K9YA Telegraph

Robert F. Heytow Memorial Radio Club

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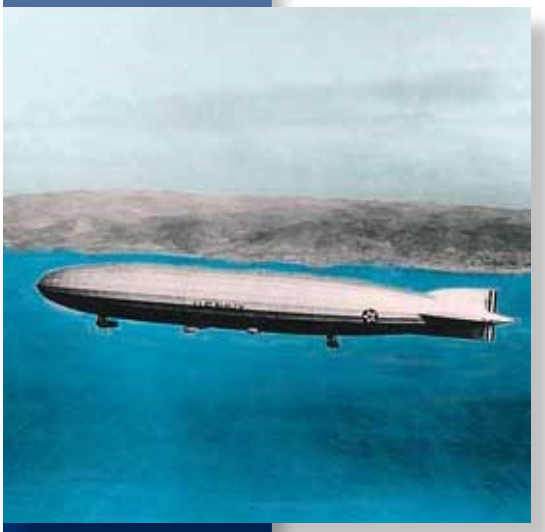

USS Shenandoah

Airship ZR-1 Speaks to Hams

Philip Cala-Lazar, K9PL

After World War I airships were predicted to be the next big thing. And they were big; just look at the U.S. Navy's *USS Shenandoah* (originally airship *No.1* and later *ZR-1*), at 680 feet it was more than two football fields in length. During this period German airships boasting luxurious, lightweight and ingenious accommodations were crossing the Atlantic carrying well-heeled passengers, and lighter-than-air craft were popular with arctic explorers. (See: *K9YA Telegraph*, "Disaster in the High Arctic," October 2007.)

The *Shenandoah* followed the design, modified to meet U.S. Navy specifications, of the captured German airship *L-49*. On October 20, 1917 the *L-49* was forced down intact in Bourbonne-les-Bains, France whereupon detailed drawings and notes of her construction were made. The *Shenandoah*, the first dirigible (rigid airship) built in the United States, and the first to be inflated with helium, was constructed from parts fabricated at the Naval Aircraft Factory in Philadelphia. The components were then transported to the Naval Air Station at Lakehurst, N.J. where final construction took place.

Construction began following the approval of the Secretary of the Navy on August 19, 1919, completed in September 1923 and christened *USS Shenandoah* ("Daughter of the Stars") on October 10, 1923 by Mrs. Edwin Denby, wife of the Secretary of the Navy, "as a combatant ship of the United States Navy."

According to navy documents, the *Shenandoah* as originally built: volume of gas cells, 2,115,174 cu. ft.; length, 680 ft., 2 in.; diameter, 78 ft., 9 in.; height, 93 ft., 2 in.; engines, six Packard, 357 hp; top speed, 51 mph. Despite those impressive dimensions the *Shenandoah* was far from the biggest dirigible, e.g., the *Hindenburg* (*LZ-129*) was 800 ft. long and 130 ft. in diameter.

The *Shenandoah* and her progeny were expected to extend the navy's reach into the Pacific and perform as the vessel of choice for polar explorations. However, a number of factors and mishaps conspired to short-circuit this nascent "empire of the air."

"empire of the air"

Chicago Daily Tribune, December 28, 1923:

MOFFETT, IN CITY, TELLS HIS HOPES FOR POLE FLIGHT

Safety Measures, Radio Will Mark Voyage

On December 3, President Coolidge approved plans for *Shenandoah* to fly over the North Pole in 1924. Later that month, Rear Admiral A. William Moffett offered some details of the trip planned for that summer. He believed the newly devised mooring masts carried on board the airship and its complement of up to date radio gear would help assure a safe and

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Inside This Issue...

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Dayton Hamvention 2008

Steve Wolfcale, N9WAT

Chuck, NIØC, and John, AAØBP

It was on Interstate 65 South near Merrillville, Indiana before I spotted my first Bug Catcher. In years past I first saw vehicles with prominent antennas at the start of my trip on Interstate 294 outside Chicago and wondered if this meant another year with reduced attendance at Dayton.

This year I was exceptionally well prepared for the trip with current Illinois, Indiana and Ohio road maps in addition to my GPS unit. I find maps are still necessary with a GPS and this was proven when traffic on I-65 abruptly came to a stop north of Indianapolis. Because I had a map at hand already folded to my area I was able to quickly determine the next exit provided an excellent detour around the I-65 / I-465 area and made a graceful exit. It's hard to read ahead on a GPS unit, whereas a quick glance at a road map gives you the big picture you sometimes need.

"…an enjoyable hour sipping wine…"

The ham I was chatting with on 2-meters simplex reported traffic was at a dead stop as I lost contact with him. Joining I-465 east, I was not able to reach him so I assumed the delay was substantial.

Other than the avoided delay at Indianapolis there were no problems and I made excellent time arriving at the Hara Center approximately 15:30 local time. Since I didn't receive my tickets or the flea market spaces I applied for in March, I went to the flea market office Thursday afternoon to get things straightened out before the Friday morning opening. Pulling up to the repurposed golf course office I saw this would not be a quick fix. There were approximately 50 people in line outside and an untold number crowded into the building. Soon after arriving in line another 20 people lined up behind me and, after one hour, I had only moved about 10 feet ahead. I busied myself chatting with the other hams and managed to learn quite a lot about digital TV from the engineering manager of a chain of TV stations.

Overall, everyone took the wait in good humor although a few pleaded with volunteers to fix their problems without waiting in line. After the second hour I moved up approximately twice the distance progressed in the first hour and, like the turtle in the Comcast commercials, I commented on the dizzying rate of acceleration. Most of the people in line, like me, had sent in their applications early and many had copies of canceled checks and credit card charges. To be fair, there were a few individuals who self-inflicted by incorrectly completing the application or not making advance application.

The explanation for the long wait circulating through the line was that there was only one computer able to print flea market tickets and it was an ancient DOS database application. Just as I edged my way into the building it started to rain adding to the unpleasantness for those still outside. As I neared the officials behind the counter one volunteer was having everyone fill out a new application while another seemed to be able to find the applications in a series of bankers' boxes. As I got close to the single computer printing flea market parking passes, things started to move much faster. I think the

QRP ARCI Event

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sudden efficiency was due to a new shift of volunteers coming on duty. When the computer operator keyed in my name, the data came up, so they had received my application and placed it in the database. As I walked out just short of three hours after arriving I wondered why there were so many applications received but inexplicably not processed.

The Garmin lady did a good job navigating me from the Hara Center to the Holiday Inn and after settling in the room I went downstairs to check out the QRP ARCI event. As in previous years, a large banquet room was set up for showing various homebuilt QRP projects and vendor displays. After taking advantage of the cash bar I spent an enjoyable hour sipping wine and casually checking out the displays. As always, the level of engineering prowess and craftsmanship in the homebuilt rigs was exemplary. The QRP ARCI group was running a sort of contest using computer software called RUFz. The display included pictures of a few YL's from Europe who had scored an incredible 150-, or so, WPM. After a little kidding I sat down and gave it a try. I didn't really understand what the goal was at first, I was expecting some kind of contest exchange, but it only was sending call signs you needed to type into a laptop. I ended my turn with an embarrassing 25-WPM score, which I blame on the wine.

My colleagues, Chuck, NIØC, and John, AAØBP, didn't arrive until 02:00 Friday after a long detour caused by the Indiana State Police completely closing Interstate I-70 eastbound near Indianapolis. Of course that didn't stop me from getting them up at 05:00 so we could get to the flea market and setup within the prescribed time slot. Arriving at the flea market we discovered another issue. While many others and I requested and received the same spaces as last year, they renumbered the spaces in a different fashion. Therefore people requesting multiple spaces they had last year now ended up with odd layouts that didn't meet their needs.

"First Axiom of Boatanchor Sales"

Low Profile Mobile

This year we had mostly boat anchor rigs to sell. The one modern rig was sold before it was even unloaded from the car. The boat anchor market is tough these days and as we sat and watched the various attendees walk by our table, Chuck, NIØC, made a comment that I later designated the "First Axiom of Boat Anchor Sales": "If they know what it is they are too old to pick it up and carry it away." Following the usual pattern 85% of the items were sold Friday and the remaining items were sold Saturday, some practically given away (which of course is better than driving home with them). Given the lack of activity in the flea market Saturday, we ruled out coming back Sunday.

Inside Hara Arena

Walking around the indoor booths I really didn't see much new or different from last year. Overall, my very unscientific estimate is that attendance both inside and outside seemed about the same as last year. Although I hear and read all kinds of Hamvention attendance statistics, I haven't found any first-hand source of attendance figures. Some people estimate attendance based on the highest serial number ticket they see on the door prize drawings. Of the three tickets I purchased, two were sequential and the third serial number was several thousand ahead of the others so I don't know how accurate that method is.

Saturday night the QRP ARCI dinner was enjoyable with impressive door prizes, awards and good food. FDIM continues to be a classy, well-run event and as I congratulated the FDIM committee chairman I wondered aloud why Hamvention couldn't be organized and managed as well as the FDIM. The drive home Sunday was nice, the three of us stopping at my brother's house near Indianapolis for grilled chicken and corn on the cob. In spite of its flaws, Hamvention is still a nice event with plenty to do and see for any amateur radio enthusiast. ■

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Life Was Different Then...

Ernie Rader, W5NH

I guess I'd be classified a "baby boomer." I was born during WWII and grew up during the 40s and 50s. I built my first computer when I was eight years old. The input device was the rotary dial from a telephone instrument of the time, and the output device was two rows of flashlight bulbs. This computer would multiply two single integers only, was built from a design in *Popular Mechanics* on the lumber from an old picking box on the farm and had four metal tubes. If I'd only known!!

FCC Examiners

I passed both my Novice and General exams at 13 when FCC examiners on Battery Street in San Francisco administered the General exam. They couldn't have cared less if you passed or failed, and I recall one of the examiners asking me what would happen if "that resistor changed value" on one of the schematics I drew from memory.

I homebrewed my first crystal-controlled transmitter; many parts came from old TV sets, and my receiver was a Heathkit AR-2 I built before I became a teenager. How I coveted my friend's BC-348.

My radio shack was out in the barn, and my first contact was on CW to a new ham just 30 miles away. There just isn't any way to describe the feeling one gets after working so hard to get licensed and building the radios that magically "talked" to someone so far away. I still have the QSL card, sent with a two-cent stamp, from my first QSO on 80-meter CW in 1956. The penned ink on the card has long since faded away, and the only evidence of that contact is the indentation made by the ballpoint pen when that QSL was filled in.

A Proud History

I'm sorry to say that nothing exists in our hobby that can give a new Technician that same thrill, pride and sense of accomplishment. It's not that some of the same things can't be done, but they're so far overshadowed by technological accomplishments that have taken place since then that a CW contact 30 miles away would be considered mundane. No one today has to work as hard as some of us did to become licensed ham radio operators, and with the advent of cellular telephones, computers, and the Internet, what incentive is there? I'm sorry to say we've become a society that's used to instant gratification, and if one has to really work for something, there's no incentive to do so when other things come so easily. Unfortunately, little value is attached to those things that are attained quickly and easily, and interest in them is quickly lost as a result.

"radios that magically 'talked'"

I really feel sorry for the new hams being licensed today because there is no way they can ever experience what I did when I was young. Yes, our numbers will grow temporarily, but after the initial influx of new hams has had a chance to experience how easy it is to "get on the air," interest will wane because there was no real personal investment in getting there.

I hope I'm wrong here; I really do, because it doesn't bode well for our hobby. The service I've loved for so many years will die if something else isn't available to top what's so easily available now. In some ways it's too bad we can't reinvent that sense of excitement, respect and value so long missing in our society. Then that new ham would have those treasured memories of things accomplished in our hobby, and would be able to look back on 50 years of work, accomplishment and fun instead of just being presented with things that have little value because the investment in getting them didn't exist at the time. ■

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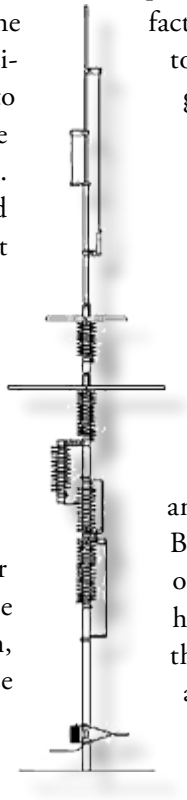
The Butternut Vertical YAHOO Group

K9YA Telegraph

Scott Evans, N4ZOU

In the summer of 1998 I was helping a fellow ham install a HF6V Butternut antenna. In the process of helping I found he had used a capacitor and motor drive across the 80-meter coil to enable remote tuning of the antenna across the entire 80- and 40-meter bands with low SWRs. I was astounded how simple this was to do and so impressed that upon finding a used HF2V at a hamfest I simply had to purchase it. Getting the antenna home and proceeding to install it, I discovered it had a couple of problems caused by age and weathering.



At that time I did not have Internet access. So, I set out alone to learn the basics of the antenna's operation. Simply put, the antenna will not tolerate poor or loose connections. After several years with the HF2V and the purchase of an HF6V in very weatherworn condition, I had gathered enough personal experience that once on the Internet I could help others with their Butternut antennas via amateur radio forums. After a couple of years of the occasional post explaining how to fix or install a Butternut antenna I was asked to put up a Yahoo Group dedicated to helping people with their Butternut antennas. This sounded like a good idea, so on March 15, 2005 I created the Butternut- antennas Yahoo group.

It has grown far larger and popular than I ever expected! Current membership totals 563 from all points of the world. Bencher, the current manufacturer of Butternut antennas, refers customers to the group for installation examples. Our group is in no way affiliated with, or controlled by, Bencher other than as users of their antenna products.

Over the years the group has found ways to modify the antennas to do things they were never designed to do, like 60-meter operation, or adding PVC pipe shields to the coils to protect them from damage. We have many very knowledgeable amateurs ready, willing, and able to answer questions and suggest fixes for your Butternut antenna. We even have people with other types of vertical antennas looking for help and we are more than happy to help them as well. So, if you have a Butternut antenna or are thinking of purchasing one, you'll be very welcome at the Butternut-antennas Yahoo group. ■

http://groups.yahoo.com/group/Butternut-antennas/

Call for Articles

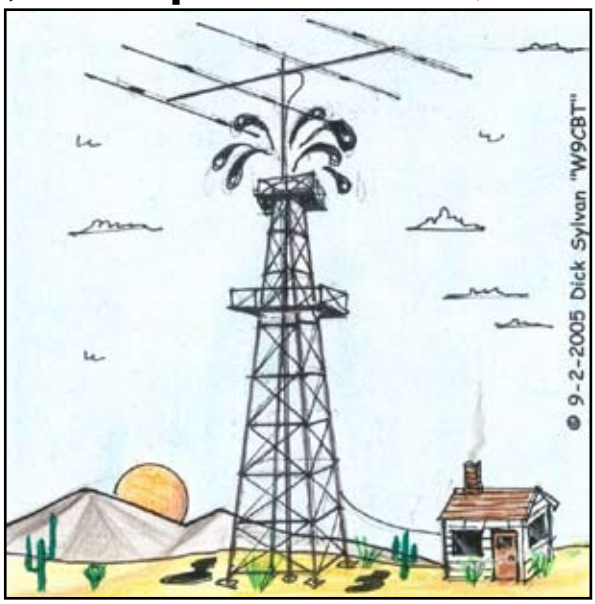
Have a story to share? An experience to relate? Some gear to review? A technical tip to dispense? Feeling didactic or pedantic? Write it up, add a couple of appropriate photographs and send them off to the *K9YA Telegraph*. Hams worldwide will thank you, and so will we.

Here's the place to start:

http://www.k9ya.org/write_for_us.htm

Ham Quips

DICK SYLVAN, W9CBT



EXPENSIVE ANTENNA LOCATION

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Lucy in the Sky with Diamonds

A Fishy Business in Old Escanaba

Rod Newkirk, VA3ZBB/W9BRD

When Helen Cloutier became licensed as W9GJX in 1929 she was one of a kind. Later she would be equally at home as a dancer, teacher, author, painter, wife and mother. Three college degrees, too, and the first YL member of the Quarter Century Wireless Association, I knew her best as a crackerjack CW operator on 80-meters, running the Michigan net on 3663 kHz.

In the later 1930s Helen brought ham radio into a promotion involving the city of Escanaba. In the Great Depression towns schemed overtime to boost local business. Lucy Johnson, a hometown Escanaba prodigy and Hollywood starlet, would be en route Michigan's upper peninsula by train from California, stopping at strategic points along the way with as much fanfare as possible. She would change trains in Chicago, a fine opportunity for hoopla.

Book Image courtesy of Ken Carr, KB1AWV

Smelt were running up north as they do every spring, so the folks in Escanaba got them into the act, along with anyone named Johnson. A kid in high school at the time, W9BRD was the Chicago outlet on ARRL's Illinois Section Net when the message from W9GJX came through. My instructions were to telephone as many Johnsons as possible during the next ten days and urge them to meet Lucy at Union station. For their trouble each Johnson would receive a frozen box of smelt.

As luck would have it, my mother and an aunt had office jobs downtown with unlimited telephone privileges. They caught the spirit and pitched in during lunch hours, phoning most of the Johnsons in the city directory, page after page second only to Smiths and Joneses. A spectacular arrival for Lucy was assured. But what if her train were delayed or the boxcar of frozen fish wound up in Rockford or West Dubuque? We didn't relish the thought of being lynched by a bunch of angry Johnsons. But we had Helen's word that all would be well.

When the fateful day arrived there was a great mob of Johnsons on hand at the station. Newspapers reported the event in detail. Lucy's entourage was overwhelmed by shouting well-wishers bearing boxes of fish. In Depression Days nobody quibbled about the source of sustenance. That was probably the first and last time most of those Johnsons enjoyed delicious smelt. Myself, I had some misgivings about hamming for a meal. A couple of boxes were eventually delivered to my door, a well deserved gratuity for my hardworking mother and aunt.

One thing we hadn't given much thought to. The Chicago telephone directory was colorblind. About half the Johnsons whooping it up for Lucy, a blonde Scandinavian, were African-Americans. Anyway, mission accomplished. An 80-meter traffic hound to the end, Helen joined Silent Keys as W8GJX in the mid '90s. I wonder whatever became of Lucy. ■

QSL card image courtesy of Bob Green, www.w8jyz.com

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successful flight. He said, *No radio has ever been used with much success on airships, but we believe we will have radio* [sic] *that will keep us in constant touch with headquarters. We will know weather conditions at all times. We will know whether to turn back or go on. We will know whether or not our ship will be safe.*

Alas, such was not to pass; on January 16, 1924 a 70-knot gale ripped the *Shenandoah* from her mooring mast at Lakehurst. She incurred severe damage to her outer cover, nose cap and lesser damage to her vertical fin—the polar flight was cancelled.

Chicago Daily Tribune, June 15, 1924:

LOW WAVE SET DESIGNED FOR SHENANDOAH

Find 100 Meters Best for Daytime Work.

With the "cooperation of amateurs in more than forty states, NKF, in Bellevue, D.C., has obtained excellent results in two-way communications on 100 meters, in radio telegraphy and also in radio phone transmission tests." (NKF, station of the Naval Research Laboratory.) Based on the positive results of these tests engineers at the Naval Research Laboratory designed a new short wave transmitter for the *Shenandoah*. The transmitter was powered by a 24-volt storage battery with plate voltage supplied by a 750-volt motor generator; it will "go as low as eighty meters with a steady wave" although its primary frequency of operation is 100 meters. "It will give the Shenandoah a greater range in daylight because the short waves are not affected as much as longer waves by the sun."

This transmitter will act as auxiliary to the primary, high-power transmitter, described as the "most powerful transmitter ever installed in an airship." In addition, *Shenandoah's* operators can "receive anything between 135 meter [sic] and 25,000 meters."

Chicago Daily Tribune, June 22, 1924:

"HERE AND THERE"

A column of radio-related news items from around the world.

Rochester, N.Y., June 21: *That radio message* [sic] *can come from a point high up in the air as well as "through it" was shown here recently when the radio operator on the navy's big airship Shenandoah gossiped for a while with radio amateurs below.*

The *Shenandoah's* operator's message, in code, read: "To the Rochester amateurs. You are the first bunch that have woke up today. Best regards."

The column continues that this was "not a casual greeting, attempted as a pastime for the Shenandoah's crew, but part of a systematic program for testing out the possibilities of short wave amateur communication." The airship carried short wave gear, installed with the cooperation of the ARRL, specifically to communicate with amateurs in case of emergency. Radio gear aboard *Shenandoah* was regarded as the "most complete ever installed on an aircraft" and had the potential to cover "practically all wave lengths from 100 meters to the long waves used by commercial stations."

Chicago Daily Tribune, November 16, 1924:

Extract from a series of letters to the radio editor concerning the source of some recent and particularly severe interference to the area's broadcast station listeners.

TRACES ONE ANNOYANCE: Beloit, Wis. Nov. 2—*On Friday night, a week ago, I picked up the U.S.S. Shenandoah on her flight over Kentucky or Tennessee, very close to KYW's wave center, when KYW was radiocasting, with no difficulty.* (KYW, a Westinghouse station, located in Chicago and transmitting on 360 meters.)

Chicago Daily Tribune, February 22, 1925:

NAVY TO TEST AMATEUR RADIO ON MANEUVERS

Will Take A.R.R.L. Man to Pacific

Operation of the short wave gear aboard the *Shenandoah* during its transcontinental flight (October 7-25, 1924) proved so positive that the navy decided to run additional tests: *The tremendous range covered by amateur transmitters with their one kilowatt of power has so impressed the navy department that a thorough study of their operations under all kinds of atmospheric conditions appeared to be worth while.*

To that end, F.H. Schnell, 1MO, the League's traffic manager, on active duty, will accompany the U.S. Navy's "Southern Cruise" of the Pacific fleet to Australia and New Zealand with the rank of lieutenant. He is assigned to install and operate a "short wave low power outfit," assigned the callsign NRRI, to communicate with "amateur members of the A.R.R.L. in the United States and foreign countries." The object being to see how well this one kilowatt low power outfit compares with "regulation navy sets" running as much as thirty kilowatts.

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Chicago Daily Tribune, July 26, 1925:

SHENANDOAH TO BE HEARD 9,000 MILES DISTANT

The transmitter is said to be by far the most powerful that has ever been carried into the air by any nation and is expected to be heard from 3,000 to 9,000 miles. Onboard a battleship the unit would have weighed "several tons," the *Shenandoah's* was " . . .kept down to about sixteen hundred pounds."

Shenandoah's high-frequency receiver, the first installed in the fleet, was designated RG. The RG was based on a design by M.P. Hanson and refined and built by the navy's "receiver group." It was installed aboard the *Shenandoah* in time for her 1924 cruise from Lakehurst, N.J. to the west coast and back.

The airship's antenna (origin of the "zepp"): "…used for the main transmitter consists of nearly 2,000 feet of wire let out from a reel to a point several hundred feet below the ship, this reeling out being accomplished by means of weights on pulleys." Contrast that to the airship *Italia's* (in article cited above) antenna for "600-900 meters" comprised of "100 meters of bronze wire wound in a drum-shaped configuration."

Chicago Daily Tribune, August 16, 1925:

AMATEURS CAN GET SHENANDOAH DURING FLIGHT

"Inasmuch as the Shenandoah's new set is expected to be heard from 8,000 to 9,000 miles, there is every indication that it may be picked up by amateurs all over the United States and Canada."

Disaster

September 3, 1925:

Proceeding on a tour of the American Midwest, and headed for Columbus, Ohio, the *Shenandoah* encountered a severe storm over Ava, Ohio. Her airframe already weakened by previous accidents, she broke in two with the control car falling to earth and the forward section shooting up to "great height and remained in the air for the greater part of an hour, before making a free balloon landing at Sharon, Ohio." Twenty-nine of her crew survived the disaster, but 14 crewmen, including her commanding officer, Lt.Cmdr. Zachary Lansdowne, radio officers CPO George Conrad Schnitzer and WO Raymond Cole, and AMM1C James Albert Moore, who maintained the radio's motor generator, perished.

Afterword

Chicago Daily Tribune, January 10, 1926:

NAVY RUSHES TO DEFENSE OF RADIO SERVICE

Stung by criticism of several recent naval disasters, and responding specifically to "Prof. J.H. Morecroft, the well known electrical expert," for his article, "What is the Matter with the Naval Radio Service?" the navy responded: *Radio personnel in the Shenandoah did not survive her loss, but she was in perfect communication with the Navy department up to within one hour of her loss, at which time she voluntarily shifted to work other stations after receipt of the latest weather report issued.*

Despite the many firsts and accomplishments of her heir, the *USS Los Angeles* (*ZR-3*), the future of rigid airships in the U.S. Navy came to a dead-end. It was left to the leviathans' smaller, non-rigid cousin, the blimp, whose navy career (especially convoy escort and anti-submarine warfare patrols during WWII) was far more successful and lengthy. ■

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