
Appendix A: Cases Constituting Attacks and Considered Attacks of Nuclear Infrastructure

In this appendix we provide short descriptions of the cases where countries considered targeting or actually targeted nuclear infrastructure in another country to delay its ability to produce nuclear weapons. Each description includes a list of the sources we relied on in making our coding decisions. At the end of this appendix we include a summary table indicating which criterion (or criteria) each case satisfied to warrant inclusion in our dataset.

•Egypt – Israel (1967)
As early as 1959, Egypt realized that Israel had begun a nuclear weapons program. At various points during 1960s, Egyptian President Nasser publicly threatened to attack Israeli nuclear facilities. For example, in a speech given in December 1960, President Nasser threatened to destroy Israel’s nuclear infrastructure before that “base of aggression is used against us.” Similarly, in early 1966 he noted on several occasions that “Arab countries must immediately wipe out all that enables Israel to produce atomic bombs.” These statements are insufficient to warrant inclusion on our case list. Indeed, the available evidence indicates that these threats were nothing more than attempts to score domestic political points by talking tough to Israel (see especially Cohen 1998). In April 1963 President Nasser said to Robert Komer, a U.S. National Security Council official, during a private meeting that he supported attacks against Israel’s nuclear facilities under certain conditions. A few months later, when asked by U.S. officials how Egypt would respond if definitive evidence emerged that Israel was developing the bomb, Nasser said, “protective war. We would have no other choice” (Cohen 1998, 249). This is also insufficient to be classified as serious consideration of military action because Washington was not debating strikes at that time. This case illustrates why we exclude such exchanges, even when they occur in private. The available evidence indicates that Nasser hoped that by threatening Israel he would motivate the United States to do something about the nuclear issue. In the mid-1960s Nasser conveyed to U.S. officials that Egypt aimed to put “Israel back in the icebox,” indicating that Dimona and Israel’s nuclear program were not major issues (Cohen 1998, 354).  

Egypt first seriously considered attacks against Israel’s nuclear program during the 1967 crisis. On May 17, Egyptian MiG 21s made highly provocative reconnaissance flights over Dimona. Ten days later the Egyptian Air Force issued orders to strike Israeli targets; Nasser vetoed this order. When hostilities broke out on June 5, Dimona was among the “high priority targets” in Egyptian war plans. Indeed, Egypt would have struck Dimona (with Soviet assistance) had the war not ended so quickly.

Sources: Schlomo Aronson, “Israel’s Nuclear Programme, the Six Day War and its Ramifications,” Israel Affairs, Vol 6, No. 3 (Spring 2000), 83-95; Avner Cohen, “Cairo,

1 See Cohen (1998, 254-255) for an excellent discussion of why Dimona was not a priority for Egypt from 1964 to 1966.


On three separate occasions in the 1980s India seriously considered attacking Pakistan’s nuclear program. Israel approached India about orchestrating a joint raid against Pakistani nuclear facilities as early as 1979 (see Israel-Pakistan below), but New Delhi did not seriously consider this possibility until 1982. During meetings with cabinet level officials in that year, Prime Minister Indira Gandhi voiced support for military action. The operational plans called for Israel to carry out the raid on Kahuta, using an Indian air base in Gujarat as a launching point and another base in northern India to refuel. Gandhi once again lobbied for strikes in 1984 and even approved plans for a joint strike with the Israelis. In both cases (1982 and 1984), the attacks were called off at the “last minute” (Karnad 2008, 57). Thus, political decisions to attack had been made but they were later reversed after India reconsidered the consequences of preventive strikes. We found no evidence of considered attacks in 1985 but joint action with Israel was again discussed in 1986-1987. Senior Indian officials including the chief of the Army Staff, General Krishnaswami Sundarji orchestrated the Brasstacks crisis in 1986 as a potential means to provoke a Pakistani response in order to justify attacks against Islamabad’s nuclear program. Prime Minister Rajiv Gandhi expressed support for strikes in 1987 but other senior officials argued that any preventive military action would be too costly. The later view ultimately prevailed.

India considered attacking Kahuta on occasions after 1987, but these fall outside the scope of this analysis since we are interested in attacks against non-nuclear weapon states. In 1991, India and Pakistan ratify an agreement pledging not to attack nuclear infrastructure in either state.


•Iran – Iraq (1980)
In 1977 Israel approached Iran about the possibility of joint military action against Iraq’s nuclear program (see Israel-Iraq below). Iran did not, however, seriously consider attacking at that time. Tehran’s response to the Israeli overture was “lukewarm” and there is no evidence that any senior Iranian official lobbied for military action at any point in the 1970s (Perlmutter et al. 2003, xxxi). Iran did seriously consider striking Iraq’s principal nuclear installation during the early stages of the Iran-Iraq War, after receiving encouragement from the Israeli Chief of Staff. In September 1980, two Iranian F-4 aircraft attacked nuclear facilities at Osiraq but caused only minor damage. Iran did not seriously consider attacking Iraqi nuclear facilities after September 1980. Part of the reason for this is that Israeli’s raid against Osiraq in 1981 had heavily damaged the reactor, rendering future strikes unnecessary.


•Iraq – Iran (1984-1988)
Iraq did not consider attacking Iran’s nuclear facilities until the move toward “total warfare” in 1984, when it tried to shift the momentum by initiating a strategic bombing campaign in the Iran-Iraq war. A series of attacks occurred between 1984 and 1988. The first attack took place on March 24, 1984, followed by subsequent attacks each year until 1988. 3 Iraq’s early strikes on Iran consisted of Iraqi Air Force attempts to hit Iran’s economic and industrial centers of gravity, which included oil-related facilities but also the nuclear facilities. Despite an Iranian-sponsored

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2 In the early phases of the war, the Bushehr facility was still under construction; it did not begin to near completion until 1984—in Sept 1984, 80% of the first unit and 60% of the second were finally complete—so targeting early in the war would have had limited value at relatively high risk given the distance into Iran. “Iran Nuclear Power Project,” IRNA in English, 8 Sept 1984.
3 The number of attacks on Bushehr during the middle of November 1987 is disputed but Iraq clearly staged a series of attacks in 1987 that proved to be the most destructive of any during the Iran-Iraq War. It appears that the Iraqi air force launched two strikes on 17 November 1987 and another on 19 November.
resolution from the International Atomic Energy Agency (IAEA) that outlawed strikes against nuclear installations, Iraqi jets bombed a nuclear power plant, steel factory, and gas station in Bushehr. Iraqi officials defended the Iraqi Air Force’s actions, claiming that the nuclear plant was a legitimate military target.\textsuperscript{4}


\textbf{Israel – Iraq (1977-1981)}

Beginning in the late 1970s Israel began seriously considering attacks against Iraq’s nuclear program. In 1977 Israel’s Foreign Minister Yigal Alon held covert discussions with a senior Iranian official to discuss joint attacks against the Iraqi reactor known as Osirak. In June 1977, Israeli Prime Minister Menachem Begin argued privately that the destruction of the reactor was a top national priority and he continued to support this measure until the eventual strike in 1981. The Begin cabinet raised the prospect of striking Al-Tuwaitha in a 1978 cabinet meeting. During the meeting, several senior officials—including Begin himself—voiced support for air strikes against Iraqi nuclear facilities. After this meeting, officials were instructed to “delay the Iraqi nuclear program by all possible means” (Perlmutter et al. 2003, xxxiii). In 1979, unknown Israeli saboteurs attacked the facilities in southern France that were responsible for constructing the reactor cores and shipping them to Iraq and in another incident bombs destroyed the Rome offices of SNIA-Techint, the Italian nuclear company responsible for the Iraqi separation plant.\textsuperscript{5} The Israeli Air Force followed up in 1981 with Operation Babylon—known as Operation Opera.

\textsuperscript{4} Western military analysts suggested that perhaps Iraq had intended to strike tankers in the Persian Gulf but that may have been influenced by Western support for Iraq during the war. Mark Whitaker and Rod Nordland, “Teheran’s Blunder: A Decisive Defeat?” Newsweek, 1 April 1985, p.36.

\textsuperscript{5} Israel also assassinated scientists working on the Iraqi nuclear program. They targeted an Egyptian nuclear engineer who had been supervising the Iraq-French nuclear deal, Yehia al-Meshad, as well as two Iraqi scientists. These do not constitute attacks against infrastructure, but they are worth noting.
to Israel—that employed eight Israeli F-16 Falcons flanked by eight F-15 Eagles for cover to destroy Osirak and other nuclear facilities at Al Tuwaitha.


In 1979 the United States shared intelligence with Israel that Pakistan might be within two years of acquiring nuclear weapons (see also India-Pakistan above). At this time Israel began planning for a preventive strike against Pakistani nuclear facilities and approached the Indians about cooperating in a joint strike.\(^6\) Based on the available evidence, Israel did not seriously consider strikes again until 1982 when senior officials asked Subramaniam Swamy, an Indian official, to approach the leadership in New Delhi about a joint strike against Pakistan. The proposed plan called for Israel to carry out the raid on Kahuta, using an Indian air base in Gujarat as a launching point and another base in northern India to refuel. In 1983 Israeli Defense Minister Ariel Sharon again proposed that both states jointly attack key Pakistani nuclear installations. These plans also received careful consideration in both Israel and India in 1983, according to the British newspaper *The Observer*. In March 1984, Indian Prime Minister Indira Gandhi approved this operation but later vetoed the plan before it could be executed. We found no evidence that attacks were seriously considered in 1985, but in 1986 senior Israel officials again met with Indian officials and Paris and pushed for joint military action against Pakistan’s nuclear program (Kumaraswamy 2000, 44). Senior officials continued to lobby for strikes against Kahuta in 1987, just before Pakistan assembled its first nuclear weapon.


\(^6\) Note that consideration of a Pakistani raid preceded the 1981 Osirak strike.

**Norway – Germany (1941-1944)**

Between 1941 and 1944, Norway engaged in joint operations with the British to destroy facilities related to the German nuclear program. In late 1941, Norwegian and British intelligence identified Norsk-Hydro heavy water facility as a key bottleneck in the German nuclear program. The two began collaborating in planning a bombing or sabotage of the facility and later undertook rigorous intelligence collection and planning exercises. In July, “the British War Cabinet assigned the operation to troops from Combined Operations” (Powers 1999). In October 1942, a thirty-four person British sabotage team in two Horsa gliders undertook Operation Freshman to destroy the Norsk-Hydro heavy water facility in German-occupied Norway. The operation failed when poor weather caused them to crash into the mountains. Several of the saboteurs were killed on the spot and those that survived the crash were tortured and executed by the Germans. The intention was for the commandos from the First Airborne Division, aided by intelligence from an advance team of Norwegian commandos, to land in the plateau and proceed by bicycle to the Norsk Hydro facility, kill the German guards, destroy the machinery and heavy water, then divide and proceed to Sweden to return steel flasks of heavy water.

In February 1943 Operation Gunnerside was carried out by expert skiers from the Royal Norwegian Army seeking to exact revenge for the Germans’ victory over the Norwegians in 1940. An advantage of employing indigenous team is that they had knowledge of the area and terrain that the MI6-directed British mission had lacked. The plan called for the skiers to land near the plant, dispense of the eighteen cells of heavy water, then proceed by skis to Sweden. In terms of execution, the operation was a partial success and the Norwegian saboteurs dynamited the heavy water facility’s electrolysis chambers and delayed production by two months, with no loss of life on either side and no damage to the hydroelectric station itself, which was central to Norway’s civilian economy. Saboteurs again attacked the facility in April 1943.

A fourth incident involving Norway occurred in 1944. En route to Germany, a Norwegian saboteur tipped off by British intelligence on timing and route, intercepted the ferry Hydro. All of Germany’s heavy water, apparatus, catalyzers, and concentrates involved in the production of heavy water sank in Norway’s Lake Tinnsjoe.


•Pakistan – India (1984)
Although India was worried about potential attacks against the Bhabha Atomic Research Center during the 1971 Indo-Pakistan war, we found no evidence that Islamabad seriously considered attacks at that time. According to the public record, the first time Pakistan considered attacking Indian nuclear facilities was during the 1984 crisis. During this crisis, Pakistan was aware of India’s interest in attacking Kahuta. In response, Islamabad considered attacking nuclear installations in India. Pakistani leaders “sent an explicit message to New Delhi through diplomatic channels:” the Pakistani air force would “strike every nuclear installation in India, civilian as well as military” if the crisis escalated (Ganguly and Hagerty 2005, 58). This alone is insufficient to warrant inclusion in our case list, given that it could have been nothing more than a deterrent threat. Senior government officials, however, indicated that Pakistani interest in preventive strikes against the Indian nuclear complex at Trombay was serious and privately advocated this response in the event that India raided Kahuta. Moreover, senior officials advocated preemptive strikes against Indian facilities if they perceived that an attack against Pakistan was imminent. Although there is evidence indicating the India continued to consider this possibility during the 1986–87 Brasstacks crisis, the public record does not reveal any evidence that Pakistan did so after 1984.


•South Korea – North Korea (1991, 1993-1994)
In April 1991, South Korean defense minister Lee Jong Koo indicated that Seoul considered raiding North Korean facilities at Yongbyon. Lee again endorsed this option during a private meeting with U.S. Defense Secretary Dick Cheney in November 1991. There is no evidence that

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7 Recall that advocacy of military action must take place privately either in internal deliberations or in consultations with foreign officials who are also considering strikes.

8 Also note that Munir Khan, the chairman of Pakistan’s atomic energy commission privately voiced support for strikes against Indian nuclear facilities under such circumstances. This alone is insufficient to warrant inclusion on our case list since Khan was not a cabinet-level official but it does illustrate the prevalence of these views within Pakistani elite.
Seoul considered strikes against Yonbyon in 1992 but military action was again raised during the 1993-94 crisis. During a cabinet meeting in November 1993, South Korean President Kim Young-sam voiced support for strikes under certain conditions, telling his advisors to “prepare for any eventuality in dealing with communist North Korea’s suspected nuclear arms program” (USA Today 1993). Seoul proceeded to prepare plans for an air-raid against “nuclear facilities” in the DPRK. Kim continued to voice support for military action in 1994. Any military action would likely have been coordinated with the United States. Indeed, the two countries were in close contact throughout the crisis and held frequent consultations on possible responses to ending North Korea’s nuclear program. While South Korea gave serious consideration to attacking Yongbyon, in the end it was more cautious about this option than the United States because Seoul would have faced the brunt of any North Korean retaliation. As one American official put it, the South Koreans were not fully “prepared to be sacrificed on the altar of nonproliferation.”


•Soviet Union – Israel (1967)
In the context of the Six Day War, the Soviet Union planned to attack Dimona, Israel’s key nuclear facility. Just prior to the war, the Soviets flew sorties over the facility and had plans to destroy it with Egyptian assistance. The war ended so quickly that there was never an appropriate opportunity to take out Israel’s nuclear infrastructure. All of this has been confirmed by the chief spokesman of the Russian Air Force, Col. Aleksandr Drobyshevsky.


•Soviet Union – South Africa (1976)
In 1976, the Soviet Union approached the United States and asked for assistance in attacking the Y Plant, one of South Africa’s key nuclear installations. In 1977, Soviet satellites detected preparations for a nuclear test in South Africa and continued to explore options (including the use of force) to prevent it from crossing the nuclear weapon threshold. It is plausible that the Soviets continued the consideration of force between 1977 and 1979, but an exhaustive search of primary and secondary documents failed to yield any evidence of this. Thus, we code the Soviet Union as considering targeting South African nuclear facilities only for 1976.

•Taiwan – China (1963)
Taiwan considered joint operations with the United States to infiltrate, sabotage, or attack Chinese nuclear facilities (see United States – China below). Note that we code Taiwan as considering strikes for only one year, whereas there is evidence that U.S. consideration extended from 1961-1964. This case makes it in to our dataset because during a visit to Washington in September 1963, General Chiang Ching-kuo—Chiang Kai-shek’s son—lobbied for strikes against nuclear Chinese nuclear facilities in private meetings with U.S. officials, including Kennedy and National Security Advisor McGeorge Bundy. Taiwanese consideration of force may have extended to 1964 but we did not find evidence of this in the available historical record.


•United Kingdom – Germany (1941-1945)
The United Kingdom was involved in three attempts to destroy German nuclear infrastructure during WWII. These incidents are described above (see Norway – Germany and US-Germany).


•United Kingdom – Iraq (1998)
In 1998, the United Kingdom and the United States made the decision to strike Iraqi military targets and undertook Operation Desert Fox (see United States – Iraq below). In the four day operation, Royal Air Force Tornados struck Iraq’s Zaafaraniya nuclear complex.
Although Britain was a crucial member of the 1991 Gulf War coalition, the nuclear sites were targeted by American aircraft during this conflict. There were no British aircraft in the Air Tasking Order that assigned aircraft to targets at Ash Sharqat, Al Atheer, and Tarmiya. Rather, the RAF and Royal Navy were involved in offensive counter air, air defense, and tactical reconnaissance operations. One reason for the omission of British may be that the United States had found unguided bombs to be ineffective against targets such as nuclear facilities. Instead, it had to use laser-guided bombs (LGBs), which were used by F-117s and F-111Fs for attacks on Iraqi nuclear sites. Laser-equipped Buccaneers arrived in theatre about two weeks into the air war and helped guide Tornado GR1s to bridges and airfields using LBGs; however, they were limited in their ability to designate targets and facilitate attacks at night.


• United States – China (1961, 1963-1964)

The United States was aware of Chinese intentions as early as June 1955 and consistently concluded that Beijing could test a nuclear device in the period 1963-64. Beginning in 1961, Washington considered a variety of policies aimed at delaying the Chinese nuclear weapons program. Among the options considered was using force to “take out” China’s nuclear program. The United States proposed a variety of forceful measures to restrain China’s nuclear capability including: infiltration, sabotage, or invasion by Chinese nationalists; maritime blockades; a South Korean invasion of North Korea; conventional air attacks on nuclear facilities; the use of a tactical nuclear weapon on selected Chinese targets. President Kennedy privately advocated for the use of force against in meetings with his cabinet and he ordered classified assessments of the likelihood that they could be effective in delaying the Chinese program. Washington approached the Soviet Union about cooperating in a raid against Beijing’s nuclear facilities. Kennedy privately discussed the issue with Soviet leader Nikita Khrushchev during a summit in Vienna in 1961. There is no evidence that military force was seriously considered in 1962, but in 1963 Kennedy directed W. Averell Harriman, an experienced diplomat who was preparing to meet with Khrushchev to “go as far as he wished in exploring the possibility of a Soviet-American understanding with regard to China.” Declassified documents reveal that Kennedy’s cryptic instructions included the exploration of joint preventive attacks. Lyndon Johnson was less enthusiastic about strikes against China than Kennedy, but consideration of military action
continued through 1964. Indeed, as late as September 1964, Bundy discussed the possibility of joint military action with Anatoly Dobrynin, the Soviet Ambassador to the United States.


• United States – Germany (1942-1945)
The United States considered attacking facilities relevant to the German nuclear program as early as 1942, when General Groves prompted General Eisenhower to begin planning for an attack on the heavy water plant in Norway. After the joint British-Norwegian operations (described above) failed, the United States conducted airstrikes against the German heavy water production facility. On 16 November 1943, the RAF and American Eighth Air Force and the allies dropped over seven hundred 500-pound bombs at the Vemork plant and one hundred 250-pound bombs at the town of Rjukan. Many missed and the operation only inflicted light damage on the hydroelectric plant’s pipelines, power station, and adjacent hydrogen-electrolysis plant, but enough to set back production for a few months.

In 1942, the United States also began considering bombing Germany’s nuclear research efforts, including “the plants and laboratories where such work is in progress” (Powers 1993, 209). The United States worked with the British Bomber Command to pick German targets; highest on the priority list was the Kaiser Wilhelm Gesellschaft in Berlin, which was a key scientific research institute. The heavy water facility in Norway remained the primary target until the second half of 1944, when the facility was dismantled. Subsequent raids struck the Kaiser Wilhelm Gesellschaft (see Powers 1993, 338).

In 1944, the US turned its attention more fully to other facilities related to Germany’s nuclear program, including uranium mines in Czechoslovakia, a suspected research laboratory in Hechingen-Bisingen (initially thought to be Germany’s “Oak Ridge”), and another suspected facility at Oranienberg. Much of this work was in the area of surveillance to determine what was and was not a facility, with the intention of “assembl[ing] a revealing picture of the German nuclear program” (Groves 1983, 222). The United States was reluctant to target one of the facilities until it had confirmation, lest they prematurely tip the Germans off to their intentions. In March 1945, Washington sought to delay Germany’s nuclear developments by targeting the Auergesellschaft Works in Oranienberg (15 miles north of Berlin) with 1500 tons of high explosives and 178 tons of incendiary bombs, destroying the facility (Groves 1983, 230-231). The United States began planning Operation Harborage, which entailed destroying the remaining German atomic energy facilities and capturing the relevant scientists. It undertook Operation Harborage in April 1945, with the assistance of its British allies, but German resistance was thin
and many facilities had been destroyed by previous bombnings. The ALSOS mission, tasked with locating and confiscating facilities and scientists towards the end of the war, ultimately systematically detained the scientists and destroyed or exported (to the United States) remaining material, including at Haigerloch, site of Germany’s uranium and heavy water.


The United States seriously considered attacking Iraqi nuclear facilities for the first time in 1990, when it drew-up plans that included the destruction of Iraq’s nuclear capability, a goal authorized by the highest levels of the U.S. government. During the Gulf War in 1991, the United States attacked several facilities thought to be key components of the Iraqi nuclear program. During the early stages of the campaign, American F-16s struck the well-known Tuwaitha Research Facility near Baghdad, and F-117s made repeated visits to target the site on February 18, 19, and 23, 1991. F-111Es and F-16s struck suspected a nuclear target later known as Al Jesira near Mosul. In the twenty-five strikes launched over the period of the air war, four F-111Es equipped with four 2,000 pound bombs targeted the facility at night, four F-16s equipped with two 2,000 pound bombs or six 500-pound bombs during the day, producing substantial damage to Jesira. Most of these bombs were unguided and few actually hit their intended targets but one of the key war aims was to degrade Saddam Hussein’s nuclear capability.

Following the Gulf War, the United States attacked Iraqi nuclear infrastructure on two additional occasions. In January 1993 the United States launched roughly 40 cruise missiles against the Zaa’faraniya nuclear complex. In December 1998, the United States and U.K. carried out Operation Desert Fox, which targeted a number of military facilities, including the Republican Guard, command and control facilities, and suspected nuclear facilities. In 1999, the United States war-gamed an invasion of Iraq—referred to as OPLAN 1003-98 or the “Zinni Plan”— but this does not constitute a considered use of force because there is no evidence that President Clinton or anyone in his cabinet advocated strikes against nuclear facilities at this time.


•United States – North Korea (1994)

During a crisis in the mid-1990s the United States seriously considered attacking North Korea’s nuclear infrastructure to prevent Pyongyang from building nuclear weapons. There are some indications that Washington may have entertained the use of force against North Korea in the early 1990s. For instance, in the fall of 1993, Secretary of Defense William Perry ordered the Joint Chiefs John Shalikashvili to draw up plans for “destroying key components of the reactor site with a military attack.” However, military action was not seriously considered (as we define it) until 1994. In June of that year U.S. President Bill Clinton and his national security team privately discussed the possible responses to the North Korean problem. Senior advisors recognized that there were risks associated with using military force; consequently few were willing to embrace this option without reservations. The evidence indicates, however, that officials did advocate for striking nuclear infrastructure under certain conditions. Secretary of Defense William Perry, for example, noted: “we believed that the nuclear program on which North Korea was embarked was…dangerous, and were prepared to risk a war to stop it.” Washington made this clear by mobilizing forces to attack the principal nuclear facility at Yongbyon and reinforce the troop presence in South Korea to prepare for a possible counterattack. Washington requested cooperation from Seoul in any military action it might take against North Korea. Just as an armed confrontation seemed inevitable, the United States reached a political/diplomatic agreement known as the Agreed Framework, which entitled North Korea to aid in exchange for ending its nuclear weapons program. Washington did not seriously
consider force for the remainder of the 1990s (although strikes may have been considered beginning in 2001, which is temporally beyond the scope of our analysis).

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<th>Year(s) Considered Attacking</th>
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<th>Request 3rd Party Cooperation</th>
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Appendix B: Well Known Cases Not Constituting Attacks or Considered Attacks of Nuclear Infrastructure

In this appendix we discuss a small number of cases that are mentioned in the historical literature but excluded from our study because they do not meet our definition of “consideration.”

Iraq-Israel (1991)

During the 1991 Persian Gulf War, Iraq attempted to target Israel’s facility at Dimona, launching scud missiles that fell short of the target. We exclude this case because Israel already had nuclear weapons at the time of the Gulf War.


• Libya – Israel (1981)

Libya considered launching a retaliatory raid against Israel’s key nuclear installation following the destruction of Iraq’s Osirak reactor in 1981. Muammar Qaddafi pondered smuggling a Syrian rocket within range of the Dimona facility and he reportedly suggested this plan to the Libyan ambassador to Jordan. To implement this operation, Libya requested support from both the Soviet Union and Iraq. Both states quickly dismissed Qaddafi’s plea and there is no evidence that either Moscow or Baghdad advocated for strikes at that time. The Soviets in particular were caught off guard by Libya’s request. Despite meeting some of our criteria we do not code this case as a considered attack because Israeli possessed at least one nuclear weapon by 1981.


• Soviet Union – China (1969)

During the 1969 border crisis, the Soviet Union seriously contemplated strikes against Chinese nuclear facilities and American intelligence detected preparations for such an attack. We do not include this case because we are interested in attacks against non-nuclear weapon states; China had conducted its first nuclear test five years previously. The Soviet Union and China did break party ties as of 1963, but tensions and border disputes did not arise until late in 1964, after the Chinese nuclear test is October 1964. Between October 1964 and March 1969, there were 4,189 border incidents (Wishnick 2001, 33); border incursions did not begin until 1967 (18 between 1967 and 1969), suggesting that antagonism in the form of military force was incipient in late 1964 but was mostly concentrated in the second half of the 1960s.

•United States – Cuba (1962)
During the Cuban Missile Crisis, the United States considered a preemptive attack against Soviet nuclear warheads stationed in Cuba. We exclude this case from our analysis because the attack was not intended to delay Cuba’s ability to produce nuclear bombs (since Cuba did not even have a nuclear weapons program). Further, missiles—not reactors or other nuclear facilities—were the intended target.


•United States – Libya (1996)
During the mid-1990s a crisis arose when the United States received intelligence about Libya’s ongoing work at a chemical weapons facility at Tarhunah. The United States considered a preventive strike against this facility in 1996. Secretary of Defense William Perry privately endorsed this option and he discussed it with Egyptian president Hosni Mubarak during a trip to Cairo. This case is excluded from our dataset because it dealt exclusively with a chemical weapons complex. There is no evidence that the United States considered action against Libyan nuclear facilities.


•United States – Japan (1945)
In raids on Tokyo on April 13, 1945, the United States destroyed facilities related to the Japanese nuclear program in the course of its widespread incendiary raids. We do not include this in our analysis since the United States was not aware of the program’s existence and did not intend to explicitly target nuclear facilities.

Sources: Bruce Rae, “B-29’s Set Great Tokyo Fires; Explosions Heard 100 Miles,” New York Times, April 14, 1945, p.1; Richard Rhodes, The Making of the Atomic Bomb (New York: Simon

**United States-North Korea (1993)**

In late 1993, tensions in the Korean peninsula escalated over North Korea’s suspected nuclear facilities and Pyongyong’s unwillingness to admit full international inspections of its facilities. The US verbally threatened North Korea and likely even drew up contingency plans, but does not appear to have given serious consideration until 1994.


**•United States – Pakistan (1978-1979)**

In the late 1970s, the United States discussed covert strikes against Kahuta, Pakistan’s uranium enrichment facility but there is no evidence that senior officials advocated for this policy. In 1978 Secretary of State Cyrus Vance issued a private memo asking the State Department to conduct a study assessing the costs and benefits of launching air strikes against the Pakistani facility. Ambassador Gerard Smith prepared a paper that outlined how the United States could attack Kahuta and analyzed the value of doing so. Nonproliferation specialist Joseph Nye prepared a similar report for Vance. These conclusions reached in these analyses were far from ringing endorsements of the preventive strike option. The Nye report, for instance, stated “it would be very difficult to pull off successfully” (Corera 2006, 28). On September 13, 1979 senior U.S. officials met in a classified setting to discuss options for responding to Pakistan’s nuclear program. Officials discussed military plans prepared by the Pentagon as well as the reports written by Smith and Nye. Two options raised during the meeting were strikes against nuclear facilities and the extension of security guarantees. Officials were not thrilled with either possibility. According to Nye, all of the discussions in 1978-79 on the issue were “just contingency planning” and neither Vance nor any other cabinet-level official lobbied for the use of military force.9


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9 It is noteworthy that the United States warned the Pakistanis of joint Israeli-Indian plans to attack Kahuta in the early-1980s.
**United States – Soviet Union (1945-1949)**
Beginning in 1945, some observers in the United States began calling for preventive action against the Soviet Union to limit its ability to produce nuclear weapons. General Leslie Groves, who had supervised the Manhattan Project, argued that the United States should strike Soviet research facilities to “guarantee American supremacy” in the area of nuclear weapons. Other senior military leaders such as Generals Carl Spaatz, Henry Arnold, Ira Eaker, Ely Culberton, Curtis LeMay, and Frank Everest all made similar arguments in the late 1940s. According to diplomatic historians these ideas were “surprisingly widespread,” among public intellectuals and military leaders. However, there is no evidence that President Harry Truman shared these views in the 1940s. Additionally, senior officials with real decision-making, such as Secretary of State Dean Acheson, opposed the preventive war option in their public and private statements on the issue. Aside from the statements of Truman and his cabinet there are no other indications in the available historical record that Washington seriously considered attacking Soviet nuclear facilities prior to 1949 (e.g., there is no indication that the U.S. approached the British about cooperating in an attack against the Soviets, which is something we would have expected to happen if strikes had been seriously entertained). The United States did seriously consider strikes against Soviet nuclear facilities—but only after Moscow acquired the bomb. Following the completion of National Security Council Document 68 in April 1950 President Truman and others in his cabinet thoroughly addressed this issue. Preventive strikes were also considered during the early years of the Eisenhower administration. We exclude this case because our theoretical interest is in considered attacks against non-nuclear weapons states.


**United Kingdom – Soviet Union (1946-1949)**
Winston Churchill publicly and privately advocated for preventive strikes against Soviet nuclear facilities as early as 1946. In that year Churchill indicated that “We ought not to wait until Russia is ready,” indicating that he believed war with the Soviets would take place in approximately eight years and it would be better to strike sooner rather than later. In 1948 Churchill again argued for “bringing matters to a head” before Moscow broke the American nuclear monopoly. However, Churchill made these remarks as opposition leader—not as Prime Minister (he was voted out of office in July 1945 and did not return as Prime Minister until
October 1951). There is no evidence that Prime Minister Clement Attlee or other senior officials expressed interest in preventive strikes against the Soviet Union prior to 1949.

Appendix C: Sources Consulted for Non-Cases of Considered Attacks against Nuclear Infrastructure

In addition to the sources listed in Appendix A, we consulted a variety of books, historical articles, and primary documents that did not reveal evidence of attacks or considered attacks against nuclear programs within a particular dyad. We list these sources here so that readers have a clear sense of why we concluded that attacks or considered attacks did not occur in a particular instance. We organize this appendix by country and include all 25 states that at one time explored nuclear weapons. The sources listed for the United States, for instance, are those we consulted to determine how other countries responded to the American nuclear weapons project prior to 1945. These sources do not necessarily address how the United States responded to other countries’ nuclear programs; such sources are listed under each respective proliferator.

Readers should note that we consulted what we believed to be the seminal historical literature for each nuclear program. There are definitive nuclear histories written for many of the states that explored nuclear weapons. Relevant examples include Henry DeWolf Smyth’s Atomic Energy for Military Purposes (the United States), Margaret Gowing’s Independence and Deterrence (the United Kingdom), David Holloway’s Stalin and the Bomb, Avner Cohen’s Israel and the Bomb, and George Perkovich’s India’s Nuclear Bomb. These histories were often written by scholars who had access to classified documents. They tend to include rich information on all aspects of a state’s nuclear program, including the ways in which other countries responded (or thought about responding). If attacks were considered against a particular country, it is reasonable to expect that such events would be mentioned in these definitive historical accounts. Yet, our efforts did not end after consulting these sources. We drew on other historical literature on nuclear proliferation and international crises that discussed how countries responded or considered responded to proliferation in a given case. We paid especially close attention to dyads not included in Appendix A that were characterized by hostile relationships or rivalries (e.g., Argentina-Brazil in the 1970s and 1980s) because this is where we might expect attacks to have been considered. As of result of this strategy, we did not consult an equal number of sources for all countries. If one or more countries could have plausibly given an attack serious consideration there will be more sources listed than if few conceivable attackers existed (compare, for instance, the U.S.S.R. to Switzerland).

We consulted primary documents dealing with states’ responses to nuclear proliferation whenever possible. In each case we searched databases such as Lexis-Nexis and World News Connection and included press reports below when appropriate. We also mined declassified documents from the U.S. government. Unless otherwise noted, the declassified documents listed below were obtained from the Digital National Security Archive. Although these documents are from U.S. sources they sometimes provided useful information about how other states considered responding in a given case of proliferation. This is obviously not a perfect substitute for obtaining declassified documents from all other possible attacking governments, but it is the best that we are currently able to do. Finally, in a few instances we contacted former government officials or scholars with area expertise to inquire whether we had properly coded certain cases.

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• Algeria

• Argentina

• Australia

• Brazil

•China


• France

• Germany

• India


• Iran


•Iraq

**Israel**


**Japan**


• Libya
• North Korea


• Pakistan


• Romania

•South Africa

•South Korea

•Soviet Union

**Sweden**


• Switzerland

• Taiwan

**United Kingdom**  

**United States**  

**Yugoslavia**