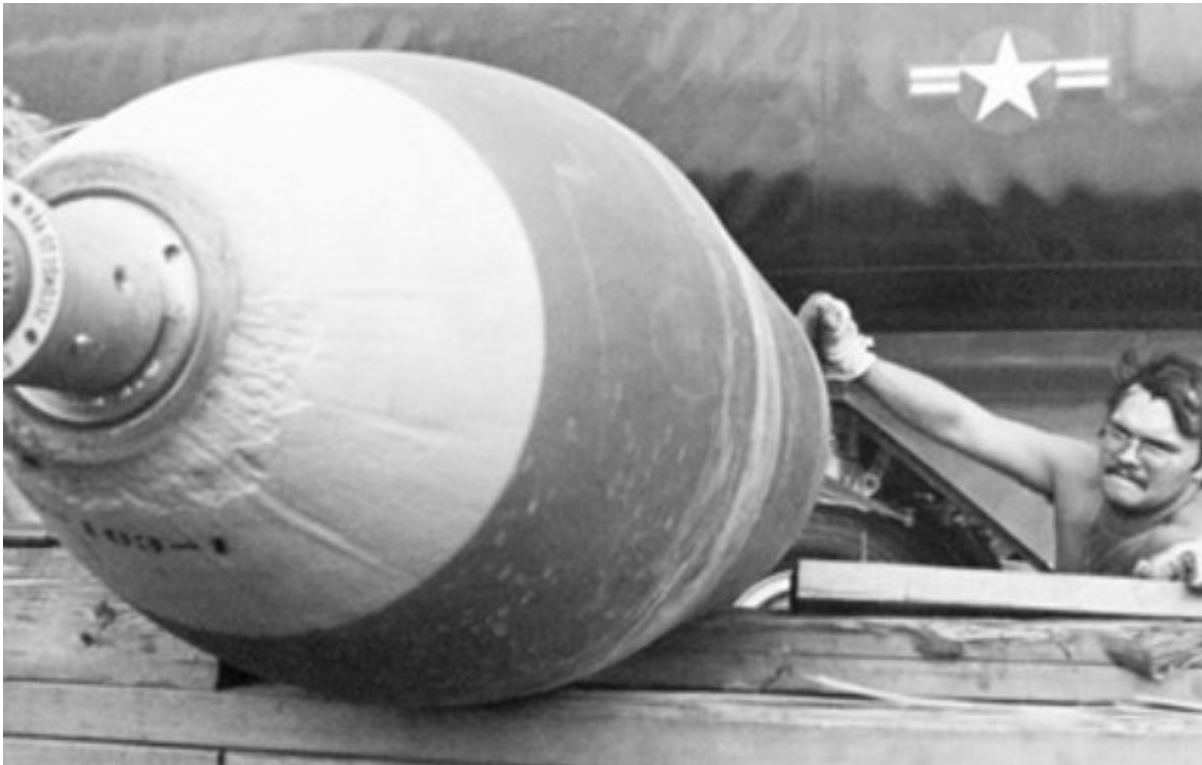


The Christmas Bombing

In December 1972, B-52 bombers that North Vietnamese missile crews had been waiting for came to Hanoi. Night after night. Over virtually the same track.

Air & Space Magazine

Marshall Michel



A munitions specialist prepares a bomb to be used during Operation Linebacker over North Vietnam. (USAF)

Last year in a small theater in Vietnam's Bas'tang Cheu Thang B52—B-52 Museum—I watched a re-creation of the last U.S. bombing campaign of the Vietnam War, staged on three video screens and a large lighted terrain map of 1972 Hanoi. As a soundtrack of martial music accompanied by the noise of explosions and anti-aircraft fire filled the theater, the screens showed surface-to-air missiles blasting off into night skies and B-52s falling in flames. Flashing lights on the terrain map indicated where bombs hit and B-52s crashed. The video, interspersed with pictures of North Vietnamese leaders touring bombed-out buildings and giving encouragement to anti-aircraft crews, ended with a voiceover, translated for me by my Vietnamese guide: "The Dien Bien Phu in the skies, the 12 days and nights victory over the B-52s...is always the pride and spiritual strength of the good-willed and wise Vietnamese people...."

I had come to Hanoi to research my second book about the air war over North Vietnam: the story of the December 1972 B-52 bombing of Hanoi, known as Linebacker II. I had arrived with the standard U.S. understanding of the raids. In early December 1972, President Richard Nixon and his national security advisor, Henry Kissinger, faced a political defeat. The North Vietnamese had broken off negotiations in Paris. It was clear that they were waiting for an anti-war U.S. Congress to return in January, cut off funds for the war, and give them a victory.

To force the North Vietnamese to sign the agreement, Nixon decided to bomb Hanoi. After initial heavy U.S. losses, B-52s were able to attack with relative impunity and, after 11 days of raids, the North Vietnamese returned to Paris to sign the agreement they had rejected in December.

But now, after a few days in Hanoi, I saw that the North Vietnamese had a different perception of the bombing. They considered Linebacker II the final Vietnamese victory over the United States, a victory on the scale of the battle that had forced the French from Indochina. I had come to the museum to try to resolve these dual and dueling images of a battle, and I left with my questions unanswered.

I exited the museum through a courtyard where broken B-52 pieces and parts had been piled in a heap about 20 feet high. Nearby were two SA-2 missiles on launchers, a Fan Song tracking radar, and the control van where missile crews tracked incoming bombers and tried to shoot them down. As I walked between the pile of B-52 parts on one side and the control van on the other, it occurred to me that the combatants fought in similar circumstances: six men in the cramped crew compartment of a B-52 targeted by the seven-man team enclosed in an SA-2 control van.

On Friday, December 15, 1972, Captain Bob Certain and the rest of his B-52G crew at Andersen Air Force Base in Guam were notified that all crew rotations Stateside had been suspended. It was a bitter blow. The crew members had been preparing to return to Blytheville Air Force Base in Arkansas on Monday, and this was another setback; they had been scheduled to return first on December 4, then on December 12. It was especially frustrating for Certain's aircraft commander, Lieutenant Colonel Don Rissi, who was in line to become the new squadron commander once Stateside.

In an unpublished memoir, Certain, a B-52 navigator, recalls how he and his crewmates reacted: "The crew's first thought—and hope—was that the war was over and we were being held on Guam to bring all the planes back to the U.S., but a quick tour of the flightline on Saturday morning and we saw all the B-52s were being refueled and loaded with bombs." (The full memoir is at www.airspacemag.com.)

When Certain's crew entered the briefing room at 11 in the morning on Monday, December 18, it was packed with over a hundred crew members. In a scene that seemed right out of the World War II film classic *Twelve O'Clock High*, the briefer came to the podium and announced, "Gentlemen, your target for tonight is Hanoi," as a slide of North Vietnam with a target triangle

over the capital lit up the screen behind him. This was the first time the big bombers would be sent against Hanoi's heavy defenses.

Nixon had ordered the raids on December 14, and the Strategic Air Command headquarters in Omaha, Nebraska, hastily devised a plan. The Eighth Air Force staff on Guam was surprised at the SAC decision to plan the missions in Omaha. The Eighth's mission planners had managed B-52 raids for years, and, since they were stationed on Guam, could discuss tactics with many of the B-52 crews. The distance between the SAC planners and the combat crews halfway around the world seemed to guarantee problems.

SAC's plan was to split the B-52 force—which would be flying from Guam and a U.S. base in U-Tapao, Thailand—into three waves, all attacking at night, with four hours between each wave. The bombers would fly almost identical routes, in single file, to Hanoi.

Captain Jim "Bones" Schneiderman, a B-52 copilot who attended the first briefing, was not impressed. "It was clear before we even took off on the first mission that the tactics were really dumb, everybody coming in from the same direction, same altitude, same exit routes," he says. "It was so much like the image of the British in the Revolutionary War—all lined up, marching in straight rows making easy targets—that it was bizarre."

Even for the northeast monsoon season, the early evening of December 18 was exceptionally cold and rainy in the small village of Nghe An on the western edge of North Vietnam. Dinh Huu Than, the commander of the 45th Radar Company, 291st Radar Regiment, Vietnamese People's Army Air Defense Corps, was just outside the village, serving as the first line of the North Vietnamese early warning system. Than and his crew were hunched over the scopes of their Soviet-made P-12 early warning radar when a line of blips appeared, proceeding north in a stately procession up the Mekong River, which divides Thailand from Laos. The blips were surrounded by heavy static, and from the jamming patterns Than and his company knew that the blips were made by B-52s, America's largest strategic bombers, some capable of dropping 30 tons of bombs. The 45th's operators had seen B-52 returns many times before, but never in this number, and they watched transfixed as the blips moved up to Point 300, the point where the B-52s normally turned west to bomb targets in Laos or east toward targets in the North Vietnamese panhandle.

But tonight the B-52s moved past Point 300 and continued north. Than suddenly realized that they were following a course that many U.S. strike aircraft used when they attacked Hanoi. He watched the returns for a few seconds longer, then at 7:15 in the evening Hanoi time, he sent a message to his regimental headquarters: "Large numbers of B-52s have flown past Point 300. B-52s appear to be on a course for Hanoi."

The regiment quickly forwarded the message to the Air Defense Command Headquarters in Hanoi. After a delay of a few moments, Than was asked to repeat the message. The last U.S. battle of the Vietnam War was about to begin.

Than and his radar crew were part of a North Vietnamese air defense radar network that covered the whole country in depth, but the radars were cobbled together into a manual system that had difficulty dealing with multiple raids or a rapidly changing situation. Than's information about the raid went to the Air Defense Command Headquarters. The hub of the headquarters, a large amphitheater, was dominated by a large transparent map overlaid with a grid. On one side of the map sat the air defense staff with telephones connected to all missile units. On the other side, a team of plotters marked the progress of the raid on the map, and as the aircraft moved, the positions were called out to them by officers tracking the flights on early warning radars. The plotters wrote the information backward so it could be read by the air defense staff on the opposite side.

The Hanoi region was the responsibility of the 361st Air Defense Division. The division had numerous radars and anti-aircraft guns, but its heart was three SA-2 Guideline regiments: The 261st Regiment was responsible for the area north and east of the city, while the 257th and the 274th Regiments covered the south and west. Each regiment had a number of early warning radars and was assigned three SA-2 missile battalions, each one equipped with its own early warning radar, a Fan Song missile guidance radar, and six SA-2 missile launchers.

The SA-2 Guideline system had been used for the entire war but had achieved mixed success against highly maneuverable U.S. fighters. Overall, the system was reliable but unsophisticated, using vacuum tubes and slow, mechanical computers, and the Fan Song guidance radar had proved vulnerable to various types of electronic jamming. The success of the system depended almost entirely on the skill of its seven-man crew.

The experienced Hanoi missile crews had been defending against U.S. air attacks for years, and they were especially anxious to shoot down a B-52. The big bombers had devastated North Vietnamese forces at Khe Sanh and recently pummeled North Vietnamese units fighting elsewhere in the south. North Vietnamese experts had been studying the B-52s' standardized tactics and jamming procedures almost daily as the aircraft attacked targets in Laos and southern North Vietnam, and at an October 1972 conference the Hanoi missile battalion commanders reviewed hundreds of feet of Fan Song and Spoon Rest radar film of B-52 jamming, provided primarily from units in southern North Vietnam. After that conference, the air defense headquarters produced a book entitled "How to Fight the B-52" and distributed it to all the SA-2 units.

While the weather on the ground was cold and rainy, above the solid cloud deck it was a beautiful night, with clear skies and a full moon that reflected on the clouds. U.S. support forces shepherded the B-52s in. The strike package included F-4s—some dropping strips of metal foil, or chaff, and others acting as fighter escorts—EB-66 electronics jamming aircraft, and the much-feared Wild Weasels, aircraft specially configured with electronics and the anti-radiation Shrike and Standard ARM missiles, which could home in on the SA-2's Fan Song radar (see "Counterpunch," Aug./Sep. 1998). As the force approached Hanoi, low-flying FB-

111 fighter-bombers attacked North Vietnamese MiG airfields. The B-52s followed in three-ship cells.

At the command post plotting map, Dong Thi Van, one of three women who worked as plotters in the headquarters, became very nervous as the B-52s approached. "At first...one flight, then two flights, then several flights coming like a swarm," she recalls, "but my soldier's sense of responsibility helped me regain my composure and continue to plot the flights." The 361st Division headquarters watched the raids approach, then began to allocate numbers to cells of bombers and assign them to the battalions to attack.

The missile crews had been alerted that the B-52s were inbound, and trucks in the missile sites had long since started up their noisy diesel engines to provide power to the radar and command vans, each about the size of an 18-wheeler. The un-air-conditioned command van was the heart of the SA-2 battalion. Inside the van were the battalion commander, a fire control officer, three guidance officers, a plotter, and a missile technical officer, who was responsible for monitoring the status panels of each of the six launchers and their missiles. The battalion commander was in phone contact with the regimental headquarters and sat in front of the radar scope of a Spoon Rest acquisition radar, where he watched the raids come in while waiting for orders assigning the battalion a target. Next to him was a transparent plotting board showing his battalion's area of responsibility, overlaid with the same grid references as the map at headquarters, and standing behind it was the plotter, also connected by phone to headquarters. When the battalion was assigned a target, the commander located the aircraft with the Spoon Rest search radar while the plotter tracked the raid manually on the plotting board; this process ensured that, if jamming prevented the battalion commander from locating the assigned target on his radar scope, he could watch the target's position and course on the plotting board and determine when he could begin the engagement.

The fire control officer sat a few feet away on the commander's extreme right; in front of him was a Fan Song radar scope that he used to locate and track the target. In front of him the three guidance officers—each one responsible for one coordinate (elevation, azimuth, and range) of the missile—had radar scopes with large control wheels beneath them. The officers turned the wheels to keep crosshairs on the target's radar return.

The van was tightly sealed to keep out light so the operators could focus on their radar scopes, and the only sound other than the voices of the crew was that of loud cooling fans, necessary to control the temperature of the vacuum tubes in the relatively primitive electronics of the SA-2 system. "The background noise of the fans was not a big problem," recalls a battalion commander who asked not to be identified. "It was quite noisy, but you got used to it. The tone of voice set the tone for the crew, and each battalion commander had his own style, based on his personality and how he trained his crew."

The first B-52s flying into North Vietnam that night were a group of 21 from U-Tapao, Thailand. The 28 B-52s from Andersen fell in behind, and the 49 bombers moved single file from the northwest corner of Vietnam down to the southeast toward Hanoi.

"As we turned eastbound out of Laos to enter North Vietnam for the bomb run," Bob Certain recalls in his memoir, "we were all focused on making this the best, most accurate mission we had ever flown. We would be in lethal range of SAMs [surface-to-air missiles] for about 20 minutes, but we couldn't be distracted by the threats. The radar navigator and I turned off our exterior radios so we could concentrate only on our checklists and crew coordination.

"We had been ordered to take no evasive action from the initial aiming point to the bomb release point. Those orders seemed to become increasingly suicidal as we heard multiple SAM calls from the B-52s from U-Tapao that had entered the target zone 30 minutes ahead of us."

The first SAM battalion to pick up the raid was the 57th Battalion, 261st Regiment, just north of the Red River. The 57th's commander, Nguyen Van Phiet, was a veteran. He had been defending against U.S. air strikes for five years, but he had never seen jamming like this. "All the radar returns were buried in the bright, white fog of the jamming," he recalls. "The screens of the fire control officer and the guidance officers showed many dark green stripes slanted together, changing at abnormal speeds, one strobe overriding and mixing with another, this strobe joining that one and splitting away. After that, hundreds and thousands of bright dots specked the screens like bunches of target blips moving sluggishly. With all that mass confusion coupled with a constant blinking on the radar scopes that looked like a downpour of rain, how were we expected to distinguish between fighter jamming and B-52 jamming, or which was EB-66 jamming and which was the passive chaff strewn across the sky by F-4s?"

Soon the buildings and ground in Hanoi and the surrounding area, including the vans of the missile battalions, began to tremble slightly as the first bombs hit the MiG bases at Hoa Loc and Phuc Yen. The North Vietnamese Air Defense Headquarters pressed the battle watch commander of the 261st:

"Have you seen the B-52s yet?"

"Have any units opened fire yet?"

"Why haven't they opened fire?"

In their command vans, the North Vietnamese missile crews were trying to track the B-52s on their Spoon Rest acquisition radars by following the jamming strobes, rather than using their Fan Song radars because turning on the Fan Song signal would expose them to attack by anti-radiation missiles from Wild Weasels. But the passive tracking was not working—the jamming was too intense.

As the raid approached, Nguyen Chan, commander of the 78th Battalion, saw "wave after wave of jamming—looking like large blades of a hand fan overlapping and slanted—came together, wiping out the whole spectrum.... It was so bright it hurt the eyes.... [The returns were] twisted and coiled together into a clump like a tangled ball."

Chan had his Fan Song tracking radar in standby, and all that was necessary was to press the Target Transmitter button and in four seconds the radar would be at full power. As the B-52s approached, Chan's search radar remained useless; watching his assigned target approach on the plotting board, he decided to turn on his Fan Song to look for the B-52s. There was considerable risk to this—the longer the Fan Song was on the air, the more likely it was to be attacked—but Chan took the risk and pushed the radar switch, using the range and bearing to the oncoming bombers, as plotted manually on the map, to point the antenna. Soon his fire control officer, Nguyen Van Luyen, was able to break out a single B-52 jamming strobe. Luyen put his crosshairs on the strobe and pushed the transfer button, and the target appeared on the scopes of the three guidance officers. The range guidance officer, Dinh Trong Due, excitedly called out "B-52!" and the three officers adjusted their range, azimuth, and elevation sets so the strobe was steady. Then they gently began to move their control wheels to follow the strobe.

Due continued to shout "It's really a B-52!" and Chan tried to quiet him so the crew would stay calm and concentrated. The jamming prevented the crew from going to the most accurate mode of the Fan Song, automatic track, but finally, at 7:49, Chan gave the order to fire; two buttons were pushed and, with their booster rockets burning brightly, two missiles climbed through the overcast toward their targets. The commander of the Hanoi Air Defense Force, Major General Tran Nhan, recalls that when Chan reported the firing to the 257th's regimental HQ, "sighs of relief could be heard at command headquarters from all levels."

One former North Vietnamese officer explained this phenomenon to me. "Firing back gives one a sense of power, a sense that one is fighting back and is not a passive victim," he said. "We gave everyone a gun and encouraged them to fire at American aircraft, no matter how far away. The people had to feel they were fighting back. We especially wanted the children in the air raid shelter to see their parents at the shelter entrance firing at the enemy."

A few miles north of Hanoi, Nguyen Thang, commander of the 59th Missile Battalion, was having a frustrating evening. The battalion had fired four missiles but all had missed, and dirt and gravel had showered down on the roof of the van from nearby bomb explosions. Now Thang was watching the raid approach both on his Spoon Rest radar scope and the plotting board next to the scope when he heard the call from the 261st's regimental headquarters alerting him to a target—T671—at an altitude of 10,000 meters.

Thang called to the fire control officer, Duong Van Thuan: "Target azimuth 350, distance 30 kilometers, altitude 10,000 meters, grouped."

Thuan manually turned the antenna to an azimuth of 350 degrees, then pushed the Target Transmitter buttons, and four seconds later the Fan Song radar was fully active. He saw heavy jamming on the scope, indicating a cell of three B-52s. He called back to Thang: "Target detected, azimuth 352, unknown range, altitude 10,000 meters, group, hostile."

Thang looked over at the fire control officer's radar scope, then back to his own, then at the plotting board, and ordered Thuan to prepare to fire two missiles. Although only azimuth

and elevation were known, the third point—range—was easy to calculate. B-52s always flew between 30,000 and 38,000 feet. Finding range was simply a matter of elementary geometry: of using a side (altitude) and two known angles of a right triangle—90 degrees and the angle of the Fan Song's vertical beam—to calculate its hypotenuse.

Thang tracked the movement of the jamming strobe on the scope, and once the return was stabilized, he gave the order to the three guidance officers to take over tracking the target manually, a task requiring extraordinary skill. In a 1982 Vietnamese newspaper article, Thang described the problems: "It is difficult enough to guide the missiles manually under normal conditions in which the targets are clearly seen. It is even more difficult looking at the silky crepe [jamming] of the B-52 aircraft on the radar screen. An uneven rotation or a mere jerky movement of the control wheel could cause the missiles to deviate from the target by thousands of meters or even detonate in the air."

As the B-52 approached, Thuan fired two missiles, and the guidance officers focused even more closely on their scopes and guidance wheels. Then, 24 seconds after the missiles had been launched, a light on the control panel flashed, indicating the first missile's proximity fuse had gone off, followed by the flash of a second light. The azimuth guidance officer, Nguyen Van Do, called out that he had lost the strobe, followed by the elevation guidance officer, Le Xuan Linh, reporting that the target's jamming strobe was rapidly losing altitude.

Bob Certain's B-52, Charcoal 01, had almost reached the assigned target. In his memoir, Certain describes what happened next in the lower deck of the B-52's crew compartment: "The radar navigator, Major Dick Johnson, and I had suppressed all emotion to concentrate on this critical phase of the mission. Fifteen seconds before bombs away, we opened the doors, and five seconds later I restarted my stopwatch as a backup to the drop should anything go wrong. Almost immediately, it did.

"The radar screens went blank and other instruments lost power. My first thought was that the copilot, Bobby Thomas, had accidentally knocked the generators off line. Before I could speak, though, Bobby was shouting over the intercom, 'They got the Pilot! They got the Pilot!' "The EW [electronic warfare officer], Captain Tom Simpson, was also shouting, 'Is anybody there? Gunner, gunner!'

"I looked over my left shoulder and saw fire in the forward wheel well through the porthole in the door behind me. My first thought was of the twenty-seven 750-pound bombs in the bomb bay right behind the fire, and I turned to the RN [radar navigator] and yelled, 'Drop those damn bombs!' He safetied them (we didn't know where they would land), and hit the release switch. They all seemed to drop away from our now-crippled B-52. My next thought was that the fire was also directly below the main mid-body fuel tank, loaded with 10,000 pounds of JP-4.

"Then aircraft commander Don Rissi's voice came weakly over the intercom. 'Pilot's still alive.'

"Figuring it was time get out of here, I called, 'Copilot, this is the Nav, escape heading is 290.'

"It was now about 10 seconds after the first of two SAMs hit the plane and I heard the call, 'EW's leaving!' as Tom Simpson ejected. I heard the explosion of his hatch above me and the boom from his seat as it rocketed up and out, but felt no decompression. I looked at the RN. Our eyes met, and we both started preparing for ejection. I threw my flight case as far to the rear of the cockpit as I could, grabbed the ejection handle, looked at the RN again, and then turned to face forward. I saw the ejection light come on showing the pilot ejected, and pulled the handle. The seat failed.

"At least, that's what I thought. The ballistic activators were supposed to blow the hatch below my seat and fire me out of the bottom of the plane in one-tenth of a second, but I was so scared that the panels in front of me seemed to be barely moving at first, then to move up in slow motion.

"The next thing I knew, I was tumbling in the cold air of the stratosphere, thinking, 'That was a dumb thing to do. I'll bet the plane was still flyable. Where is it? Maybe I can crawl back in.' A moment later, I felt the parachute opening. So far, so good.

"I checked for a good chute, then looked down for the first time. Between my boots, I saw the inferno that made up the three targets that we had hit over the last 20 minutes. As I watched, I saw a series of explosions walk through the target, another string of 27 bombs finding paydirt. Then, [just ahead on the ground] I caught another series of explosions—right in line with my drift. 'Oh, God, now what?' There shouldn't be another target over there; that was our escape route. As I looked down, I realized that this fire was shaped like an arrow—our B-52 had plowed in flames into a village.

"Now panic was beginning to replace concern. Where were the #\$\$%& clouds that had covered the ground when I first bailed out? With the full moon I could see the ground clearly all around, and the white panels in the canopy and my white helmet were not going to be assets as I slowly descended to the ground no more than 10 kilometers north of Hanoi."

The North Vietnamese could see nothing through the heavy overcast, and it was several minutes before the Air Defense Command Headquarters received word that a B-52 had crashed on the outskirts of the city. A few minutes later calls began to come in about the capture of three B-52 crew members, including Bob Certain. Shortly after his capture, Certain was shown the body of his commander, Don Rissi, who had apparently died from wounds sustained during the SAM strike.

As the first raid moved away, the tension in the North Vietnamese command posts eased—they had absorbed the B-52 attack and had been able to strike back. Trucks from the missile battalions began to pick their ways through the muddy streets and burning buildings to warehouses where new missiles were waiting. Workers at the warehouses frantically assembled the missiles and loaded the finished weapons onto the trucks to carry back to the missile emplacements. Just before midnight, U.S. fighter and support aircraft once again appeared on the radar screens. Another B-52 strike was on its way.

On the ground in a Hanoi prison, Norb Gotner, one of the few U.S. air crewmen recovered from Laos and brought to North Vietnam, heard the air raid sirens, then the crackle of anti-aircraft fire and the roar of fighters in afterburner. He recently recalled that he "had been close to B-52s bombing in Laos, and recognized the first string when it went off. I remember commenting that the 'BUFFs [nickname for B-52s] are here and that this would bring an end to this damn war.' There was no sound of incoming aircraft, and that made it more scary for the North Vietnamese. The deafening steady roar of the bomb string going off would roll down the streets and go through the cells. The concrete cells would sway back and forth as in an earthquake.

"We really didn't have windows (too big of a luxury) but we managed to cut away a small sliver of the wooded slats that covered the barred openings. It was like looking out of a keyhole. We could see the yard between cellblocks and a small piece of the night sky and we couldn't believe so many B-52s got shot down as we could see the hits and the flaming planes come down. The next morning the ground was covered with chaff."

The second wave of B-52s came in on the same route as the first, heading for many of the same targets. Peach 02, the second B-52 over a target that had been bombed by the first wave, dropped its bombs and immediately rolled into its post-target turn when it was hit by a missile. The pilot managed to drag the badly crippled bomber back to Thailand, where the crew bailed out safely.

Back at U-Tapao, Lieutenant Colonel John Yuill was leaving the third wave's briefing when the crews from the first wave came in. "They didn't say a word, but looking at their eyes I knew it must have been a bad day at the office," he said.

As the second wave withdrew to the south of the city, the commander of the 77th Battalion, Dinh The Van, discussed with his fire control officer, Nguyen Van Duc, how they might shoot down a B-52 using the automatic tracking function of the Fan Song guidance radar. While automatic tracking was very accurate, it was generally considered to be impossible to use when the target was jamming. One battalion commander later said, "No one dared think of [automatic tracking] when discussing the method of fighting the B-52s because it was too idealistic.... The three radar screens had been used automatically only in 1965 and '66...when there was no radar jamming and the enemy had not been so crafty."

Still, Van was determined to try. The first wave had almost ended Van's hopes when several bombs hit close to the 77th, damaging some of the equipment and causing casualties among the crews who loaded the missiles on the launchers. A few minutes later, when Van turned on his Fan Song and tried to automatically track a B-52, the site was attacked by a Wild Weasel whose Shrike exploded less than 100 feet from the command van.

Van's frustration mounted when the second wave of B-52s attacked and the battalion could not break out a bomber from the jamming, but during that attack Van thought he noticed a point when the B-52's jamming dropped off. "We saw that the B-52s heavily jammed and usually whitened our radarscope...[but] we saw that the jamming did not remain heavy all the

time," he recalls. "The main point was to calculate and determine the timing [and] range to expose the B-52 for us to kill like a lamb."

Van and his crew had another opportunity four hours later when the third wave of B-52s arrived, flying the same route and bombing some of the same targets as the previous two waves. The crew members of the 77th watched their assigned target carefully, and when they saw its jamming decrease sharply, they fired two missiles and went to the automatic tracking mode. The B-52 Rose 01 was hit, and four of the crew members bailed out successfully before the B-52 crashed in the suburbs of Hanoi.

Van had discerned a major vulnerability in the U.S. tactics. SAC had directed that each bomber roll into a steep post-target turn immediately after bomb release, a carryover from the days of high-altitude nuclear delivery. But SAC had not tested these tactics against the Fan Song radar or considered what a steep post-target turn would do in a SAM environment. In fact, the turn rotated the bombers' fixed and downward-focused jamming antennas away from the SAM radars on the ground, enabling the Fan Song radar to break out the aircraft's radar return and track it automatically.

The next morning, as the sun rose, curious Hanoi citizens surrounded the wreckage of two B-52s. Units from all over Vietnam sent congratulations, and General Nhan said that "a special feeling pervaded the various command headquarters, from the battalion to the general staff, from the northern rear area to southern battlefields. The Hanoi air defenses had stood up to America's greatest weapon and had held its own; it had inspired the people and the Army."

Although the bombers flew the same routes to the same targets with the same post-target turns the next night, the North Vietnamese hit only two and were unable to bring any of them down. The following morning the 361st Air Division staff called all of the missile battalion commanders to an urgent meeting at headquarters, disregarding the fact that they had not slept all night. Each of the nine battalion commanders was called before the assembled group to explain what tactics he had used, why they had failed, and what he planned to do to improve results. That afternoon, staff officers visited each battalion to review their tactics and procedures on the command van's simulator, and the crews practiced their operations in all the situations they had seen the first two nights and developed variations on their standard methods of controlling the missiles to take advantage of the B-52s' predictable maneuvers.

The third night of raids, December 20, began like the two previous nights: The first wave of B-52s appeared just before eight o'clock. As the U.S. force approached, the crew members in the command van of the 93rd Battalion waited anxiously. The 93rd had been harshly criticized for its failures the night before, and all that afternoon the officers had reviewed their procedures with a trainer from the 361st Headquarters staff. As the B-52s moved in to bomb targets they had bombed the previous two nights, the 93rd's hard work earlier that day was rewarded: The men fired two missiles at a B-52 banking in its post-target turn, and a few moments later Quilt 03 fell almost vertically out of the sky. Four of the six crew members survived.

The rest of the missile battalions soon made up for their failures of the previous night. Three battalions fired at one bomber, their missiles arriving just as the bomb doors on the aircraft opened. The resulting explosion was bright enough to be seen by a U.S. reconnaissance plane 80 miles away over the Gulf of Tonkin; miraculously, two of the six crew members survived.

As B-52 after B-52 was hit, the news flooded into the 361st headquarters command post, where a loudspeaker on the bunker's wall carried the voice of a female radio announcer reporting combat developments. Le Van Tri, commander of the Air Defense Command, called the 361st to report: "The enemy's formations are becoming disorganized. They are calling one another in panic and requesting air rescue...."

The North Vietnamese were ecstatic, but few missiles were coming over the assembly lines as they tried desperately to get ready for the expected midnight raid. Yet at midnight there was no raid on Hanoi, only a small B-52 raid well to the North. The second wave of B-52s scheduled to bomb Hanoi had been recalled by SAC. The North Vietnamese missile crews had done what the Japanese, Germans, North Koreans, Chinese, and Russians had failed to do—for the first and only time in the history of U.S. air combat operations, U.S. bombers on their way to a target turned back because of enemy defenses. Having decided to turn the second wave back, however, SAC reversed itself and sent the third wave on. By the time it arrived—about four in the morning—the Hanoi missile battalions had been rearmed.

Once again the North Vietnamese watched incredulously as the B-52s flew the same routes to attack the same targets they had bombed eight hours before. Almost immediately a B-52 was hit in its post-target turn, but the pilot was able to fly the damaged aircraft to Laos, where all but one of the crew bailed out. Two more were shot down in the next 15 minutes.

At the U.S. Air Force fighter bases in Thailand, there was a new opinion of B-52 crews. For years, fighter pilots, who flew at low altitudes over heavily defended territory, had ridiculed the bomber crews for flying so high over un-defended areas and never suffering combat losses. During Linebacker II, U.S. airmen watched the B-52 crews fly through a hail of SAMs, lose their crewmates, and go back night after night. From then on, the comments impugning the courage of the bomber crews stopped.

When word of the losses arrived at the B-52 base at U-Tapao, the 17th Air Division commander, Brigadier General Glenn Sullivan, decided he had had enough. "I called the operational commanders, Colonel Don Davis and Colonel Bill Brown, and told them to get a bunch of the experienced guys together as soon as they landed and give me some changes to go to SAC with," he recalls. "I was opposed to the single-file 'bomber stream' concept, every night at the same altitude, and the other dumb tactics. These guys came up with a bunch of smart changes and put them in a message. Early that morning I signed the message out directly to General J.C. Meyer, CINCSAC, and sent an information copy to my boss at Eighth Air Force, General Jerry Johnson. I wanted it to get to SAC right away. Some of the people

were afraid I would get in trouble for sending it to Meyer directly, but we had to do something."

The message had some effect. After seeing Sullivan's recommendations, the B-52 commanders in Guam followed with a message supporting his suggestions. The next night the post-target turns were drastically altered, but SAC still insisted the bombers use the same routes and single-file tactics to the target, and two bombers were shot down. Because of the losses, for the next three nights SAC directed raids on targets other than Hanoi. No raids were conducted on Christmas day. The night of the 26th, the B-52s went back to Hanoi, but the missions were planned by the Eighth Air Force using the ideas developed by General Sullivan and the combat crews.

It was about 10 o'clock on the night of December 26 when the North Vietnamese early warning radars detected the massing of escort forces that meant B-52s were on the way. The radar controllers watched a large B-52 raid moving up through Laos, but then another force of B-52s appeared coming in from the Gulf of Tonkin. The two B-52 raids bracketed the city and began to spread out around both Hanoi and Haiphong. Then, at almost the same time, over 110 B-52s turned inbound to their targets, attacking from all directions on the compass.

In 15 minutes it was over. The North Vietnamese controllers tried desperately to track the raids, but their manual system was overwhelmed as the B-52s swept in from different angles almost simultaneously. Additionally, instead of making their standard—and deadly—post-target turn, many of the B-52s continued straight ahead or delayed their turn until they were out of missile range. Missiles engaged most of the raids, but by the end of the attack only one B-52 had been shot down over Hanoi (another crashed at U-Tapao on landing). It was clear that the North Vietnamese defenses could no longer expect to shoot down large numbers of B-52s, and the next day, December 27, North Vietnamese negotiators told their U.S. counterparts that they would be willing to resume negotiations in Paris.

There were details to be worked out, and the raids on Hanoi continued. The night that the North Vietnamese agreed to return to Paris, 60 B-52s went back to the capital and two B-52s were lost, and on the nights of December 28 and 29, the B-52s raided without loss. Then, on December 30, because enough progress had been made, President Nixon ordered a final bombing halt, and by the end of January, the Paris Peace Agreement ended the U.S. involvement in the Vietnam War.

Thereafter both sides agreed that Linebacker II had been the critical battle, the battle that had ended the war, but that is where agreement stopped.

After I talked with some of the missile crews and other veterans, the Vietnamese picture of the Christmas bombing slowly fell into place for me. The crux of the issue is that the United States and North Vietnamese leadership had different views of the purpose of the bombing campaign. For the United States, the Paris Peace Agreement fulfilled Nixon's aims—it brought the POWs home and enabled the nation to end its participation in the Vietnam War, with its credibility and its commitment to South Vietnam intact.

The Vietnamese, however, said the bombing had a different aim. They insist that the bombing was meant to force them to capitulate and to withdraw their troops from South Vietnam. Thus, when the Paris agreement allowed the North Vietnamese troops to stay in the south, they were able to claim that Linebacker II had "failed," a belief reinforced when the North Vietnamese troops that had stayed in the south led the final unification offensive in 1975. But to completely understand the difference in interpretation, I had to realize that, in the Vietnamese view, Linebacker II was simply another victory in a string of victories in a 30-year war of independence. The proof that the battle was a victory was the final unification of their country.

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