

Near Failure at Nagasaki

The first atomic mission was executed perfectly. On the second one, almost everything went wrong.

By John T. Correll

Hiroshima lay in ruins. Eighty thousand people had been killed instantly and two-thirds of the city destroyed by the atomic bomb dropped by the B-29 *Enola Gay* on Aug. 6, 1945. For Japan, the war had been lost for some time. Since the beginning of the year, American B-29s had been systematically demolishing Japan's urban areas and industrial centers with incendiary bombs.

The military regime refused to accept defeat. Japan still had five million troops, 10,000 airplanes—more than half of them configured for suicide missions—and a seven-month supply of aviation fuel. The United States resumed the firebombing missions and continued planning for an invasion of Japanese home islands.

Sooner or later, the bombing and naval interdiction would make it impossible

for Japan to continue, but no one knew how long that would take. The invasion plan called for the commitment of a US force of 1,865,000. Another year of war plus an invasion of Japan probably meant US casualties in the range of a quarter million and similar losses for the Japanese.

The alternative was to drop another atomic bomb. A second bomb was in place at North Field on Tinian in the Mariana Islands, home base of the 509th Composite Group, which had flown the Hiroshima mission. No other atomic bombs were yet available, but the United States wanted the Japanese to believe there was an unlimited supply.

The mission was planned for Aug. 11 but a forecast for bad weather moved it up to Aug. 9. The bomb, called "Fat Man," was stored under tight security and controlled conditions in an air-conditioned hut with a rubberized floor to prevent accidental sparks. On

the evening of Aug. 8, it was loaded aboard the B-29 that would deliver it. Thus began the chain of events that would culminate in the detonation of the atomic bomb at Nagasaki the next day.

Whereas Hiroshima was a perfectly executed operation, almost nothing went right on the second atomic mission, and it came close to failure. This mission drew less attention, both in news at the time and by historians later, than did the bombing of Hiroshima. The main problems with the Nagasaki operation have been known since 1945, but the extent of difficulties and the discord among participants were not fully disclosed until the 1990s.

The pilot in command for Nagasaki was Maj. Charles W. Sweeney, 25, chosen for the assignment by the 509th commander, Col. Paul W. Tibbets Jr., who had flown the Hiroshima mission himself. Sweeney was commander of

Bockscar en route to Japan, carrying Fat Man, the nuclear bomb that would be dropped on Nagasaki.



USAF photo

the 393rd Bomb Squadron. He had been on the Hiroshima mission, flying the instrument plane, *The Great Artiste*, which measured the effects of the detonation. Over Hiroshima, he was 30 feet off the right wing of Tibbets' plane, the *Enola Gay*. Sweeney had drawn that assignment because Tibbets intended him to fly the next mission, if there was one, and wanted him to have the step-by-step experience.

The primary target for the next mission was not Nagasaki. It was Kokura, about 95 miles southwest of Hiroshima, where one of the largest arsenals in Japan was located, surrounded by urban industrial structures. Nagasaki was the secondary target, to be struck only if circumstances ruled out the attack on Kokura.

The Aircraft

Six B-29s were allocated to the mission. Sweeney would fly the lead aircraft

and drop the bomb. *The Great Artiste* was still rigged with the instrument package it carried at Hiroshima, so Sweeney and Capt. Frederick C. Bock switched airplanes. Sweeney and his crew took *Bockscar* and Bock and his crew flew *The Great Artiste*, which would again serve as the instrument plane.

To avoid identification as atomic bomb aircraft, the six B-29s bore the triangle N tail marking of the 44th Bomb Group instead of the forward arrow of the 509th. None of the mission aircraft had their names painted on the nose. This led to confusion for William L. Laurence of the *New York Times*, who was authorized to go along and write a first-person account. He thought Sweeney was still flying *The Great Artiste* and so reported in his article. In fact, Laurence himself was aboard *The Great Artiste*, which was flown by Bock.

Lt. Col. James I. Hopkins Jr., the group operations officer, flew the ob-

servations/photo airplane, inelegantly named *Big Stink*. According to Sweeney, Hopkins had a noncooperative attitude, possibly because the mission commander was his junior. He walked away from Sweeney's reminder about the rendezvous plan, saying, "I know how to make a rendezvous."

There were two weather airplanes. *Enola Gay*, flown by Capt. George Marquardt, would go ahead to report conditions from the primary target, Kokura, and *Laggin' Dragon*, flown by Capt. Charles F. McKnight, would scout the weather at Nagasaki. Capt. Ralph Taylor would position the sixth B-29, *Full House*, at Iwo Jima as a backup aircraft.

Three mission specialists augmented Sweeney's regular crew on *Bockscar*: a radar countermeasures officer and two weaponeers with special knowledge and understanding of the atomic bomb. The senior weaponeer was Navy Cmdr.



Bockscar and crew (note the missing nose art). Capt. Kermit Beahan (wearing glasses), whom many believe saved the mission from failure, stands next to Maj. Charles Sweeney (dark shirt), the pilot and mission commander.

Frederick L. Ashworth, who had managed the field testing of the atomic bomb at Los Alamos, N.M.

Sweeney had no previous combat experience, but Ashworth had commanded a squadron of Grumman TBF Avengers at Guadalcanal. In the aftermath of the mission it would be said, notably by Tibbets, that Sweeney had deferred too much to Ashworth.

“The job of Ashworth was to arm the bomb, assure its readiness to be dropped, and, ultimately, make the ‘no drop’ call if something went wrong with the detonating system,” Tibbets said. “Those tasks defined the realm of his authority aboard *Bockscar*.”

It is sometimes argued that Sweeney and Ashworth were in “joint command.” That is wrong. Sweeney was clearly the mission commander. Ashworth’s authority covered decisions about the bomb because of his specialized knowledge. Influence was another matter, and Ashworth exerted a powerful influence on Sweeney.

Fat Man was loaded into *Bockscar*’s bomb bay at 10 p.m. on Aug. 8. It was a plutonium bomb, more complex and more efficient than the “Little Boy” uranium device dropped at Hiroshima. Fat Man worked on an “implosion” principle. At its core was a subcritical mass of plutonium, surrounded by 64 high-explosive charges. Upon detonation, the inward pressure of the charges compressed the plutonium core from the size of a grapefruit to the size of a tennis ball, achieving the supercritical mass to trigger the bomb.

Complications

The crews briefed shortly before midnight, had their pre-mission breakfast at the mess hall and were driven out to their airplanes at 1 a.m. The first big problem came when flight engineer MSgt. John D. Kuharek notified Sweeney that the fuel in the reserve tank in *Bockscar*’s rear bomb bay bladder was not pumping. Of 7,250 gallons of fuel aboard, 600 gallons were in the reserve tank. Sweeney climbed out of the aircraft and went to talk with Tibbets, who was watching from the ramp.

Tibbets told Sweeney he did not need the fuel in the bladder, it was only there to balance the weight of the bomb in the forward bomb bay, but if Sweeney disagreed, he had the authority as commander to cancel the mission. Sweeney decided to go. Tibbets pointed out that he was off to a late start and that he should not linger at the rendezvous point if the escort aircraft did not show up.

Bockscar roared down the runway and into the night sky at 3:49 a.m. On the Hiroshima mission, the Little Boy bomb had not been armed until *Enola Gay* was airborne. Fat Man was too complicated for that. However, some of the arming and firing circuits in the nose of the bomb were disabled by two green-handled “safing” plugs. After *Bockscar* was off the ground and before it reached pressurization altitude, Ashworth opened a hatch between the cockpit and the bomb bay, removed the two green plugs, and

replaced them with red arming plugs. The bomb was ready to go.

The original plan had been for the three aircraft to reassemble over Iwo Jima, which had been the rendezvous for the Hiroshima mission. On Aug. 9, a typhoon was gathering momentum around Iwo Jima so the rendezvous point was Yakushima, a small island off the coast of Kyushu. “Because of bad weather at lower altitudes and our proximity to the Japanese mainland, the rendezvous would be at 30,000 feet instead of 8,000 as on the Hiroshima mission,” Sweeney said, which consumed additional fuel.

Missed Rendezvous

The Great Artiste was at the rendezvous point but *Big Stink* was not. The orders from Tibbets were explicit. Make a single 360-degree circle of the rendezvous area, then proceed. “My orders were to wait 15 minutes and then leave for the target, but the mission brief also called for three airplanes to proceed to the target,” Sweeney said. A message from Marquardt in the *Enola Gays* said the weather at Kokura was clear for bombing, but Sweeney circled the rendezvous for 45 minutes. Unknown to Sweeney, who was maintaining radio silence, Hopkins in *Big Stink* was circling at 39,000 feet, 9,000 feet higher than he was supposed to be.

“When only one plane showed up, I told Sweeney that I wanted to be sure that we had the instrument-carrying aircraft with us,” Ashworth said. “Why Sweeney didn’t tell me that the instrument aircraft was already with us, I don’t know.” In later years, Tibbets said Sweeney’s delay may have been due to pressure from Ashworth, a point that Ashworth vigorously denied.

Sweeney said, “When Hopkins failed to make the rendezvous and couldn’t find us, for some inexplicable reason he broke radio silence and radioed back to Tinian, ‘Has Sweeney aborted?’ The message got garbled in transmission and was received on Tinian as ‘Sweeney aborted.’” Emergency air-sea rescue preparations were terminated as a result. “If we had to ditch in the ocean, no one would be there to pick us up,” Sweeney said.

The extra time spent at the rendezvous was costly. When *Bockscar* got to Kokura, the target was no longer clear, partially obscured by drifting smoke from a B-29 firebomb strike, two nights before, on a steel mill at Yawata, just to the north.

As Sweeney approached the initial point to begin his bomb run, some of the landmarks, including the river and some streets and buildings, were visible, and he thought there was a good chance of sighting the target, the Kokura arsenal. This was important because the target had to be bombed visually, not by radar. “Kermit Beahan, our bombardier, had to see the target to insure accuracy during the bomb run,” said Lt. Fred J. Olivi, the third pilot on *Bockscar*. “The orders were very specific.”

But Beahan couldn’t see the target on the bomb run, nor could he see it on two additional bomb runs that Sweeney made. Again, Tibbets blamed the influence of Ashworth, who denied responsibility for the decision but acknowledged years later in an interview, “After the first run and no drop, I did go up to the flight deck and suggested to Sweeney that it might be possible to see the target if we approached it from a different direction.”

“By this time, *Bockscar* had consumed so much fuel that there was serious question of whether she could make it to Nagasaki, drop the bomb, and return to Okinawa,” which was the closest American airfield, Tibbets said. “At this point, the mission should have been scrubbed.” Instead, Sweeney headed for the secondary target, Nagasaki, 97 miles to the southwest and in the same general direction as Okinawa.

Nagasaki was a major military port, one of Japan’s largest shipbuilding centers and the location of several large plants of the Mitsubishi Corp., which turned out torpedoes and other weapons and war materiel. The city lay at the head of a long bay, with a long ridge of hills screening the main residential section from the Urakami river valley where the Mitsubishi factories were, a mile and a half to the north.

As *Bockscar* and *The Great Artiste* began their approach, it was 11:50 a.m. Tinian time and 10:50 a.m. in the city below. Nagasaki was under heavy cloud cover, making a visual drop impossible.

Sweeney had enough fuel for only one bomb run and he was not going to pass it up. He conferred with Ashworth in the “interest of interservice harmony” and proposed a drop by radar, contrary to the explicit orders. Ashworth concurred.

Twenty-five seconds out, with the bomb bay doors open, a break sud-



Bockscar is now on display at the National Museum of the United States Air Force in Dayton, Ohio.

denly developed in the clouds and Beahan yelled, “I’ve got it! I’ve got it!” Sweeney immediately gave control of the airplane to Beahan, whose Norden bombsight was linked to the autopilot. It was too late to drop on the original aiming point, the docks on the east side of the harbor, so Beahan quickly picked a new aiming point in the industrial valley.

As the bomb fell free, Sweeney swung the airplane into a steep, diving 155-degree turn to the left to put some distance between *Bockscar* and the shock wave. Bock made a corresponding high-G turn in the other direction. The bomb detonated at 1,890 feet over the Urakami Valley at 11:02 a.m. local time in Nagasaki. When the shock wave reached *Bockscar*, it was 12 miles away.

The mushroom cloud rose toward 45,000 feet. The explosion was almost midway between the Mitsubishi Steel and Arms Works and the Mitsubishi-Urakami Ordnance Works, which were destroyed. The damage was less severe in the main part of the city, on the other side of the hills. About 40,000 persons were killed instantly, a staggering death toll, but much lower than it would have been if the bomb had fallen on the original aiming point around the docks.

Landing on Fumes

Between circling at the rendezvous and the three bomb runs at Kokura, Sweeney had lost more than an hour and a half of time, and it was catching up with him. Fuel had become critical. He set course for Yontan Field

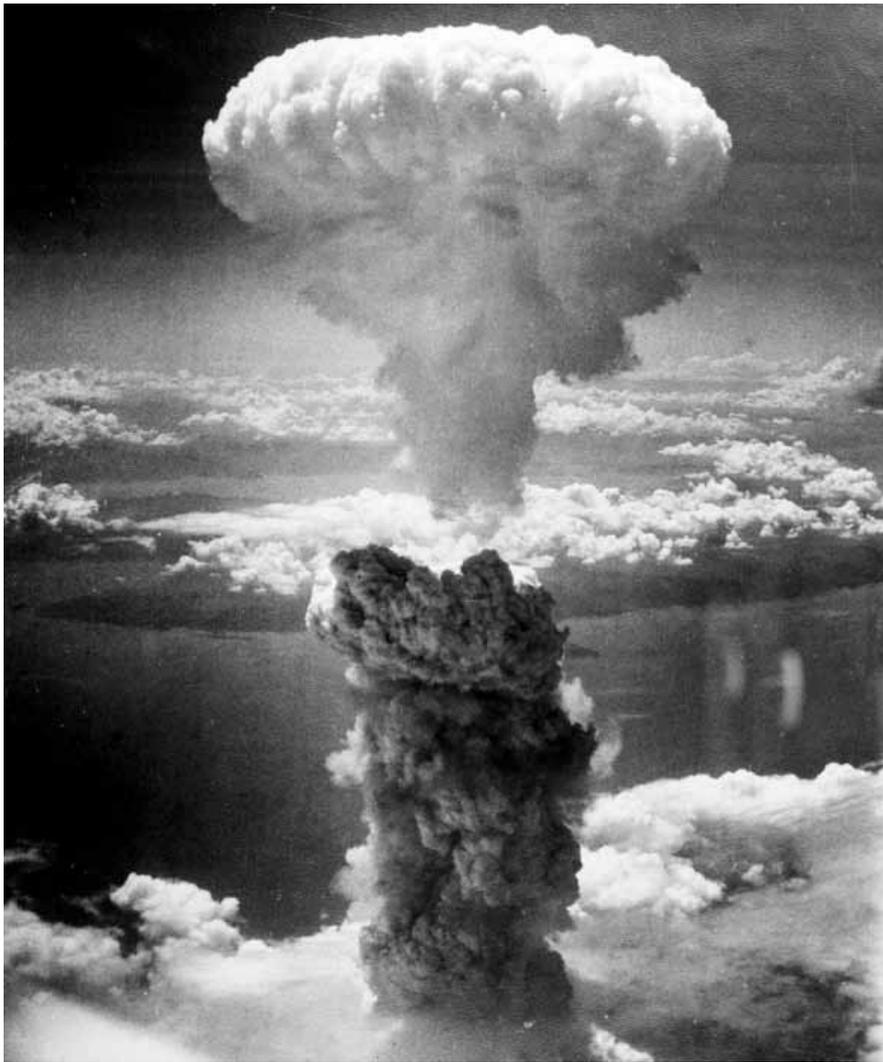
on Okinawa, which was the nearest airfield, some 350 miles farther on. He descended by stages to save fuel, and throttled the propellers back from 2,000 rpm to 1,600.

Fifteen minutes out, *Bockscar* called the Yontan tower with a Mayday but got no response. Another call and an emergency flare made no change in airfield traffic. *Bockscar* then fired every flare it had, including those signaling “aircraft out of fuel,” “prepare for crash,” and “dead and wounded aboard.” Traffic cleared and Sweeney took it in for a rough landing. The fuel remaining, as measured later by the flight engineer, was seven gallons.

“The instrument-carrying airplane landed on Okinawa shortly after we did, and strangely who should arrive shortly thereafter but the third plane that had never joined us,” Ashworth said. “It had gone to Nagasaki and done some observing after the bomb was dropped.”

Sweeney was taken to see Lt. Gen. Jimmy Doolittle, commander of Eighth Air Force, who had moved his headquarters to Okinawa a few weeks earlier. Doolittle heard Sweeney’s story and did not delay his return to Tinian. After a quick meal and refueling, the crew flew the last leg of their mission, landing on Tinian at 11:30 p.m.

Sweeney got a cool reception from Tibbets and an even cooler one the next morning from Maj. Gen. Curtis E. LeMay, chief of staff of Strategic Air Forces of the Pacific. In the end, LeMay decided that an investigation into the conduct of the Nagasaki mission would serve no good purpose, and little was said about the problems.



Above: The mushroom cloud that rose over Nagasaki on Aug. 9, 1945. Right and below: Pictures of Nagasaki both before and after Bockscar's atomic bombing mission.

The Nagasaki mission had tipped the balance toward the faction in Japan that wanted to end the war. The military hardliners continued to resist surrender, but even Gen. Korechika Anami, the war minister, acknowledged that the Americans might have 100 bombs and "the next target might be Tokyo." The emperor announced the surrender Aug. 15.

Sweeney left active duty in 1946 as a lieutenant colonel, went to the Massachusetts Air National Guard, and retired in 1976 as a major general. He died in 2004. Ashworth rose to the grade of vice admiral, commanded the Sixth Fleet, and retired from the Navy in 1968. He died in 2005.

Shortly after the mission, *Bockscar's* name and familiar nose art were painted on the fuselage. The airplane can be seen at the National Museum of the United States Air Force at Wright-



John T. Correll was editor in chief of Air Force Magazine for 18 years and is now a contributing editor. His most recent article, "USAF and the UFOs," appeared in the June issue. For additional perspective, see "Atomic Mission" (October 2010) and "The Invasion That Didn't Happen" (June 2009), both available at airforce-magazine.com.

Patterson AFB, Ohio, where it has been on display since 1961.

Leading figures in the operation differed in the way they remembered and told the story, but their disagreement was not widely known until the 1990s. An unsuccessful attempt by the Smithsonian's National Air and Space Museum in 1994 to exhibit the *Enola Gay* in a politically charged exhibit inspired Sweeney to write his memoirs, published in 1997.

Ashworth wrote a letter to Sweeney's publisher itemizing numerous mistakes. In 1998, Tibbets revised his memoirs, adding a chapter on Nagasaki, sharply critical of Sweeney.

"Sweeney blames Hopkins for the delay at the rendezvous point, but Tibbets blames both Ashworth and Sweeney," said historian Donald L. Miller. "Tibbets is convinced that Ashworth told Sweeney to wait for the observation plane."

Ashworth said that "we had the wrong guy flying the plane," Miller added. "Yet he blames Tibbets for picking Sweeney."

Everyone credited bombardier Beahan for saving the mission. "Major General Sweeney wouldn't be a general and Admiral Ashworth wouldn't be an admiral if Beahan hadn't done the job that he did," said Ashworth.

A particularly valuable account came in *Decision at Nagasaki: The Mission That Almost Failed*, privately published in 1999 by the third pilot, Fred Olivi, who avoided accusations and acrimony and who had no need to defend his own actions. Olivi reconstructed the flight in detail from his diary, written in 1945 with the aid of an official logbook borrowed from navigator James F. Van Pelt.

The amazing thing is that, despite all, the mission succeeded. The military results were more effective and the death toll was lower than if the operation had been flown as planned. Nagasaki was the final blow that induced the Japanese to surrender, bringing World War II to an end. ■