



Six anti-submarine K-ships hold to their tethers in Dock 1 of the Weeksville Air Station, circa 1950. The hangar was so large, it could accommodate three more of these giants.

Tar Heel History

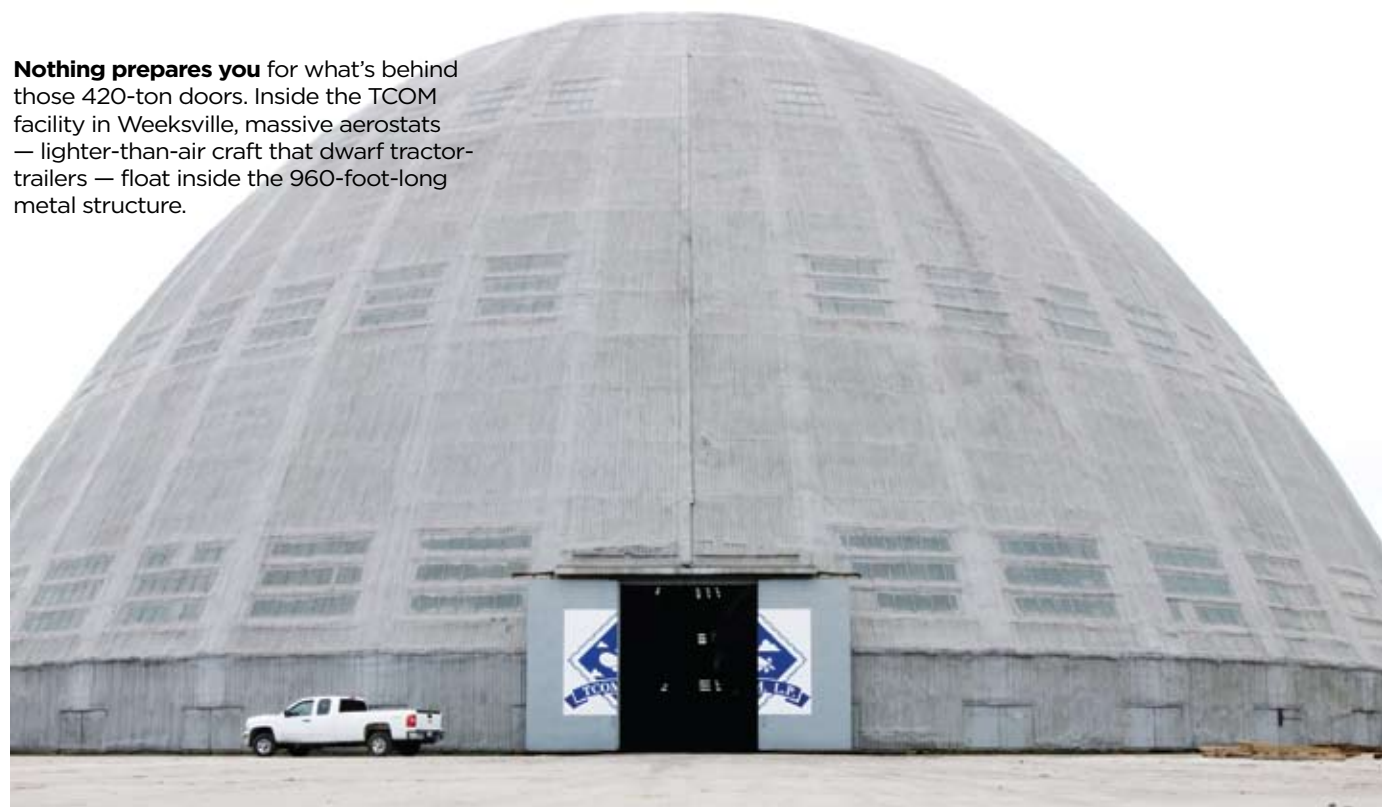
LIGHTER THAN AIR

BY EARL SWIFT

When German U-boats began to hound Allied forces, the Navy took to the sky and constructed an air station in Weeksville that built blimps — soft, quiet fighters that helped turn the Battle of the Atlantic and lift the nation to victory.

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Nothing prepares you for what's behind those 420-ton doors. Inside the TCOM facility in Weeksville, massive aerostats — lighter-than-air craft that dwarf tractor-trailers — float inside the 960-foot-long metal structure.



PHOTOGRAPH BY COURTNEY GONZALEZ



T COMES ON SUDDENLY: One moment the view from the two-laner south of Elizabeth City is a predictable album of soybeans, farmhouses, and thickets of loblolly. The next, an enormous, silver spacecraft — or something — looms east of the road.

Even from two miles away, it's big beyond sense: 20 stories high, nearly a thousand feet long, humpbacked, and futuristic. Or rather, an old-fashioned notion of what the future might look like, a paean to the machine age. Some sort of metal, to look at it, with narrow stripes of windows down its sides and around its curving ends.

Of North Carolina's many unexpected sights, this ranks among the strangest. On the Pasquotank River's edge, and on the way to nowhere in particular, rises a monolithic monument to a mostly forgotten chapter of World War II: a hangar for United States Navy blimps that helped defeat Nazi Germany's infamous U-boats.

Up close, its size defies superlatives. A squadron of airships could fit under its arching roof, which soars 198 feet over its concrete floor and relies on arching steel trusses, rather than columns, for its support. Staircases switchbacking up the ceiling to the hangar's two rooftop control towers dwindle to filigree. A tractor-trailer becomes a toy on a floor the size of six football fields.

"I'd seen pictures of it before I came here," says Steve Chalker, who's worked in the building for 16 years as an executive for TCOM, L.P., the Maryland-based company that owns the hangar today. "They don't prepare you."

Below the surface

A year before Pearl Harbor, the Navy had one Eastern blimp base — New Jersey's Lakehurst Naval Air Station, where the Hindenburg burned in 1936. With war looking unavoidable, the service launched a massive expansion of its lighter-than-air fleet: It planned new East Coast stations in or near Boston, Massachusetts; Cape May, New Jersey; Cape Hatteras; and southern Florida, along with a necklace of hangars along the Pacific and others along the Gulf.

Blimps, the Navy hoped, would guard American ships against German submarines, which wreaked havoc during the First World War: U-boats claimed 11 million tons of Allied shipping and tens of thousands of lives, most of them civilian.

From the deck of a surface ship, a submerged sub was invisible. From the gondola of a blimp, however, a U-boat at shallow depth was plain to see. Depending on the wind, a blimp could be slowed to a hover or goosed to highway speeds, and it could stay in the air for two full days without refueling. If a sub dived deep, blimp crews could sniff it out with an array of tools the Navy perfected — sensors that detected the vibrations of turning screws and the

Opposite page: A TCOM aerostat (top left) moored outside the hangar prepares for testing. Inside the TCOM hangar, steel trusses (top right) were designed to move in high winds. Nearby, the still-standing door supports of dock 2 (bottom) remain concrete fixtures long after a fire.



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PHOTOGRAPHY BY COURTNEY GONZALEZ

The walls of the Weeksville Air Station contain plenty of history, starting in World War II. TCOM's safety and training coordinator Steve Chalker knows every bit of that past and, more impressively, every inch of the building's floor.

magnetism of a hidden boat's steel hull.

Once found, a U-boat was in trouble. Blimp crews could summon warships to the scene or tangle with the marauder themselves: Harmless and soft and quiet though they seemed, Navy blimps were armed with depth charges and machine guns.

So it was that the service's inspectors showed up on the Carolina coast in December 1940, on the hunt for a flat chunk of property near the coast, protected from wind and free of smokestacks and power lines. They stayed for six days, eyeing 43 sites before choosing a wedge of farm and forest bordered on three sides by the Pasquotank and marshy Newbegun Creek. The government paid a little more than \$100 an acre for it.

The land was nine miles south of Elizabeth City and a mile north of Weeksville, a tiny burg at the junction of two old farm roads, and seemed a long way from anything resembling military importance. The Navy wasted little time. It signed contracts to build the Weeksville Naval Air Station (LTA) — the initials standing for “lighter than air” — the following July. Crews arriving in August cleared the land of pines, sawing them into lumber used in the base's smaller buildings — quarters, offices, a laundry, a mess hall, a dispensary, a rec hall, trade shops, storehouses. They built a metal sphere to store helium, the inert gas, nonflammable but expensive, that provided American airships their lift. They built concrete roads, a brick power station, underground tanks for water and gasoline.

They laid railroad tracks out to the station from Elizabeth City and, on flatcars, brought in a mountain of bolts and beams for the base's centerpiece.

Sheet metal and steel

That it was American Bridge Co. of Ambridge, Pennsylvania, that manufactured the hangar's components makes sense, for the building's webwork of steel trusses evokes nothing so much as the guts and muscle of a titanic span. Modeled on Goodyear's 1929 “Airdock” in Akron, Ohio, the Weeksville hangar resembled an upended boat, or a moth's cocoon cut in half, lengthwise — a long tube, its cross-section a pointed arch, its ends round. Wilbur J. Watson, the Cleveland, Ohio, engineer whose firm designed the Goodyear building, claimed the shape helped the enormous structure withstand winds.

It also gave the Weeksville building a spectacular amount of volume without supporting columns. Intended to shelter six of the Navy's patrol blimps, it actually accommodated nine, with room to spare. Three Iowa-class battleships would fit side by side, as would a platoon of Statues of Liberty. In the days before domed stadiums, the hangar's interior ranked among the biggest rooms on earth.

Spurred by America's entry into the war, construction workers erected the building's shell in only four months. In another three months, they built its “orange peel” doors, which weighed 420 tons apiece and rolled open and shut on railroad track — and were “driven,” rather than pushed or pulled. The doors' electric motors required so much

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A U.S. Navy blimp (left) floats above the Weeksville Air Station at its base commissioning on April 1, 1942. A pilot at the station (right) in 1944 requests permission from his flight crew to leave the hangar.

juice that base officials gave a heads-up to utility officials in Elizabeth City before opening or closing them, lest they risk a brownout.

The hangar's steel skeleton was sheathed in corrugated sheet metal. "It was a very soft metal," recalled J.J. Haynie, who helped manage the project, in a 1995 letter to Chalker, "that, it was said, would readily separate from the steel framework in event of an explosion, thus saving the trusses from deflection or strain."

The carnage unfolding in the Atlantic justified the hurried construction. U-boats sank Allied freighters and tankers by the score. In a little more than five months in early 1942, they torpedoed at least 63 ships off the Carolina coast. On the day officials commissioned the Weeksville base — April 1, 1942 — at least three ships were sent to the bottom there.

"Our worst menace on the Atlantic Seaboard is the activity of Axis submarines," Rear Adm. Manley H. Simons told an audience of 200 gathered for the ceremony. "As a consequence of the submarine's efficiency, we are forced to constant vigilance in the air and on the surface."

Stopping the subs

Elizabeth City was no stranger to aviation. Decades before, local boaters ferried Wilbur and Orville Wright

across Albemarle Sound to the windswept Outer Banks, where the brothers tested gliders and the primitive biplane in which they achieved controlled flight. In the late '30s, the Coast Guard converted a riverside farm down the Pasquotank into a seaplane base, which the Navy transformed into a wartime air station. Attack planes based in Norfolk, Virginia, 50 miles to the north, buzzed overhead on sorties down the coast.

But blimps — it was hard to be jaded about blimps.

The first Weeksville squadron arrived before the hangar was finished. These K-class airships measured 252 feet from stem to stern, or 60 feet longer than a modern Goodyear blimp. Built of rubberized cotton, stuffed with 425,000 cubic feet of helium and air, they carried 18-member crews from the base to the ocean in half an hour.

To see one blimp in flight was an occasion. To see three or four rise over the treetops and nose eastward into battle, their size belying their speed, was jaw-dropping.

They made an even bigger impression on U-boat crews. Once deployed on patrol runs and as convoy escorts, the blimps all but halted German sub attacks on Allied merchantmen.

No sooner had operations started than the Navy stepped up its blimp program and built a second hangar in Weeksville, one of 17 it added to bases around the

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PHOTOGRAPHY COURTESY OF TCOM

A welding accident turned the second Weeksville hangar into an inferno on August 3, 1995. The fire decimated what was known to be the largest wooden structure in the world.

country. With steel in short supply, these new shelters were wooden — Weeksville’s was built of Southern yellow pine. Although not as wide or tall as the steel structures, the wooden hangars measured almost 100 feet longer and were reputedly the biggest wooden buildings anywhere. Laid flat, the curving roof of Weeksville’s Hangar 2 would have covered 11 acres.

The blimps rarely mounted an attack, but their presence helped turn the Battle of the Atlantic. Allied shipping losses off the coast fell to three in 1943, to zero in 1944, to two the following year. Aiming to clear U-boats from the Mediterranean, a Weeksville squadron made the first blimp flights across the Atlantic.

Then the war ended, and the blimps left.

On the decline

For a while, the giant air docks on the Carolina coast became lavish storage units for the Navy’s idled airplanes and vehicles. In 1947, a new squadron of blimps floated to Weeksville, and by decade’s end, the base was again devoted to airships.

But by then, helicopters were in mass production and could perform the tasks at which blimps excelled. The base closed in 1957. A few years later, the state purchased it and, Chalker says, “tried to market it an industrial park and got absolutely nowhere.”

They were perilous days for old blimp stations: At

about the same time, the steel hangar’s twin — the only other such building the Navy built — was torn down in South Weymouth, Massachusetts. Lucky for Weeksville, North Carolina found a buyer in the Westinghouse Electric Corp., which in 1966 bought the whole spread and moved in one of its subsidiaries, a company that built cabinets. The hangar’s sky-high ceiling created a space impossible to heat and “the acoustical equivalent of a huge, steel drum,” as a company official put it, so IXL Furniture installed a drop ceiling 24 feet off the concrete floor and suspended from the roof trusses on steel cables. The unused space above the barrier, Chalker jokes, became “the world’s largest attic.”

Over the next three decades, the station’s smaller buildings were razed. Vines formed a thick veneer on the old powerhouse. Weeds consumed the concrete roads branching off the base’s main drive.

Meanwhile, TCOM moved into the vast wooden hangar, where it built and serviced blimps and aerostats, or blimp-shaped balloons tethered to the ground — until August 3, 1995.

That night, a welder’s torch started a fire in one of the huge box beams framing the doors of the wooden hangar. By the time someone detected the blaze, the building was doomed. “I got here 20 minutes after the first fire call,” Chalker says. “Initially, we thought most of it could be saved, that we’d just lose some of the

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structure at one end. But that thought didn't last long."

An orange glow lit the southern sky in Norfolk. You could almost read by it in Elizabeth City. The flames were efficient. By morning, only four towering, concrete pillars at the air dock's corners remained standing. And they still stand today, rising 130 feet over the concrete pad that was the hangar's floor. Walk from one end of that pad to the other, and you've covered

nearly a quarter-mile.


The story, however, has a happy ending, for the steel hangar not only survived, it returned to its intended use: A year after the fire, IXL moved out, and TCOM came in. The drop ceiling was removed. Blimps again floated beneath the soaring trusses.

And in the 15 years since, the airship has enjoyed a remarkable comeback. Today, Weeksville's Hangar

1 encloses a squadron of new craft: aerostats designed to float over distant battlefields, cameras slung from their bellies, tethered to the ground by braids of fiber-optic cables and 10,000-foot extension cords. Their polyester-laminate skins are lighter than the rubberized cotton of old and impervious to attacks: A bullet doesn't bother a balloon in which the internal pressure is only two ounces per square inch. "It's not going to pop," Chalker says. "You're just going to have a couple little holes and a slow leak."

Some of TCOM's aerostats are small; a model used for base security in Afghanistan is 72 feet long. Others compare to the old Navy ships. A 243-foot aerostat that can lift four tons of payload to 10,000 feet lies deflated on the hangar floor.

Floating nearby, the biggest blimp TCOM has built to date, a 351-foot whale that's used as a manned vehicle, bound for duty in the Middle East as an eye in the sky.

Its tail fins and gondolas aren't yet attached. But those are coming — as is the day when it will slide out of Weeksville's steel hangar and lift slowly into the clouds from the Pasquotank's edge. 

Earl Swift is the author of four books, including 2011's The Big Roads. He lives in Norfolk, Virginia, with his daughter, Saylor, and is engaged to Mayodan native Amy Walton.