The JCS 94-Target List

A Vietnam Myth That Still Distorts Military Thought

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Editorial Abstract: One of the great debates about the Vietnam conflict is whether it was the Joint Chiefs of Staff or the Johnson administration who misapplied airpower. Critics have alluded to the infamous JCS 94-Target List as the example of how unimaginative air campaign planners used World War II–vintage strategic bombing inappropriately against a nonindustrial North Vietnam. Professor Kamps unveils and analyzes the actual list, arguing that a professionally derived and potentially effective air campaign was never utilized due to the politics of the time.

THE FLEXIBILITY OF airpower provides decision makers with many options for using or abusing the military instrument of power, as seen in conflicts from Vietnam to Kosovo. Some writers have used the bombing of North Vietnam during 1965–68 as a case to denigrate the ability of airpower to contribute effectively in Southeast Asia by claiming that the Vietnam-era generals simply dusted off the strategic bombing plans from World War II and inappropriately applied them to North Vietnam. One of the proofs offered for this view has been the often-mentioned, but never revealed, Joint Chiefs of Staff (JCS) 94-Target List. The list is published here and is a far cry from being a substantiation of the critics' claims. Quite the opposite, it reveals professionalism and shows how airpower was intended to be applied in an effective way in Vietnam.

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The Claims

A generation of Air Force officers and others have now read essays claiming that the JCS and other high-ranking US military leaders of the early 1960s erroneously wanted to bomb North Vietnam's alleged industrial heartland in order to achieve victory in South Vietnam. Of course, North Vietnam did not have anything like an industrial heartland, and the critics have had to resort to the theory that unimaginative generals simply fell back on pre-1940 doctrine. Crucial to this misrepresentation is the mysterious 94-Target List, which supposedly enumerated the nonexistent industrial targets. It is worth quoting a few examples of how the list has been invoked by writers to criticize US military leaders.

Earl H. Tilford's 1991 book, *Setup: What the Air Force Did in Vietnam and Why,* makes the following claims:

> They [the Air Force] devised a set of targets—the 94-targets list—designed to destroy North Vietnam's industries and wreck its transportation system, thereby preventing North Vietnam from supporting the insurgency in South Vietnam. . . .
>
> The Joint Chiefs, particularly the Air Force, had advocated bombing North Vietnam's industrial base from the beginning. Had the Air Force had its way North Vietnam's Thai Nguyen steel mill, its only cement plant, its single explosives plant, and most of its thermal power plants would have been destroyed by the end of the first few weeks of the campaign outlined in the original 94-targets list. . . .
>
> Instead of operating within parameters of a limited war, air power leaders sought to refight World War II—a conflict for which the doctrine of strategic bombardment was better suited.[1]

Raymond W. Leonard's article "Learning from History: Linebacker II and U.S. Air Force Doctrine," which appeared in the April 1994 issue of *The Journal of Military History,* asserts: "It [the 1964 JCS plan] was in many ways a classic replay of the offensive against Japan: it called for the concentrated and rapid destruction of ninety-four industrial, transportation, and infrastructure targets in North Vietnam."[2]

Writing for the Airpower Research Institute in 1986, Dennis M. Drew stated:

> The criteria for selecting targets on the 94 Targets List and the JCS plan for striking those targets clearly indicate that the JCS desired to wage a classic strategic bombing campaign and a complementary interdiction campaign against North Vietnam . . . and finally the progressive destruction of the enemy's industrial web. . . . In essence, the JCS planned to take the World War II bombing campaign in Europe and transplant it 20 years later in North Vietnam.[3]

Finally, perhaps the most articulate of the critics, Mark Clodfelter, writes in his highly touted 1989 work *The Limits of Air Power* that "LeMay's 'Stone Age' was exactly what its name implied—the absence of the perceived technological essentials of modern life. In equating economic well-being to industrial strength, the ninety-four-target scheme embodied the essence of American strategic bombing doctrine."[4]

Needless to say, without an examination of the JCS Target List, all of the above claims lack substantiation—but they are often taken at face value by the uncritical reader and have even found their way into lesson plans at Air Force professional military education schools. Were the generals really one-dimensional? Did they really think that North Vietnam was like Germany in World War II? Did they really believe that an industrial web existed and that bombing it would win the war?

The Background

US involvement in South Vietnam intensified in August 1964 after the Gulf of Tonkin incident, during which US destroyers skirmished with North Vietnamese patrol boats of the Democratic Republic of Vietnam (DRV) navy. Within days, Congress passed the so-called Tonkin Gulf Resolution, which allowed President Lyndon Baines Johnson nearly carte blanche to apply military force in the region. US Navy carrier aviation was quickly ordered to strike back at DRV coastal targets in Operation Pierce Arrow, a purely retaliatory action.[5] This tit-for-tat pattern was

repeated in February 1965 when Vietcong (VC) attacks on the US military installations at Pleiku and Qui Nhon prompted the Flaming Dart operations.[6]

In the latter part of 1964, there was a general feeling that the military situation in South Vietnam was deteriorating. Both Hanoi and Washington, thinking that they were losing, decided that a faster tempo of reinforcement was necessary to prevent defeat. On the ground, Ho Chi Minh, communist leader of the DRV, responded quicker than Johnson. In addition to political and technical cadres and replacements, he infiltrated regular North Vietnamese Army (NVA) combat units into South Vietnam. By December 1964, a regiment of the NVA 325th Division was identified in the Central Highlands. The rest of the 325th was in action in the south by February 1965.[7] US ground combat troops did not deploy to South Vietnam until March 1965, when the 9th Marine Brigade landed at Da Nang. With a rapidly deteriorating ground situation in South Vietnam and the unattractive prospect of a slow logistical buildup of Army units to combat the communists, the Johnson administration turned to airpower as a rapidly deployable and flexible arm to influence events in Vietnam.

A deep divide existed between the majority of the US military high command and some of the Johnson administration's civilian advisers over the scope and intensity of the bombing effort against North Vietnam. These civilians, best personified by John T. McNaughton, assistant secretary of defense for international security affairs, favored an incremental approach, or a progressive slow squeeze. This was articulated as Option C in a 26 November 1964 memorandum for the National Security Council by McNaughton and William Bundy (assistant secretary of state for Far Eastern affairs):

> Option C would add to present actions an orchestration of (1) communications with Hanoi and/or Peiping, and (2) additional graduated military moves against infiltration targets, first in Laos and then in the DRV, and then against other targets in North Vietnam. The military scenario should give the impression of a steady deliberate approach, and should be designed to give the US the option at any time to proceed or not, escalate or not, and to quicken the pace or not. These decisions would be made from time to time in view of all relevant factors. The negotiating part of this course of action would have to be played largely by ear, but in essence we would be indicating from the outset a willingness to negotiate in an affirmative sense, accepting the possibility that we might not achieve our full objectives.[8]

While the civilians were concentrating on the use of airpower to demonstrate resolve, send diplomatic signals, and influence North Vietnamese will, the military had a different perspective. The cigar-chewing chief of staff of the US Air Force, Gen Curtis LeMay, would write, "My solution to the problem would be to tell them frankly that they've got to draw in their horns and stop their aggression, or we're going to bomb them back into the Stone Age."[9] Hyperbole aside, the Air Force position can be summed up in the following passage written in a 1968 classified study that analyzed the war to that point: "The proper use of military force, airpower in concert with combined arms, can be decisive. Military force can eliminate the enemy's means of war because North Vietnam does not possess an in-house capability to continue the war. Imports are paramount. If authorized, air and naval power could render this capability nil."[10]

Evidently, the enemy thought so too. Senior Col Bui Tin of the North Vietnamese Army General Staff remarked in an interview:

> Q: What of American bombing of North Vietnam?
>
> A: If all the bombing had been concentrated at one time, it would have hurt our efforts. But the bombing was expanded in slow stages under Johnson and it didn't worry us. We had plenty of time to prepare alternative routes and facilities.
>
> Q: How could the Americans have won the war?

A: Cut the Ho Chi Minh trail inside Laos. If Johnson had granted [Gen William] Westmoreland's requests to enter Laos and block the Ho Chi Minh trail, Hanoi could not have won the war.[11]

The Army developed several contingency plans to block the Ho Chi Minh trail with ground-unit maneuvers into the Laotian panhandle. These operations were never permitted by Johnson. What did the JCS plan for the air arm to accomplish?

The JCS Target Lists

When active US participation in the Vietnam War became increasingly likely, the JCS established a Joint Working Group in Washington to explore alternatives for air operations against the DRV. On 22 May 1964, after examining 451 possible targets in North Vietnam, the group presented a preliminary list of 99 targets to the commander in chief Pacific (CINCPAC) for comment. (Ironically, by the end of the air campaign against North Vietnam, the total number of active targets increased to over four hundred due to enemy dispersion operations.) This initial list of 99 targets is reproduced here, broken down by target sets and the number of specific targets within each set (table 1).[12]

It is immediately apparent to one who scrutinizes this list that it does not place emphasis on industrial targets. It includes only eight such targets, and two of these, radio communications facilities, are arguably related to command and control, not industry. All the industrial targets are listed in category C, which was accorded the lowest priority.

What strikes one about the target list is the evident emphasis on strategic interdiction and strategic paralysis. The reason for this is not hard to discern. In spite of the claims of the critical writers, claims based on some inaccurate estimates of the early sixties, supplying new weapons, equipment, and ammunition to the VC was important to the DRV war effort by late 1964, as was organizing the main-force VC into large units. For example, "Hanoi, beginning in mid-1964 and using material furnished by the Soviet Union and China, also decided to upgrade the Viet Cong, introducing among other weapons the famous Soviet AK-47 assault rifle. The first Viet Cong unit of division size, the renowned 9th Viet Cong Division, operating in the general area north of Saigon, was formed in the latter part of 1964."[13] The war was changing from simply a guerrilla campaign into a dual-natured war that was quickly becoming dominated by larger conventional units on both sides. Far from being an enemy consisting only of rice farmers in black pajamas, the communist main-force VC and NVA were well-equipped regular units, which were dependent on material support from Russia and China funneled through North Vietnam's major supply hubs. The change from a low-intensity guerrilla effort into two wars—one guerrilla and one conventional—did not happen overnight in 1972. It was a constantly evolving process from 1964 on.

Nevertheless, the modern critics appear to be completely unaware of how the communists actually fought the war. For example, Clodfelter asserts that "they [the JCS] failed to consider whether massive bombing suited the nature of the war, which was primarily a guerrilla struggle before March 1972 (with the notable exception of the 1968 Tet Offensive)."[14]

This interpretation collapses in the face of the increased intensity of conventional operations,[15] the tempo of regular NVA reinforcements going south (reaching 12 battalions a month by the start of 1966),[16] and the famous "Big Battles" of 1967.[17]

In the 99-Target List, the 30 highest-priority targets included airfields (to secure air superiority), key military headquarters and barracks (to disrupt NVA command/control), and strategically important supply facilities and lines of communications (to interrupt the North's ability to send troops and materiel south). The concept of striking these targets in a lightning effort was obviously aimed at producing temporary paralysis in the DRV's war machine.

The second group of 61 targets expanded the first group and added storage facilities, railway assets, vital rail/highway bridges, and, most importantly, the mining of North Vietnam's ports. This target set was pivotal. As was appreciated at the time, 85 percent of North Vietnam's military imports came by sea, primarily through Haiphong—a prime candidate for mining.[18] Most of the remainder entered via the northeast and northwest rail lines to China. As Sir Robert Thompson, renowned British counterinsurgency expert, noted, "In all the insurgencies of the past twenty-five years, since the Second World War, none has been sustained, let alone successful, without substantial outside support."[19]

Johnson's failure to authorize striking the port targets and rail links meant that efforts to

Table 1

JCS Working Group 99-Target List for North Vietnam, 22 May 1964

Target Sets	Category A	Category B	Category C	Total
Airfields	5	3	-	8
Road Line of Communications	4	1	-	5
Military Barracks	6	9	-	15
Ammunition Dumps	2	7	-	9
Military Headquarters	8	3	-	11
Supply Dumps	5	14	-	19
Military Training Center	-	1	-	1
Storage Areas	-	4	-	4
Ports	-	7	-	7
Storage Depot	-	1	-	1
Railroad/Highway Bridges	-	9	-	9
Railroad Yard/Shop Complexes	-	2	-	2
Chemical Plant	-	-	1	1
Iron/Steel Plant	-	-	1	1
Radio Broadcast Facilities	-	-	2	2
Thermal Power Plant	-	-	1	1
Machine Tool Factory	-	-	1	1
Industrial Plant (other)	-	-	2	2
TOTAL	30	61	8	99

Source: Lt Col William E. Long, *Target Selection Process: Categories and Decision Levels,* Air War College Research Report 3634 (Maxwell AFB, Ala.: Air University, April 1968), in the Air Force Historical Research Agency (AFHRA), file K239.042-3634, 14. Document is now declassified.

The above table outlines the targets selected by the JCS joint working group tasked to develop target options for execution against North Vietnam. It was presented to CINCPAC for comment and further development on 22 May 1964. Targets were grouped into three categories:

Category A – "included those targets the destruction of which was expected to bring an immediate reduction of DRV support to PL [Pathet Lao] and VC forces. These targets were near the national boundary (NVN/SVN and Laos/NVN), or on a key logistical route."

Category B – "included targets the destruction of which would reduce the DRV military capability to take action against Laos and SVN. These targets were somewhat more remote from the national boundaries, and key logistical routes."

Category C – "included selected industrial targets. Eight specific targets were listed."

achieve air superiority to prosecute the campaign were subjected to intensifying opposition. In September 1964, the DRV had only fourteen hundred antiaircraft guns, 22 early warning, and four fire-control radars.[20] As for the North Vietnamese air force, "By the end of 1964 they possessed only 34 fighter aircraft. These were MiG-15s and MiG-17s based at Phuc Yen."[21] Furthermore, the first North Vietnamese SA-2 surface-to-air missile (SAM) site did not begin construction until April 1965.[22] However, by the end of Rolling Thunder in October 1968, the DRV had 75 MiG-21s, MiG-19s, and MiG-17s; seventy-five hundred antiaircraft guns; and two hundred SAM (SA-2) sites.[23]

In addition to the air defense system mentioned above, the DRV was allowed to build up some 18 ground-combat divisions equipped with heavy mortars, the latest rocket-propelled grenades (RPG-7), tanks, armored personnel carriers, 122 mm rocket launchers, and 122 mm and 130 mm artillery (that outranged South Vietnamese artillery). It was this force, the NVA, that defeated South Vietnam. The guerrillas could not have won on their own after the commitment of American troops, and they ceased to be a major force in the war after virtually being exterminated in the aftermath of the 1968 Tet offensive. The NVA, like most armies from underdeveloped nations, required time to absorb the equipment and tactics that it demonstrated in 1968 and 1972 and used to achieve victory in 1975. Essentially, the Johnson administration permitted the flow of materiel from the USSR and China that built the NVA into an effective offensive instrument over time.

The third category in the 99-Target List included the eight targets that represented the military industrial capacity of the DRV considered worth striking. It was conceded that Hanoi had some stake in these facilities as showcases of the regime, but they were not critical.[24] Therefore, as a threat to be voiced to the DRV, these targets might assume marginal importance, but they still held low priority in the campaign envisioned by the JCS. By comparison, one can see the emphases in the strategic bombing of Germany during World War II by target-set priorities listed in the three major plans: AWPD-1, AWPD-42, and the Combined Bomber Offensive (CBO) (table 2).[25]

The strategic air campaign against Germany was interrupted during 1944 in order to

Table 2

World War II US/Allied European Strategic Bombing Plans

	AWPD-1 Target Priorities	AWPD-42 Target Priorities	CBO Target Priorities
1	German air force aircraft factories, aluminum plants, magnesium plants, engine factories	German air force aircraft factories, aircraft engine plants, aluminum plants	German air force fighter aircraft factories, aircraft engine plants (combat attrition)
2	Electric power power plants, switching stations	Submarine building yards	Submarine force building yards, bases
3	Transportation rail, water	Transportation rail, water	Ball bearings
4	Petroleum refineries, synthetic plants	Electric power power plants, switching stations	Petroleum refineries, synthetic plants
5	Morale	Petroleum refineries, synthetic plants	Rubber synthetic plants
6	—	Rubber synthetic plants	Military transportation armored vehicle factories, motor vehicle factories
Total	191 targets	177 targets	76 targets

support preparations for the Normandy invasion. The Allied staff advocated "a concentrated air offensive against rail communications in France, involving some 75 to 110 rail bridges, marshalling yards, and maintenance facilities—to make Northern France a 'railroad desert' and hamper German movements to the Normandy beaches. All Allied air forces, strategic as well as tactical, would be exclusively devoted to this purpose."[26]

This effort, to slow German panzer reinforcements, might roughly be equated to the JCS desire to strike transportation nodes in North Vietnam, but the contrast between the World War II programs and those of 1964 is otherwise remarkable.

The 94-Target List

The JCS Working Group revised the preliminary target list, presenting a version with 94 targets to the secretary of defense as appendix A of JCSM-729-64, *Target Study – North Vietnam*, on 24 August 1964 (table 3). Planners designated subsidiary targets with the addition of decimals as they were added to the list.

Table 3

The JCS 94-Target List

Target Number	Target Description
1	Na San airfield
2	Dien Bien Phu airfield
3	{B} Hanoi/Gia Lam airfield [limited jet-capable] (plus petroleum, oil, lubricants [POL] storage 1965)
4	{R} Dong Hoi airfield [limited jet-capable] (airfield closest to South Vietnam)
5	{R} Vinh airfield [limited jet-capable]
6	{B} Phuc Yen airfield [jet-capable] (plus NNE POL storage 1966)
7	Hanoi/Bac Mai airfield [limited jet-capable]
8	{B} Haiphong/Cat Bi airfield [jet-capable] (plus POL storage 1965)
9	Haiphong/Kien An airfield [limited jet-capable] (plus POL storage 1965)
10	Ninh Binh railroad/highway bridge
11	Hai Duong railroad/highway bridge
12	Hanoi railroad/highway bridge (Red River)
13	Hanoi railroad/highway bridge (canal)
14	Thanh Hoa railroad/highway bridge
15	Viet Tri railroad/highway bridge (on Route 2: Hanoi—Lao Cai—Kunming, China)
16	Dap Cau railroad/highway bridge (on route from Hanoi to Chinese border)
17	Haiphong highway bridge (on Route 10: Haiphong to NE DRV and China)
18	Lang Son railroad/highway bridge
19	Yen Vien railroad yard
20	Hanoi railroad repair shops (Gia Lam)

Table 3 (Continued)

21	Hanoi railroad yard/shops
22	Xuan Mai barracks SSW
23	Xuan Mai barracks NNW and headquarters
24	{R} Chanh Hoa barracks SE and division headquarters
25	Son La barracks/supply depot/military region headquarters NW
26	Dien Bien Phu barracks
(27)	(Although in the "barracks" group, a target numbered 27 did not appear in any sources consulted.)
28	Ban Xom Lom barracks
29	Quang Suoi barracks NE
30	Hanoi military headquarters; North Vietnam air defense headquarters
31	Ha Dong barracks/supply depot
32	{R} Vu Con barracks and supply depot
33	{R} Dong Hoi barracks WNW (probable division headquarters)
34	Vinh Yen barracks/training area N
35	Son Tay barracks SW and supply depot
36	{B}{R} Vit Thu Lu barracks/storage area (guerrilla staging area)
37	Moc Chau barracks
38	Vinh barracks and headquarters military region IV
39	{R} Chap Le barracks NW
40	Phu Qui ammunition depot SW
41	{R} Phu Van ammunition depot E (major depot)
42	{R} Phu Van POL storage and ammunition depot NE
43	Qui Hau ammunition depot W
44	Yen Bai ordnance depot
45	Haiphong ammunition depot SW (Kien An)
46	Ban Phieng Hay ammunition depot
47	Yen Son ordnance and ammunition depot
48	{B} Haiphong POL storage [+] (largest POL storage facility in North Vietnam)
49	{B} Hanoi POL storage [+]
50	Vinh POL storage
51	Nguyen Khe POL storage [+] (Thach Loi)
52	{R} Vinh supply depot E
53	{R} Phu Van supply depot SE
54	Thien Linh Dong supply depot S
55	{R} Vinh Son supply depot SW/SE

Table 3 (Continued)

56	Phu Qui barracks/supply depot
57	Hanoi Ministry of National Defense/MZ Headquarters
58	Hanoi supply depot S/barracks
59	Hanoi supply depot N/barracks
60	Thai Nguyen supply depot N
61	Xom Chang barracks S
62	Van Dien supply depot/barracks
63	Thuan Chau barracks/supply depot
64	{R} Xom Bang ammunition depot (supports Pathet Lao in Laotian panhandle)
(65)	(Although in the “depot” group, a target numbered 65 did not appear in any sources consulted. In a later edition of the list, the number 65.8 was reserved for the Hanoi SAM support facility.)
66	Hanoi international radio communications transmitter facility
67	Hanoi international radio communications receiver facility
68	Cam Pha Port (mine laying and bombing targets)
69	Hon Gai Port (mine laying and bombing targets)
70	Haiphong Port (mine laying and bombing targets)
71	{R} Ben Thuy port facilities/transshipment center (mine laying and bombing targets)
72	Port Wallut naval base (mine laying and bombing targets)
73	Hanoi port facilities/Red River (mine laying and bombing targets)
74	Quang Khe Port approaches (mine laying area)
75	Viet Tri chemical plant (explosives)
76	Thai Nguyen iron and steel complex
77	Hanoi machine tool and engineering equipment plant
78	Haiphong phosphatic fertilizer plant (explosives)
79	Bac Giang chemical fertilizer plant (explosives)
80	Haiphong West thermal power plant [++]
81	Hanoi thermal power plant [++]
82	Uong Bi thermal power plant
83/84	Road/Rail Route 1 (Hamrong to Hanoi)
85/86	Road/Rail Route 1 (Vinh to Hamrong)
87/88	Road/Rail Route 5 (Hanoi to Haiphong)
89	Route 7 (Laos/North Vietnam border)
90	Route 8 (vicinity Nape, Laos to Roa Qua) (main supply route to Central Laos)
91	Route 12 (Laos/North Vietnam border to Xom Ma Na) (main supply route into southern Laos and South Vietnam)

Table 3 (Continued)

92	Route 19
93	Route 6
94	Route alternate to Route 6

Sources:

1. Rolling Thunder, 28 March 1966, Headquarters PACAF Tac Eval Center, 14–15. (Document is now declassified.) [AFHRA file K717-0423-28].
2. "The Consensus to Bomb North Vietnam: August 1964–February 1965," *The Pentagon Papers* (Senator Gravel edition) (Boston: Beacon Press, 1971), 329, 330.
3. Intelligence Activity Input, Intelligence Production, Out Country Targeting (NVN), 31 March 1968, Deputy Chief of Staff/Intelligence, USAF. (Document is now declassified.) [AFHRA file K717.0422-4, January 1962–March 1968]
4. Target Analysis–North Vietnam, 19 February 68, Pacific Division, J-3, OJCS. (Document is now declassified.) [AFHRA file K160.609-4, 19 February 1968]
5. The Effectiveness of the Air Campaign against North Vietnam, 1 January–30 September 1966, SC no.12898/66, December 1966, CIA Directorate of Intelligence. (Document is now declassified.) [LBJ Library]
6. Courses of Action in Southeast Asia, revised draft of 26 November 1964, by W. P. Bundy and J. McNaughton, Department of State (Document is now declassified.) [LBJ Library]
7. JCSM-670-65, memorandum for the secretary of defense, subject: Air Strikes against North Vietnam, 2 September 1965, Joint Chiefs of Staff. (Document is now declassified.) [LBJ Library]
8. Concept of Operations [supporting JCSM 652-65], [1965], Department of Defense. (Document is now declassified.) [LBJ Library]

[+] In 1964, seven POL storage areas collectively held 76 percent of North Vietnam's supply of POL. In addition to the three targets on the list above, these included Bac Giang POL storage (51.11), Do Son POL storage (51.13), Viet Tri POL storage (51.14), and Duong Nham POL storage (51.17). [source 3, page 187]
[++] In 1964, seven power-generating facilities (thermal power plant [TPP]) and the Hanoi transformer station collectively produced 82 percent of North Vietnam's electric power. In addition to the two targets on the list above, these included Haiphong East TPP (82.12), Hon Gai TPP (82.13), Thai Nguyen TPP (82.16), Viet Tri TPP (82.17), Hanoi transformer station–Le Pap (82.24), and Bac Giang TPP (82.26). These targets were largely restricted until early 1967, allowing the DRV two-and-a-half years to acquire and disperse many smaller generators. [source 3, page 187]
{R} denotes JCS-recommended targets for the first eight weeks of Rolling Thunder, after the option to strike all targets in a massive, swiftly delivered campaign was disapproved. In addition to the 14 targets on the list above, these included Dong Hoi highway bridge (18.1), Thanh Yen highway bridge (18.2), Cau Tung highway bridge (18.3), Huu Hung highway ferry (18.4), Tam Da railroad/highway bridge (18.6), Ben Quang barracks SW (39.1), Ile du Tigre barracks/storage (39.16), Vinh Linh barracks NE (39.2), Mu Gia Pass barracks/supply area/staging point (39.3), Quan Len barracks/storage/training area (39.4), Xom Trung Hoa barracks/supply depot NW (39.5), Vinh Son radar (67.2), Phuc Loi naval base (71.1), and Quang Khe naval base (74.1). [source 1, pages 14–15]
{B} denotes JCS-recommended targets for the first 60–72 hours after a hypothetical decision to implement the military's preferred "Option B" operations against North Vietnam. These would have been accompanied by the striking of five targets in Laos within the first 24–36 hours (Tchepone barracks and military area, Ban Tay military area, Nape highway bridge, and Ban Ken bridge–Route 7). Following those strikes, the remainder of the fixed targets and route targets in North Vietnam on the "94 Targets List" would be hit. "The military program would be conducted rather swiftly, but the tempo could be adjusted as needed to contribute to achieving our objectives." However, "Option B" was never approved for execution. [source 6, tab 2]

The list was broadly divided into five categories: 12 lines of communications nodes, nine airfields, 53 military installations/ports, eight industrial plants, and 12 armed reconnaissance routes. Many of the targets were complexes with more than one activity present (table 4).

Out of 113 entities on the list, only eight (7 percent) are industrial. Of the remainder, nine (8 percent) are airfields (air superiority targets), 11 (10 percent) are command/control, 23 (20 percent) are troop-related, 30 (27 percent) are sustainment-related (ammo, fuel, supplies), and 32 (28 percent) are transportation nodes (including ports).

The two apparent emphases are on the strategic isolation of North Vietnam from outside sources of war materiel and on impeding the DRV's offensive capability by devastating key headquarters, troop concentrations, materiel stockpiles, and lines of communications. Fully recognizing that the DRV was not an industrialized nation and that it required military imports for everything, including AK-47 assault rifles, the JCS planners quite logically aimed to cut off Eastern-bloc aid. Without such aid, the

Table 4

Target Complexes

2 jet-capable airfields	7 ports and port approaches
5 limited jet-capable airfields	2 railroad repair facilities
2 non-jet-capable airfields	2 railroad yards
2 communications facilities	8 railroad/highway bridges
9 headquarters	1 highway bridge
22 barracks	3 railroad armed-reconnaissance routes
1 training area	9 highway armed-reconnaissance routes
2 ordnance depots	1 iron and steel plant
8 ammunition depots	1 machine tool plant
5 POL storage facilities	3 chemical/fertilizer plants (explosives)
1 storage area	3 thermal power plants
14 supply depots	

NVA could never generate the combat power either to sustain the flagging Vietcong efforts or to mount serious offensive actions itself. In addition, the extremely dense antiaircraft environment which US flyers faced was possible only due to the imported air defense systems.

In retrospect, the 94-Target List seems entirely congruent with the objective of disrupting the DRV's efforts to conquer South Vietnam. Given that the generals and admirals were capable of producing a realistic target list, we must examine their execution plan.

Implementation Plans

Historically, the lackluster Rolling Thunder bombing program of the Johnson administration was based on "Option C" of the McNaughton/Bundy memorandum quoted above. This was the progressive, slow squeeze of incrementalism. In the same memo, however, McNaughton and Bundy presented the JCS position as "Option B":

> Option B would add to present actions a systematic program of military pressures against the north, with increasing pressure actions to be continued at a fairly rapid pace and without interruption until we achieve our present stated objectives. The actions would mesh at some point with negotiation, but we would approach any discussions or negotiations with absolutely inflexible insistence on our present objectives.[27]

The JCS air plan that supported this option was to be executed in four phases, involving 13 weeks of air strikes, allowing the North Vietnamese ample opportunity to cease their operations and begin negotiations.[28] The outline plan was as follows:

Phase I (three weeks duration): Emphasis - continuous attacks on lines of communications and military installations south of the 20th parallel.

Phase II (six weeks duration): Emphasis - isolation of the DRV by destroying the rail links to China.

Phase III (two weeks duration): Emphasis - isolation of the DRV by mining port approaches and destroying port facilities; destruction of supply centers and ammunition storage in the Hanoi-Haiphong area.

Phase IV (two weeks duration): Emphasis - destruction of all remaining targets on the 94-Target List, including industrial targets, and reattack of other targets which had been repaired or not completely put out of action by initial attacks.

Additionally, the joint chiefs were mindful of the need to neutralize the DRV's air defense and warning network. Thus, an integral part of planning was a night strike by 30 B-52s from Guam against the operational jet fighter base at Phuc Yen, followed the next morning by 68 fighter-bomber sorties striking Gia Lam and Cat Bi air bases and revisiting Phuc Yen.[29] "They [the JCS] also desired that a plan be conceived which would provide for the complete and systematic destruction of the radar and telecommunications facilities which allowed the North Vietnamese to monitor the approach of allied aircraft."[30] As there were no SAM sites in the DRV at this time, B-52s and tactical fighters would have had much greater freedom of action—comparable to when the DRV ran out of SAMs in 1972 due to the mining of Haiphong. The Johnson administration, however, would not permit the closure of the DRV ports—key to achieving air superiority and stifling the buildup of the NVA.

Although Secretary of Defense Robert S. McNamara acknowledged that the country had no industrial war-making potential, he continued throughout the conflict to prohibit air strikes against the ports which were the receiving areas for the enormous input of communist-bloc industrial and war-making equipment and supplies. Trucks, field artillery pieces, missiles and associated equipment, POL, portable power generators, food, and medical supplies were all allowed free passage into the port of Haiphong throughout the air campaign, much to the chagrin of military commanders at all levels of command.[31]

US airmen had to dodge communist missiles or avoid them by going low—into the lethal range of antiaircraft artillery. Johnson did not permit the war-sustaining supplies for the NVA and the VC to be stopped at sea or on the docks at Haiphong, where operations would have been much easier. Instead, supplies would make their way south via the Ho Chi Minh trail, where airpower—blinded by triple-canopy jungle—could destroy only a fraction.

Given that the 94-Target List was realistic for the purpose for which it was designed, and given that the JCS plan for its implementation addressed the military objectives at hand, could there have been a different outcome to the Vietnam War? Would a better result have been produced by the combination of a rapidly executed air campaign, naval mining (which worked admirably in 1972), and Army plans to block the Ho Chi Minh trail on the ground?

Douglas Pike, probably the leading authority in the West on the mind and mood of North Vietnam, believes that the North Vietnamese were truly shocked by Linebacker II [B-52 raids in 1972] and has written: "Had a similar campaign of all-out bombing been made in early 1965" (when General LeMay and Gen John P. McConnell began calling for it), Lyndon Johnson probably could have achieved his goal of "moving Hanoi's forces out of South Vietnam." Pike argues that although Hanoi would have maintained its objective of unifying Vietnam (just as Kim Il Sung retained his goal of "reunifying" North and South Korea), Ho would have had to reassess the wisdom of seeking that goal through violence. The Korean paradigm is informative in other ways. Massive bombing in the spring of 1953, on a scale never before experienced by the North Koreans, forced a long truce—one that continues to this day—and has allowed the people governed from Seoul to prosper. But such was not to be the case in Vietnam.[32]

Perhaps there could have been another outcome to the war. The combination of a whirlwind air attack against the 94 targets, the naval mining of the DRV coast, and a ground maneuver to block the Laotian panhandle could have deprived North Vietnam of the outside sources of materiel that it depended upon; choked off its ability to send units and supplies south; and rendered the Vietcong in-

capable of prolonged activity. In the long run, these actions could have stabilized South Vietnam (like Korea), leading to democratic and economic progress in the following decades. The cost, most likely, would have been a continued American presence along a fortified demilitarized zone stretching from the Tonkin Gulf to the border of Thailand.

In this regard, one of the most interesting ironies of the period is included in the draft of the McNaughton/Bundy memorandum, which presented the various options. Before the paper went final, a paragraph on page 21 was lined out, to be excluded from the finished memorandum: "1. Option B probably stands a greater chance than either of the other two of attaining our objectives vis-à-vis Hanoi and a settlement in South Vietnam."[33] What might have been. . . .

Conclusions

Although this article has not treated Vietnam ground and naval planning in depth, JCS air planning, as revealed by the 94-Target List and implementation plans, suggests several conclusions:

1. Were the generals and admirals mesmerized by a nonexistent North Vietnamese industrial web that they planned to bomb? No. In spite of period rhetoric, the 94-Target List does not substantiate any fantasies of World War II industrial bombing campaigns. The JCS appears to have had a realistic grasp of the situation.

2. What was the thrust of the target list and the implementation planning for it? Clearly it recognized that North Vietnam was not an industrialized country and that its vital war-sustaining means were provided via a few critical nodes—port facilities and a couple of key rail lines—which could be (and in 1972 were) shut down. Additionally, key command/control and troop targets, as well as critical lines of communications nodes and air superiority targets were marked for destruction. The all-important military aspect of time was emphasized. The ability of an enemy to recover from, and accommodate, bombardment is closely linked with the tempo and mass of the effort. Unfortunately, incrementalism can dilute any military effort to the point of ineffectiveness, which is what took place during Rolling Thunder.

3. In this case, the critics have gotten it wrong. They have perpetuated a myth that the air arm could not have made a positive contribution in a war like Vietnam because Air Force strategic bombing doctrine got in the way. This position is manifestly unsupportable when the 94-Target List is scrutinized. The problem has been that since the list has remained an unrevealed mystery, it is easy for critics to misrepresent the entire air planning effort. In retrospect, generals and admirals can, and often do, call things the right way.

4. What are the lessons for the future? Instructors at Air Force professional military education schools need to do their homework. The uncritical acceptance of assertions that the air arm was (and perhaps is) irrelevant in places like Vietnam distorts student officers' views about the capabilities and limitations of airpower. The fact is that airpower (as well as land and naval power) was not allowed to accomplish what was planned, but it accomplished everything that it was allowed. There are no grounds to assert that it was commanded by doctrinaire generals who were wedded to obsolete methods. It is clear that they knew what to do. One lesson brought home by the 94-Target List is that airpower, as a major joint contributor, should not be discounted out of hand in the context of conflicts such as Vietnam. It might be just what is needed. □

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In war there is never any chance for a second mistake.

—Lamachus, 465–414 B.C.