The staff of Far East Air Forces (FEAF) conducted the first systematic study of measures to produce a negotiated settlement in a limited war through airpower some fifty years ago. As both the conflict and truce talks continued, stalemate on the ground and ineffective interdiction inspired Brigadier General Jacob Smart, FEAF deputy commander for operations, to look for a better way to utilize resources. He directed Colonel R.L. Randolph and Lieutenant Colonel B.I. Mayo to find a means of unhinging the communist forces in North Korea. The result prompted a new vision for employing airpower—pressuring enemy leaders to abandon the fight.

Out of the Blue

Randolph and Mayo began by examining the interdiction campaign, which had focused on cutting rail lines to force the enemy to move supplies primarily by road. Planners hoped that Fifth Air Force aircraft could cause enough attrition of enemy trucks that front line armies could not be supplied. This had not worked despite
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The Air Campaign Over Korea Pressuring the Enemy

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over 15,000 railway cuts and the destruction or damaging of 199 bridges. Enemy repairs, night movement, and MiG–15 jet fighter attacks foiled FEAF efforts to close transportation routes. Randolph and Mayo also observed that the daily enemy mortar shell requirement could be carried by one truck or 100 men with A-frames. It was virtually impossible for interdiction to halt such traffic. In addition, FEAF losses were heavy. The campaign had cost

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243 aircraft destroyed and 290 heavily damaged, and only 131 were replaced.1

The study recommended that all assets other than those required to maintain air superiority “be employed toward accomplishing the maximum amount of selected destruction, thus making the Korean conflict as costly as possible to the enemy. . . .” Targets were reprioritized based on effects on the enemy, vulnerability to available weapons, and probable cost of attacking them. Candidates included hydroelectric plants, locomotives, vehicles, supplies, and specific structures in cities and villages, especially those actively supporting enemy forces. Based on this study, Smart planned to de-emphasize interdiction and concentrate on the new targets to “bring about defeat of the enemy as expeditiously as possible” rather than “allowing him to languish in comparative quiescence while we expand our efforts beating up supply routes.” He knew that the well dug-in enemy was under no real pressure on the front line and needed limited supplies to sustain operations in a stalemate. Smart also believed that destroying such targets should impair the morale of civilians who provided logistic support, though he acknowledged that selection would be difficult not only for operational reasons but because of uncertainty about what decisionmakers thought would work.

The commander of U.N. Forces and U.S. Far East, General Matthew Ridgway, USA, had made an initial determination to influence negotiations with airpower, but his resolve was tempered by his disappointment in the interdiction campaign and early battles with the Joint Chiefs about bombing both North Korean ports and Pyongyang. He also was hesitant to risk disrupting the peace talks. The communists had twice used the excuse of air attacks on the negotiating venue to break off the talks, once with suspect evidence and another time in the wake of an actual U.N. bombing error.

Ridgway’s successor, General Mark Clark, USA, was not as skeptical about the efficacy of airpower nor as reluctant to confront the Joint Chiefs, who were increasingly frustrated by ineliminable armistice discussions.

Clark believed the communists only responded to force. Moreover, he had great respect for air interdiction. During World War II, he commanded an army in Italy, where Operation Strangle caused the enemy great logistic difficulty and produced some success, even though it did not result in a swift conclusion. When Smart and Lieutenant General Otto Weyland, the FEAF commander, approached their new boss about air pressure strategy, they found a willing listener. Weyland dealt with Clark personally from then on, freeing the Far East Command staff of target selection and reinforcing Clark’s belief in the importance of hitting targets in rear areas.

By early July, FEAF target committee members agreed that a revised target attack program had to be developed reflecting new priorities. Smart cautioned that modifications should not be regarded as a major policy change but instead as an emphasis on destruction rather than delay and disruption. This terminology was intended to minimize Army desires for more close air support and avoid controversial headlines. The FEAF directive outlining the new program was published in the second week of July. The highest priority remained air superiority, followed by maximum selected destruction, and then direct support of ground forces.

**New Targets**

The first focus for the escalated air campaign would be enemy hydroelectric plants. In March, Ridgway rebuffed a FEAF request to attack them, stating that intelligence did not justify bombing targets whose primary use was for the civilian economy, and their destruction would not hasten a communist agreement on armistice terms. He would sanction attacks only if negotiations were deadlocked or broken off. A message in May from the Joint Chiefs, probably intended to goad Ridgway into action, reminded him that the most recent directives only specifically prohibited attacking Suiho Dam on the Yalu; other power facilities were outside restricted areas. On June 11, 1952, Weyland sent a plan to Clark calling for bombing all complexes except Suiho. Meanwhile, the Chief of Staff of the U.S. Air Force, General Hoyt Vandenberg, shepherded a proposal which removed all restrictions on attacks against Yalu River hydroelectric sites through the Joint Chiefs. Far East Command was notified in time to add Suiho to the list, and Clark approved the attack.

The addition of Suiho presented difficulties to planners aside from its location in MiG Alley. It was the fourth largest dam in the world. Even smaller dams were difficult to attack. Smart reviewed techniques used by the Royal Air Force in World War II but discovered they could not be emulated. As a result, penstocks, transformers, and power distribution facilities were targeted at Suiho as well as other hydroelectric sites instead of dams. The difficulty of totally destroying diverse objectives limited long-term effects. Still a successful strike against Suiho was critical to applying effective pressure on decisionmakers. While most other hydroelectric facilities supplied domestic needs, planners knew that much of the output from Suiho went to China.

The Suiho raid was a model of interservice cooperation. It began with 35 F–9F Navy jets suppressing defenses, followed by 35 Skyraiders with 5,000-pound bombloads, all launched from Task Force 77 of Seventh Fleet. Ten minutes later, 124 F–84s from Fifth Air
Force hit the target, while the operation was protected by 84 F–86s. Within four days, 546 Navy and 730 Fifth Air Force fighter-bomber sorties destroyed 90 percent of North Korean electric power potential. Such joint air operations would have been impossible early in the war. The Navy and Air Force seemed incapable of overcoming interoperability problems caused by doctrine and technology. Eventually each service had its own sphere of action. But by 1952 the relationship that Clark and Weyland had developed with Vice Admiral Joseph Clark of Seventh Fleet encouraged cooperation.

The next indication of increasing activity was an all-out air assault on Pyongyang. Operation Pressure Pump on July 11 involved 1,254 sorties from Fifth Air Force, Marine, Navy, Korean, Australian, South African, and British aircraft by day and B–29s at night. Psychological warfare leaflets warning civilians to leave the city were dropped before the strike as part of Operation Blast, which was designed to confirm the omnipotence of U.N. airpower and disrupt industry. Radio Pyongyang was knocked off the air for two days but announced when it restored service that antiaircraft guns surrounding a so-called “undefended city” claimed to have downed 10 U.N. aircraft. The Times observed with surprise that the communists did appear to be more eager for a cease fire. American coverage played up the mass nature of the raids along with the fires and explosions they caused among stockpiled supplies. It also pointed out that civilians had received ample warning on the bombing. Newsreels depicted relentless attacks on military targets by U.N. fighter-bombers of five nations, using footage supplied by the Department of Defense. Like the hydroelectric attacks, American papers portrayed the air activity as part of an initiative to illustrate to the communists the perils of prolonging the deadlock.

Meanwhile, an Asian delegate to the United Nations summed up his fears:

*It seems... a dangerous business, this policy of mass air attacks while the truce talks are going on. Knowing the Chinese, I think it likely that they would regard the signing of an armistice under such military pressure as a loss of face.*

Chinese representatives in Delhi were characterizing the attacks as “19th century gun boat tactics,” assuring Indian diplomats that the operations would not affect their forces or negotiators.

U.N. forces expanded the campaign as the world watched. A FEAF operational policy directive issued on July 10 outlined the new attack program to subordinate units, and they moved swiftly. Navy Task Force 77 also participated. Some thirty joint maximum effort air strikes were conducted by Navy and FEAF aircraft in the latter half of 1952 against power, manufacturing, mining, oil, railway, and other centers. On July 20, Fifth Air Force B–26s began night attacks on communications centers using incendiary and demolition bombs as part of the implementation of operations plan 72-52, aimed at concentration points, vehicle repair areas, and military installations in damaged buildings in towns.

Operation Strike dropped propaganda leaflets on 78 towns warning civilians to move away from military targets. Illustrations depicted North Korean transport routes and support facilities. The text announced that U.N. Command knew where all military targets were located but wanted to spare innocent lives. The civilians were advised to stay away because of delayed action bombs. In addition to the 1.8 million leaflets Fifth Air Force dropped July 13–26, Radio Seoul broadcast warnings before each nightly attack advising civilians in specific areas to seek shelter. Newsreels called the bombing operation a “warn ‘em, sock ‘em campaign.”

Lieutenant General Glen Barcus, who commanded Fifth Air Force, announced the attacks and explained that radio notifications and leaflets were a humanitarian effort to minimize casualties. Nevertheless the FEAF publicity campaign drew protests from the Department of State. It feared that warnings and bombing might be exploited by enemy propaganda and harm the U.N. position in world opinion. Weyland, who believed few useful targets remained in North Korean cities and towns anyway, relayed the concerns of both General Clark and Washington about the release to the embarrassed Barcus, who said he got the idea from Weyland’s own public information officer.

Press releases and mass strike warnings were curtailed, though occasionally civilians were given advance notice of raids. But bombing North Korean urban areas continued unabated.

Even B–29s from Bomber Command were enlisted in attacks on communications centers. By early 1953 the command considered small cities and towns the only remaining vulnerability in the communist logistic system. Intelligence revealed that they had been taken over as supply and troop centers, but there was too much flack for daylight attacks by light bombers. Contrail problems and bright moonlight which aided night interceptors limited operations along the Yalu to

**The Big Picture**

The way the raids were perceived around the world revealed various views on the efficacy of American airpower. The British press emphasized the multinational composition of the strike force and gave equal coverage to North Korean accusations of nonmilitary damage while noting the irony that antiaircraft guns surrounding a so-called “undefended city” claimed to have downed 10 U.N. aircraft. The
Crane

late August, he sent Smart a detailed memo questioning the cost-effectiveness of the program. The enemy had moved most industrial facilities to a safety zone in the northeast, which was heavily defended and out of range. Smaller targets had been placed underground. But the principal sources of supply and the most important strategic targets were situated outside of the country. As Banfill lamented, “We are somewhat in the position of trying to starve a beggar by raiding his pantry when we know he gets his meals from his rich relatives up the street.” He was concerned that while FEAF aircraft searched for the few lucrative targets, unrestricted transportation was allowing enemy forces to increase their artillery fire by a factor of ten and triple U.N. casualties. He concluded that railway interdiction should be resumed even if it might not prove decisive.

Smart sent back an equally detailed response explaining his rationale for the new program. Although conceding that most medium bombardment targets that remained in North Korea were of relatively minor value, he argued that attacking them was more useful than interdiction. Political and military restrictions combined with a static battle front to make effective interdiction virtually impossible. Smart related that the new policy had elicited a more telling response from the enemy, as evidenced in their “references to our ‘savagery’ by even the communist armistice delegation.” He interpreted the increase in enemy artillery fire as retribution for current air action rather than use of a surplus amassed since the curtailment of interdiction. He concluded,

*I feel that the purpose of any air action is to bring about defeat of the enemy as expeditiously as possible, not merely to complicate his maintenance of a position in which demonstrably he not only can support but actually can replenish himself, despite our efforts to prevent his doing so. However, interdiction was deemphasized, not prohibited, while air pressure was applied against an expanded target list.

Occasionally FEAF found a few industrial targets. Mining facilities were attacked as well as remnants of North one week a month, so medium bombers spent most of their time hitting airfields and communication targets in the rest of North Korea.

Clark was pleased with strikes against both hydroelectric facilities and Pyongyang and was anxious to continue the air pressure campaign. Weyland gave him a detailed briefing on FEAF target selection in late July and said it was unlikely there were any targets in North Korea of comparable importance to the power facilities. Key military installations in most cities and towns had already been hit. Weyland estimated their destruction at 40 to 90 percent. He indicated that he could wipe out the remainder of urban areas but was reluctant because they were primarily residential. Clark agreed. Weyland then covered the remaining target possibilities: Rashin, Sinuiju, Uiju, and some metallurgy plants and installations. Clark offered to check the remaining restrictions imposed by the Joint Chiefs on the port of Rashin and pondered the idea suggested by Weyland to conduct preemptive strikes on Manchurian airfields. Weyland did not expect Clark to submit the request to the Pentagon, nor for the Joint Chiefs to grant it, but Clark did authorize photo reconnaissance over Manchurian airfields on August 1.

Second Thoughts

Some members of the FEAF staff remained skeptical about the shift from interdiction to destruction, notably the deputy for intelligence, Brigadier General Charles Banfill. In
Korean industry mostly concentrated on the Soviet and Manchurian frontier. The largest carrier strike of the war occurred in September when 142 planes from three carriers destroyed the Aoji oil refinery and attacked other targets at Munsan and Ch’ongjin five miles from Manchuria and ten miles from the Soviet border. The raids caught enemy fighters and flak defense completely by surprise.

Hanging Tough

In messages to the Joint Chiefs in late 1952, Clark stressed “firmness in negotiations to be supported militarily by continued heavy bombing attacks.” Washington concurred. The program deprived the communists of the ability to support larger forces, enabled outnumbered U.N. ground forces to hold their positions, and constituted the most potent means of pressuring the enemy to yield to acceptable armistice terms. At one point the Chairman, General Omar Bradley, USA, even proposed to intimidate China by threatening Shanghai with a B–29 raid. The aircraft would approach close enough to appear on radar and then veer off and fly down the coast. The Department of State disapproved, fearing such a show of force might boomerang with allies and world opinion.

At the same time, agencies in both Washington and the Far East continued to be concerned over the communist build-up that threatened U.N. air superiority. The Central Intelligence Agency reported increases in aircraft based in Manchuria and declared that “Soviet participation in enemy air operations is so extensive that a de facto air war exists over North Korea between the U.N. and USSR.” Ironically, coordination between the Chinese air force and its Soviet advisors had almost completely broken down by mid-1952, but concerns that Moscow was running the communist air war became strong enough that the Secretaries of the Army and Air Force attempted to persuade the Department of State to allow more publicity on Soviet personnel fighting directly against American forces. Planning also continued on actions to be conducted in case negotiations broke down or the war escalated. Far East Command and the Joint Chiefs considered air options, including attacks on Soviet territory, the use of atomic or chemical weapons, and bombing of Chinese airdromes and communication centers.

They also remained alert for signs that the air pressure campaign might be working. In September, Clark sent an intelligence report to Washington stating that bombing was breaking down civilian morale. Cities and towns which had been hit were “bordering on panic.” Civilians who had joined labor battalions because of job and food shortages or conscription were deserting to return home. They believed air attacks were the prelude to a general offensive to end the war. The report noted that Pyongyang feared air attacks would motivate civilians to join U.N. guerrillas. Further information provided to the FEAF target committee added that the enemy had to send special agents to control unrest in cities hardest hit by air strikes. Clark’s optimism was seconded by the U.S. ambassador to Japan but did not persuade either the Department of State or Joint Chiefs that an armistice was imminent. They continued to look for other indications that air pressure was producing results. Optimism waned as peace talks dragged into 1953, and the search continued for ways to apply more effective airpower.

The Pentagon supported the efforts by Clark and his subordinates and, except for delaying an attack on a supply complex at Yangsi because of a nearby prisoner exchange, approved all target requests submitted by Clark, including hydroelectric plants. But the Joint Chiefs prohibited public statements on intentions to pressure the communists to accept an agreement air superiority. The Central Intelligence Agency reported increases in aircraft based in Manchuria and declared that “Soviet participation in enemy air operations is so extensive that a de facto air war exists over North Korea between the U.N. and USSR.” Ironically, coordination between the Chinese air force and its Soviet advisors had almost completely broken down by mid-1952, but concerns that Moscow was running the communist air war became strong enough that the Secretaries of the Army and Air Force attempted to persuade the Department of State to allow more publicity on Soviet personnel fighting directly against
more raids were directed at achieving a political settlement, the less that could be admitted in public as justification for them.

**The Last Targets**

In March 1953 the FEAF formal target committee began studying the irrigation system for 422,000 acres of rice in the main agricultural complexes of South Pyongan and Hwanghae. The deployment of North Korean security units to protect key reservoirs from guerrillas in the growing season indicated to Banfill the importance of those targets. His staff estimated that denying the rice crop to the enemy would cause food shortages, tie up transportation by necessitating the import of rice from China, and require the diversion of troops for security and repair work. Clark advised the Joint Chiefs that in case of a prolonged recess in the peace talks, he planned to breach 20 dams to inundate these areas and destroy an estimated quarter million tons of rice, curtailing the enemy ability to live off the land and aggravating a Chinese rice shortage and logistic problem.

That was not the only proposal to escalate the air campaign. Weyland held back an attack by Bomber Command that would have largely obliterated what remained of Pyongyang, keeping it as another way to ratchet up pressure if required. He also seems to have doubted the military utility of the attack, just as he was skeptical of attacks on the rice irrigation system. However, his planners convinced him to authorize strikes on three dams to wash critical railway lines away as part of the interdiction program, although among themselves they considered that rationale a mode of deception to deceive the enemy about destroying the rice crop. Fifth Air Force fighter-bombers hit the Toksan and Chasan Dams in mid-May, a most vulnerable time for newly-planted rice, followed by Bomber Command night missions against Kuwonga Dam.
The Joint Chiefs approved the bombing of two more dams by fighter bombers to inundate jet airfields at Namsi and Taechon. Clark knew that further dam attacks risked a negative reaction from allies and might affect negotiations, but he and Weyland believed the missions were needed to eliminate the airfields. North Korea decried raids on agricultural installations and on water reservoirs which were not military objectives. But communist complaints about U.N. air atrocities had been so persistent that they perhaps were not taken seriously. Or maybe since no mention was made of targeting rice crops, reservoirs did not seem to merit attention in the press as a particularly noteworthy objective.

**Blue on Blue**

Press releases from FEAF did not mention naval air operations, which increasingly were integrated into the overall campaign. By June 1953 the Navy was coordinating target selection with Fifth Air Force, under the command of Lieutenant General Samuel Anderson, who was impressed enough with Navy cooperation to request its representation on the FEAF formal target committee. Weyland indicated that while he could not order the Navy to participate because the carrier aircraft were not under his operational control, Anderson was to invite the Navy to send a representative from the joint operations center. The armistice was signed a few days later, so the offer was not extended. Ironically, as service cooperation increased in Korea, the Air Staff at the Pentagon was gathering combat data emphasizing the superiority of land-based over carrier-based aircraft to counter Navy attempts to increase the budget priority for carriers. Using numbers of sorties and tons of bombs dropped, Air Force analysts argued that their planes were far more cost-effective than their Navy counterparts.

The last few target committee meetings were dominated by discussion over the exploitation of dam attacks. Proposals included employing delayed action bombs to deter repairs and dropping leaflets blaming the continued air attacks and loss of water for irrigation on the Chinese. Weyland was adamant that dam attacks constituted interdiction and vetoed a proposal by Smart for mounting a psychological warfare campaign to warn endangered populations of the imminent destruction of dams. Although Weyland and Clark justified the attacks as interdiction raids, neither planners nor the communists perceived them that way. Attacks on Toksan and Chasan led to the inundation of two railway lines and many roads as well as villages and rice fields. A flash flood from Toksan washed out 27 miles of the river valley, and both raids sent waters into the streets of Pyongyang. Bomber Command delayed its attack long enough for North Korea to develop countermeasures, and by lowering the level of the reservoir the catastrophic results of the earlier raids were avoided. This measure also worked for the last two dams. The communists put more than 4,000 laborers to work on the Toksan Dam and emplaced antiaircraft defenses around it. Weyland was amazed at the speed of their recovery. Only 13 days after the strike a temporary dam had been built and all rail repairs had been completed. When Clark queried him about targets on which to exert more pressure for an armistice, the all-out blow on Pyongyang was all that came to mind. Clark had Weyland prepare a message for JCS to get approval but it was never sent.

**Notes**


2 Entries for July 24 and 28, and August 1, 1952, Weyland memoranda for record, File 168.7104-6, 52/06/01–52/12/31, Air Force Historical Research Agency.

Hostilities ended on July 27, 1953. The role of the air pressure campaign in the settlement was unclear. President Eisenhower implied at a National Security Council meeting on July 23 that he did not think the agreement was a result of such threats, although there were obvious signs that U.S. patience was wearing thin and that the war might be expanded. Rumors of Eisenhower’s intent to “raise the ante unless a cease fire was negotiated” were rampant in Korea. But there were other factors aside from military pressure involved in the communist decision to sign the armistice. The death of Stalin and instability in the Kremlin combined with riots in Czechoslovakia and East Germany gave the Soviet Union a substantial incentive to disengage from Korea and also shocked China. Late gains against ROK troops allowed the communists to save face while making concessions for the armistice.

Instead of influencing the armistice talks with a specific operation, the likely contribution of airpower was its cumulative effect on both Chinese armies and North Korean towns throughout the war. Eighteen of twenty-two cities were at least half obliterated, and most villages were reduced to ashes. That destruction is what Pyongyang remembers most about American airpower, and their programs to develop missiles and advanced weapons have been motivated to an extent by the desire to deter future applications of air pressure.
By 1951, Stalin recognized that his support for the Korean War was a disaster. The United States and its allies in Europe, galvanized by communist aggression in Asia, expanded NATO capabilities while lending sufficient support to carry on U.N. operations in Korea. For its part, China realized that prospects for a limited war and quick victory had vanished and that it lacked the means to fight a protracted conflict. Meanwhile, Dwight Eisenhower became President in 1952 determined to end the war. The new administration launched a series of diplomatic and military initiatives, including a veiled threat to use nuclear weapons, although recently released Soviet documents suggest both the Soviet Union and China were already prepared to bring the war in Korea to a close.

A top secret Soviet history entitled "On the Korean War, 1950–53, and Armistice Negotiations" reveals the following:

"By the middle of 1951, the situation clearly indicated that it was in practice impossible to resolve the unification of Korea by military means. Both the Chinese and the Korean leaders equally were forced to acknowledge this. After preliminary consultations with the Chinese and Koreans, the Soviet government on June 23, 1951, put forward a proposal for settling the military conflict in Korea. "As a first step," the Soviet representative declared, "it would be necessary to begin negotiations for a cease-fire, for an armistice with a mutual withdrawal of troops from the 38th parallel." This proposal attracted universal attention....

By the beginning of May 1952, an agreement was reached on all questions, with the exception of the question regarding prisoners of war. Later that question was also resolved on a mutually acceptable basis. Measures undertaken by the Soviet government after the death of Stalin in many ways facilitated the conclusion of the agreement. While in Moscow for Stalin's funeral, [Foreign Minister] Zhou Enlai had conversations with Soviet leaders regarding the situation in Korea.... Zhou Enlai, in the name of the government of the [People's Republic of China], urgently proposed that the Soviet side assist the speeding up of the negotiations and the conclusion of an armistice. Such a position by the Chinese coincided with our position....

A special representative was sent to Pyongyang from Moscow in March 1953 with a proposal for speeding up the peace negotiations. By that time the Koreans also showed a clear aspiration for the most rapid cessation of military activity.

The armistice was signed at Panmunjom on July 27. Although hostilities were concluded in 1953, no formal peace treaty was ever signed. The Geneva conference in 1954 failed to resolve obstacles to reunification. The Soviet Union, China, and North Korea blamed the United States for blocking proposals to create a “single, genuinely democratic government.” The headquarters of U.N. Command was relocated from Seoul to Tokyo in 1955 where it remains to this day.

Source: Cold War International History Project Bulletin, no. 3 (Fall 1993), p. 17.