

The three mysterious EC-121 crashes a generation ago cost the lives of 50 airmen.

The Fall of the Warm

By Peter Grier

As 1st Lt. Joseph L.H. Guenet sat in the ditching position, waiting for his crippled EC-121 radar aircraft to crash, he noticed a pile of books on the table in front of him. Despite the heavy smoke pouring through the fuselage, despite the burning hydraulic fluid flowing across the cabin deck, the navigator decided that those books had to be moved.

They were technical manuals used by the flight engineers, and they were heavy. They might become deadly projectiles if they started flying around. Guenet got up from his seat, which was directly behind the cockpit, facing the rear. He reached over and started tossing the books into a baggage compartment.

At that moment, the EC-121's left wing struck the Atlantic about a half-mile off Nantucket Island. The military version of the graceful Constellation airliner burst into a fireball and skidded 1,000 feet parallel to shore. Guenet remembers this as a moment of instant silence, as the roar of engines on full power had been extinguished.

He must have blacked out for a short period. He awoke face down,

pinned by something heavy on his back, with water rising around him. Then whatever pinned him broke away, and he was under the water, swimming up toward a bright light. He surfaced to find the light was a fast-spreading fire.

Contrary to procedures, his survival suit was unzipped and he wore no life preserver. He'd had no time to attend to these details, as he had helped other crew members into their gear.

"Doing things wrong saved my life," Guenet recalls today.

The survival suit hindered his movements, so he shed it. Moreover, a bouyant life vest, had he been wearing one, would have kept him from bobbing his head under the flames.

Three Crashes

It was April 25, 1967. Of the EC-121's 16-person crew, Guenet was the only survivor. It was not the only EC-121 accident. In a turbulent, 21-month period at the height of the Cold War, the 551st Airborne Early Warning and Control Wing, Otis AFB, Mass., lost three giant EC-121 aircraft in catastrophic overwater accidents. Fifty of the total 54 crew members died.

In the first accident, on July 11, 1965, an EC-121 ditched in the Atlantic about 125 miles off Nantucket; three crew members survived, but 16 perished. In the second accident, on Nov. 11, 1966, an EC-121 cartwheeled into the sea for no apparent reason, without a word of emergency communication from the crew. The third accident—Guenet's—was particularly devastating, because the lead pilot was the wing's commander, Col. James Perkins Lyle. Five months earlier, Lyle had presided at a memorial for victims of the second accident.

The crashes are little-remembered today. They involved now-retired aircraft, flown by a since-disbanded wing, fulfilling a mission made obsolete a generation ago. At the time, however, they were shocking to New England and the Air Force, particularly in light of the fact that the 551st had flown thousands of sorties for a decade without a single loss of life.

Today, the crashes are reminders of the sacrifices by military members during the last era of concerted perimeter defense of the US homeland. The Cold War was not

Warning Stars



casualty-free. From the Distant Early Warning (DEW) Line above the Arctic Circle, to the Texas Tower radar platforms at sea, and EC-121 Warning Stars off both US coasts, thousands of personnel served, and some died, on freedom's frontier.

"Was the mission worth it?" asks John J. Hughes, a radar crew chief for the 551st during the late 1950s and early 1960s. "I think if you look at the fall of the Berlin Wall, that will tell you it was worth it. That's why we were out there, in the long run."

Air defense was a top priority for the Air Force in the pre- and early ballistic missile age. At the time, the Soviet Union was steadily upgrading its bomber force, replacing World War II-vintage aircraft with more modern models. Defense planners found it conceivable that World War III could start with a swarm of air-breathing attackers racing for targets in the continental US. Thus by the early 1950s, the Pentagon was attempting to surround the nation with a belt of protective radar coverage.

The Pinetree Line, a series of

some 30 ground radars that roughly followed the US-Canada border, reached operational status in 1954. That same year, the US started awarding full-scale construction contracts for the DEW Line, a fence of stations so far north on the continental landmass that many looked out on the icy expanse of arms of the Arctic Ocean.

Extended Coverage

These radars would only alert against aircraft flying the direct polar route from Russia. Extension of coverage to guard against bombers curving in from the flanks would require something other than ground stations. Texas Towers were one attempted solution. Essentially radars bolted to offshore oil well platforms, Texas Towers were scattered off the northeast US coast to provide early warning of a strike from the Atlantic. Five were planned but only three built.

In this context, mounting early warning radars on aircraft seemed an obvious way of plugging holes in coverage. Thus was born the Lockheed Warning Star, precursor to today's AWACS and the airplane

that proved the concept of airborne early warning and tactical air control.

The Warning Star was the result of a marriage between a powerful search radar and a Super Constellation airliner. The Air Force ordered 82 of the dolphin-shaped aircraft, with the first entering service in the mid-1950s. (The last retired from the Air Force Reserve in 1978).

The EC-121 was powered by four Wright R-3350 Cyclones, which were among the most powerful radial engines ever built in the US, producing an astonishing 3,400 hp each. The aircraft's ceiling was 18,000 feet, an altitude that crews routinely neared during operations. Range was about 4,000 miles, with a top speed of just under 300 mph.

Pilots liked flying the EC-121, but it was, in general, heavy on the controls, says Roger Horrell, a pilot who served with the 551st. "The Connie was a handful to learn how to fly," he says.

The Wright engine was high-powered but temperamental. Failure was common, particularly when switching to a high blower setting at alti-

tude. EC-121 electronics also could be fragile.

On the West Coast, protection was provided by the 552nd AEW&C Wing, which flew Warning Stars out of McClellan AFB, Calif. On the East Coast, the 551st provided similar coverage from Otis. A subsidiary unit, the 966th Airborne Early Warning Squadron based at McCoy AFB, Fla., attempted to gather intelligence on Cuban activities.

Otis is located on sand flats near Cape Cod's shoulder, at the point where the peninsula juts out from the Massachusetts mainland into the Atlantic Ocean. It is a huge base, big enough so that the Army could bring in 155 mm guns mounted on railcars and fire them on the range, according to Dean Boys, an Air Force radar operator in the early 1960s. His recollections appear in *Fifty Fallen Stars*, a period history of the 551st AEW&C compiled by A.J. Northrup, a retired USAF senior master sergeant who served with the unit.

The 551st AEW&C was fortunate—for a while. On March 2, 1965, the wing marked its 10-year anniversary having accumulated 350,000 mission hours without a fatality or even injury in an aircraft accident.

In its normal Cold War operations, the wing logged long hours flying figure eights over the Atlantic, with occasional sightings of a wayward airliner or Bear turboprop probing the US perimeter. All of that changed on July 11, 1965.

July 11 that year was a Sunday. At around 9:30 p.m., an EC-121H, serial No. 55-0136, took off from Otis, bound for an ocean area past Nantucket. At around 11,000 feet, the No. 2 engine failed to shift into high blower. The pilot decided to continue up to mission altitude of 15,000 feet, with the aircraft running in essence on three-and-one-half power plants.

“Not So Good”

At 10:10, air controllers received a transmission from the aircraft. The No. 3 engine was on fire, and the pilot had declared an emergency. At 10:13, the pilot radioed that the balky No. 2 was also “not so good” and that he was preparing the crew for ditching. The airplane was 144 miles off the Nantucket coast. At 10:19, another airborne Warning Star heard the transmission, “Ditching in two minutes.” At 10:22, the burning aircraft hit the water, hard.

Darkness hampered a massive sea search for survivors. At around 9 a.m. the next morning, search boats picked up three survivors and nine bodies. In total, 16 men died. “There were several of our buddies with us for a while, but then they just drifted away,” A2C David A. Surles told a local newspaper.

Surles left the Air Force in November 1966 and went to work for the Norden Co. In a recollection included in *Fifty Fallen Stars*, he said he can't remember if he ever actually saw

flames coming from the No. 3 engine, though it was certainly feathered. There was never any smoke in the cabin, he said. Preparation for ditching was calm and orderly.

“You didn't want to abort a mission,” says Northrup, whose reports on the 551st are a comprehensive collection of reminiscences and documents concerning the unit's accidents. “You had to keep the stations covered all the time, no matter what.”

Sixteen months later, disaster struck again. On Nov. 11, 1966, at around 12:37 a.m., EC-121H No. 55-5262 took off after a minor delay to change spark plugs, coils, and leads on one engine cylinder. Weather was clear, with visibility of 10 miles.

At 1:22 a.m., a radar tracking station determined that operations aboard the aircraft were normal.

Four minutes later, the crew of a New Bedford-based fishing boat, *Stephen R*, saw an aircraft roar overhead at an altitude of 200 feet. It was level, navigation lights off, and emitting a smoke or vapor trail. Two miles on, the EC-121H passed over another fishing boat, *Terra Nova*, whose crew noted the airplane's engines sounded as if they were backfiring. One mile later, at 1:27 a.m., the airplane struck the water and exploded. There were no survivors.

Unlike the previous accident, the second had no obvious cause, such as fire. Perhaps the airplane threw a prop.

“That, to me, was the scary accident,” says Horrell. “We never got any defined reason why it occurred.”

Lyle's Sad Duty

A crowd of 2,000 turned out for a memorial service at the base on Nov. 15. Lyle, commander of the 551st, helped present triangular folded flags to next of kin. The massive door of the hangar in which the service was being held was rolled open, and the strains of “Taps,” followed by three volleys of rifle fire, concluded the proceedings.

For members of the 551st, Lyle was a memorable officer. James Perkins Lyle was born in Springtown, Tex., on Dec. 21, 1919, the youngest of four children. He joined the Army's aviation cadet program just before World War II. Trained as a B-24 pilot, he eventually served as commander of the 827th Bomb Squadron in Europe.



Atlantic Watch. **This EC-121H Warning Star is pictured flying over the Cape Cod Canal, near Otis AFB, Mass. Three of the elegant radar aircraft, plus 50 crew members, were lost while on patrol over the Atlantic.**

He flew missions in World War II and Korea.

He assumed command of the 551st in July 1966. Lyle was a firm public supporter of the EC-121. By all accounts, he loved to fly and, as a committed four-engine man, wasn't about to let his position ground him. He had standard Air Force flight requirements to fulfill as well.

On April 25, 1967, Hughes, the radar crew chief, got a call from Lyle's secretary. At the time, Hughes was a year from retirement and was grounded. He'd been put to work scheduling pilots. The secretary said Lyle wanted to fly that night's 6:30 p.m. mission.

At that moment Maj. Howard N. Franklyn, an evaluation pilot, was standing in the scheduling area, reading a newspaper. He told Hughes to put him on the mission, too.

The crew for the mission began filing in around 3:30 that spring afternoon. Preflight inspection and engine starts were normal. The aircraft—No. 53-0549—took off from Runway 23 right on time, at 6:30 p.m. Visibility was nine miles. Surface winds were about 4.6 mph.

At about 6:58, the airplane crew reported that the aircraft had climbed past 6,000 feet. Shortly afterward, the pilot radioed that it appeared the No. 3 engine was on fire, and the airplane was returning to base. One minute later, the pilot reported an even more ominous development. It appeared the fire was actually in, or had spread to, the root section of the right wing. At that moment 53-0549 was 22 miles from Otis and eight from Nantucket. Controllers cleared the airplane for landing at Nantucket Airport.

At 7:03, the pilot made his last transmission, requesting that the lights be turned on at Nantucket's Runway No. 6. But as it passed over the island's west end, the Warning Star, burning fiercely by this time and still laden with fuel, veered away from the airport and passed on out to sea. Many eyewitnesses felt that Lyle had pulled to avoid crash-landing in a populated area of Nantucket.

Inside the doomed EC-121, smoke was pouring from the ventilation system. Guenet recalled that a flight engineer was lugging barrels of hydraulic fluid to the flight deck, perhaps trying to bring hydraulic con-



Lone Survivor. *Lt. Joseph Guenet, an EC-121 navigator, is taken from a rescue craft en route to the Otis base hospital. Guenet was the only crew member who lived through the April 25, 1967, disaster.*

trols back up, but to no avail. About one mile off Madaket Beach, the airplane skipped off the water and burst into flames. After traveling 1,000 feet, it broke up and sank in 50 feet of water.

"I think the fire in the belly finally burned through the cables and they lost it," says Horrell. "The problems they had were much more than probably the greatest aviator in the world could have overcome."

Struggle for Survival

With that battle lost, the struggle for survival began. To this day, Guenet does not know how he lived through the impact. He does not know if anyone else made it out of the wreckage. He'd been trained that, to stay alive in a burning sea, you have to push the water up and away from your face, as if splashing a friend in a day at the beach. He quickly discovered that when the fire in question was fueled by high-octane aviation gas, all that maneuver did was aerate droplets and create a fuel-air explosion.

Bobbing upward as violently as possible, on the other hand, turned out to be an effective way to momentarily splash the fire away. After some minutes, the fire burned itself off, and the airplane's navigator found himself drifting parallel to the beach, with the headlights of searchers clearly visible.

He climbed aboard a floating segment of bulkhead—debris that he

has since kept through the years—and hung on until a helicopter arrived. By that point, he was unable to lift his arms enough to don the horse collar rescue preserver. He clung to it fiercely with clasped hands, and the crew hauled him up anyway.

After that, all he remembers is waking up the hospital. He had multiple bruises and contusions, plus a broken clavicle, right arm, and left ankle. A few months later, Guenet was playing softball with colleagues when he bent to field a grounder and lost all feeling in his arms and legs. It turned out that the crash had also broken his neck—something the local doctors had unaccountably missed.

Guenet recovered after treatment and stayed in the Air Force, serving on a wide variety of aircraft. He retired as a lieutenant colonel in 1985 after a 27-year career.

What happened? Why did one unit lose three large and valuable aircraft to such accidents, after years of relatively safe operations?

One answer, say veterans of the 551st, may lie in the age and condition of those airplanes. By 1965, many EC-121 airframes had seen years of hard use. Their Wright engines had always been something of a hazard. Guenet notes that in his extensive experience flying in C-5s, only one engine had to be shut down—and his pilots did that as a precautionary measure. By contrast, in his first ride in a Connie, one

engine was shut down in the air—and a second upon landing.

In addition, H models were much heavier, due to the addition of airborne data processing equipment necessary to link into the then-new Semi-Automatic Ground Environment (SAGE) system, an early attempt to use computers to control fighters and fight the air defense battle. The aircraft also had to fly higher to gain the range for SAGE communications to work.

Deterioration

While they were working harder, the Connies were being maintained by less and less experienced crews. Many of the best maintenance people were being sent to bases in Southeast Asia. “The overall quality of the aircraft began to deteriorate,” says Horrell.

The Air Force has not released the full records of its investigations into the EC-121 crashes, but some have been obtained from the Air Force Safety Center. Reprinted by Northrup, they provide additional details about all three accidents.

The primary cause of the first crash was the near-simultaneous failure of two engines, according to USAF records. A possible contributing cause was pilot error, probably due to anxiety and task saturation, as evidenced by the lack of warning announcements to the crew and high rate of descent.

The cause of the mysterious second crash is listed by the Air Force as “undetermined.” Possible causes run from flight-control cable separation to release of toxic fumes from a fire extinguisher, which might have incapacitated the crew.

The primary cause of the third crash is also listed as “unknown,” but the most probable cause of the accident, according to the Air Force Safety Center documents, was a fire stemming from a fuel spill that occurred while the Connie was on the ground and its fuel tanks were being serviced.

Some of the fuel from this spill apparently seeped into the right wing root. It evaporated into an explosive vapor, which was ignited by a hot electrical connection. This rapidly turned into a major fire in the right wing and lower radome, fed by fuel from ruptured main tanks.

Underlying all this was mainte-



Postmortem. **Salvage crews managed to retrieve some of aircraft No. 53-0549's parts, which were arrayed in a maintenance hangar at Otis. Within two years of the third crash, all remaining EC-121s went to reserve units.**

nance and personnel error, according to the Air Force investigation.

Horrell flew Connie 53-0549 two weeks before it crashed. He says that prior to takeoff, a crew member discovered fuel streaming from a filler neck on the right wing. Flight engineers diagnosed thermal expansion of the fuel, as the temperature that spring day was quickly rising. They stopped the gusher, cleaned up, and completed an uneventful mission.

The last pilot to fly the aircraft before its fatal mission has testified to a similar problem. This pilot, Don Borowski, estimated that 10 gallons of fuel from the leak ran into the wing root. He waited out a lengthy delay while the wing was flushed out.

The fire in Lyle's airplane started just when it reached 7,000 feet. That was the altitude where radar technicians typically turned on their radars. “It may have been RF [radio frequency] energy that set off fuel that had puddled in the wing root,” says Horrell. “That is my educated guess as to what happened.”

The loss of the third EC-121 in under two years was a stunning blow to the Air Force and surrounding region—indeed, the nation at large. The House Armed Services Committee named a special panel of lawmakers to study the circumstances of the crash.

Some asked whether the Air Force's Connies had outlived their usefulness.

The fleet was grounded until a thorough inspection had tightened maintenance procedures, but the clock was ticking for Air Force Connies. The 551st was deactivated on Dec. 31, 1969. Active EC-121s already were being phased into the Air National Guard and Air Force Reserve. The emergence of Soviet ICBMs had made air defense something of an anachronism. The future of airborne early warning and control lay with the E-3 AWACS aircraft.

Today, Otis is an Air National Guard Base. F-15s based there were among the first US military aircraft to take to the air on Sept. 11, 2001. Otis Memorial Park contains a fountain surrounded by three boulders, each inset with a plaque honoring the dead of one of the lost Connies.

They did not prosecute a war, but they helped prevent one. That is what many of the family members and colleagues of the 50 men who lost their lives in the EC-121 crashes believe.

Northrup has spent years lobbying for further recognition of the men. A handful received medals, but most did not. “Those people deserved a medal,” says Northrup. “They were defending the country as much as the people in Vietnam.” ■

Peter Grier, a Washington editor for the Christian Science Monitor, is a longtime defense correspondent and a contributing editor to Air Force Magazine. His most recent article, “The Intelligence Gamble,” appeared in the March issue.