TFW) were parked at the end of the runway loaded with nuclear

bombs under their wings as the U.S. Pacific Air Forces' SIOP Quick Reaction Alert commitment.³⁴¹ The 8th TFW also had a non-SIOP role, presumably against targets in North Korea.

The United States deployed nuclear weapons at Kadena Air Base in Okinawa until June 1972, when the island reverted to Japanese control. CINCPAC subsequently concluded that by 1974 the island "for all practical purposes has been

Figure 71:
Kadena Air Base



Kadena Air Base on Okinawa increased its nuclear strike mission *after* the island was reversed to Japanese control in 1972.

Image: U.S. Air Force

lost as a bomber operating base and as a weather evacuation base for WestPac [Western Pacific] bombers.” Even so, the 18th TFW at Kadena continued a nuclear SIOP strike role after 1972 and actually increased its SIOP commitment in 1974.³⁴² The weapons for the F-4Ds likely were stored at other bases (presumably in South Korea, the Philippines, or Guam) and would have been airlifted to Kadena in a crisis. The 3rd Tactical Fighter Wing at Clark Air Base continued its nuclear strike commitment until June 1977, when the last nuclear bombs were withdrawn from Philippines.³⁴³ Kunsan Air Base continued nuclear operations until December 1991, when the last nuclear weapons were withdrawn from South Korea.

Sea-Launched Ballistic Missile Submarines

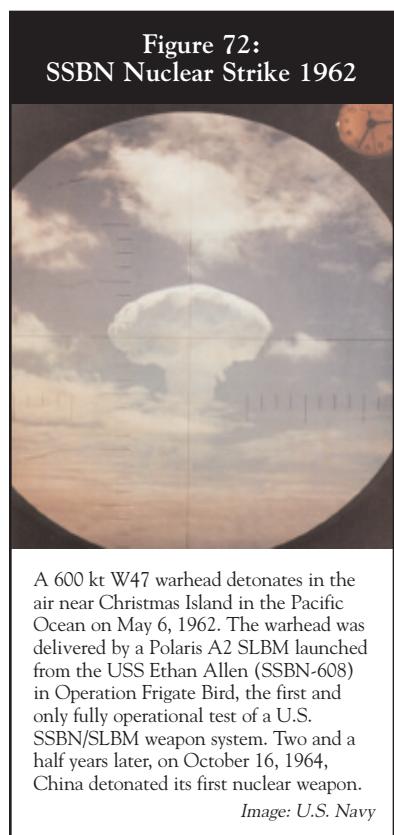
The reduction of non-strategic weapons and China’s emergence as a more independent nuclear target coincided with the introduction of U.S. ballistic missile submarines to the Pacific. Over the next few years, the nuclear-powered ballistic missile submarines (SSBNs) would become a main element in U.S. nuclear war plans against China.

Official preparation for a Pacific SSBN force got underway on April 23, 1962, when the Department of Defense announced that it had selected three facilities in the Pacific to support Polaris operations: Puget Sound Naval Shipyard at Bremerton, Washington, for submarine overhauls; the Naval Ammunition Depot at Bangor, Washington, as a Polaris missile assembly facility (POMF-PAC); and Pearl Harbor, Hawaii, as crew-training facility.³⁴⁴

By that time, SSBNs had been conducting strategic deterrent patrols in the North Atlantic and Mediterranean for two and a half years. But on May 6, 1962, the Navy provided a blunt demonstration of the emerging capabilities in the Pacific when it sent the USS Ethan Allen (SSBN-608) into the waters near Christmas Island to launch a Polaris A2 missile with a live nuclear warhead in a fully operational test demonstration of the weapon system (see Figure 72). The 600 kt warhead detonated approximately 1,200 miles (1,930 km) east of Christmas Island near the equator.³⁴⁵

PACOM’s analysis in support of the annual *Nuclear Weapons Requirements Study* from April 1962 for the Fiscal Year 1965 called for a “greater recognition of the Allied nuclear capable delivery vehicles to give fire support in the Taiwan and Korean area.”³⁴⁶ When asked by the Joint Chiefs of Staff in January 1963 about the need for medium-range ballistic missiles (MRBM) in the Pacific, CINCPAC

replied that a mixture of Polaris-equipped submarines and land-based MRBMs would be better than either of the two systems alone. CINCPAC's recommendation for the JSOP-68 stated a requirement for as many as 16 SSBNs and three



MRBM squadrons. The justification for this requirement was an estimated 212 high-threat targets in the region during the 1965 to 1970 period, consisting of missile sites, air bases and air defense headquarters. The unique capability that CINCPAC was looking for was the short flight time that sea-launched ballistic missiles (SLBMs) and MRBMs could provide compared to intercontinental ballistic missiles (ICBMs) and bombers. Using these forward-based systems with relatively lower yields, CINCPAC explained, would free up SAC aircraft and ICBMs to be retargeted against targets that required the higher-yield weapons.³⁴⁷

Only four months after CINCPAC's reply, in May 1964, the USS Daniel Boone (SSBN-629) arrived at Pearl Harbor, as the first strategic submarine assigned to the Pacific Fleet.³⁴⁸ As the crew of the USS Daniel Boone was preparing the submarine for its first deterrent

patrol, China detonated its first nuclear bomb on October 16, 1964. The U.S. nuclear war plan at the time (SIOP-64 Revision 3 from October 1, 1964) emphasized using Polaris-equipped submarines in the Pacific to "cover new threat targets."³⁴⁹ To reach the Chinese targets, the submarine would have to patrol close to China, so Guam was established as Submarine Replenishment Site III to service the SSBNs from this forward location.

On December 25, 1964, only two months after the Chinese nuclear test, the USS Daniel Boone departed Guam for the first SSBN deterrent patrol in the Pacific Ocean. Within the next four months, four more SSBNs joined the USS Daniel Boone in the Pacific,³⁵⁰ providing CINCPAC with its first short-flight-time

long-range nuclear strike capability in the region. To hold Beijing at risk with the Polaris A3 missile, the SSBNs would have to conduct their patrols in the Sea of Japan and the East China Sea. PACOM never got the 16 SSBNs it wanted, but the SSBN fleet gradually increased from a single SSBN in late 1964 to eight submarines by 1969. The 100th SSBN deterrent patrol in the Pacific was completed on April 5, 1969, when the USS Stonewall Jackson (SSBN-634) returned to Guam.³⁵¹

The introduction of the Poseidon C3 missile in 1971 prompted the Navy to reorganize the distribution of SSBNs between the Atlantic and Pacific oceans. Because of the missile's longer range, the Poseidon C3 was deployed on Atlantic-based SSBNs to cover targets in Eastern Europe and western parts of Russia. All George Washington class SSBNs with shorter-range Polaris A3 missiles were transferred to the Pacific in 1973.³⁵²

By 1975, 10 SSBNs were assigned to CINCPAC and for the next five years these Polaris-equipped SSBNs provided soft-target coverage in the Pacific region while the more capable Poseidon SLBMs covered European and Soviet targets from the Atlantic and Mediterranean. Despite their lesser capability, the Pacific SSBNs were a powerful force against China. Together with long-range bombers, National Security Adviser Henry Kissinger remarked in 1971, the submarines "will be able to pre-empt [China] for perhaps the next 10 to 15 years."³⁵³

SSBN Command and Control

Three U.S. bases in East Asia played vital roles in the SSBN operations against China: Clark Air Base in the Philippines, Yokota Air Base in Japan, and Kadena Air Base in Okinawa. To enable communication with the submarines, specially configured C-130 Hercules aircraft were forward-deployed to serve as airborne relay stations in case the National Command Authority had to transmit launch orders to the submarines.

These three bases also were designated as dispersed operating sites for the Blue Eagle airborne command post (ABNCP) aircraft, intended to serve as an alternate command post for CINCPAC in case of war. To establish a secure capability to transmit launch orders to all nuclear forces in the Pacific, a network of mobile Ultra High Frequency (UHF) transmitter vans were deployed to these and other bases. In 1965, shortly after the first SSBN patrols were conducted in the Pacific,

Figure 73:
Blue Eagle Airborne Command Post



Although mostly known for broadcasting radio and television during the Vietnam War, the NC-121J Super Constellation also served as an Airborne Command Post for transmitting launch orders to nuclear forces. Airbases in Japan, South Korea, and the Philippines were designated as dispersed operating sites for Blue Eagle.

Image: U.S. Department of Defense

the UHF vans were exercised during nine Blue Eagle deployment exercises to the bases.³⁵⁴

The exercises revealed that the capability to provide the National Command Authority a secure ability to transmit launch orders to the SSBNs was not reliable. As a result, Defense Secretary Robert McNamara in 1967 established the Navy's Special Communications Project Office to develop programs to ensure "effective communications at all times from the National Command Authorities

and Commanders in Chief to the deployed [SSBNs] ... during and after heavy nuclear and electronic jamming attack."³⁵⁵

One attempted solution was the TACAMO (Take Charge And Move Out) III system, which became operational in 1969 with 12 EC-130Q aircraft (four in the Pacific and eight in the Atlantic). Yet the system had significant limitations. Equipped with a single wire antenna and 25 kilowatt VLF (Very Low Frequency) transmitter, TACAMO III only provided "respectable SSBN patrol coverage" in most cases and had known limitations in "some potential stressed environments." The modest capability was underlined by an effective transmission range of only a couple of hundred miles,³⁵⁶ severely constricting the patrol area for the submarines if secure launch order transmission was to be ensured.

The challenges facing airborne command and control was compounded by the fact that most fixed communications facilities that they depended upon on the ground were located near high-priority targets for Soviet and Chinese nuclear missiles. In a nuclear war it was highly unlikely that these facilities would survive for very long, so Defense Secretary Robert McNamara approved a "communication restoration plan" in September 1968 that involved relocating the minimum essential satellite and high frequency capabilities from target areas to "safe havens." This plan, which would be initiated under DEFCON 2,

assumed a massive Chinese Communist/Soviet nuclear attack with severe damage to much of the Defense Communication System.³⁵⁷

Both TACAMO and CINCPAC's Blue Eagle aircraft were hampered by inadequate satellite access due to overloading of frequencies. In late 1971, the Defense Communications Agency tested CINCPAC's ability to relay launch orders from Blue Eagle through TACAMO to the strategic submarines. Lessons learned were incorporated into an exercise in May of 1972 where a Blue Eagle aircraft took off from Hickam Air Force Base for an orbit near Wake Island north of the Marshall Islands. From this position the Blue Eagle aircraft conducted VLF tests with an EC-130Q TACAMO aircraft operating near Guam almost 1,400 miles (2,250 km) away. A second Blue Eagle aircraft would loiter near Hawaii 2,200 miles (3,540 km) to the east to relay communication to the Naval Communications Station in Honolulu. Maintaining the Blue Eagle airborne for an extended period of time was essential so for the first time ever the aircraft was refueled during the exercise. After 14 hours on station, the Blue Eagle returned to Hawaii, marking the longest single Blue Eagle sortie ever.³⁵⁸

The ranges of the Blue Eagle and TACAMO were gradually extended from 1,400 miles to 2,300 miles (3,700 km).³⁵⁹ CINCPAC conducted three airborne exercises in 1973 for the Defense Communications Agency under the Minimum Essential Emergency Communications Plan Test Program.

Surprisingly, the Navy allowed the TACAMO aircraft in the Pacific to almost disappear in the early 1970s.³⁶⁰ In 1975, only one EC-130Q aircraft remained. The reasons were confidence in new land-based transmitters, and priority for TACAMO coverage of SSBN operations in the Atlantic.

In response, CINCPAC developed a new alert concept for the Blue Eagle aircraft in 1974 to augment TACAMO declining role. Since CINCPAC was prevented from deploying an actual airborne alert, a

Figure 74:
EC-130 TACAMO



Between 1964 and the late 1970s, the EC-130 TACAMO (Take Charge And Move Out) aircraft served as the Navy's primary communications link with SSBNs operating in the Pacific. In 1989, the E-6A took over the TACAMO mission.

Image: U.S. Navy

“deployed ground alert” concept allowed Blue Eagle aircraft to initiate random 24 to 28 hour ground alert watch periods in conjunction with bimonthly deployments to the Western Pacific. The ground alert periods were randomly scheduled among Clark Air Base in the Philippines, Ching Chuan Kang Air Base in Taiwan,³⁶¹ and the Kadena (Okinawa) and Yokota air bases in Japan.³⁶²

The forward bases were selected because they bordered waters where U.S. strategic submarines patrolled. Once an order was given, the Blue Eagle aircraft could quickly reach an operational orbit within range so that its VLF/LF (Very Low Frequency/Low Frequency) and HF (High Frequency) equipment could relay an emergency action message to the submarines. Testing CINCPAC Blue Eagle VLF/LF operations commenced early in 1973 when it became clear that the Pacific EC-130Q TACAMO aircraft would be transferred to the Atlantic. Between February 1973 and January 1974, CINCPAC Blue Eagle aircraft flew 21 test missions, and an analysis of 40 SSBN reports indicates that they received and copied 21 emergency action messages. The objective was to test a range of up to 2,300 miles (3,700 km), but the Navy found that the best reception was 1,380 miles (3,700 km).³⁶³

With this range, ABNCP aircraft deployed on ground alert at the forward bases could transmit emergency action messages to submerged SSBNs operating in an area west of Guam covering the South China Sea, Philippine Sea, East China Sea, Sea of Japan, and most of the Sea of Okhotsk. When airborne, the communications area would theoretically extend as far as the aircraft’s range. Each year, Blue Eagle aircraft forward deployed to Kadena and Yokota air bases in Japan, Clark Air Base in the Philippines, Kunsan and Kimbo air bases in South Korea, and Richmond Royal Australian Air Force Base in Australia, would practice their ability to get airborne within the 15 minutes required for nuclear warning time. Normally, it took seven to nine minutes to get all Blue Eagle aircraft in the air.

Getting airborne quickly was essential if communications were to be ensured in a crisis. In briefings to the unified commands in 1974 and 1975, the Joint Chiefs of Staff made it clear that fixed land-based communication sites intended for SSBN communication would be some of the first to be attacked in a nuclear war. Nuclear effects and Soviet attempts to catch up with the U.S. MIRV build-up meant that fixed systems were simply too vulnerable, unlikely to survive long enough in a war to be able to relay retaliatory launch messages to the strategic submarines.³⁶⁴

When the land-based Sanguine communications facility failed to deliver the promised advantages in the late 1970s, the planners looked to TACAMO again

and officially upgraded the aircraft from an interim system and designated as the primary survivable submarine communication system.³⁶⁵ Moreover, the Air Force and Navy agreed in July 1976 that one channel of the 500 kilohertz bands on the Atlantic and Pacific satellites would be reserved for use by the Blue Eagle to provide more reliable communications with TACAMO.³⁶⁶

In addition to TACAMO, development of an effective Extremely Low Frequency (ELF) system continued. In 1982, the Navy informed Congress that some U.S. strategic submarines routinely had been patrolling with prototype ELF receivers for several years.³⁶⁷ A land-based test facility was built at Clam Lake in Wisconsin comprising 28 miles (45 km) of antenna, which was upgraded and Electromagnetic Pulse (EMP)-hardened in 1985. Another site at Republic, Michigan, was equipped with a transmitter and 56 miles (90 km) of antenna and was fully operational in 1987. The combined Michigan-Wisconsin system provided ELF communications coverage for most of the Northern Hemisphere.³⁶⁸ Although said to provide worldwide coverage, important patrol areas such as the Western Pacific between Japan and the Philippines were not covered, and neither were the East and South China Seas, important areas for SSBNs targeting China. The Indian Ocean and Arabian Sea were also out of reach.

“Layer Upon Layer of Options”³⁶⁹

The maturing of the SSBN force and the changes of non-strategic nuclear weapons in the Pacific came as the Nixon administration was increasing the flexibility of the nuclear strike plans. Until this point, U.S. nuclear policy sought to win a nuclear war by destroying the enemy’s forces and military capabilities. But a new policy developed in 1972 to 1974 sought to stop the war at lower levels of destruction. It was thought that damage to the United States could be reduced by controlling escalation and by increasing the number of limited strike options short of all-out nuclear war. The new policy emerged initially as an inter-agency study (National Security Study Memorandum (NSSM)-169) and was eventually published as National Security Decision Memorandum (NSDM)-242 and signed by President Gerald Ford on January 17, 1974.³⁷⁰ It was nicknamed the Schlesinger Doctrine after James Schlesinger, the secretary of defense who oversaw much of its preparation.

NSDM-242 directed the secretary of defense to produce new guidance to the military for the employment of U.S. nuclear weapons. This guidance was Nuclear Weapons Employment Policy (NUWEP) 74, published on April 3, 1974,

which directed the military to formulate a wide range of nuclear strike plans to give the president additional options for responding to aggression. While the Soviet Union was the main focus of NUWEP 74, China was a prominent number two (Table 15).³⁷¹

Henry Kissinger informed President Nixon in January 1974 that the Soviet Union and China “of course cannot be expected to respond favorably” to the new nuclear strike planning against them, “but neither is the new policy likely to harm our improving relations with either country.”³⁷² A subsequent CIA analysis of Soviet and Chinese reactions to the new policy partially agreed with Kissinger’s conclusion but pointed to some important nuances.

As of August 1974, Soviet and Chinese reactions to the new policy had been limited. In fact, Chinese reactions appeared to be “generally favorable,” the CIA concluded. “The Chinese interpret the U.S. policy as having little direct impact on their own nuclear posture or on overall Sino-American relations,” the CIA said. “Instead, they see the policy as designed to strengthen the U.S. military position against” the Soviet Union. “Because China sees the USSR as posing the principle threat to its security,” CIA predicted, “the Chinese leaders can be expected to read the new U.S. strategy as indirectly furthering, or at least not opposing, Chinese aims.”³⁷³

What the Chinese leaders apparently did not realize was that although the Soviet Union was the focus of the new policy, NUWEP 74 also required U.S. nuclear planners to incorporate a very wide range of Chinese facilities into the nuclear strike plans. Two of four Major Attack Options (MAOs) were directed entirely against China (Table 15), and three of the 11 new Selected Attack Options (SAOs) covered virtually all elements of Chinese military and industrial facilities (Table 16).

Another possible explanation for the low-key Chinese reaction to the new policy may have been not to disturb the U.S.-Sino “front” against the Soviet Union. Whatever the reason, CIA cautioned that over time “the Chinese are likely to be concerned that the new concept and the military capabilities implicit in it may make the U.S. more willing to employ nuclear weapons against China....” Indeed, the new concept “will probably enhance ... Chinese incentives to consider similar policies,”³⁷⁴ CIA warned.

Table 15:
“Schlesinger Doctrine” Nuclear Targeting (1974)³⁷⁵

Category	Targets
Major Attack Options	M1: A “comprehensive military target system in the Soviet Union and its Eastern European allies,” including “a) nuclear and conventional threats to the United States and its allies world-wide, and b) the national and intermediate military controls over these forces.”
	M2: The first option (M1) plus “urban, industrial, political, economic and military resources in the Soviet Union necessary to post-war recovery”.
	M3: A “comprehensive military target system in the People’s Republic of China and its Asian allies,” including “a) nuclear and conventional threats to the United States and its allies world-wide, and b) the national and intermediate military controls over these forces.”
	M4: The third option (M3) plus “urban, industrial, political, economic and military resources in the People’s Republic of China necessary to post-war recovery”.
Selected Attack Options	S1: Soviet nuclear threat to the United States.
	S2: Soviet nuclear threat to major urban NATO areas other than U.S. and Canada.
	S3: Soviet nuclear and conventional air threat to NATO other than U.S. and Canada.
	S4: Soviet conventional ground force threat to NATO.
	S5: Soviet and Warsaw Pact naval threat to NATO.
	S6: Nuclear missiles and associated storage sites, and targets in S3, S4 and S5 options, for defense of NATO, except U.S. and Canada, without using forces based in the continental United States.
	S7: Soviet nuclear threat (generally based east of 55°E) to U.S. forces and allies in Asia.
	S8: Soviet conventional threat (generally based east of 55°E) to U.S. forces and allies in Asia.
	S9: Chinese operational nuclear threat to U.S., forces, and allies in Asia, and means for rebuilding threat.
	S10: Chinese national civilian and military controls.
	S11: Chinese and its allies’ conventional threat to U.S. forces and allies in Asia.
Limited Nuclear Options	Smaller strikes with targets drawn from selected parts of the above options. Objectives include “provide response to limited nuclear attacks by the Soviet Union or the People’s Republic of China on the United States, its allies, or its forces.”
Regional Nuclear Options	Options in which threats to a region are counted by limited strikes from U.S. nuclear forces deployed in that region. Targets included “deployed enemy combat and service units, reserves, reinforcements, tactical nuclear delivery systems, local controls and field logistics facilities.”
Emphasis added. Note: Major Attack Options and Selected Attack Options were “encompassed in one integrated plan [SIOP] of which individual options cover sub-sets of targets.”	

Table 16:
Chinese Targets In U.S. Selected Attack Options (1974)³⁷⁶

Attack Option	Targets Categories
S9	a) submarine related facilities; b) bomber bases; c) land-based ballistic missiles; d) nuclear production and storage facilities; e) research, development and testing facilities for aircraft, missiles, nuclear weapons, and chemical, biological, and radiological warfare.
S10	a) national command centers, alternates thereto, regional military headquarters, and control centers, and communications facilities related to control over nuclear delivery forces, but which are not collocated with these forces;
	b) sensors and associated communication that allow the People's Republic of China leaders to discern the nature of nuclear attacks on the People's Republic of China and its allies.
S11	a) port facilities; b) major ground force installations; c) airfields.

Implementing NUWEP 74 required regional commanders such as CINCPAC and Command of U.S. Forces Korea (COMUSFK) to prepare new and more limited strike options. Increased tension on the Korean Peninsula – which by extension also involved China – apparently became a test case for the new flexible planning concept. A small but fatal skirmish between U.S. and North Korean checkpoint personnel over a U.S. decision to trim a tree caused the Pentagon to raise the readiness level to DEFCON 3 and deploy extensive ground, air, and naval forces with nuclear weapons in an apparent attempt to enforce the tree-trimming job. In addition to moving nuclear and other weapons forward to unit bunkers near the De-Militarized Zone (DMZ), F-4s fighters were ordered to Osan Air Base, B-52s on Guam and F-111s at Mountain Home Air Force Base were deployed, and the USS Midway carrier battle group in Yokosuka was rushed to sea.³⁷⁷ Although the chief of staff for U.S. Forces Korea estimated that the operation had a fifty-fifty chance of starting a war, six batteries of heavy artillery were deployed with loaded ammunition to attack if the North Koreans interfered with the tree-trimming and ignored the following display of force:

[A] reinforced composite rifle company ... would be orbiting aboard 20 Huey helicopters a few hundred meters south of the DMZ, supported by 12 AH-1G Cobra gunships. Tank-busting F-4 Phantoms would be prowling at a slightly higher orbit. F-111 medium strategic bombers would orbit still higher, and be clearly visible to Korea radar.... At the

precise moment of the tree chopping ... B-52 bombers from Guam would be moving ominously north up the Yellow Sea on a vector directly to ... Pyongyang. In the Sea of Japan ... [the aircraft carrier] Midway would launch 40 aircraft that would vector north above international waters.”³⁷⁸

North Korea did invade, so one lesson learned was that flexible options appeared to work. Two months after the 1976 DEFCON 3, or the second Korean War as it has been called,³⁷⁹ was canceled on September 8, the new SIOP-5A war plan entered into effect with three new Regional Nuclear Options (RNO) for the defense of South Korea. The three RNOs (down from eight initially proposed by COMUS Korea) were designed to signal U.S. resolve, enhance the U.S. tactical position in the region, and were mainly focused on destruction of a large number of fixed targets. In addition to the RNOs, PACOM’s Nuclear Planning Group drew up a number of Limited Nuclear Options (LNO) for Korea that were intended “to signal U.S. resolve and ranged in number from a choice of one target to as many as 10 or more.” Through destruction of a small number of carefully selected targets the United States hoped to demonstrate restraint in an attempt to avoid escalation, yet still inflict sufficient damage to the enemy in an attempt to persuade him to cease hostilities and seek a political solution to the conflict.³⁸⁰

Little is known about the role that the SSBNs played in the new flexible posture or how the task of holding North Korean and Chinese targets at risk was coordinated between the individual boats. Information released under the Freedom of Information Act (FOIA) suggests that each submarine on patrol was responsible for holding a “target package” at risk and that the submarines took turns covering each target package as they relieved each other in the patrol area.

In July 1976, for example, the USS Thomas Jefferson (SSBN-618) arrived in Pearl Harbor following an overhaul at Mare Island Naval Shipyard in California. Four days after arriving at the base, the submarine “assumed Single Integrated Operational Plan (SIOP) Target Package SB85” and departed Pearl Harbor for a patrol in the Western Pacific. After a little over two months on station, USS Thomas Jefferson returned to port after being relieved on station by another SSBN. In December, the USS John Marshall (SSBN-611) took over USS Thomas Jefferson’s target package as it “assumed coverage of Target Package SB85.”³⁸¹ In between these two patrols, a third SSBN presumably was on station covering the same target package.

Each target package presumably consisted of a preplanned collection of Desired Ground Zeros (DGZs, or aimpoints) where the coordinates corresponded to a group of individual Chinese facilities selected for destruction under specific strike options in the SIOP. With 16 Polaris A3 missiles each armed with three Multiple Reentry Vehicles (MRVs), an SSBN could probably cover as many as 16 individual targets depending on its hardness and the number of reentry vehicles used.

On December 19, 1976, only a few weeks after SIOP-5A entered into effect, the USS Sam Houston (SSBN-609) arrived in Chinhae in South Korea for a four-day visit. This was the first time an SSBN on patrol had visited a foreign Pacific port, and only the second time ever that a U.S. SSBN had visited a foreign port. The next five years saw nine different SSBNs make 35 port visits to Chinhae.

The visits meant breaking deterrent patrols up into two phases in between which the SSBN would visit a foreign post or conduct an exercise. During Flex-Ops, as the concept was known, the port visit also served

Table 17:
U.S. SSBN Visits to South Korea*

Dates of Visit	Submarine (hull number)
1976	
19-22 Dec ³⁸²	USS Sam Houston (SSBN-609)
1978	
3-5 Jun	USS Abraham Lincoln (SSBN 602)
3-5 Jun	USS Ethan Allen (SSBN-608)
1979	
1-3 Feb	USS Thomas Edison (SSBN 610)
21-23 Feb	USS John Marshall (SSBN 611)
10-14 Jul	USS Thomas Jefferson (SSBN 618)
30 Jul-3 Aug	USS Patrick Henry (SSBN 599)
13-15 Aug	USS Thomas Edison (SSBN 610)
6-10 Sep	USS George Washington (SSBN 598)
17-21 Sep	USS Sam Houston (SSBN 609)
3-7 Oct	USS Robert E. Lee (SSBN 601)
8-12 Oct	USS Ethan Allen (SSBN 608)
16-20 Oct	USS Thomas Jefferson (SSBN 618)
22-26 Nov	USS Thomas Edison (SSBN 610)
15-19 Dec	USS John Marshall (SSBN 611)
24-28 Dec	USS Sam Houston (SSBN 609)
31 Dec-	USS Robert E. Lee (SSBN 601)
1980	
-4 Jan	USS Robert E. Lee (SSBN 601)
12-16 Feb	USS Thomas Jefferson (SSBN 618)
29 Feb-4 Mar	USS Thomas Edison (SSBN 610)
27 Mar-31 Mar	USS George Washington (SSBN 598)
11-14 Apr	USS Sam Houston (SSBN 609)
24-27 Apr	USS Ethan Allen (SSBN 608)
26-30 May	USS Patrick Henry (SSBN 599)
2-5 Jun	USS Thomas Edison (SSBN 610) ³⁸³
9-12 Jun	USS John Marshall (SSBN 611)
23-29 Jun	USS George Washington (SSBN 598)
19-21 Aug	USS Thomas Jefferson (SSBN 618)
15-17 Sep	USS Patrick Henry (SSBN 599)
5-8 Oct	USS John Marshall (SSBN 611) ³⁸⁴
10-13 Oct	USS George Washington (SSBN 598)
4-9 Nov ³⁸⁵	USS Robert E. Lee (SSBN 601)
29-31 Dec	USS Patrick Henry (SSBN 599)
1981	
12-16 Jan	USS George Washington (SSBN 598) ³⁸⁶
8-11 Mar	USS Robert E. Lee (SSBN 601) ³⁸⁷
35 visits	by 9 SSBNs

* All visits were to Chinhae.

a deterrence purpose because the SSBN carried a full load of nuclear armed missiles. The concept also affected SSBNs operating in the Atlantic and Mediterranean, where the Flex Ops port visits continued through the 1980s even after the non-Ohio class SSBNs had been phased out in the Pacific.

During 1979 and 1980, as many as 14 SSBN visits took place. Less than a week after the visit by the USS Thomas Jefferson (SSBN 618), South Korean President Park Chung Hee was assassinated on October 26, 1979. That same day the Pentagon declared DEFCON 3 and dispatched the nuclear-armed USS Kitty Hawk carrier battle group to the waters south of South Korea to deter North Korea or others from trying to take advantage of the situation.³⁸⁸ Seventeen days after DEFCON was lowered again on November 5, the USS Thomas Edison (SSBN 610) arrived in Chinhae for a five-day visit, and throughout the rest of 1979 and 1980, visits were so frequent that an SSBN was in port at least once a month, and often two or three times per month (see Table 17).

Port visits to South Korea had become an integral part of deterrent patrols in the Pacific. In fact, the visits became so routine that they were exempt from the normal port clearance procedures. Port visits by a SSBN to a foreign port normally required the direct involvement of the Chief of Naval Operations (CNO), but this requirement did not apply for visits to South Korea. Moreover, visits to Chinhae took place without clearance from the South Korean authorities.³⁸⁹ Three months after completing its final visit to South Korea, the USS George Washington (SSBN 598) collided with the Japanese freighter Nissho Maru in April 1981 while operating submerged in the East China Sea about 110 miles south southwest of Sasebo, Japan. The collision, which took place less than 20 miles outside the 12 mile territorial limit, sank the Nissho Maru, killing two of the 15 Japanese crewmen.³⁹⁰

The new flexible nuclear targeting that the SSBNs operated under was further refined by the Nuclear Targeting Policy Review under Secretary of Defense Harold Brown from 1978 to 1979. This review resulted in an additional increase in the number of targeting options. To implement the new changes, President Jimmy Carter signed Presidential Directive (PD) 59 on July 25, 1980, which authorized Brown to issue a new NUWEP (designated NUWEP 80) in October 1980. The new guidance de-emphasized targeting intended to impede economic recovery in favor of greater emphasis on hitting targets that were likely to achieve more short-term effects.³⁹¹

James Schlesinger thought that PD-59 was less revolutionary in defining new employment plans than in its declaratory policy. According to him, PD-59 and the vast increase in the numbers of warheads added since the early 1970s changed the thrust from “selectivity and signaling to that of victory.” Secretary Brown reportedly changed “counterforce” in the directive to “countervailing,” because, as he explained: “A countervailing strategy is a strategy that denies the other side any possibility that it could win – but it doesn’t say that our side would win.”³⁹²

The PD-59 re-emphasized limited strike options and flexible nuclear forces with one result being the creation of a Secure Reserve Force (SRF),³⁹³ a group of SSBNs and long-range bombers not tasked in the initial strike but which would remain safe and available for use in subsequent attacks. While the focus was on the Soviet Union, the SRF also was intended to ensure that secondary powers such as China could not take advantage of a situation where the United States had depleted its nuclear forces in a war with the Soviet Union. Of the weapons that would be affected the most by the new tasking, an Air Force point paper “especially” highlighted the cruise missile,³⁹⁴ which had begun limited production in a Navy version in October 1979.³⁹⁵ The rapid retargeting that was required to support the new plans, and the need to be able to monitor the trans- and post-war situation, increased the need for real-time intelligence capabilities. PD-59 ordered the development of new reconnaissance systems, as well as improvements to the Command, Control and Communication (C3) systems to ensure that there would be secure communication with the nuclear forces throughout a prolonged nuclear war.³⁹⁶

A New Deterrent in the Pacific

Amidst these dramatic changes the U.S. Navy announced in April 1980 that all remaining Polaris-equipped SSBNs operating in the Pacific would be withdrawn over a 15-month period beginning in July 1980.³⁹⁷ Instead of replacing Polaris-submarines with Poseidon submarines, however, the Pacific SSBN fleet would be phased out all together and gradually replaced by the new Trident weapon system. On October 1, 1981, the last three Polaris submarines were withdrawn from service as Submarine Squadron 15 was deactivated at Guam.³⁹⁸

The SSBN force in the Pacific had been a countervalue force capable of destroying soft surface targets but unable to destroy underground or hardened facilities. Once China began deploying missiles in silos, however, the accuracy of the SLBMs in the Pacific would need to be improved to be able to hold the targets

at risk. In August 1981, China's first two silos became operational with the DF-5 (CSS-4) missile.³⁹⁹ Fourteen months later, on October 1, 1982, the USS Ohio (SSBN-726), the first boat of a new class of SSBNs designed for extended patrols and longer-range and more accurate missiles, sailed on its first deterrent patrol in the Pacific, lasting 71 days, until December 10, 1982.⁴⁰⁰

Figure 75:
USS Ohio (SSBN-726) At Bangor, Washington



The first Ohio-class ballistic missile submarine USS Ohio (SSBN-726) armed with Trident missiles sailed on its first deterrent patrol in the Pacific on October 1, 1982, only 14 months after China's first silo-based ICBM capable of striking the United States became operational. The deployment of the Trident, in turn, made China decide to make its land-based missile force more mobile to decrease its vulnerability, according to the CIA.

Image: U.S. Navy

The significantly greater range of the Trident I C4 SLBM compared with the Polaris A3 (4,600 miles (7,400 km) versus 2,870 miles (4,620 km)), the increased payload of eight MIRVs (compared with three MRVs on the Polaris A3), and the improved accuracy of 0.3 miles (0.5 km) (versus 0.6 miles (0.9 km)) resulted in a “moderate hard” target (military bases and industry) capability in the Pacific for the first time. All Chinese targets and almost all Soviet targets would be in range from SSBNs operating in the Pacific, and the longer range eliminated the need for forward basing of submarines in Guam. Instead, all Ohio-class SSBNs were based at Bangor, Washington.

Yet China at the time seemed less of an adversary to the United States and more focused on its own Cold War with the Soviet Union. How to adjust targeting of China in this context was the subject of a Defense Nuclear Agency (DNA) study in February 1981. The study, which examined U.S. nuclear weapons policy toward China for the period 1985 to 1995, concluded that the concepts used for targeting China were “almost exclusively the product of the U.S.-Soviet relationship” rather than China specific.⁴⁰¹

In an attempt to develop recommendations of how to target China in case of war, the study identified three hypothetical scenarios for a U.S.-Chinese nuclear confrontation and generated target categories for each. The three scenarios were not portrayed as being official or the ones actually used by U.S. nuclear targeteers – although the target lists that resulted from the scenarios were close to the actual ones used. The three scenarios – none of which envisioned a crisis over Taiwan or a direct U.S.-Chinese continent-to-continent confrontation – were:

First Scenario: Korean War Revisited: Involves a possible replay of the Chinese decision to intervene in the 1950-53 Korean War. The fact that Korea remains divided and that the long-range prospects for reunification do not appear particularly high, according to the study, “suggests the possibility of U.S.-Chinese conflict in the future patterned after events which took place 30 years ago, including the possible use of U.S. nuclear weapons against installations on mainland China.”⁴⁰²

Second Scenario: Proxy-State Crisis: Concerns the possible development of a client or proxy state of China in the Third World or perhaps even in a more developed region analogous to the client/proxy status of Albania with respect to China after the Sino-Soviet rupture in the early 1960s. Proxy wars are not an unusual feature of contemporary international relations and there is no reason to believe they will not continue to be a prominent aspect of world politics in the next 20 years.⁴⁰³

Third Scenario: Catalytic War: The premise here is that, under certain circumstances the Chinese may be convinced that their single best option in a deteriorating political or military situation would be to incur the risks attendant to trying to precipitate a U.S.-Soviet nuclear exchange. This scenario assumes a deteriorating Chinese relationship with either the Soviet Union or the United States, one in which the Chinese were expecting intervention or armed conflict.⁴⁰⁴

The implication of these scenarios for U.S. nuclear policy, the study concluded, was that the assured destruction doctrine – with its policy of deterrence and retaliation – “may not be suitable with regard to China because of its large population and the dispersion of industrial and agricultural capacity at least through the mid 1990s.”⁴⁰⁵ This point was also made by the targeting studies in the early

1970s (see above). Yet the DNA study also made the point that China was changing and that its drive to attain superpower status would mean that it would be more “vulnerable” to strategic attack by doing away with the inefficient and decentralized economic planning mode and replacing it with more high-value and centralized facilities.⁴⁰⁶ This development, coupled with China’s “doctrinal and pragmatic inability to engage in sophisticated ‘limited strategic’ warfare planning,” should dictate what the “most threatening targeting option” for the United States should be.⁴⁰⁷

To that end the study concluded that it would “not be difficult to meet” the hard-target-kill requirements for U.S. nuclear targeting of China in the period between 1981 and 1995. While no new U.S. modernization or acquisition programs were necessary to deal with Chinese target categories, the study recommended that there could be “more than a few score targets” that may require weapons with very high accuracy and, in some cases, earth-penetrating capability.⁴⁰⁸

U.S. spending was overwhelmingly focused on containing and deterring the Soviet Union, and China’s own Cold War with the Soviet Union complicated target selection for U.S. war planners. The study even went so far as to suggest that the United States should refrain from targeting those Chinese weapons that were thought to be aimed at Soviet forces⁴⁰⁹ to assist the United States in a war with the Soviet Union.

These findings echoed similar assessments made by other branches of the U.S. military at the time. CINCPAC concluded in 1976 that China “no longer opposed U.S. presence in East Asia” but instead saw it as “a stabilizing influence and a counter to the Soviet Union and North Korean adventurism.” Indeed, CINCPAC saw China as “a restraining force on North Korea,” and although there were signs of impatience in Peking over the Taiwan issue, there was “no indication” that China would attempt to use force against the island, CINCPAC concluded. Similarly, in a report from July 1977, Commander of the U.S. Taiwan Defense Command Vice Admiral E. K. Snyder stated that China “could not, for the foreseeable future, invade Taiwan successfully.”⁴¹⁰ Confident that there was no immediate threat, the United States withdrew its military forces from Taiwan in 1979 as part of its effort to normalize relations with China.

Deterring China seemed to have been overtaken by more pressing political realities. Both countries saw a benefit in replacing their former rivalry with an implied partnership against the Soviet Union in the evolving triangular relationship.

While the Soviet Union regarded the United States as its major competitor in the world, CINCPAC said in 1980, it viewed China as its “most intractable opponent.”⁴¹¹

Pacific Command planners were keenly aware of the beneficial role that China played in tying down Soviet forces in the Far East that would otherwise have to be countered by U.S. and Japanese forces. By 1984, CINCPAC estimated, approximately 90 percent of Soviet ground forces in the Far East were directed against China and preoccupied with the “growing Chinese nuclear capability.”⁴¹² China on the other hand maintained about 50 percent of its ground forces along the Soviet border.⁴¹³ The Soviet-Chinese stand-off had resulted in “the largest single concentration of forces along any binational border.”⁴¹⁴

The new Reagan administration embraced the idea of China as a partner in containing of the Soviet Union. On October 1, 1981, President Reagan signed National Security Decision Directive (NSDD) 13, which differed from PD-59 by reintroducing the notion of “prevailing” in a nuclear war and extending the period of time over which such a war might have to be fought. A nuclear war may go on for months or even years and had to end in a U.S. victory.⁴¹⁵

NSDD-13 led to an updated Nuclear Weapons Employment Policy in July 1982 (NUWEP-82), which deleted the Major Attack Options against China. Instead of being a part of SIOP planning, a separate and smaller war plan was prepared for nuclear war with China.⁴¹⁶ In response to NUWEP-82, the Joint Chiefs of Staff published an update of the nuclear annex to the Joint Strategic Capabilities Plan (JSCP FY82-83). This annex (Annex C) ordered PACOM and SAC to prepare a Concept Plan (CONPLAN) for the employment of nuclear weapons against the “power projection capabilities” of China.⁴¹⁷

As a result of the new guidance, the SIOP-6 war plan that went into effect on October 1, 1983, was a “major plan revision” that focused entirely on the Soviet Union. The plan contained four SSBN target packages for the Pacific Command: Two were “time-shared” with SSBNs operating in the Atlantic and Mediterranean under the command of Atlantic Command, and probably covered targets in the Soviet Union. The other two target packages were unique for the Pacific Command⁴¹⁸ and probably covered targets in the Soviet Far East. Targets in China were covered by Strategic Reserve Force submarines when they were not on Hard Alert against the Soviet Union under SIOP as well as by bombers.

Only two SSBNs operated in the Pacific at the time: The USS Ohio (SSBN-726) sailed on its first patrol on October 1, 1982; and USS Michigan (SSBN-727) sailed on its first patrol in mid-August 1983 “as part of the SIOP force in the PACOM.”⁴¹⁹ While the SLBMs were within range of Soviet Far Eastern targets as soon as the SSBN departed Bangor, Washington, targeting China and North Korea without overflying the Soviet Union required the submarines to sail further to the southwest to a patrol area north and west of Hawaii.

The CONPLAN ordered for China, however, was short lived and dropped from the JSCP in 1984.⁴²⁰ Instead of targeting the country for nuclear annihilation, China was encouraged to provide overflight rights to U.S. aircraft and support its efforts to “preclude Soviet hegemony in Asia.” The new JSCP even directed that “the United States was to be prepared to provide security assistance to China in the event of Soviet aggression,”⁴²¹ a remarkable pledge given that considerable nuclear forces had been earmarked to destroy Chinese targets only a few years before.

Chinese Premier Zhao Ziyang’s visited Washington in 1984. In preparing his reciprocal visit President Ronald Reagan set objectives for a new relationship. These included:

- To promote a China that remains independent of the Soviet orbit;
- To encourage China’s efforts to modify and liberalize its totalitarian system, introduce incentives and market forces in its economy, and continue expanding its ties with the major industrialized democracies;
- To help China modernize, on the grounds that a strong, secure and stable China can be an increasing force for peace, both in Asia and in the world, if the two objectives above are realized.⁴²²

Furthermore, Reagan wanted a discussion of the situation on the Korean Peninsula, military-to-military exchanges, and military assistance to upgrade China’s defensive capabilities with the purpose of strengthening a partnership against the Soviet Union:

Explore possibilities for raising the level of strategic dialogue and expanding U.S.-PRC cooperation against the common threat posted by the USSR. We should discuss with Chinese leaders Soviet military expansion in Asia, their likely future weapons development, Soviet efforts to expand their influence throughout the world, and arms control matters.⁴²³

Yet even with this new conciliatory emphasis nuclear planning against China continued using weapons in the Strategic Reserve Force (SRF). The SRF (sometimes called the Nuclear Reserve Force) was formally part of forces committed to the SIOP mission, but consisted of SLBMs and bombers that were excluded from a Major Attack Option (MAO). Generally this meant weapons not on alert and some non-strategic weapons.⁴²⁴ The SRF could be used at any time before, during, or after a MAO strike and involve either SIOP/NSNF (non-strategic nuclear forces) or Reserve Forces.⁴²⁵

During the period when Pacific-based SSBNs were phased out in the early 1980s, B-52 bombers took over SRF targeting responsibility in the Pacific. But as new Ohio class submarines armed with Trident I C-4 missile joined the Pacific fleet, SSBNs once more took a central role vis-à-vis China. Those SSBNs patrolling in the Pacific on Hard Alert had as their primary mission an attack on the Soviet Union. When not on Hard Alert, they had a secondary mission to destroy Chinese targets as part of the SRF. The SIOP-6C war plan that entered into effect on October 1, 1986, contained four MAOs and six Selected Attack Options (SAO). There were also three Basic Attack Options (BAO), which were subplans to the MAOs and SAOs.⁴²⁶

Even with their longer-range Trident I C4 missiles, Ohio-class SSBNs continued to patrol as far west as Guam. In April 1986, the USS Georgia (SSBN-729) arrived in Guam to test a new operational concept called “forward refit.” The refit lasted 11 days and involved “cosmetic repairs” from the submarine tender USS Proteus (AS-19), troubleshoot and repair of a gyroscope, and maintenance of Mk 48 torpedo, and a crew exchange. This was the first-ever forward refit of a Trident submarine in Guam and the first time ever that an Ohio-class submarine had been refitted alongside an afloat tender. Because the draft of the USS Georgia was too deep to allow the submarine to fully enter Apra Harbor, the USS Proteus was moved to the outer section of the harbor to accommodate the USS Georgia. Despite this limiting factor, the commander of Submarine Group 7 concluded that “the overwhelming success of the Trident refit has set the stage for possible future forward refits.”⁴²⁷

The Guam visit was part of a Strategic Continuity of Operations (SCOOP) exercise designed to practice use of alternative refit sites in case the SSBNs homeport was destroyed. Some of the SCOOP exercises included remote site replenishments,

refits, crew exchanges, open-ocean torpedo reload from an anchored tender, at-sea replenishment by helicopter, and port ingress/egress security exercises.⁴²⁸

USS Georgia's visit to Guam took place one year after China in May 1985 had test-launched its first solid-fueled mobile ballistic missile, the DF-21 (CSS-5). The new missile took a much shorter time to prepare for launch than the DF-2 (CSS-3), and could reach U.S. forces in Okinawa and South Korea (but not Guam). This marked the beginning of a Chinese transition to a more mobile and flexible land-based missile force. The Soviet Union also had begun deployment of its first mobile solid-fueled missiles, and these developments influenced U.S. nuclear planning in the Pacific.

The updated JSCP issued in 1986 (JSCP/Annex C FY 87) directed that Soviet relocatable targets be held at risk and established a requirement to develop a flexible and responsible system to hold relocatable targets at risk.⁴²⁹ At the time, all legs of the Triad tasked under SIOP-6B were targeted at various categories of predictable relocatable targets, but the planners wanted the new SIOP to hold a limited number of unpredictable relocatable targets at risk. SAC forces would be required to do so in SIOP-6C, while SLBMs would begin holding unpredictable relocatable targets at risk in SIOP-6D in October 1987.⁴³⁰

Another SCOOP exercise was conducted in December 1986, when the USS Alabama (SSBN-731) interrupted its third deterrent patrol for a tactical weapons loadout at Pearl Harbor. After completing the first Trident Service Weapons Test (SWT), USS Alabama returned to sea to complete its patrol. During its fourth patrol, following a crew exchange in Bangor, Washington, USS Alabama returned to Pearl Harbor in March 1986 amid Patrol Four for another tactical weapons loadout.⁴³¹ Trident port visits to Hawaii had become routine as part of deterrent patrols. San Diego also started receiving port visits, and in addition to Guam, strategic submarines occasionally visit Alaska as part of acoustic operations (Figure 77).

Figure 76:
Apra Harbor, Guam



Although U.S. ballistic missile submarines are no longer based in Guam, they occasionally use Apra Harbor as a forward refit facility during Strategic Contingency Operations (SCOOP) exercises.

Image: U.S. Navy



Deployment of the Trident I C4 in the Pacific was completed in August 1987, when the USS Nevada (SSBN-733) sailed on its first patrol.⁴³² This brought the Pacific-based SSBN force to eight boats with 192 SLBMs armed with more than 1,500 W76 warheads, a dramatic increase of the 480 warheads on 10 Polaris-equipped subs in the late 1970s. One year later, on September 1, 1988, the 100th Trident submarine deterrent patrol was completed when the USS Alabama returned to Bangor, Washington.⁴³³

Like its predecessor, the SIOP-6D war plan also had four MAOs, but in an effort to simplify strategic war planning the smaller attack options were reorganized. The SAOs were reduced from six to five and the number of

BAOs was increased from three to five. The BAOs were separated from the MAOs and the SAOs. “This separation permitted the use of BAOs to control conflict escalation and enabled the enemy to clearly perceive the limited nature of such attacks,” according to SAC. “In short, emphasis on BAO and SAO attacks had shifted to convey political rather than strictly military messages, thus enhancing the ability to limit conflict and end it as expeditiously as possible.”⁴³⁴

The new plan “required consideration of targets of changing value,” i.e. targets that might increase or lose value during SIOP operations. Although SIOP-6D did not identify increasing-value targets, targets that might *lose* value as SIOP operations continued figured prominently in the new plan.⁴³⁵ This requirement was a product of the increased focus on more limited and flexible strike options against more mobile forces. In previous SIOPs, targeting had been designed to commit forces against only stationary, point targets. But the Soviet Union’s increased reliance on mobile forces led to development of a Strategic Relocatable Target Attack (SRTA) tactic in SIOP-6D, which required SAC and the Navy to begin holding (unpredictable) Relocatable Targets (RT) at risk.⁴³⁶

Although the Soviet Union was the primary driver for this development at the time, the new capability later became an important tool for targeting Chinese mobile missiles.

The Denuclearization of South Korea

For decades nuclear war on the Korean Peninsula meant Chinese involvement. But during the 1980s, China's support of North Korea lessened and CINCPAC concluded that North Korea would be able to sustain "an extended conflict" against the south for a period of "several months, virtually independent of outside assistance."⁴³⁷

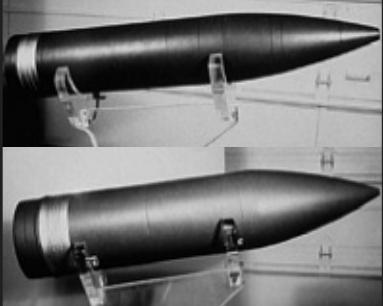
As the likelihood of direct Chinese military involvement in a Korean conflict decreased and the South Korea capabilities increased, the need for U.S. reinforcement of South Korea also declined. General Louis Menetry, the U.S. commander in Korea, stated in August 1989 that he anticipated that South Korea by the mid-1990s would be able to stand on its own feet. A residual U.S. force might stay in South Korea, he said, but more for "symbolic" reasons.⁴³⁸

The Joint Chiefs of Staff annual Joint Military Net Assessment for March 1991 only mentioned in general terms that U.S. forces in the Pacific region would "continue to support deterrence on the Korean Peninsula while balancing Soviet and Chinese influence in the area." Its assessment of nuclear forces was focused on the Soviet Union and the threat from China was not mentioned directly.⁴³⁹

A consensus was emerging that the presence of U.S. nuclear weapons on the Korean Peninsula had outlived their usefulness. In the aftermath of the collapse of the Soviet Union, President George H.W. Bush ordered the withdrawal of all non-strategic nuclear weapons from South Korea.⁴⁴⁰

On September 9, 1991, the commander of U.S. Forces Korea received a telegram from CINCPAC in Hawaii that directed him to evaluate the contribution of non-strategic nuclear forces as they related to deterrence and war-fighting strategy in Pacific Command. The telegram, which all component commanders in the region received as well, was sent in anticipation of President Bush's unilateral disarmament initiative that was to be announced later that month. In a telegram, CINCPAC noted that non-strategic nuclear forces had played an important role in the U.S.-Soviet Cold War confrontation over the past 35 years, but that the dramatic international changes required that the commanders reassess whether the weapons were still required, and if so, in what role.⁴⁴¹

Figure 78:
Nuclear Artillery Shells



Transport of the Mk33 (bottom) and Mk48 (top) Artillery Fired Atomic Projectiles had first priority in the U.S. nuclear withdrawal from South Korea in 1991.

Images: U.S. Department of Defense

For the commander of U.S. Forces Korea, “the status of nuclear weapons located in Korea, became moot on 27 September 1991,”⁴⁴² when President Bush ordered that all non-strategic naval and ground-launched nuclear weapons be returned to the United States. These involved approximately 5,000 tactical nuclear weapons in Europe, South Korea, and aboard dozens of warships and attack submarines deployed around the world.

Preparations in Pacific Command involved drawing up a plan for the removal of all Artillery Fired Atomic Projectiles (AFAPs), Tomahawk land-

attack missiles, nuclear strike bombs and nuclear depth bombs. While the weapons on the vessels would be offloaded when the ships next returned to the United States as part of their normal cycle, transport of the ground-launched weapons would begin immediately. A first priority was the return of the nuclear artillery (Figure 78) from South Korea, and Chairman of the Joint Chiefs of Staff General Colin Powell informed CINCPAC that the withdrawal of all weapons from Korea had highest priority for transportation aircraft. Powell wanted weapon movements to commence before the next meeting of the U.S.-South Korean military and security committees scheduled for November 20-22, 1991.⁴⁴³

To ease South Korean concern of being left vulnerable to North Korean attack, Bush’s initiative initially did not include approximately 60 air-delivered nuclear bombs at Kunsan Air Base, but only the 40 or so nuclear artillery shells.⁴⁴⁴ At the same time, U.S. officials went public with assurances about U.S. non-nuclear capabilities to deter Pyongyang. “If it comes to military capability, to deter an attack on South Korea,” Under Secretary for Defense Paul Wolfowitz told reporters three days after President Bush’s announcement, “I think we demonstrated amply in the Persian Gulf that we have extraordinary means, including extraordinary conventional means.... I hope the North Korean leadership, isolated though it may be, has noticed that kind of American strength and is not going to try any aggressive actions.”⁴⁴⁵

Figure 79:
USAF F-16 at Kunsan Air Base, South Korea



Kunsan Air Base stored U.S. B61 nuclear bombs until December 1991 when the weapons were withdrawn to the United States ending 43 years of U.S. nuclear weapons deployment in South Korea. The 8th Fighter Wing retained a nuclear strike role till the end after passing its last nuclear weapons certification inspection during the first half of 1991.

Image: U.S. Air Force

Throughout the period, U.S. officials went to great lengths to signal North Korea that the U.S. nuclear umbrella over South Korea remained intact and would be maintained with other nuclear forces.⁴⁴⁶ With South Korean concerns eased, the full withdrawal was finally implemented when President Bush signed National Security Directive 64 (NSD-64) on November 5, 1991, which ordered the removal of *all* nuclear weapons (ground- and air-launched) from South Korea.⁴⁴⁷

On December 18th, South Korean President Roh Tae Woo declared on national television: “As I speak, there do not exist any nuclear weapons whatsoever anywhere in the Republic of Korea.” In Washington, State Department spokesman Richard Boucher echoed Roh's call for a “non-nuclear peninsula,” and said the United States would cooperate in mutual inspections “to verify the absence of nuclear weapons”⁴⁴⁸ on the peninsula.

Now, without nuclear weapons in South Korea, the United States would maintain the nuclear umbrella over Seoul with SSBNs and long-range bombers.⁴⁴⁹ SSBN deterrent operations in the Pacific continued virtually unchanged, and although the Navy in February 1991 ordered TACAMO aircraft to cease 100 percent airborne operations and assume ground alert operations at Travis Air Force Base in California instead,⁴⁵⁰ the eight SSBNs based at Bangor mustered 29 deterrent patrols during 1991, a near all-time high in the Pacific.⁴⁵¹

China Back in the Crosshairs

The demise of the Warsaw Pact, the collapse of the Soviet Union, and the Tiananmen crisis of 1989 prompted the United States to re-examine the long-term strategic threat and the strategic assumptions underlying U.S.-Chinese relations.⁴⁵² As nuclear planners began to examine the role of nuclear weapons in the post-Cold War era, the crosshairs quickly focused on China once again.

In January 1992, a Pentagon study on the new role of nuclear weapons characterized China as “a wild card” for U.S. security interests. The study pointed out that China “has a nuclear arsenal that continues to grow and which is capable of striking the U.S. and its friends and allies,” and also expressed concern over China’s leadership and its future control of the nuclear forces. The study predicted that China might adopt “new aggressive policies, especially with respect to outstanding problems like Taiwan,” and it warned about a potential nuclear confrontation between China and India. Faced with these realities, the study concluded, U.S. strategic nuclear weapons should continue to serve a “moderate role” in deterring a Chinese nuclear attack on the United States and its allies. Although U.S. non-strategic nuclear weapons had just been withdrawn from South Korea and warships, the study concluded that both strategic and tactical nuclear weapons would continue to deter China from trying to coerce the United States and its allies.⁴⁵³

Notwithstanding the civilian status of the authors, the study was the product of a Strategic Deterrence Study Group within the Joint Strategic Targeting Planning Staff (JSTPS),⁴⁵⁴ the body responsible for maintaining the SIOP at the time. The authors and virtually all of the contributors to the study came from the JSTPS itself or its affiliates that advised the Commander-in-Chief of Strategic Air Command, the Joint Chiefs of Staff, and the secretary of defense about the future development of the U.S. nuclear posture. Perhaps not surprisingly, many of the study’s findings and its underlying philosophy were echoed in subsequent nuclear planning documents and policy papers about China.

The formation of Strategic Command (STRATCOM) in June 1992 established control of all U.S. strategic nuclear weapons under a single commander. STRATCOM initiated a number of force structure studies to determine the best composition of U.S. nuclear forces in the future in light of the reductions caused by new arms control agreements. During these reviews – which took place during several U.S.-Chinese clashes over Taiwan, arms sales to proliferating countries,

military espionage, and human rights issues – China's status in U.S. nuclear planning gradually increased.

One of the studies STRATCOM produced was known as *Sun City Extended*. Completed in early 1994, it contained an extensive analysis of various nuclear strike options against China. The earlier *Sun City* study from 1993 had focused on U.S.-Russian nuclear relations and only mentioned China in passing, but *Sun City Extended* dedicated a total of 13 pages to examining various "China Scenarios." Although most of the details were deleted from the declassified version (obtained under the FOIA), two specific "potential U.S./China adversarial scenarios" were described, one evolving from a conflict over North Korea and the other being a purely U.S.-Chinese confrontation.⁴⁵⁵ (Figure 80)

China's prominent status in the study was important for several reasons. First, the China factor had played no apparent role in the decision to denuclearize South Korea, but *Sun City Extended* reaffirmed that STRATCOM believed China would play a role in a Korea scenario and that U.S. nuclear weapons were needed in response. Second, and more significant, while China had been removed from the

SIOP in 1982 and nuclear planning reduced to a couple of limited attack options for the Strategic Reserve Force, the need to develop a "major-attack response plan" in anticipation of a possible direct U.S.-Chinese confrontation reflected the U.S. intelligence community's concern over China's increasing (albeit slowly evolving) capability to reach targets in North America with long-range missiles.⁴⁵⁶ This growing capability, some military planners argued during the 1994 Nuclear Posture

Figure 80:
STRATCOM:
More Options Needed Against China

The nuclear force structure study *Sun City Extended* published by U.S. Strategic Command in February 1994 identified two potential U.S.-Chinese scenarios that could lead to the use of nuclear weapons. One was a clash over North Korea, involving a limited attack against North Korea and potentially also China. The second involving a direct Chinese-U.S. confrontation which required "a major-attack response plan" against China.

Review process, necessitated a more focused U.S. nuclear planning against China and *Sun City Extended* appeared to present the justifications for doing so.

STRATCOM did not get approval to draw up a major plan against China at the time, but efforts to bring China firmly into mainstream nuclear planning were aided by intelligence reports about Chinese nuclear modernization and China's saber rattling against Taiwan. The crisis in the Taiwan Strait in March 1996 heated up when China conducted several ballistic missile tests from the mainland into the waters north and south of Taiwan. Three M-9 short-range ballistic missiles were launched on March 8 – two to the southern and one to the northern impact areas, and a fourth missile was fired into the southern area on March 13. The northern impact area was only 19 miles from Chilung. The exercise was the latest and largest in a series of what U.S. Naval Intelligence considered to be rehearsals of a contingency scenario for invading Taiwan, a scenario the United States first detected in 1994. China had held two similar exercises in 1995.⁴⁵⁷

The United States responded to the 1996 exercise by sending two aircraft carrier battle groups to the area: The USS Nimitz and USS Independence along with several nuclear-powered attack submarines.

Despite the potential treat, the U.S. military was not impressed with what it saw in the 1996 Taiwan crisis. After China conducted a large-scale exercise that tested new equipment, the U.S. Air Force concluded that to the extent the exercise sought to demonstrate joint capability of Chinese military forces, it failed. The Chinese military “demonstrations were set pieces and lacked realism, and very little inter-service cooperation was in evidence,” the Air Force concluded and discounted any negative impact on Taiwan’s internal affairs or independence. The Air Force predicted that China would “now need to factor in a U.S. military response in its further development of [its] war plans.”⁴⁵⁸

Even during the much less demanding territorial dispute between China and Vietnam and the Philippines over the Spratly Islands in 1996, U.S. Naval Intelligence concluded that China’s inadequate military capability prevented it from taking any aggressive action. In a secret special report from July 1996, the U.S. Navy’s Joint Intelligence Center in the Pacific (JICPAC) concluded that one reason China did not force the issue was “the fact that it does not now have the power projection capability to establish control over Spratly Islands.” Even for the foreseeable future, JICPAC predicted, “China will probably allocate just enough naval forces to support its claims, but not enough to provoke an engagement into an international dispute.”⁴⁵⁹

While its “relatively small nuclear forces are intended for retaliation rather than a first strike,” as the Pentagon later concluded,⁴⁶⁰ concern over China’s long-term strategic modernization significantly contributed to President Bill Clinton signing Presidential Decision Directive 60 (PDD-60) in November 1997 – the first new comprehensive presidential guidance issued for U.S. nuclear forces in 16 years. PDD-60 reportedly deleted “all previous references to being able to wage a nuclear war successfully or to prevail in a nuclear war.” Robert Bell of the National Security Council explained that the “emphasis in this PDD is therefore on deterring nuclear wars or the use of nuclear weapons at any level, not fighting [with] them.”⁴⁶¹

Nevertheless, nuclear deterrence still required credible strike options capable of holding valued targets at risk. Thus the nuclear guidance continued to emphasize the need for secure command and control capabilities to ensure effective operations of nuclear forces in pre-, trans-, and post-nuclear scenarios. If deterrence failed, the Pentagon clearly intended to win a nuclear war. The more moderate language of PDD-60 probably reflected the fact that a nuclear war in Europe was no longer likely, that most non-strategic nuclear weapons had been withdrawn or destroyed, and that the United States and Russia were no longer poised to strike one another as they had been during the Cold War. To that end, PDD-60 trimmed targeting of superfluous Russian facilities and focused the strike plans on nuclear forces and command facilities.

As for China, PDD-60 directed the military to *broaden* the list of facilities that might be struck in a nuclear war. Robert Bell declined to give any details about what those facilities were, but a source told the *Washington Post* that there was “no debate with respect to the targeting of China” as such.⁴⁶² What triggered this shift was not so much China’s nuclear capabilities at the time, but the potential for what China could become in the future. China was seen as expanding its nuclear arsenal and increasing the number of missiles capable of reaching the U.S. mainland. In its report from December 1997 on national security in the 21st century, the National Defense Panel, which was established by Defense Secretary William Cohen in consultation with Congress to review and make recommendations on the DOD’s Quadrennial Defense Review (QDR) and assess alternative forces structure for the U.S. military through 2010, concluded that China has the capability to be a more significant nuclear power by 2010–2020.” One of the considerations the panel highlighted as “critical” to shaping future U.S. nuclear policy was “possible shifts in China’s nuclear policy.”⁴⁶³

Rather than wait for these concerns to materialize, the language in PDD-60 was vague enough to permit STRATCOM to formally bring China back into SIOP planning with the completion of SIOP-99 in October 1998. As a result, a couple of LAOs, each involving a handful of Trident and bomber weapons, were available to the president to attack Chinese nuclear targets, critical industries and leadership. In addition to these LAOs in the SIOP (which has since been renamed OPLAN 8044), dozens of non-SIOP targets in China may be assigned to SSBNs and bombers in the Strategic Reserve Force.⁴⁶⁴

One of STRATCOM's first efforts was an attempt to create the Chinese Integrated Strategic Operations Plan (CHISOP), a computer simulation that used available intelligence information about Chinese nuclear weapon systems, strategy and policy to design a hypothetical war plan for how China might use its nuclear weapons in various situations. STRATCOM used CHISOP in "war games" to measure the effectiveness of U.S. nuclear strike plans against China. For many years a similar hypothetical war plan existed for the Soviet Union called the RISOP (Red Integrated Strategic Operations Plan). Due to changes in strategic planning, however, CHISOP was not finished and RISOP was cancelled in 2005.

The Nuclear Non-Targeting Agreement

The return of China to SIOP planning, curiously, coincided with the completion of a U.S.-Chinese agreement in June 1998 not to target nuclear missiles at each other. Beijing had wanted the non-targeting agreement as part of an agreement on no-first-use of nuclear weapons, but shortly before the non-targeting agreement was signed, National Security Advisor Samuel Berger publicly rejected a no-first-use deal and explained how Washington viewed the agreement:

On the issue of detargeting, ... the Chinese traditionally have linked that issue to our unwillingness to accept a doctrine of no-first-use of nuclear weapons. That is not something that we're prepared to do. And we continue to discuss this with them I think such an agreement would be useful in two respects. Number one, it would be a commitment by the Chinese to us that they would not target our cities and, therefore, would preclude the danger of an accidental launch, which is not insubstantial. There was a time when entire movies were based on swans going across radar screens. And second of all, I think it would be an important statement

about – a confidence-building measure and a statement about the evolution of our relationship since adversaries point their missiles against each other and not countries that are working to build a better relationship.”⁴⁶⁵

Shortly before the non-targeting deal was closed, the *Washington Times* – true to its normal style – reported that a “top secret” CIA document sent to top policy-makers in advance of Secretary of State Madeleine K. Albright’s visit to Beijing concluded that China’s 13 DF-5 missiles were “aimed” at the United States.⁴⁶⁶ Presumably intended to show that the Chinese couldn’t be trusted, the leak failed to derail the agreement. The ink was barely dry on the agreement, however, before the *Washington Times* followed up with another article quoting anonymous intelligence officials at the Pentagon saying that China had produced six more DF-5 missiles and would add two more missiles before the end of the year. “The production of eight new ICBMs represents a dramatic increase in the number of long-range missiles in China’s arsenal,” one official told the *Times*. “This is missile production far beyond anything we have seen from the Chinese in recent years.”⁴⁶⁷

Neither the *Washington Times* nor Berger mentioned that the DF-5s – unlike the dozens of forward-deployed Trident missile in the Pacific – were deployed without their nuclear warheads installed. So the agreement did not change the part of China’s posture most directly affecting the United States. Nor did it result in any changes on the part of the United States, which had already adjusted its missiles four years earlier when a similar deal was reached with Russia, according to the Pentagon:

Q: ... With regard to the detargeting arrangement that was announced a week ago by the president ...is [sic] the United States nuclear forces, especially the missile forces, are they currently de-targeted completely and would it be necessary for the U.S. to do anything at all to meet the detargeting agreement with the Chinese?

A: Our forces have been detargeted since 1994. They have not been aimed at any country. That was the – we detargeted our forces after our agreement with the Russians in 1994.⁴⁶⁸

For this reason, the deal with China was called a “non-targeting” agreement rather than a “detargeting” agreement.⁴⁶⁹ Regardless of the name used, the U.S. non-targeting was “entirely cosmetic and symbolic,” according to former

Minuteman III launch control officer Bruce Blair. In testimony before the House Subcommittee on Military Research and Development in 1997, Blair explained that the agreement did not result in the removal of “wartime aim points from [the] missiles portfolios of preprogrammed targets,” nor did it lengthen the amount of time needed to initiate a nuclear strike.⁴⁷⁰ In an op-ed in the *Washington Post*, Blair further explained:

[T]he United States sets its missiles on a trajectory that ends in the ocean, while preserving, just as the Russians did, the previous wartime aim points in the missiles’ memory banks. A few strokes on a computer keyboard are all it would take for launch officers to redirect the missiles to their wartime targets. Time required to retarget the entire U.S. missile force for Russian destinations: 10 seconds.⁴⁷¹

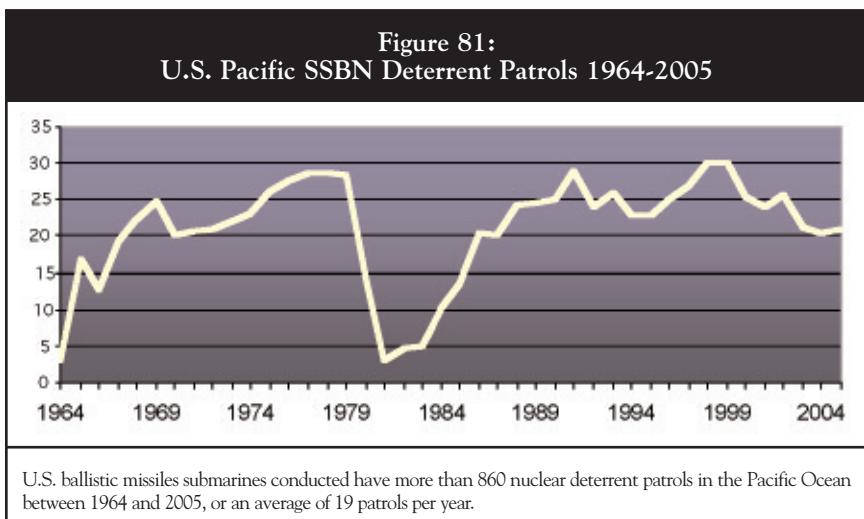
Current Nuclear Planning Against China

Current U.S. nuclear planning against China builds on the experience and assumptions from the history described above, but also introduces important new elements. Unlike Russia, according to the 2001 Nuclear Posture Review, “China is a country that could be involved in an immediate or potential contingency.”⁴⁷²

Day-to-day targeting against Chinese targets is mainly the responsibility of the SSBNs on patrol in the Pacific. Bombers with cruise missiles and bombs also are assigned targets in China, but are not forward-deployed with their nuclear weapons. Two (of eight) submarines are thought to be on so-called Hard Alert at any given time in the Pacific, with others in transit to and from their patrol areas, participating in exercises, or at their homeport in Bangor, Washington. The missiles on the two alert submarines are within range of their targets and ready for launch with short notice. The warheads on the other SSBNs are part of the Strategic Reserve Force (along with bomber warheads).

Between 1964 and 2005, U.S. SSBNs conducted approximately 860 deterrent patrols in the Pacific Ocean, corresponding to an average of 19 patrols per year (see Figure 81). There has been considerable fluctuation in the number, however, ranging from three in 1981 to a peak of 30 patrols in 1998 and 1999. The low number was due to the retirement of the Polaris submarines in 1980, and the peaks followed the completion of the Trident force in the Pacific. The conversion of four SSBNs to cruise missiles and special forces submarines (SSGNs) and the conversion of four others from Trident C4 to Trident D5 SLBM capability

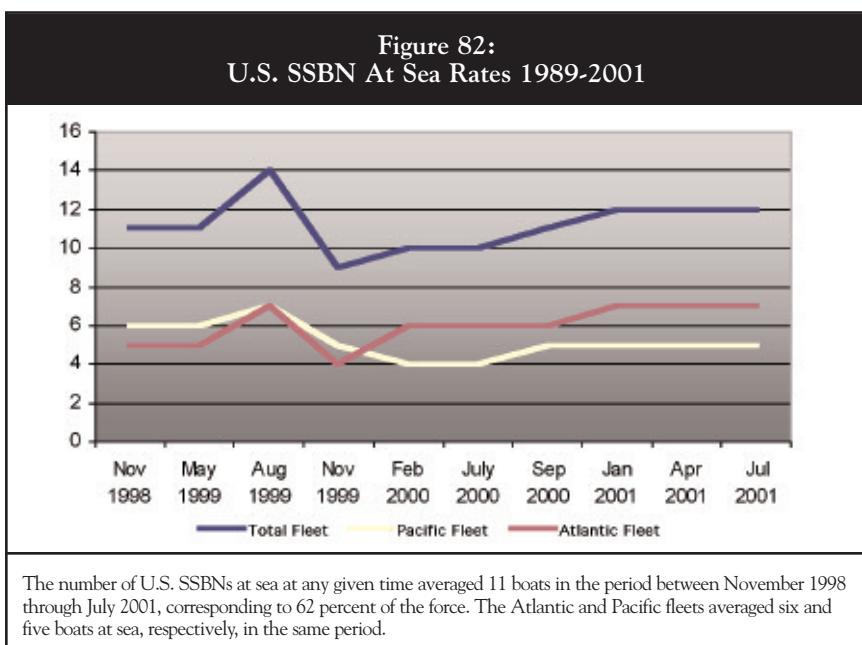
caused a decrease in the number of patrols between 2000 and 2005 to about 20 per year. The rate has once again increased because of the transfer of SSBNs from the Atlantic to the Pacific and completion of two of the four D5 upgrades. By 2008, the annual number of SSBN patrols in the Pacific should increase to approximately 27.



The total number of Pacific patrols is far less than the number of Atlantic patrols (some 860 versus 2,800) because most SSBNs have historically been deployed in the Atlantic to be able to target the Soviet Union and defend NATO. With the dissolution of the Soviet Union, the collapse of the Warsaw Pact, and the retirement of all Poseidon submarines, the annual number of Atlantic SSBN patrols plummeted from 79 in 1990 to 16 in 1991. As mentioned above, after 2004 the number of patrols has increased in the Pacific, and dropped in the Atlantic due to the transfer of five SSBNs from the Atlantic to the Pacific. As the D5 upgrade is completed in the Pacific, most of future SSBN patrols likely will be conducted in the Pacific.

Estimates of the number of SSBNs at sea at any given time fluctuate considerably depending upon the source. Former Commander-in-Chief of STRATCOM, General Eugene E. Habiger, wrote in late 1996 that “eight boats usually [are] at sea”⁴⁷³ in both oceans. Data published by the Office of Chief of Naval Operations (CNO) in 10 issues of *Undersea Warfare* between November 1998 and July 2001⁴⁷⁴ showed an average of 11 SSBNs at-sea during that period (approximately

62 percent of the total force). This data also revealed some fluctuations in the number of SSBNs at sea any given time, ranging from 14 (nearly 78 percent) to as low as nine boats (50 percent of the fleet) (see Figure 82).



The at-sea rates in the Atlantic and Pacific SSBN fleets for the same period differed slightly. In the Atlantic an average of six of 10 SSBNs were at sea at any given time, or 60 percent. In the Pacific, the submarines were able to generate a slightly higher at sea rate of 65 percent, with an average of five SSBNs being at sea at any given time.

These fluctuations are significant because the Navy often equates the at-sea rate with the time each SSBN is on station. The charts used by the Chief of Naval Operations (CNO) in *Undersea Warfare* to depict the “forward presence” of SSBNs, for example, include all the submarines at sea. The CNO also used this equation of at-sea days with on-station time when describing the completion of the 500th deterrent patrol of the Trident program in April 1998, saying “this equates to over 105 years of on-station strategic deterrent for the entire Trident fleet” with an “average patrol length of 77 days.”⁴⁷⁵ In other words, while strategic submarines of previous classes had to transit for several days to get to their patrol area within range of assigned targets, Ohio-class submarines are considered on-station and available for some missions essentially as soon as they leave port.⁴⁷⁶

Rather than indicate significant changes in the target coverage of at-sea SSBNs (five SSBNs now carry an estimated 720 warheads), the fluctuations instead reflect that only a portion of the SSBNs at sea at any given time are needed on station to provide continuous coverage of specific target packages in the war plans. At least four (two to three in each ocean) of the submarines at sea normally are maintained on 15-minute launch readiness (Hard Alert).⁴⁷⁷ An exercise conducted in the Pacific on June 4, 1991, for example, included three alert SSBNs.⁴⁷⁸ The SSBNs that are at sea but not on Hard Alert are maintained on what is called modified alerts, which allows the submarines to participate in other operations such as exercises with other naval forces.

According to Captain William Norris, the former chief of the Joint Staff's Nuclear Policy Branch (J5), "the daily at sea total in today's [1997] nominal patrol cycle varies between about 570 and 650" warheads,⁴⁷⁹ corresponding to three to four submarines each loaded with 24 missiles with eight warheads. With 10 SSBNs at sea as of February 2000, the implication is that although 70 percent of the submarines at sea at the time were on station, this amounted to less than 40 percent of the total SSBN force. Yet this is still a higher on station ratio than estimates normally offered by unclassified sources.⁴⁸⁰

The at-sea data released by the Department of Defense for the period 1998-2000 also reveals significant differences in the performance of the submarine fleets on each coast. While there were more strategic submarines home-ported on the Atlantic Coast compared with the Pacific at the time (10 versus eight), the data shows that the Pacific fleet based at Bangor, Washington, typically managed to keep at least 20 percent more of its submarines at sea than the fleet at Kings Bay, Georgia. At one point, in November 1999, Kings Bay only had four (40 percent) of its 10 SSBNs at sea. Only in February 2000, as the number of Trident boats increased, did King's Bay surpass Bangor in the number of submarines at sea (see Figure 82).

After the completion of the Nuclear Posture Review in December 2001, the Navy began to move more SSBNs into the Pacific to increase the nuclear forces available for targeting China. This process began in 2002 when the USS Pennsylvania (SSBN-735) and USS Kentucky (SSBN-737) were moved from Kings Bay to Bangor. USS Nebraska (SSBN-739) followed in 2004, and USS Maine (SSBN-741) and USS Louisiana (SSBN-743) transferred in 2005. This shift brought the number of SSBNs based in Bangor to nine with only five remaining in Kings Bay, although the Navy announced in July 2006 that USS Alaska (SSBN-732) would transfer to Kings Bay for a refueling overhaul at Norfolk Naval Shipyard.⁴⁸¹

Recent Upgrades to Weapons and Plans

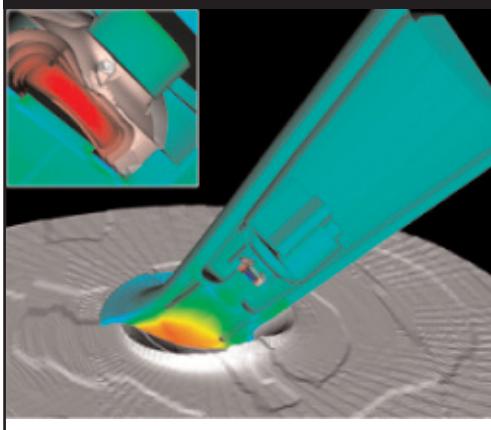
Pacific-based SSBNs have begun an upgrade from the Trident I C4 to the newer and more accurate Trident II D5 SLBM. This modernization will have considerable implications for targeting of China and others because it “enhances system accuracy, payload and hard target capability, thus improving our available responses to existing and emerging Pacific theater threats,” according to the U.S. Navy.⁴⁸² Some of the Trident II D5s carry the W88 warhead, which with a yield of 455 kt is the most powerful ballistic missile warhead in the U.S. arsenal.

The D5 equipped with the W88 is capable of holding the full range of targets at risk.

The United States has also begun an upgrade of the W76, the other warhead carried on the Trident II D5. This is the most numerous warhead in the U.S. stockpile, and most of the warheads aimed at Chinese targets in the future likely will be W76s. With a yield of 100 kt, the W76 deployed on earlier Trident II C4 could not hold hardened targets at risk, but was intended to be used in an airburst delivery mode against soft and area targets. Nine months after Presidential Decision Directive (PDD) 60 was signed in November 1997, however, the joint DOD-DOE Nuclear Weapons Council in August 1998 authorized a Phase 6.2/2A study to upgrade the W76.

While formally known as a Life Extension Program, the W76 upgrade includes significant improvements to both the Mk4 reentry vehicle and the W76 warhead package. One of the most important improvements is a new fuze with more options (including ground burst) to give the warhead a capability against a wider range of targets (Figure 83). The official purpose of the new fuze is to “enable W76 to take advantage of [the] higher accuracy of the D5 missile.”⁴⁸³ The upgraded weapon is so different that it has been given a new designation: W76-1/Mk4A (Figure 84).

Figure 83:
New Fuze For Enhanced W76 Warhead



Development of a new fuze with ground-burst capability for the W76 takes advantage of the higher accuracy of the D5 SLBM to increase the range of targets that can be held at risk with the W76.

Image: Sandia National Laboratories

Warhead design options were complete in February 2000, and the following month the Nuclear Weapons Council approved the Block 1 refurbish plan for the W76 involving about one-quarter of all W76 warheads (800).

Figure 84:
New Modification of W76 Warhead



The first four new W76-1/Mk4A reentry vehicles with a new ground-burst fuze are displayed at Sandia National Laboratory. The modernization will increase the types of targets that can be held at risk with the W76.

Image: Sandia National Laboratories

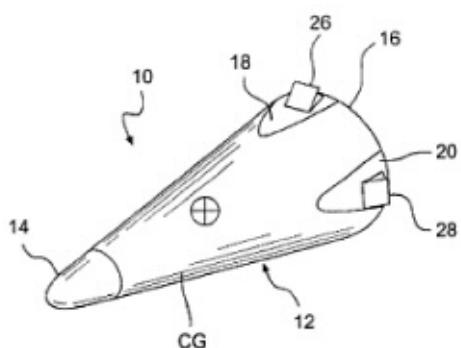
On November 10, 2004, the nuclear-powered ballistic missile submarine USS Nevada (SSBN-733) launched two Trident II D5 missiles from the waters off Southern California equipped with four W76-1/Mk4A dummy reentry vehicles. This was the first development test of the new fuze. The four reentry vehicles impacted on Kwajalein Atoll in the Pacific Ocean, marking the return of SLBM flight testing to the Pacific after a hiatus of 11 years. The third and final development flight test is scheduled for November or December 2006 coinciding with delivery of the First Production Unit W76-1 in September 2007. Completion of the Block 1 program is scheduled for 2012.

An “accuracy adjunct” also has been developed for the

W76-1/Mk4A, designed to give the reentry vehicle Geo-Positioning System (GPS)-like accuracy. A full-scale flight test of the “three-axis flap system,” which enables the reentry vehicles to make course adjustments during reentry, was test-flown on a D5 launched from the USS Tennessee (SSBN-734) on March 1, 2005. A top Navy official involved in the test told us: “I had GPS signal all the way down and could steer it.”⁴⁸⁴

Although developed for the W76-1/Mk4A, the accuracy adjunct also is part of an effort to deploy conventional warheads on SLBMs. Yet if the accuracy adjunct is combined with the new fuze on the more accurate D5 missiles being

Figure 85:
W76-1/Mk4A Accuracy Adjunct



Three-axis flap system designed for and test flown on the enhanced W76-1/Mk4A reentry vehicle is intended to provide "GPS-like" accuracy to the SLBM warhead.

Image: Lockheed Martin

the mainland, information warfare and “non-kinetic” (cyber-attack) options, even the potential use of U.S. nuclear weapons.⁴⁸⁵

deployed in the Pacific, it will significantly enhance the capability of the already lethal strategic submarine force against Chinese targets in a potential war.

Finally, in May 2006, it was reported that the Pentagon has put a new war plan in effect for defending Taiwan against a Chinese attack. The new plan, known as Pacific Command OPLAN 5077-04, reportedly includes maritime interception operations in the Taiwan Straits, attacks on Chinese targets on