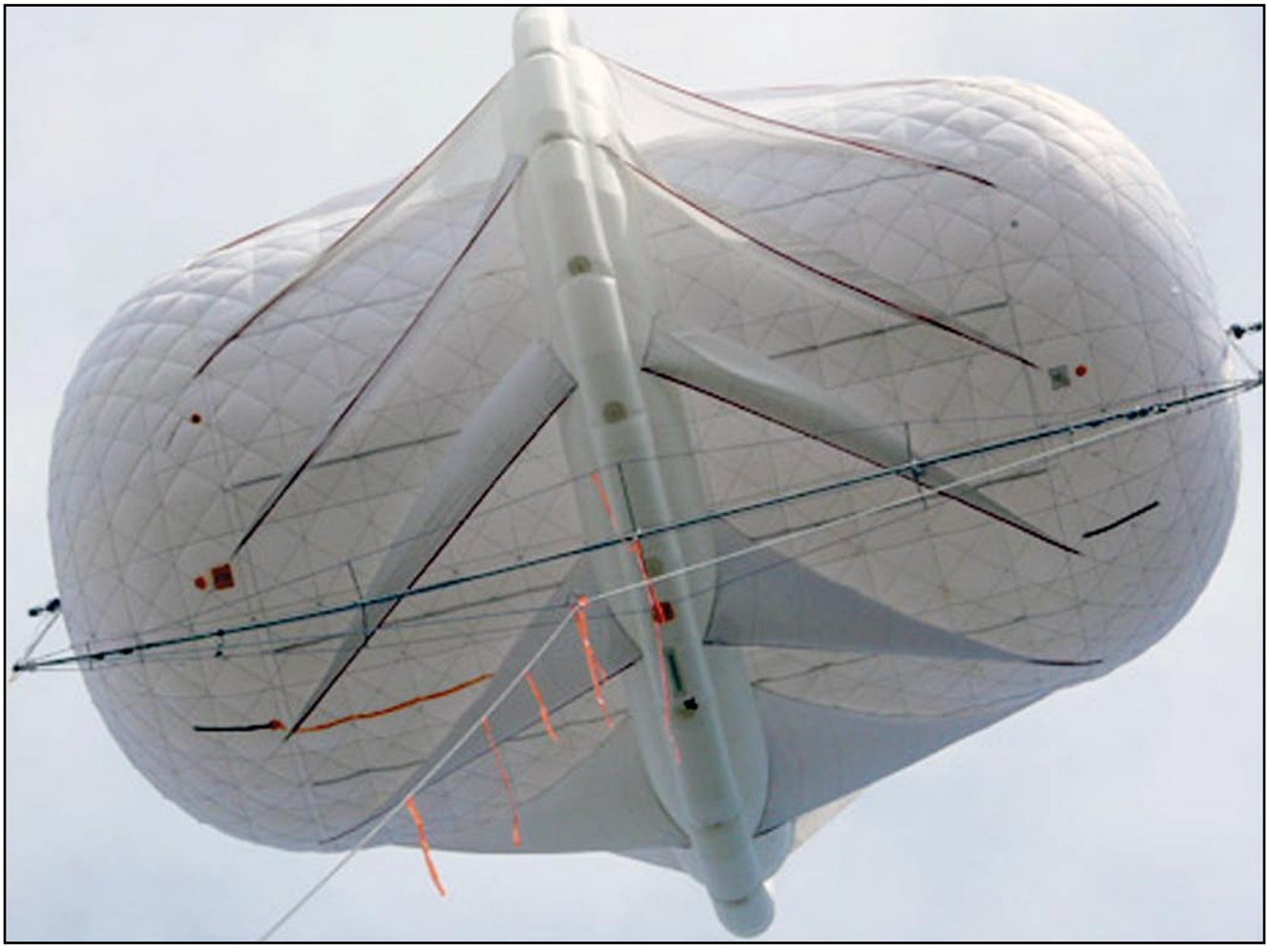
THE NOON BALLOON

The Official Newsletter of THE NAVAL AIRSHIP ASSOCIATION, INC.

No. 80 Winter 2008

Zeppelin NT-7 04 Arrives at Moffett Field

Above: A170, SN06 approching ‘Mountain Pass’ in California, heading for Nevada. Ship is at pressure height at 4300 feet, and the pass is at 4200 feet along the I15 freeway. About a 25 know tail wind. Pilot Terry Dillard at the controls. Photo courtesy Paul Adams. Below: MAGENN prototype (See page 16).



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Official Publication of the Naval Airship Association, Inc.

ISSUE # 80 WINTER 2008

On the Cover of TNB #80: Christian Michel took our cover photo of the Airship Ventures Zeppelin NT-7 004 as it arrives at Moffett Field on October 25, 2008. The photo below is also courtesy of Christian Michel ©2008.

Back Cover: Just in time for these key events, the Williams Brothers Sparrowhawk kit has been re-issued and an NAA brochure is packed in every one. They were so kind as to let us use their beautiful artwork. Painting printed courtesy of artist Robert Katt.

All material contained in this newsletter represents the views of its authors and does not necessarily represent the official position of the Naval Airship Association, Inc., nor its officers or members.

Above: Filming "This Man's Navy" at NAS Moffett Field, California, 1944.

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EDITORIAL

R. G. Van Treuren, rgvant@juno.com
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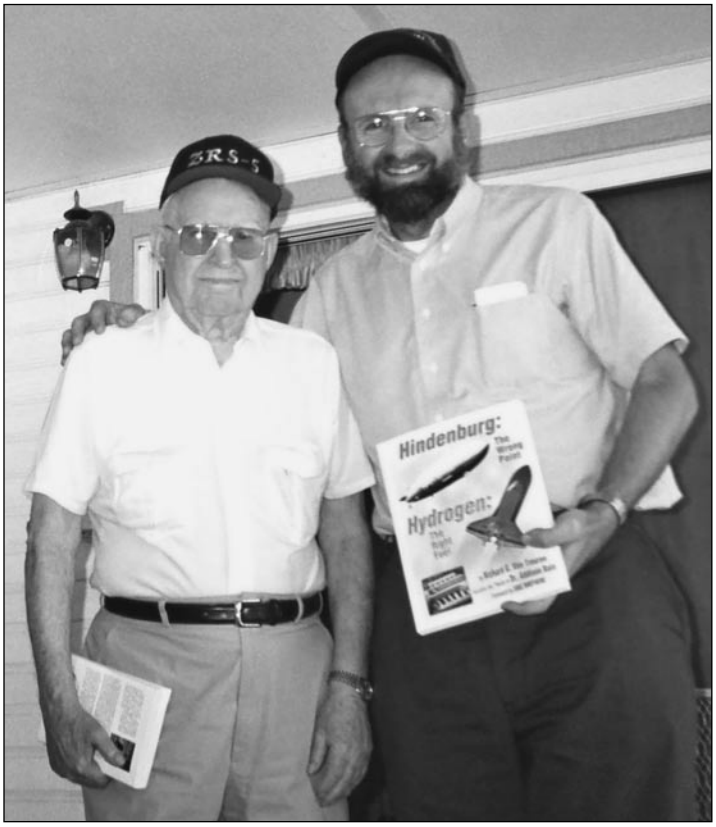
As a skinny seaman recruit arriving at NAATC Memphis after 1969 bootcamp, I visited the base library often. Drawn to a four-year-old book by Dr. Richard K. Smith, "The Airships *Akron* and *Macon*, Flying Aircraft Carriers of the US Navy," I wondered if there were any motion pictures of these incredible machines. Ten years later CAPT Eppes held the first Pensacola gathering of what became NAA. I saw a short film being shown there by RADM Leroy Simpler, hook-on pilot. Following an evening of listening to him, I decided I'd have to make a film about the ZRS program myself. After another ten years passed all the *Macon's* hook-on men were gone save one. Another half-decade whizzed by and *all* the *Macon* men were gone save one. Lucky for me my job allowed me to visit **William Clarke** and his wife Mary at their home in Hemet, California, on three occasions toward the beginning of this century.



Listening to the last man who checked helium purity on *Macon* - who helped launch and recover the hook-on planes with a boat-hook on their wing grips - and who was at the rudder wheel when it carried away the last night of a Navy rigid airship - was a priceless experience. He remembered the colors of the *Macon's* burning fabric just before she (and the Navy rigid airship program) sank, but he could not compare it to the *Hindenburg's* fabric fire colors as he only arrived to stand guard on the wreck on May 7th, 1937. And that's not to overshadow his WWII achievements: he was on the first K-ship to arrive at Tillamook; took a commission, etc. retiring as a LCDR postwar. Neither William or Mary ever objected to my calling every time a question popped into my head. It was a thrill to hear him say he thought we did a good job on our video - and he even read the novel we hope to turn into a movie someday, saying he got a kick out it.

Losing the last man to walk the keel or turn the wheel of a Navy rigid airship is truly the end of an era. Oh, that he could have lived to 100 so he could have witnessed the return of a metal structure-equipped airship to Moffett Field!

I am relieved to report I have finally finished my ten-plus-year study of *Airship vs. Submarine* - and have managed to squeeze all of it into a standard binding. (Dave and I will be sending out a mailing announcing the book along with his expected 2009 LTA calendar.) While I know some members insist no blimp did or perhaps even *could* hurt a submarine, my research into long forgotten, never translated and more recently declassified documents shows a different story. In the face of indifference and even hostility, I have devoted all the resources I could spare to this tar-baby project. Love it or hate it, I hope you'll give it a chance, and as always, I appreciate your support.

Speaking of support, when one of our contributors does a good job, let him know. Take for example, **Herman Van Dyk**, who issue after issue researches obscure sources not just to reveal long forgotten LTA experience, but with his fine drawings give those stories life. **Al Robbins** has been working for months with Slate family decedents to try and unravel that mystery wrapped in an enigma, and he may be ready for our next issue. When our writers do a good job, drop Herman and any other of our contributors a note and or e-mail and let them know they're doing a good job.

Otherwise this quarter was the usual roller coaster of LTA – the US Navy issues a RFI for a new airship effort (!), rumors Roger Munk & Co. are about to embarrass stalled Lockheed's P-791 project with a British hybrid. More paid professional TV folks taking our help and hopefully getting it right, stone silence from companies we'd like to hear from. Your editor continues to be disappointed that so few members seem interested. Let us hear from you, and we'll see you at the Reunion! Ω

- R. G. Van Treuren

View From The Top: PRESIDENT'S MESSAGE

Ross Wood atop his ZPG-2W at Lakehurst 1959.

The good news is that our reunion plans are well under way and under the control of **Joe Hajcak** and **Mort Eckhouse**. *[See last page]* Past President **George Allen** has agreed to again be the masterful Master of Ceremony. Below you will find the listing of the Nominating Committee for election of officers during our next general meeting. Committee Members have been chosen for their expertise and familiarity with many of our members. They have been geographically selected in order to give representation to a large portion of our country.

I am hopeful their search can broaden the base for selection of nominees. We have many members who have left the service; established successful businesses; proven their leadership and organizational capabilities; and have demonstrated an interest in the Naval Airship Association by their interest and support. But their personal biographical background is generally unknown. It is important to note that being a former member of the service is NOT a criteria for selection. Most important is the support of the principles of NAA as printed in our By-Laws.

Due to the wide geographical disbursement of our members and the absolute necessity of close and continuing communication - it is important that all Officers and Executive Committee Members be computer friendly.

The broad base of potential candidates and nominees is absolutely essential for the continuation of our organization. It will be a slow and tedious process. I plan to begin by compiling a list of members who have demonstrated their interest and support through attendance at our reunions; submission of articles, and other contributions. When compiled, future Nominating Committees will have a better basis for their search for candidates. Your personal comments and suggestions are welcome. For the upcoming election of officers at our next general membership meeting.

The following members have accepted appointment to the Nomination Committee. Following their acceptance, I am pleased to announce the appointment of the following members in good standing to the Nominating Committee for Election of Officers:

Walter D. Ashe, Chairman (TN)
John A. Fahey (VA)
Margaret M. Hinrichsen (AZ)
Edmund B. "Jerry" Kasner ((AR)
John W. "Jack" Vaughn (FL).

Each have actively participated in a variety of positions with the NAA for many years. Their diverse geographic locations provide a broad representation for our membership.

Please be aware the former NATIONAL MUSEUM OF NAVAL AVIATION (NMNA) is now to be called:

NATIONAL NAVAL
AVIATION MUSEUM (NNAM) Ω

- Herm Spahr

THE NOON BALLOON
Newsletter of the NAA
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(This is the "New Team's" 10th Issue! Enjoy!)

TREASURER'S STRONGBOX

It's hard to think about winter when we have to create our column in the middle of September to get it to all you folks. We just sweat it out for Gustav, Hannah, and Ike. We hope the rest of them go to the middle of the Atlantic.

We have had to increase the dues for our international members (outside the Continental United States) to $35 per year. The cost of publishing and first class mail has warranted this increase. Dues for all others will remain $25 per year.

For those who of you who received your membership renewal letter for 2009, please return your dues as soon as possible. This will bring all our information up to date.

Remember, if you have any address, e-mail or phone changes, please let me know as soon as possible. We do get calls from members who are looking for their shipmates and we will be able to help with the correct information.

DONATIONS

- Nancy L. Savage (H) of Fayetteville, PA - $500 in memory of Lloyd F. Savage. (Lloyd passed away on 29 March 08).
- Robert Koeberle - $25.
- Dwane W. Drake, LaJolla CA - $50 - In memory of Hadley K. Burch, a family friend.
- Mrs. Lockett of Wisconsin $50 - In memory of Hadley K. Burch, a family friend.

WELCOME TO OUR NEWEST MEMBERS

- Keneth Klein - Wilmington, DE - USMC Vietnam. Son-in-law of Louis W. Prost.
- Jay Brouillette - Panorama City, CA - close friend of Herman Spahr, NAA President
- Thomas McCann (Larry) - Seymour, IA - Retired USAF (CMSGT) - very interested in airships and their history.
- Donald Kaiser (Don) - San Diego, CA - creating web-page in honor of uncle, Bill Kaiser, who was attached to ZP-14, Weeksville.
- Lynwood F. May (Lyn) - Salinas, CA - Retired LT. USN - ZP-2, NAS Glynco, '57-'59
- Dewey C. Tannahill, Iowa Park, TX - Retired E-7 USN - ZP-1 Weeksville, '55-'56
- Joe Long - Columbia, SC - Curator of Education, So. Carolina Confederate and Military Museum
- Ivan Sampson, Stockport, Cheshire, UK
- Ethel S. Nepveux, Charleston, SC

DIRECTORY/ROSTER CORRECTIONS

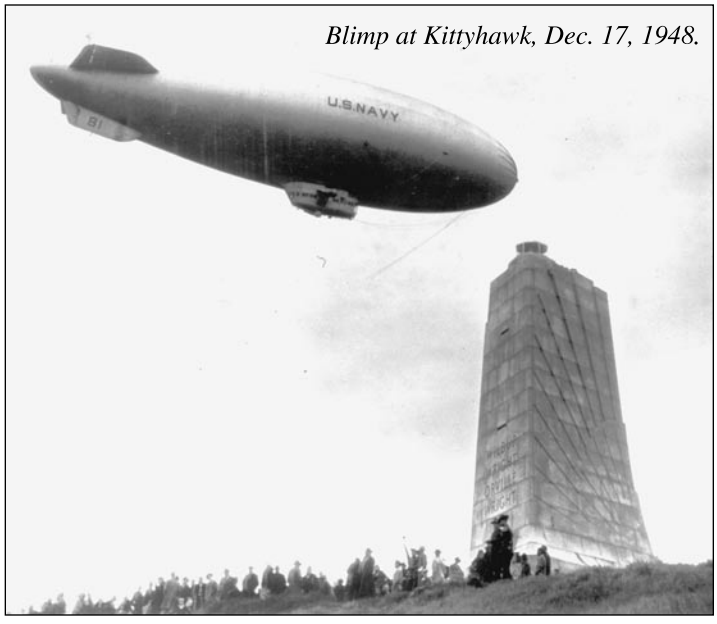
- Edna Weigand - New Address - Crestwood 3 #9-A, Quaker Lane, Whiting, NJ 08759 Phone - 973-373-0369
- Kenneth Wilcox - Correct E-mail: wilcoxka@verizon.net
- William Harkins - Correct E-mail: ghmwh@msn.com
- Robert Keiser - Correct E-mail: bobkeiser@ieee.org
- George W. Allen - *(Small Stores Contact)* New address: 1182 Wild Ginger Lane W., Orange Park, FL 32003-3227. Phone: 904-264-2903 E-Mail georgewallen@bellsouth.net

Ω

PIGEON COTE

Bill Wissel e-mailed, "Hello from the left bank. Just a quick note and a bit of a plea for help, mostly information. The battle to save hangar one at former NAS Moffett is about to come to a head. The Navy BRAC people released the new EE/CA, you guys probably already know about this. But in summary, the Navy plans to remove the outer skin which contains the PCB contamination. (PCBs seem to be everybody's greatest concerns) Then coat the internal frame with some sort of paint or sealant. At that point, the Navy feels that they have fulfilled their obligations. Some of the buildings inside the hangar are to be demolished and removed, but basically, they will leave the box girder framework standing.

A local architect has proposed to cover the frame with a material similar to the Cargo-Lifter hangar that we saw. However, the "Save Hangar One Committee" intends to press the Navy to complete the restoration. I think we will win or lose at this next public hearing depending on how many people we can get to attend. At the last public hearing, we were in a room of about 200 capacity. We overflowed that room, so the Navy has reserved a larger room, I'm told about 500. I am very concerned that we won't be able to attract a lot of people. We are banging the drum, here. There are a lot of locals who are committed to showing up, we're trying to place ads in major bay area newspapers. I think a lot of "Moffetteers" will be there. But the Navy has "chosen" a date that is close to Labor Day. So we're a bit nervous…



Blimp at Kittyhawk, Dec. 17, 1948.

Hangar One history: I have been told that Hangar One was designed by Karl Arnstein. I did not know that and hadn't heard that. Can any of you confirm? Also, have been told that the same company that worked on the Golden Gate Bridge and the Oakland Bay Bridge (both riveted box girder construction), also worked on Hangar One. Have any of you heard same? If you guys have any sort of historic information like that, or anything that would add to "heritage protection" argument, please let me know.

There is a "Save Hangar One" web site if you guys want to monitor the latest.

p.s. – on a positive LTA note, everybody is excited about NT07 that is coming here. Supposed to arrive by October to participate in "Fleet Week" celebration. Ω


Elizabeth City, NC - Ensign William K. Kaiser with his ZP-14 blimp crew.

Don Kaiser *wrote* ***Pete Brouwer:*** "Recently I have heard through several former ZP-14 blimp pilots that my name was mentioned in the recent Noon Balloon Newsletter. I was wondering if you might be able to send me a copy of this newsletter. If a digital copy is available on the internet please provide me with the link. Otherwise please mail me a copy *[one was mailed and Don joined]*,

I am working on a website about my uncle's (William K. Kaiser) participation in the squadron during WWII. I really enjoyed our conversation and I am glad it was you who responded to my request because now I will be able to join the Noon Balloon as well. I really appreciate you sending me the recent newsletter.

Later he e-mailed,

I am now a member and I spoke on the telephone with Pete, Charlie Bennett in Augusta, GA, Fred Kroll in Cotopaxi, CO, and Andrew Papageorge in Escondido, CA, who all were very helpful and answered many of my questions. I look forward to membership in the NAA and I hope I will have my new ZP-14 website completed soon. If you are interested please see the beginnings of it here:

http://www.warwingsart.com/LTA/zp-14.html Ω

John F. Rice *wrote referencing* ***Dr. Wicker's*** *article in TNB 78,* "What intrigued me about his exploits were his accounts of the ship K-73. The K-73 was important to me as I had considered her to be a sister ship to the K-74, and when I was based at Richmond ZP-21 I had several unusual flights involving the K-73 as a radioman that I would like to share with NAA.

On July 30, 1944, our crew was ordered to fly via HTA/R50 to ZP-12 Lakehurst to ferry ship K-73 to Richmond ZP-21. 1 AUG 44 test hop K-73 LTJG Jim Broedling in command, flight duration 2 hours. 3AUG 44 ferry K-73 to Weeksville, ZP-14, duration 6.1 hrs. 4 AUG 44 ferry K-73 to Glynco, GA duration 10.8 hrs. I cannot explain the length of flight time except possible sight seeing along the coast. We saw a number of merchant ships beached due to U-boat torpedoes. 5 AUG 44 ferry K-73 on final leg to Richmond ZP-21 duration 6.2 hrs. While the K-73 was based a Richmond our crew, LTJG Broedling Command pilot, had several scheduled flights with K-73 as follows: 12 SEP 44 night ASW patrol. Very stormy night, very rough flying, duration 13.2 hours. 22 OCT 44 training flight, 3.3 hrs. 9 NOV 44 Ferry flight K-73 to San Julian Cuba, duration 5.7 hours. on 4 DEC 44 our crew, LT Broedling C.P., was ordered to ferry K-73 from Richmond to Santa Ana, California. The legs and route of the ferry of K-73 were as follows, noting that we had to obtain special permission to fly through Army Air Force restricted areas: 4 DEC 44 Richmond to Houma, LA - 10.1 hrs; 7 DEC 44 Houma to Hitchcock, TX - 6.6 hours; 8 DEC 44 Hitchcock to Abilene, TX 5.8 hrs.; 9 DEC 44 Abilene to El Paso, TX 9.1 hrs.; 10 DEC 44 El Paso to Santa Ana, CA 9.5 hrs. 12 DEC 44 Crew flew commercial airlines (DC-3s) back to Richmond; American LAX to Memphis Eastern Air Lines Memphis to Miami, 20 hrs. On Dec 17, 1944 LTJG Broedling received orders to report to Airship Base Recefi, Brazil. I was a member of LT Broedling's crew and flew continually with him for 15 months. He was a skilled and proficient CP of both K-ships and M-ships.

On 7 JAN 45 our enlisted crew with three new flight officers, were ordered to Chorrea, Panama, with ZP-21 Det 5 for six months temporary duty. We flew K-122, pilot-in-command LTJG Smalzan, Pilots ENS Wall and ENS Dickey. We had one layover stop at Kingston, Jamaca. On April 12-13 1945 while based in Chorrea I was scheduled for the 1900-0700 communications watch. During this watch I received an important communiqué stating that President Franklin D. Roosevelt had died April 12, 1945 at Warm Springs, GA. I notified the OOD of his death. So much for the K-73, and etc. etc."

The Editor wrote John asking his opinions on various points of the K-14 case. He responded, "Sorry, no computer, no typewriter, longhand must do! Thank you for you informative and well-described letter about the K-14 incident. I appreciate your interest in what my comments would be concerning the "ongoing" investigation of the K-14. I do not have all the facts nor the knowledge to reach a conclusion as to the fate of the K-14. I feel you are convinced the K-14 did in fact engage in a battle with a U-boat. However, I do question the events of this tragic accident are the results of the attack by the sub. I have to believe a thorough interrogation of the survivors was conducted (as was the case of the crew of the K-74) even prior to ENS Sharp's transfer.

The Board of Inquiry no doubt had the necessary information to reach their decision. I really have doubt that the K-14 depth charges were manually released inside the car of the ship because of my following theory:

(1) General Quarters (GQ) is the order given when a suspicion of a U-boat is in the area or even sighted. At 2115 conducting a MAD search for a submarine, as ordered, it is apparent the "GQ" alarm was not activated by the command pilot because you stated in your letter ENS McDonnel was at the Radar/MAD station. Oldar AMM2C was at the rudder, and ENS Levine was in the starboard bunk. If K-14 was given the order to search for a U-boat I would think GQ would kick in as standard procedure.

(2) ENS McDonnell, as the command pilot, would order the depth charges armed and released. If a sub was involved he would also order to fire the 50 cal. machine gun. Since he stationed himself at the radar/MAD gear he couldn't have given the order and I very much doubt ENS Sharp on the elevator would give such an order. The interrogation of these officers should have explained why the depth charges were armed and released and why the 50 cal. casings were strewn around the inside of the car. In your letter you do not indicate the results of this interrogation.

(3) My theory is the depth charges were jarred from the rack due to the impact. The detonation of the bombs was caused by sea pressure at depth as was the case of the K-74 charges. The crew member who manned the bomb controls would have confirmed the release during interrogation. He would have admitted he "pulled the trigger."

(Con't next page)

(4) I don't know why the K-14 envelope collapsed so rapidly prior to hitting the water. It's possible prior maintenance patching of the stern caused that section to tear loose. The K-74 envelope was slow to collapse even though numerous high-caliber shells sprayed at the nose, mid-ships and damaged the starboard engine. At least two shells from the U-134 deck gun also made direct hits. In fact the K-74 climbed to a higher altitude before falling stern first into the sea.

(5) I doubt a sub's gun crew would concentrate their fire to one (stern) section of the K-14. Your letter stated the K-14 envelope, after it was retrieved from the ocean, that bullets entered the bag aft of the car and exited at the top amidships. It appears no bullet holes were found in the nose of the ship. When K-74 was attacking the U-134, the nose of the ship was in line with the amidships of the boat and the forward area of the envelope was the prime target.

In your letter you mentioned the crew of the K-74 as escaped the car in fairly good shape and [asked] why Drzewiecki was in a dazed, raving condition - also ENS McDonnell was in a dazed condition. One member of the K-74 crew did lose his composure once he was in the sea. He was terrified of the water and repeatedly cried out "We are all going to die." He was not in a dazed condition but did lose all hope of surviving. He did not make it - sharks got to him.

Your letter stated the survivors of the K-14 never said a word about a U-boat encounter. It was also confirmed by Admiral Doenitz, submarine command, no U-boats on the date of the K-14 incident were in the area. In my opinion the K-74 episode was due to failure of the envelope in the stern or somehow "pilot error." The fact that ENS Sharpe was transferred out of the squadron immediately could indicate information from his interrogation was damaging to the investigation thus the response from CDR Bolam: '...should not blame Ernie Sharp for the crash but would not say more.' There are too many holes in the theory that the K-14 was engaged and shot down by a U-boat. I don't believe it.

Again thanks for taking the time to write to me to bring me up to date about the K-14 incident. I hope my comments are of interest to you. Best regards."
John Rice *[Radioman, K-74]*

Further information on the K-14 case follows.
Former NAA President Lou Prost had penned his article

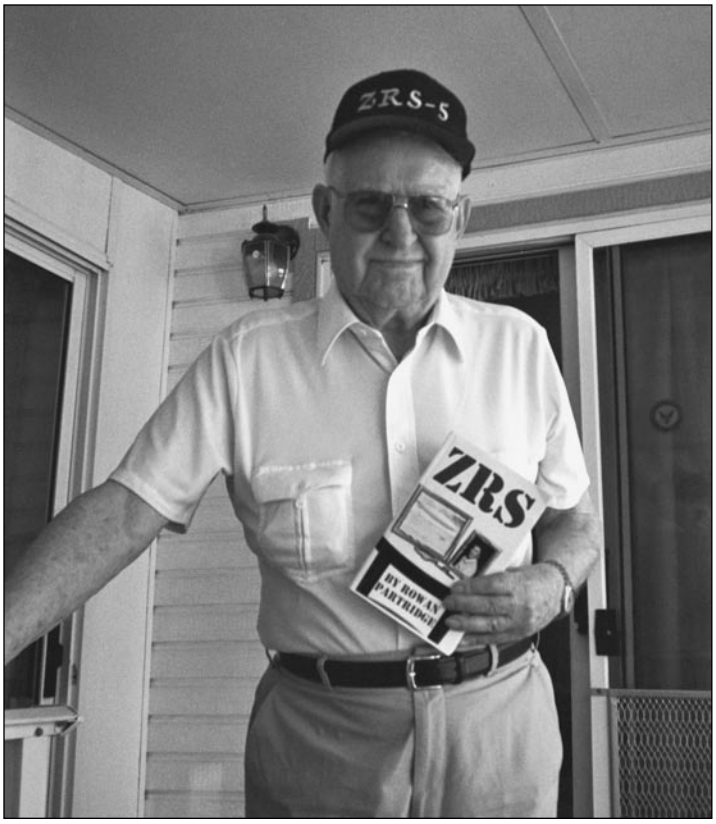
"K-14: Accident or Enemy Action?" for TNB 53. He wrote, "In my estimation the official inquiry was a farce. One of the surviving pilots testified that the ship was trimmed tail heavy, so much so that it required five degrees down elevator to maintain level flight. Experienced LTA pilots know that under such a trim condition, and inadvertant distraction would only lead to a gain in altitude. In fact, under those conditions, the pilot would have to force the ship down."

Earlier, William J. McDonnell, Jr. wrote to then-NAA President Lou Prost defending his late father (who'd passed in 1996) against the charge of "Pilot Error" in the K-14's loss. He wrote about the evidence and testimony discussed (in part): "From all this, I conclude the Navy, in the interest of morale, wanted to keep the incident a secret and my father and the other survivors agreed to this believing that it was in the country's best interest to do so."

The Junior McDonnell, looking through a trunk of his Dad's Navy records and memorabilia, had come across a menu from the Bar Harbor base for 4 July 44, the day after the "crash." It was signed by the K-14 survivors. In addition to their best wishes to the command pilot they obviously did not blame for their shipmate's deaths, ***Mike Livene*** *had written,* "Our first one, buddy!" and AMM 2/C V. D. Colby scribbled, "...you're the first one that *[unreadable]* a Bosch sub."

Elsewhere in the same issue Lou Prost wrote, "Memories of the loss of my shipmates has haunted me all these years. This haunting started with a pilot's meeting called by my Skipper, LCDR Cecil Bolam. He informed us to not feel like Ernie Sharp *[at the elevator wheel]* had let his crew down by flying into the water. He told us the true details would surface. If that is not a hint of enemy action, what is?"

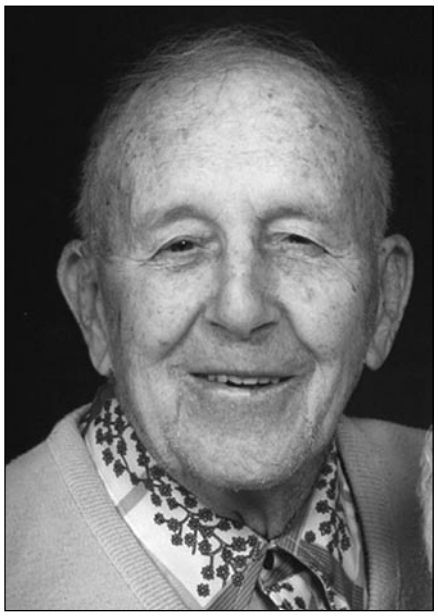
Members who have any information are urged to contact any member of the History Committee. Ω



Rowan Partridge of Australia e-mailed following Clarke's passing: Thanks for that sad advice. The passing of William Clarke *(above)* is truly the end of an era. I never knew that era, and never saw the majestic rigid airships. Yet their allure caught me through pictures and history, and I was taken with a kind of outrage that these amazing creations passed away, which prompted me to write a story about them as if they had continued. All things pass, airships and people, but they do continue in the hearts and minds of those left who take the care to remember. Ω

We could have used this photo of Ben Levitt (green cover, below) last issue, noting his passing. Ω

Rick Zitarosa *wrote,* "VERY SORRY to hear about Jim Hughes. It was a privilege to meet him at the NAA Reunion last year; Dave and I had him out to the hangar to see MZ3A on Labor Day (the day before most of the NAA crowd arrived) and you could tell that he was really enjoying himself. He seemed to be doing so well for 89 years of age. Later that day, when we were cleaning and setting up tables for the NAA Lunch to be held in the old Galley Building Jim worked harder than anybody moving chairs, cleaning tables, etc. He seemed genuinely thrilled to be at the Reunion and we were thrilled to have him, along with so many other delightful people."



Amid the many photos sent in by ***Harry E. 'Hy' Blythe Jr.*** *were stills taken during a visit of "This Man's Navy" star Wallace Berry. While Berry played a CPO in the film, he was actually a LCDR in the reserves, here greeting RADM Rosendahl.* Ω

Your Editor was also deeply saddened by the passing of Simon Beattie, (above) former radioman on the K-47. Back in '92 when first researching our video "The Blimp Goes To War…Again," I'd asked my dear ol' Mom (then 82) to see what she could find about her town, Eureka, being a blimp base in WWII. She located "Sy" running his electrical and photography business in town and he joined NAA immediately. When I visited, Sy dropped everything to show us around – the blimp mooring circles are still there on Samoa, and the barracks are a fly-in Bed 'n Breakfast. Sy helped us correct several inaccuracies in the LTA history and had the photos to back it up. He had taken and saved the only known photos of K-47 in wartime at Eureka. (At a Pensacola Reunion, I got Sy to sit in the radioman's seat, though he freely admitted the ZP3K-47 configuration was unfamiliar to him.) With his photos I was able to make up a K-47 scrapbook for the Museum. Below, CAPT Rassmusen looks at the photos as Sy, the late Mike Szot (glasses) and Jim Earnest (left, just re-upped in NAA), all crewed on K-47 with 'Ace' Culbertson and ***Herb Beidebach****. Sy will be missed!* Ω

Wonder what happened to that guy who was going to pedal across the English Channel? Dr. Giles Champlin clued us in:

A French amateur pilot's attempt to be the first to cross the channel on a pedal-propelled airship has failed. Stephane Rousson, 39, from Nice, took off from Hythe on the Kent coast at about 0800 BST and was half-way to the French coast by 1300. But he was hampered by a change in the wind direction and called off the trip 11 miles from Wissant in France. Mr Rousson said: "I'm not disappointed. I feel happy because it had nothing to do with any technical failure." During the challenge, Mr Rousson was suspended underneath the balloon envelope in a carbon fibre gondola, powering the two propellers with his feet using a bicycle-like contraption.

He had been waiting for more than a week for winds of less than 5mph before he could set off. Speaking from France, Rousson said: "We were about three-quarters of the way across but the wind was flowing in the wrong direction for me to make it across. The venture had been inspired by the Steven Spielberg film **ET**, he said. "Ever since I was a kid I have dreamed of flying," he added. Ω

SHORE ESTABLISHMENTS: LAKEHURST

Navy airship program continues to move toward flight status. There will be a lot of things going on in the next twelve months, not sure how visible/accessible they will be. At this point, it does not appear that there will be much "parade ground" aspect to things, as it probably should be since a lot of official eyes and a lot of "bean counters" will be watching..... as we have discussed, any realistic return of LTA in the military is going to be contingent on doing the job *BETTER* and *CHEAPER* than other platforms and with *SUSTAINED RELIABILITY* otherwise it will not sell. I have done all I can to drive home the loiter/extended range capability demonstrated by World War II and Cold War Navy LTA....people at the 09 and above level seem to appreciate that what was achieved 50 years ago can be attained again and that MZ3A is simply an "air-ship"... most of her basic technology is older than that of the "Nan" ships, but she is a lighter-than-air vehicle that they actually own and this is a start. There are plenty of items on the "wish list." My personal hope is for something around the size of a "5K"/ZS2G-1 650,000 or so cubic feet with vectored thrust, stern propulsion, inverted Y empennage, diesel-electric prime mover...keep it simple and keep whoever designed the car for the YEZ-2A the hell away from the drawing board. It would be a nice platform, it would also have a possible civilian crossover as you could surely carry 30-40 people for tourism/sightseeing applications, just get some "dot. com" or beer company or condom manufacturer to put their logo on it and you're breaking even from the start.

My own participation with the airship has averaged 24-30 hours a week (actually getting paid for working in LTA!) employed by the civilian support contractor, in addition to my "day job." The family is used to me being out early and home late a lot. Still a small staff working at Lakehurst but we have nice office/shop space in Hangar #6, they wanted to condemn and close the Hangar last year but they found some money to keep it usable thru 2009-2010 unless something unforeseen happens.

Rick Zitarosa , NLHS, NAA Ω

MOFFETT FIELD

HANGAR ONE UPDATE

Another player in the quest to save Moffett's Hangar One may have just joined the team. The influential federal agency that oversees historic preservation held a meeting in mid-September to hear from local residents about the battle to preserve the historic hangar.

The last time the ACHP (Historic Advisory Council on Historic Preservation) met on the West Coast was twenty years ago when it was weighing the future of San Francisco's Presidio. Their findings will go directly to the Navy Department in Washington.

Things are happening quickly. In August, the Navy's BRAC committee in San Diego announced its decision to strip the hangar of it's outside sheathing, leaving the naked framework skeleton exposed. Local City Councils got into the picture, NASA at Moffett threw in its support, area newspapers ramped up their coverage in support, the National Trust for Historic Preservation put the hangar on its list of America's 11 Most Endangered Historic Places. Citizens have deluged BRAC, congress persons and NASA with mail. The local Moffett Field Restoration Advisory Board and the "Save Hangar One Committee" ramped up their pressure on the Navy's BRAC committee. There is now more optimism that the Navy may again reconsider their drastic decision and agree to another of the options to restore Hangar One.

Ben DeBolt, Member,
NASA & Moffett Field Historical Society
Ω

TECHNICAL COMMITTEE

Recent Developments in Lighter-Than-Air Systems

Interest and substantial support continues for development of high and medium altitude unmanned airships. Several companies in the U.S. and abroad are developing systems suitable for these missions. The unique characteristics of manned airships for economical low-speed, long-endurance are being utilized for surveillance and environmental monitoring. Current developments also include airships for heavy lift applications.

Unmanned Systems

The DARPA program, ISIS, for developing a stratospheric surveillance airship enters phase three. It includes mounting a very large UHF/X band scanned array mounted inside the envelope. The radar system would be capable of tracking air targets out to 600 km and ground targets out to 300 km. The solar-powered airship also would provide simultaneous high- capacity communications. A full-scale system would be planned for a 10-year unattended lifetime. Lockheed Martin's Skunk Works and Northrop Grumman are competitors for the third phase which involves building a sub-scale demonstrator. A similar project conducted by Lockheed Martin's Akron, Ohio, division is the High Altitude Airship. This originally was sponsored by the US Missile Defense Agency and has been transferred to the Army Space and Missile Defense Command.

Blackwater LLC completed a number of flight tests on its Polar 400 prototype airship at the Weeksville, NC, base. This 140,000 cu. ft. nonrigid is equipped with remote flight control hardware, but flights thus far have been manually piloted. It is designed to operate at 6,000-8,000 ft. with a 2,600 lb. payload. The airship is propelled and controlled by vectoring 3-axis thrusters similar to Zeppelin's NT-07 arrangement except that the thrusters are driven by hydraulic motors. Hydraulic power is generated by a single Thielert diesel mounted in the car. A spherical ballonet provides compensation for volume variation. The test airship was damaged during a storm while moored in February, but it has been rebuilt. Blackwater expects to produce 3 or 4 Polar 400's for government and commercial customers in 2009 following earning an unmanned air-worthiness rating from the US Army.

NASA plans to build a fleet of Micro blimps to map the thermal heat signature of the entire US, building by building. The 6 ft. long airships would fly at a 2,000 ft. altitude during both day and night up to 6 hrs. at an average speed of 15 m/h following a preprogrammed GPS guided route.

Airship Surveillance, Inc. is developing a series of unmanned airships for environmental monitoring and other missions. Initial tests with its R&D-1 airship included maneuvers with the company's proprietary thrust vectoring system while tethered to confine it to available airspace. Production models will carry up to 1000 lb. payloads at altitudes of 15,000 ft., with speeds of 60 kts. and 50 hrs. endurance.

GlobeTel Communications has established a joint effort with TAO Technologies of the University of Stutgart, Germany to develop high and low altitude UAV airships.

Near Space Systems in Colorado Springs is testing its first Star-Tower aerostat. It features an airfoil-shaped 20,000 cu. ft., 50 ft. long envelope which provides a high lift-to-drag ratio and good static stability. It will operate at 2,000 ft. with a 250 lb. payload. A later Star-Light high-altitude version will combine solar cells and a propulsive system suspended from the envelope by cables.

SAIC has completed assembly of its Sky Bus 80 airship. It will be tested to fly at 10,000 ft. carrying a 500 lb. payload for 24 hrs.

Sky Sentry LLC has built a High-Altitude Long Endurance (HALE) test bed aerostat to evaluate payloads for HALE missions. The envelope was built by Aerostar. Initial tests will be conducted at low altitudes. Final altitudes will be 65,000 ft.

The Syngenta Corp. completed a month of flight operations in Texas advertising their agricultural products using the Canadian Remote Aerial Tripod Specialist's 35 ft. airship. Advertising will be continued using a leased Lightship A-60+ airship for 3 months.

TCOM LP has initiated construction of a 40,000 sq.

ft. expansion of its facilities in Weeksville, NC. The $3 million project will enable the company to meet new defense contract requirements particularly in Iraq and Afghanistan.

Stratospheric Airship Technologies Sdn Bhd (SAT), a UK company located in Subic Bay, Phillipines plans to build solar-powered commercial airships to carry broadband and telecommunications systems.

Russian police are using a remotely-piloted airship in the Urals region to hunt for illegal workers from ex-soviet states.

BAE Systems in the U.K. plans to use a Lindstrand GA-22, small nonrigid airship for a communications relay station. The airship was developed a number of years ago as a light aircraft, but it will be updated as a fully autonomous unmanned airship carrying a 150 kg payload to 6,500 ft. altitude.

The TOPI Vision Company in Israel is building 1,000 cu. ft. aerostats to lift up to 9 lb. payloads consisting of 3 ccd digital processing cameras and infra-red thermal sensors.

Swiss researchers announced news of a joint project conducted by universities and companies for a solar-powered airship stationed at 21 km altitude to provide high-speed telecommunications. The airship, designated X-Station, is due to be tested later in 2008.

Manned Systems

The Boeing Company's helicopter division has been contracted to design, build and certify a heavy-lift hybrid airship for a Canadian firm, Skyhook International, in Calgary, Alberta. The airship, designated the JHL-40, will be 302 ft. long with a static lift sufficient to support its empty weight. Four Chinook rotor systems will lift a 40-ton payload and carry it over 200 miles. The JHL-40 rotors will be powered by turboshaft engines totaling 21,000 h.p. Separate vectored thrust units will be used for maneuvering. A crew of five with on-board living facilities will operate the airship. The 59-month program will produce 2 prototypes. Previous studies have indicated that a large market exists particularly in Canada for transport of heavy loads independent of surface conditions. Multi-million-dollar cost-savings are available from eliminating road and bridge construction and gaining a significant extension of the working season.

American Blimp Corp. (ABC) obtained Chinese Airworthiness Certification for its Lightship A-170 equipped with envelope-mounted video screen. One airship is deployed through a joint arrangement with the Lightship Group and the Beijing Lightship Advertising Co., Ltd. ABC has developed a road-towable mooring mast system for A-60+ and A-150/170 airships which provides more flexibility and security while maintaining a robust portable design. ABC has also developed a third-generation Lightsign featuring a 35% increase in daytime brightness. It is FAA certified and will be operated in the Las Vegas area later in 2008.

ILC has delivered an A-170 envelope to American Blimp and the envelope for Near Space Systems Star-Tower aerostat. They have continued delivery of TAR systems and PTDS envelopes during 2008.

Airship Management Services (AMS) leased a Skyship 600 airship for a joint U.S. Navy and Coast Guard program to scan the Florida Straits for drug smuggling and illegal migrants. The airship is based at the Naval Air Station Key West and began a 6 month trial in July. It is equipped with radar, infra- red cameras and other sensors to assist surface vessels track illegal activities. Normally 8 hr. missions will be flown, but 16 hr. patrols are possible. AMS provided a Skyship 600 to the U.S. Environmental Protection Agency to monitor the mercury content of smoke emanating from a Gulf Powers powerplant in Pensacola, FL. Another AMS Skyship 600 has been purchased by the Trinidad and Tobago government following a 6-month leased trial.

The World Wide Aeros Corp. completed a DARPA supported investigation of a method to control static heaviness (COSH) in all stages of flight without taking on ballast. The project involved using an Aeros 40D airship, compressing its helium and storing it on board. Aeros also conducted preliminary tests of a compressed air thrusters for improved low speed control. Further research will be conducted by the NASA Ames Research Center. Aeros has begun the development program for its large hybrid Aeroscraft ML866.

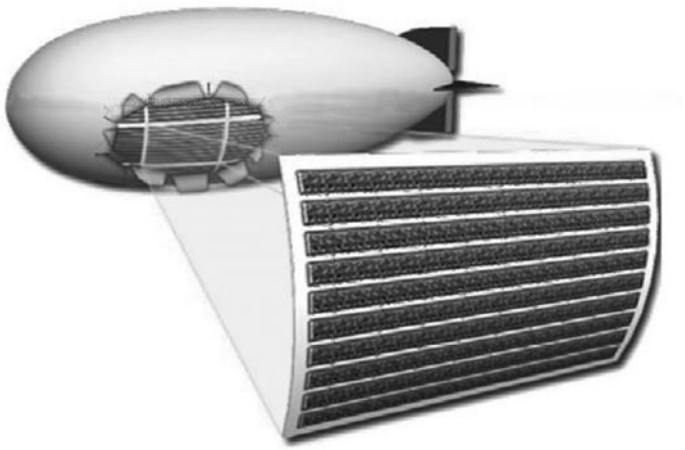
The U.S. Navy Naval Air Systems Command plans to continue flight operations with their MZ-3A airship following possible incorporation of modifications. *[2007 photo]*

Zeppelin Luftshiff Technik completed construction of its fourth semirigid NT-07 airship in May. It has finished flight tests and received FAA certification for operation in the U.S. Numerous improvements have been incorporated to reduce weight and increase airframe lifetime. It was flown to Great Britain and Brussels to conduct passenger flights. The airship was shipped by surface vessel to a U.S. port and then flown to California to engage in passenger-flight operations by Airship Ventures in the San Francisco area, arriving October 25, 2008.

The Russian nonrigid AU-30, built by RosAero Systems, and planned for exploration in the Arctic was severely damaged by a windstorm in southern France while moored. Expedition plans with the airship have been cancelled.

The Turtle Airships Group, based in Spain, proposes to build a solar and diesel-powered airship with a lifting-body hull shape. The lifting gas will be mostly ammonia with some helium. A later transition to hydrogen is planned.

Norman Mayer,
Chairman, Technical Committee
Ω



GIZMAG.COM

High Altitude Airship Remains in Spotlight

The 18-25 AUG 08 issue of *AVIATION WEEK*, devoted to the 50th anniversary of DARPA, shows another L-M artist's concept of the ISIS. Graham Warwick states, "...DARPA's Integrated Sensor Is Structure (ISIS) aims to demonstrate perhaps the ultimate in persistence, ISS is an antonymous, solar-powered airship able to stay aloft in the stratosphere for years, with extremely large, ultra-lightweight radar arrays integrated into its structure providing simultaneous air and ground surveillance. The massive UHF-and X-band arrays would provide the capability to track stealthy cruise missiles out to 600 km and moving soldiers out to 300 km. Lockheed Martin and Northrop Grumman are competing to build a subscale demonstrator. A cross between a satellite and a UAV, ISIS is intended to be launched from the US to stay aloft unattended for at least 10 years, after which it would be discarded." Elsewhere in the issues "News Breaks" under "Airship Contagion" US Army Lt. Gen. Kevin Cambell, who oversees Space and Missile Command, "...says his experts are studying whether various lighter-than-air systems and airships can provide a niche capability for soldiers, which is likely with intelligence collection or communications relays. With a 312-mi. line of sight, one of these systems could cover virtually all of the Iraq landmass, he notes. 'I don't know if there is contagion... of enthusiasm" for these systems, he says, adding that these airship concepts lack a champion in the Defense Department. At one point Air Force Space Command was asked to review options for systems in "near space," below orbit but above air-breathing aircraft, but the command is strapped with handling its own acquisition problems and addressing space protection needs." Ω

SHORT LINES

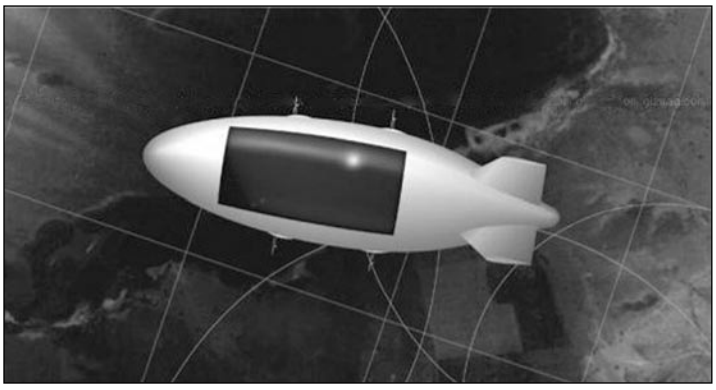
Besides batteries, one promising method to store solar energy, while at the same time overcoming the energy storage limitation of renewable energy sources (RES), is to convert the solar energy of photovoltaics directly to hydrogen, which in turn is used by fuel cells to produce electricity.

Storage of the energy produced by renewable energy sources (RES) has always been their limitation, resorting to solutions such as battery storage for small systems to grid feeding for large ones. Aternative fuels, such as hydrogen, are environment friendly and their exploitation with fuel-cell technology is a promising solution for future clean power production.

A combination of the above is the production of hydrogen by water electrolysis powered by a typical intermittent RES like photovoltaic panels, storing the hydrogen fuel to be used by the fuel-cell as needed. Such a system has been designed by the ENEA Casaccia Research Centre, in order to assess the efficiency of hydrogen as a storage medium of solar electric energy, coupled with unattended operation.

The system is built around a 7kW PV array connected to an advanced alkaline pressurized electrolyser for hydrogen production. Produced hydrogen is stored in cylinders and fuels a 3kW fuel cell, which supplies electrical energy to a simulated load. Batteries are used for storing excess electrical energy and a control system manages the operation of the complete power plant.

The plant has proven capable of operating unattended, requiring little maintenance, confirming that photovoltaic-hydrogen systems are technically feasible. Despite its feasibility, present costs are not competitive. The increase of plant size may render such a system competitive for remote energy storing applications. Ω



SAE is working with the FAA to define a new Aerospace Recommended Practice covering inerting the explosive ullage in petroleum tanks. Several fatal accidents involving fuel tank explosions have never had an ignition source isolated, such as the 1996 explosion of a TWA 747 and a couple Boeing 737s *(photo)*. Therefore the new effort has focused on preventing explosive vapors from forming, with the hope that "three out of the four fuel-tank aircraft disasters that would otherwise likely take place over the next 35 years," according to the FAA. One promising new idea is to extract nitrogen from the engine bleed air and feed it into the emptying fuel tank. The 85 to 98% nitrogen injection would greatly reduce the oxygen available to a possible ignition source introduced into the vapor space. Ω

Scientists at Ohio State University in Columbus, Ohio have developed an efficient way to convert ethanol and other biofuels into hydrogen, producing a 90% yield. The process uses inexpensive ingredients and produces hydrogen at a workable temperature. Unlike others the OSU process does not use precious metals like platinum or rhodium. "Rhodium is used most often for this kind of catalyst and it costs around $9,000 dollars an ounce," said Umit Ozkan, OSU professor of chemical and biomolecular engineering. "Our catalyst costs around $9 a kilogram." Ozkan believes the OSU-developed catalyst could make the use of hydrogen-powered cars a practical reality in the future. She noted, "Our research lends itself to what's called a 'distributed production' strategy. Instead of making hydrogen from biofuel at a centralized facility and transporting it to gas stations, we could use our catalyst inside reactors that are actually located at the gas stations. So we wouldn't have to transport or store the hydrogen. We could store the biofuel and make hydrogen on the spot." Ω

The Metallicum division of Manhattan Scientifics has figured out a way to manufacture nano-structured metals and alloys "to change the internal structure of virtually any polycrystalline metal so it is much stronger than its conventional counterpart." The process, called Severe Plastic Deformation, is said to create metals 30 to 100 percent stronger than conventional grades. Terry Lowe, co-inventor, says, "A lightweight industrial metal, like aluminum, can be manufactured to have the strength of steel." The process reduces the size of a material's grains or crystals by a factor of 500 to 1000. The characteristics are altered to increase metal ductility, the ability to resist failure, and to customize the properties of the metal at its surfaces. The process is capable of producing rod and bar up to 40 mm in diameter that can be formed into anything from car parts to heart stents. Ω

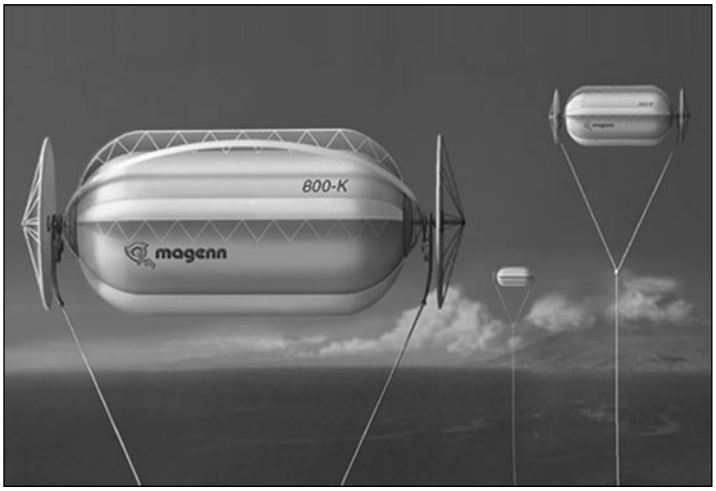
Another invention making news relates to a process for the production of hydrogen gas from water utilizing a hybrid system including a catalytic reaction using a photocatalyst and electrolysis. Inspired by the photosynthesis performed by plants, Nocera and Matthew Kanan, a postdoctoral fellow in Nocera's lab, have developed an unprecedented process that will allow the sun's energy to be used to split water into hydrogen and oxygen gases. Later, the oxygen and hydrogen may be recombined inside a fuel cell, creating carbon-free electricity to power your house or your electric car, day or night. The key component in Nocera and Kanan's new process is a new catalyst that produces oxygen gas from water; another catalyst produces valuable hydrogen gas. The new catalyst consists of cobalt metal, phosphate and an electrode, placed in water. When electricity - whether from a photovoltaic cell, a wind turbine or any other source - runs through the electrode, the cobalt and phosphate form a thin film on the electrode, and oxygen gas is produced. Combined with another catalyst, such as platinum, that can produce hydrogen gas from water, the system can duplicate the water splitting reaction that occurs during photosynthesis. The new catalyst works at room temperature, in neutral pH. Ω

24 SEP 08 /PRNewswire/ SANDUSKY, Ohio,

"Ohio-Developed High-Tech Blimp Used to Demonstrate Life-Saving Emergency Responsiveness:" A consortium of federal agencies, Ohio universities and private Ohio companies simulated a disaster today to demonstrate how the AerOhio1 Aerostat, a 75-foot long, high-tech blimp, can be used by emergency response teams to establish communication and provide visual contact during a crisis.

Equipped with advanced sensors such as high-resolution cameras and infrared detectors, the AerOhio1 Aerostat provides solutions to these challenges by connecting emergency responders, providing visuals of a disaster site, locating terrorists and improving emergency response time. Ω

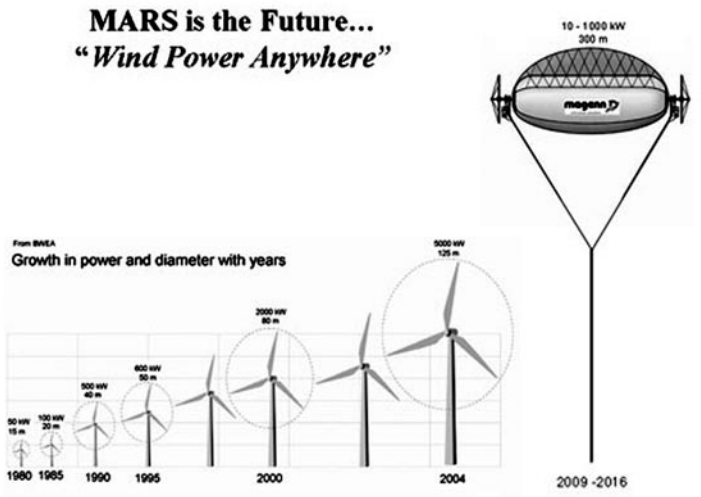
The National Center for Scientific Research in Paris has announced development of a self-healing rubber that stretches six times its resting length. The stretchy material can be cut and rejoined at the same spot by pressing the broken ends together for a few minutes. It stays pliable even after being severed five or six times, or after being left cut overnight. The materials' secret is a molecular structure that resembles a plate of spaghetti. The self-mending occurs because each strand consists of molecules of vegetable fat linked to one another via relatively weak hydrogen bonds, the same chemical bonds that give water molecules their cohesiveness. Ω



Magenn Power's MARS is a Wind Power Anywhere™ solution with distinct advantages over existing Conventional Wind Turbines and Diesel Generating Systems including: global deployment, lower costs, better operational performance, and greater environmental advantages. MARS is a lighter-than-air tethered wind turbine that rotates about a horizontal axis in response to wind, generating electrical energy. This electrical energy is transferred down the 1000-foot tether for immediate use, or to a set of batteries for later use, or to the power grid. Helium sustains MARS and allows it to ascend to a higher altitude than traditional wind turbines. MARS captures the energy available in the 600 to 1,000-foot low level and nocturnal jet streams that exist almost everywhere. MARS rotation also generates the "Magnus effect" which provides additional lift, keeps the MARS stabilized, and positions it within a very controlled and restricted location to adhere to FAA (Federal Aviation Administration) & Transport Canada guidelines.

The Advantages of MARS over Conventional Wind Turbines: Wind Power Anywhere™ removes all placement limitations. Coast-line or off-shore locations are not necessary to capture higher speed winds. Reaching winds at 1,000-feet above ground level allow MARS to be installed closer to the grid. MARS is mobile and can be rapidly deployed, deflated, and redeployed without the need for towers or heavy cranes. MARS is bird and bat friendly with lower noise emissions and is capable of operating in a wider range of wind speeds - from 4 mph to greater than 60 mph.
The Advantages of a MARS combined Wind and Diesel Solution over a Diesel Generator-only solution: MARS can complement a diesel generator by offering a combined diesel-wind power solution that delivers power below 20 cents per kWh. This compares to a wide range of 25 cents to 99 cents per kWh for diesel-alone, reflecting the high fuel and transportation costs in remote areas. The MARS combined solution allows lower pollution and green house gas emissions. It also results in lower handling, transporting, and storage costs.

MARS Target Markets: Developing nations where infrastructure is limited or non existent; off-grid combined wind and diesel solutions for island nations, farms, remote areas, cell towers, exploration equipment, backup power & water pumps for natural gas mines; rapid deployment diesel & wind solutions (to include airdrop) to disaster areas for power to emergency and medical equipment, water pumps; on-grid applications for farms, factories, remote communities; and wind farm deployments.



Electrical energy is transferred down the tether to a transformer at a ground station and then transferred to the electricity power grid. Helium (an inert non-reactive lighter than air gas) sustains the Air Rotor which ascends to an altitude for best winds and its rotation also causes the Magnus effect. This provides additional lift, keeps the device stabilized, keeps it positioned within a very controlled and restricted location, and causes it to pull up overhead rather than drift downwind on its tether. Ω

Boeing/Skyhook: Technical Discussion

"Catch a Lift: Ingenuity is one natural resource helping Canadian economic development soar."
(Excerpt From *Site Selection* magazine, September 2008)

Sometimes, in the rugged northern territories, the road simply comes to an end. Enter a bold new venture from Boeing and Calgary's own SkyHook International Inc., who plan to jointly develop an airship, the Jess Heavy Lifter or JHL-40, that will be ready by 2012 to lift and carry cargoes as heavy as 40 tons as far as 230 miles (370 km.). In other words, no road will be necessary. The companies envision the aircraft moving shipping containers, utility towers, refinery and other heavy-processing components, pipeline sections and firefighting slurry.

"Companies have suggested this new technology will enable them to modify their current operational strategy and begin working much sooner on projects that were thought to be 15 to 20 years away," said the concept's creator, Calgary native Peter Jess, in the July announcement. Not only would the Jess Heavy Lifter help companies shrink their carbon footprints by eliminating energy expenditure on road construction, it would also help them navigate a shrinking window on the ice highways that serve those remote northern territories. Jess says they're only available for 180 days a year, down from up to 250 days a year when he was plying his trade as a logistics expert in the oil industry.

The company plans to lease the airships via annual contracts, essentially operating an airline company. While the initial development work will occur at Boeing's Rotorcraft Systems complex in Ridley Park, Pa., outside Philadelphia, Jess, a 30-year logistics and energy industry veteran, hopes to convince his partner that Alberta will be the place to make and maintain these unique vessels.

"We very much want to encourage Boeing to build an assembly facility right outside Calgary, located at a new aerospace park, which we would anchor," says Jess in an interview… "That's where we would carry out maintenance, training and R&D, as it pertains to all the equipment for under the hook – hoppers, tanks, racks and so on." David J. Peace, senior director, aerospace and defense, for Alberta Finance & Enterprise's industry development branch .. says the future for airships is bright… "It fixes so many problems up north. It's amazing it hasn't happened before."

Jess says the market has been "sitting out there screaming for this" for 20 years, as the need to access remote locations for energy exploration grows. Jess says he simply identified components that already exist…though he'd had the airship idea for a long time, the approach of his 50th birthday prompted him to finally take action on it… Eventually he got together with Boeing officials, who met him at a seminar, then returned to interview him, "checking to make sure I wasn't part of the lunatic fringe," says Jess. "They said they'd get back with me, and then called the next day, and said 'When can you get to Philadelphia?' The partners decided it was viable in October 2007, and now a team of several dozen Boeing engineers is working in Ridley Park with Sergio de Paoli, SkyHook's chief engineer, toward a critical development stage of the project late this year. "Before Christmas, we'll know exactly what this aircraft will look like and what it will be able to do," says Jess. Jess's youngest son Ted will be working with Boeing pilots to be the first person trained from the ground up to fly the JHL-40. "We'll find a lot of our pilots are going to come from among heavy crane operators and tugboat pilots," says Jess, "people used to working with heavy loads and inertia." Oil and gas, mining, forestry and heavy construction are the target audience for the Jess Heavy Lifter. But he says more possibilities have arisen …

(con't next page)

Inquiries have come from the Middle East and from the jungle. "It all boils down to one word – access," he says…lifting things in and out of place could solve that problem. Ω

Al Robbins *comments,*

"Long article, apparent interview with the force behind SKYHOOK; a new class of flying machine, although the concept is ancient. A real miracle worker expecting to go from concept(?) to operations in a few years. No indication of how SKYHOOK differs from Frank Piasecki's expired patent (P/N 4591112). Artists renderings for SKYHOOK look more like Pi's patent drawings than his crude prototype did. Pi's patent cited ten patents as prior art. It, in turn has been cited by 13 subsequent U.S. patents. (No record of any patent or patent application by Jess on the USPTO data base.)

Consider what Einstein termed a "thought experiment":

-Have four men lift a chair with a fifth man seated on it.

-Each man supporting his share of the load by holding one of the chair-legs at arms length, (fairly strong men)

-At a signal, have one of the men release his grip - and step rapidly back.

Can the other three keep from dumping the chair - if only the one man hears the signal? If they all hear the start signal? Suppose the FAA would require Boeing to demonstrate an engine emergency?" Ω

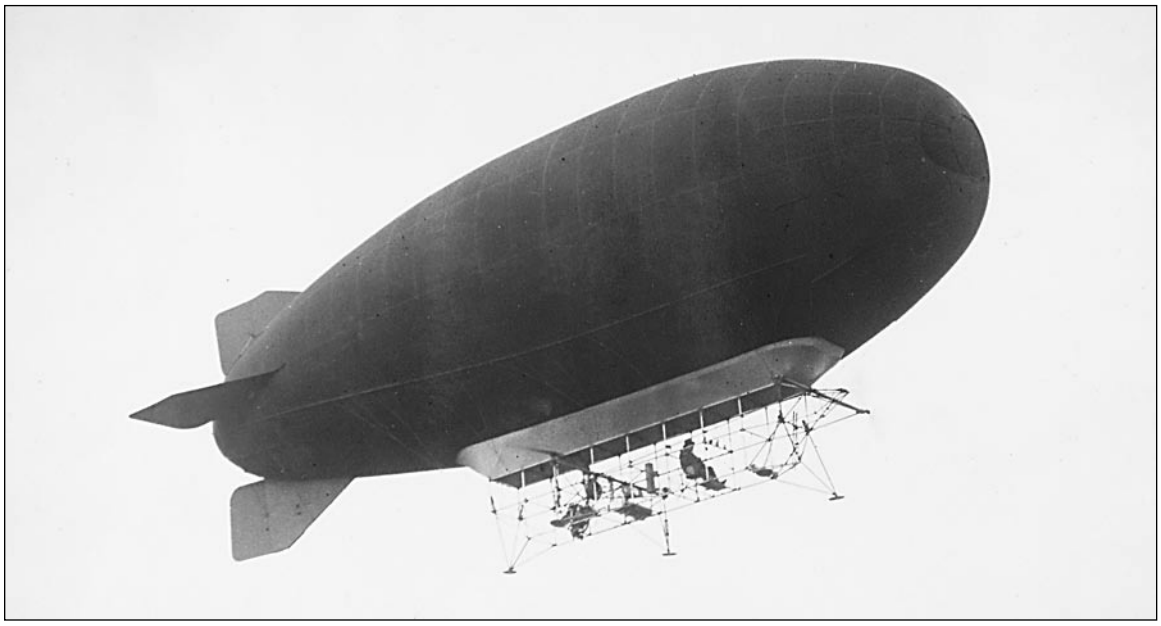
From the Internet: "A MAJOR INTERNATIONAL, REGIONAL AND LOCAL EVENT: The World Sky Race™ is an historic competition of lighter-than-air skyships racing 28,000+ miles around the world. The winner will be crowned World Sky Champion."

Arnold Nayler *of the UK's Airship Association observed:* "Yes, I, picked up news of this proposed race, and all about Don Hartsell earlier this year and have followed it ever since - especially since Don Hartsell's presentation at the Explorers Club in New York. I drew this to the attention of members of the Airship Association Council at the time. There has indeed been a lot about this chap and the proposed race on the web. I think that it was way back in May, that I saw that he had gone and spoken at the Explorers Club in New York.

He is not a member of the Airship Association. He proposes using Skyships, but I gather that AMS is not involved - and who even owns all these Skyships that he suggests are used? Only AMS!

I have 'spoken' by email in the past months, to many in the USA and elsewhere about this race. The logistics are virtually impossible, Range, landing grounds that could accept a number of racing airships, moving of mobile (or alternative types) of mast and mast trucks. Fuel availability is another problem, servicing, weather (look how often STELLA could not operate over London in the six weeks that she was here.) (low visibility, raining hard), spares, safety precautions... " Ω

Popular Science magazine had a feature called "Think it's new?" History Committee members ***Eric Brothers*** *and* ***David Smith*** *found this photo in the National Archives some time ago. The French Helicostat had four-cornered vectored thrust back in the 1930s. Rare motion pictures show it hopping fences, flying backwards, and even sideways. What became of it?* Ω



In Germany, a City's Famed Industry Now Helps Keep It Afloat By Nicholas Kulish 4 AUG 08
(excerpt from The New York Times)

A new zeppelin floating inside a hangar in Friedrichshafen, Germany. The zeppelin industry supports a city-owned foundation that generates between $60 million and $80 million a year.

FRIEDRICHSHAFEN, Germany — Count Ferdinand von Zeppelin launched his first flying machine from Lake Constance here in 1900. Thus began a chapter of aviation history that would propel Friedrichshafen onto the world stage, make it a prominent target for Allied bombs during World War II and ultimately bequeath to the city a sizable foundation financed by the successor companies to Count von Zeppelin's original enterprise.

According to the city, the foundation generates between $60 million and $80 million a year for a population of just 57,000. That largess supports projects as varied as school lunches for underprivileged children, sports teams and a new library. It was the threat of losing the foundation that nudged the town fathers to get back into the zeppelin business two decades ago.

That prudent choice kept the foundation in the city's hands. It may yet prove a good business decision in its own right. Thanks to their low fuel consumption, airships are enjoying renewed attention as an alternative in an era of high fuel prices. But while zeppelins inspire enormous loyalty among those who work on them and a sense of wonder among all who watch them soar, the financial returns have barely gotten off the ground.

Since the new line of zeppelins first took flight here 11 years ago, the company, ZLT Zeppelin Luftschifftechnik, has built only four, including the prototype — and sold only two.

"From an economic standpoint, it was completely backward," Josef Büchelmeier, the mayor of Friedrichshafen, said. "We had the product first and then went looking for a market." Ω

Dr. Robert Hunter *pointed out that Bradford Plumer, assistant editor at* The New Republic, asks,

"What will happen when America can't afford to fly?"
(excerpts)

"Early signs of an aviation apocalypse are already upon us. As oil prices flirt with $130 per barrel and the dollar struggles, airlines are paying nearly 80 percent more for fuel than they did a year ago. Twenty-five airlines have gone belly-up this year--three to four times the usual yearly rate... Despite recent fluctuations, a growing number of economists are bracing for oil to hit or surpass $200 per barrel in a few years, and most industry analysts agree with Douglas Runte, of RBS Greenwich Capital, who told The Wall Street Journal in June, "Many airline business models cease to work at $135-a-barrel oil prices..." As if one plague wasn't enough, the threat of climate change could mean further doom for airlines. In Great Britain, green groups are lobbying hard in favor of aviation fuel taxes and against a proposed third runway at Heathrow Airport, while activist groups, like one called Plane Stupid, have taken to unfurling banners from atop Westminster Palace and elsewhere with slogans like WE FLY, WE DIE… The EU has recently announced that it will bring aviation into its emissions-trading regime-forcing airlines to pay for 15 percent of their carbon use starting in 2012. More important, if less evident, was the air-freight revolution of the 1980s, as companies like Federal Express bought up planes and transformed logistics and shipping… Every night, FedEx keeps a number of empty planes up in the air, to better respond to requests at a moment's notice… for now, the federal government picks up a large part of the tab for flights to roughly 140 smaller communities with its Essential Air Service Program, which costs $110 million per year and provides subsidies as large as $1,300 per passenger…

It's always dangerous to bet against human ingenuity… Someday we may get solar-powered jets or hydrogen fuel cells… Perhaps the most unlikely alternative to emerge in recent months is the rebirth of the dirigible or airship, as companies have already been unveiling new designs for niche tourist trips and transporting cargo. The good news is that modern helium airships are far safer than the *Hindenburg* and emit a great deal less carbon than jumbo jets. The bad news is that natural reserves of helium may be running low and, more to the point, airships can't carry many people at a time, don't handle heavy weather well, and are quite slow: A flight from New York to London would take around 40 hours. …But the end of oil, or the urgency of global warming, or both, could well force that change upon us. Is that something our world, increasingly accustomed to its frenetic, globe-trotting pace, could handle?" Ω

Reuters News Reported 30 JUN 08 – "Gas ballooning, as an adventure sport, is likely to fade away in the United States, as a sharp spike in helium prices and supply constraints threaten the survival of the sport… 'Price is just about to drive gas ballooning extinct in this country,' said Andy Cayton, an avid gas balloonist and retired army helicopter pilot who runs balloon rides in Georgia. The price for a full tank of gasoline for cars might be exorbitant these days, but filling up a helium-filled gas balloon could cost over $12,000… Two to three years ago, the cost to fill a helium balloon of the same size was about $3,000. The prohibitive cost is one of the main reasons that the adventure sport is small in the United States. There are about 5,000 qualified hot air balloonists in the country, but less than one-tenth of that total are qualified gas balloonists.

A part of the price escalation is driven by escalating energy, fuel and other operational costs as well as the growing demand for helium from other sectors. Praxair Inc, one of the largest refiners of crude helium in the United States, said the use of helium in the manufacturing of microprocessors, electronics and fiber optics has increased the worldwide consumption of the gas. Helium is also used in aerospace and medical applications. Helium, a by-product of natural gas production, has also faced some supply interruptions in recent years that have created shortages and fueled some of the price escalation. Troy Bradley, who is based in New Mexico and trains gas balloonists, is flying with a student to Germany in August to fly a hydrogen balloon there. Hydrogen-based gas ballooning is common in Europe and much cheaper. 'It is actually cheaper for us to fly to Europe, rent a car, get a hotel, go fly there and come back,' said Bradley." Most balloonists agree that if the sport is to survive in the United States, hydrogen has to gain wider acceptance. "The *Hindenburg* blowing up has tarnished the use of hydrogen in this country," said Bert Padelt, who designs and builds hot air and gas balloons… Suppliers in the U.S. shy away from catering to hydrogen gas balloons, concerned about the risks of lawsuits in case of an accident. Despite the dangers, gas ballooning enthusiasts are drawn by the thrill of the sport and the beauty of silent flight. In Germany, hydrogen-based gas ballooning has been conducted successfully for years.

"Let's face it, the future of alternative energy down the road is possibly hydrogen. This country needs to be better educated on hydrogen and the energy that you can get from it," said Padelt, the balloon designer.

Balloon Federation of America Vice-Chairman Peter Cuneo wrote in the BFA newsletter, "All indications do seem to point to hydrogen as our best hope for the continued vitality of our sport, but this need not be the sport's death knell. Hydrogen has been flown successfully and continually in Europe for hundreds of years and experimental hydrogen fuel cell cars are now being tested on California roads. The perception of hydrogen as a ticking time-bomb is slowly changing and we must do all we can to foster this trend. We must follow the lead of the Europeans, and especially the German pilots and manufacturers to implement safe launching, flying and landing procedures for hydrogen."

Many of our members disagree. ***Rick Zitarosa*** *e-mails,* "I stand on record (for many years now) that I fully accept the conclusions made by knowledgeable LTA operators over 80 years ago that helium has a distinct safety advantage over hydrogen. This advantage outweighs any possible advantages that hydrogen might possess. The dangers of hydrogen use are well documented in GERMAN as well as AMERICAN and BRITISH official military instructional LTA texts prepared by and for their most experienced operating personnel (little things like " Don't blow off gas in a thunderstorm" " release gas intermittently and sparingly in order that you do not form a path to conduct fire down to the balloon" " If you lose an engine during a climb, do not attempt to re-start it until a stable altitude has been reached ") etc. This wisdom was not MADE UP, but it is IGNORED by DANGEROUS FANATICS who would use their DISINFORMATION to jeopardize innocent life and limb to live out irrational fantasies. People who try to sell the concept of LTA and disavow the importance of helium as an essential safety factor are HURTING (NOT HELPING) the LTA cause because they look like a bunch of irresponsible cranks and they make people who are trying to forward the cause of LTA look like irresponsible cranks alongside them."

The National Academy of Sciences reports, "…the total US helium resources will disappear by 2035 – probably sooner, because of rising demand."

With the entire future of the airship at stake, we need to hear from YOU on this critical subject – because the US Navy is again interested in LTA! *(see next page)* Ω

Lighter-than-Air (LTA) Platforms/Systems

Department of the Navy, NAVAIR HQ 29 AUG 08

Request For Information: LTA Unmanned Aircraft Systems (UAS) (optionally manned) have the potential to provide persistent Intelligence, Surveillance, Reconnaissance and Communications (ISRC) support as well as logistical support (manned) for tactical level maneuver/decisions and unit level low altitude air defense/force protection for Naval ships (multi-ship classes) and Marine Corps land forces. A notional ISRC system may include multiple air vehicles, one ground control station, multi-mission (plug & play) payloads, and associated launch, recovery, and support equipment with a 5,000 mi. radius of action. A notional logistics system may include platforms with transglobal range (2,000 mi. radius of action) and outsized payloads measuring up to 500 tons. These systems will support Naval missions such as building the Recognized Maritime Picture, Maritime Security Operations, Maritime Interdiction Operations, and support of Naval units operating from sea/shore in the global war on terrorism. The systems will also support Marine Corps missions such as close range UAS enabling enhanced decision-making and improved integration with ground schemes of maneuver. NAVAIR LTA interests include but are not limited to the following: conventional airships, hybrid airships, free floating balloon systems, and other High Altitude LTA systems. Additionally NAVAIR is interested in supportive LTA technologies to include but not limited to: buoyancy control systems, advanced/alternative propulsion/power generation systems, lightweight high strength envelope materials, vectored flight control systems, weather prediction/avoidance systems, lifting gas generation systems, unconventional landing schemes, ground handling, ship interface concepts, and LTA modeling/scaling methodologies. There are currently no Navy LTA CONOPS available for review.

The following amplifying information is provided:

1) The sensor version has a
   a. mission radius of 5000 nm
   b. 2500 lbs payload threshold
   c. un-manned semi-autonomous with remote pilot take off and landing
   d. 16Kw power threshold
   e. 7 days loiter at mission radius at 20,000 ft MSL is desired threshold.

2) The logistics version would be manned and support for "drive on – drive off" cargo movement, operating from unprepared surfaces or from water (lakes, rivers open sea).
   a. mission radius of 1000 nm
   b. optionally manned
   c. up to 500 tons
   d. aircraft cargo movement should be compatible with Navy ship operations.
   e. carrier take off and landing is n/a.

3) The aircraft should be designed for fielding near term with first flight in 28 months.

4) Operational Concept of Operation requires the landing area at the radius of action will use only indigenous support services.

5) The aircraft must be able to take off and land from water, snow, sand, and from un-prepared fields with up to a 1.5 degree slope.

The development of this aircraft should use OEM airworthy systems where possible.

Recommendations:

Industry responses should provide a general description of the aircraft for the proposed solution.

This data should include:

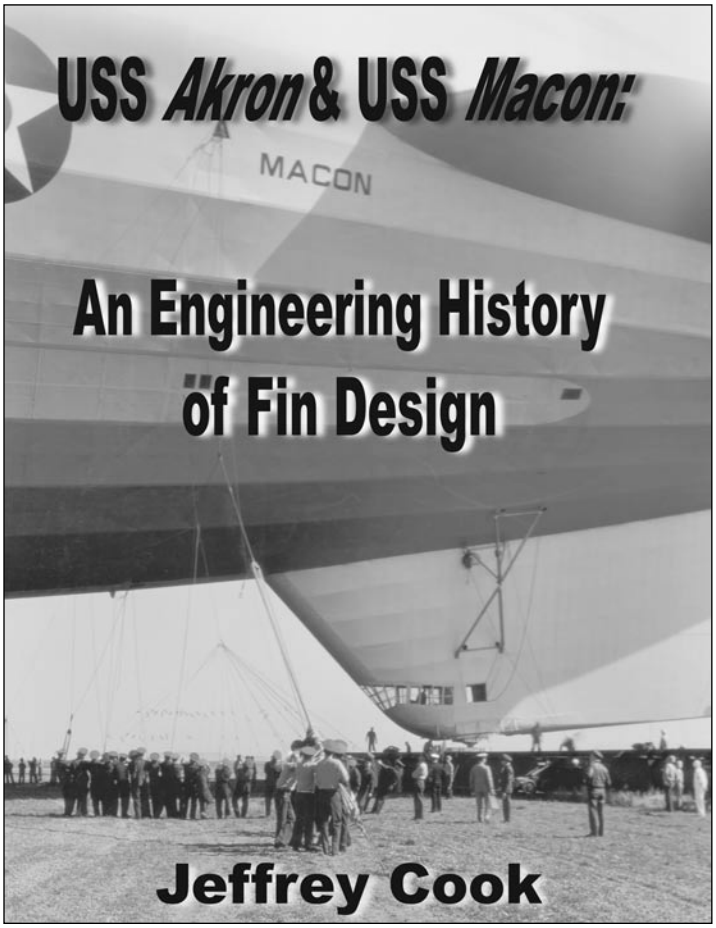
1) General description of the aircraft and subsystems
2) Notational propulsion and control concepts
3) Concept of Operations, take off, landing, command and control
4) Systems support requirements
5) Design materials and other technologies needed.
6) Identification of high risk development components and long lead components
7) Design and sizing attributes that permit the Technology Demonstrator to be scaled for useful payloads to 500 tons
8) Technology Readiness Level (TRL) levels of each system
9) Time line to develop to first flight
10) Technologies that contractor has already risk mitigated
   a. Notational risk reduction and verification plan
   b. Notational R&M
   c. Notational cost per ton per mile for cargo mission

Responses: Companies responding to this RFI should indicate whether they are a large or small business…

Responding parties should submit the above requested data by 4:00 PM (Eastern) 30 October 2008 to: Naval Air Systems Command Attn: Ms. Clare Carmack, Room 256 47123 Buse Rd, Bldg 2272 Patuxent River, MD 20670-1547

THIS IS NOT A REQUEST FOR PROPOSAL. RESPONSES TO THIS RFI ARE NOT OFFERS AND CANNOT BE ACCEPTED BY THE GOVERNMENT TO FORM A BINDING CONTRACT. THIS RFI IS NOT TO BE CONSTRUED AS A COMMITMENT BY THE GOVERNMENT, NOR WILL THE GOVERNMENT PAY FOR ANY INFORMATION SOLICITED OR PROVIDED. Questions or comments may be addressed to Clare Carmack at 301-757-5919, email: clare.carmack@navy.mil Ω

MEDIA WATCH



USS *AKRON* & USS *MACON*:
AN ENGINEERING HISTORY OF FIN DESIGN
By Jeffrey Cook
Reviewed by C. P. Hall II, Brookfield, IL

The title of this latest offering from Atlantis Productions accurately describes the contents of this small but informative volume. The topic of rigid airship structure is complex. Jeffrey Cook's book adds both to our understanding of the problems that airship designers faced and the history of how they addressed these problems.

The book is a history in five chapters:

"Chapter One: Background and design evolution" studies the early development of rigid airship fin design from the First World War, through British and German developments, and the further progression of this knowledge in American hands. The influence of C. I. R. Campbell and his design team regarding both R38 (ZR-2) and *Shenandoah* (ZR-1) are covered in considerable detail with footnoted citations from unique, first-hand sources. The 1926 N.A.C.A. experiments on Los Angeles (ZR-3) are also covered. The results of these experiments are a thread which runs throughout the remainder of the text.

"Chapter Two: Design History of Fleet Airship ZRS-4" is self-explanatory with the emphasis on the ship's fins and events leading to the change order in fin design. The records of interactions among key individuals are insightful; the technical details revealing.

"Chapter Three: The U.S.S. *Macon*" is the climax for which the first two chapters prepared us. The problems with *Macon's* fins lead to partial reinforcement, long anticipated but only fabricated and installed after damage in rough weather. The area which had not been reinforced was the point of the structural failure leading to *Macon's* floundering. The subsequent investigations are analyzed in considerable detail.

"Chapter Four: Further Experiments on Fin Loads" covers tests and records, however, it then goes through a process of categorizing and analyzing the major theories of the structural failure the consequence of which was the loss of the *Macon*.

"Chapter Five: Reanalysis of Available Information" is, in the main, an engineer's road map of mathematical formulae concerning stresses and variables under multiple circumstances. I can only report to the reader that my higher math skills are inadequate and my understanding is incomplete. That said, I offer this general observation.

This book concerns itself with the progress of designers' knowledge covering the time frame in which were built the five rigid airships of the U. S. Navy. As a matter of historical record, I can cite 'experts' pointing out the progress made in materials and know-how, the enhancement of knowledge through theory, model experiment, and by full scale empirical experiment. In this manner, previous errors were eliminated, and gaps in the designers' knowledge were closed. This allowed for the design of a safe, sound modern, rigid airship. It came, therefore, as a surprise to read in Chapter 5 the following,

"To suggest, therefore, that the fins should have been designed to higher AOA (angle of attack) assumptions, would of necessity suggest that the entire hull structure also be strengthened to a similar degree. Before long, one finds that his airship is so well designed and so structurally sound that it can only wallow on the hangar floor like a beached whale for lack of sufficiently buoyant lifting gas."

The comment brought to mind an anecdote mentioned by both Robin Higham and by Robinson & Keller. As noted in "UP SHIP!" by Robinson & Keller, Page 5, regarding C. I. R. Campbell and R29.

"One wind tunnel experiment on a model of R29 seems to have seriously misled Campbell: the bending stresses as developed from the model came out so high that it was considered out of the question to provide for them in the

actual ship by reason of the weight of the structure that would be required. Yet, in defiance of the laboratory data, R29, a 23-class variant in which the strengthening keel had been omitted, flew successfully without structural failure."

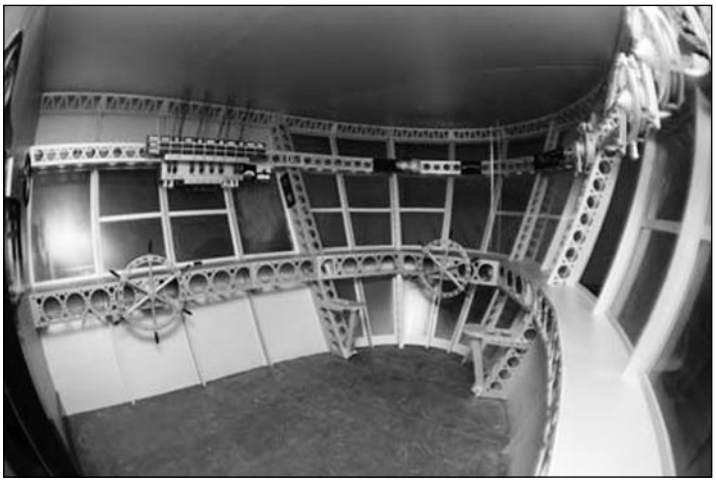
The conclusion that one is tempted to draw is that 20 years after R29 was designed, 20 years of theory, calculation, multiple models of various sizes in multiple wind tunnels, and full scale experiments on ZR-3, all documented in this volume, yielded disappointing results. The data base was undeniably expanded but, contrary claims not withstanding, the solutions to the problems of airship design were yet to be found; assuming that a satisfactory compromise between weight and strength to be an engineering possibility.

Full disclosure requires that I reveal the following information. In part, the title page reads, "Original title: An Engineering History of the ZRS-4/5 Fin Design © Jeffrey Cook 1997." Owners of that title will find much that is familiar in this new volume. I submit that the new version is superior for three reasons. The revised text includes new material, additions, comments and corrections from others including some who read the 1997 text. The photos and diagrams are now integrated into the text of the chapters instead of found at the end. The former end notes are now footnotes allowing the reader handier access to the identity of sources and the author a greater opportunity to indulge his hobby, self-depreciating humor.

I commend this book to those interested in the history of design development of rigid airships. I commend it also to the reader who suspects that either he, or the published authors, are confused about what really happened to the *Macon*. That reader will come away with an improved understanding and substantial clarification of what did, and did not, happen on February 12, 1935. Ω

A video production company in southern California is creating a program that covers the Santa Ana NAS and the story of the hangars. Your editor has worked with them in acquiring images and interviews. As of this writing we are hoping they will interview our former NAA President, ***Herb Beidebach****, with the help of his wife, Sali. They sent along a copy of their work in progress, and their closing narration says it all: "The future of the Tustin hangars is still being written, but from the day they opened their massive doors, the Tustin hangars became architectural icons in Orange County, and historical icons in American military aviation"* Ω

Your Editor and other History Committee members have also been working with another German TV company on what was sold to us as a quality ***Macon*** *show. The first producer agreed to get* ***Clarke*** *on camera – and we're proud of that. They sounded rather ambitious asking for plans to make a set of the bridge, which we dutifully sent – and the set photos e-mailed to us appear to be a pretty good job!*



Here is their synopsis: "German production company SPIEGEL TV, a subsidiary of the newsmagazine DER SPIEGEL, produces a documentary about the legendary USS *Macon*. This international co-production involving National Geographic Channel US, Discovery Channel Canada, History Channel UK, German ZDF/arte amongst others tells the story of a long forgotten part of aviation history. Using exciting archive footage, exclusive materials from the recent MBARI/NOAA underwater expedition and high class recreations of the events taken place some 70 years ago. The documentary also contains interviews with historians and eye witnesses such as Gerald Austen (son of the inventor Dr. Karl Arnstein), **Bill Althoff**, **Gordon Vaeth**, Juergen Bleibler (airship historians), **Eric Brothers** (Arnstein biographer), **Chris Grech**, Bob Schwemmer, Steve Rock (expedition crew) and the last survivor of the USS *Macon* crew, **William Clarke**. The documentary is shot in high definition and will air in the US later this year or early 2009." Ω

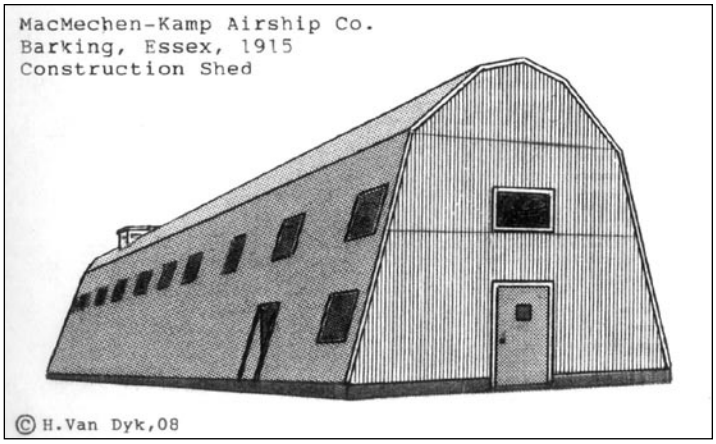
History Committee

The MacMechen-Kamp Zeppelin Destroyer
by Herman Van Dyk

During the first decade of the 20th century, development of airships had made great progress. The work of pioneers Santos Dumont, Graf Zeppelin and others had transformed LTA into reasonably reliable dirigibles. As usual with new inventions, future developments were closely watched by military leaders of the larger countries. They viewed the airships as a weapon that could attack the enemy at any time and place without repercussions. The performance of airplanes at that time, especially in climbing speed, ceiling and armament didn't come close to that of airships. Heavy artillery could not be sufficiently elevated and light artillery didn't have the range. This was the situation the British faced when dark clouds of war gathered in Europe in 1914. The German Zeppelins were seen as the ultimate weapon; a weapon of mass destruction.

So, when British authorities were approached by an American: Thomas Rutherford MacMechen in 1914, who offered a possible solution to their defense problems, they were more than a little interested. MacMechen, a journalist from Baltimore, was president of the "American Aeronautical Society" and a founder of the periodical "The American Aeronaut", who had extensively written about Zeppelins and other airships.

He had met Walter V. Kamp, an engineer from New York City, who, on April 7, 1914, had applied for his first U.S. Patent #1,108,118, entitled "Airship". It was granted 4 months later on August 18, 1914. Walter Kamp claimed to have invented an airship where the different gas bags are surrounded by an air space. Forcing cold, outside air, to flow around the gas bags, lowered the temperature of the hydrogen and caused the airship to descent. Forcing a mixture of hot exhaust gases from the engines with air to flow around the gas bags, would increase the temperature of the lifting gas and the lifting force of the gas The fact that airplanes were not a match against Zeppelins, led to the theory that, maybe, another airship might do. Kamp may also have entertained the notion that a combination of an airship and an airplane might even be better; his patent drawing shows a rigid airship with a set of airplane-type wings protruding from the center of the hull. The patent, however, did not mention the intended role of the airship. Walter Kamp and MacMechen visualized a small, fast and agile airship, capable of flying up, over, under and around the huge, slow, lumbering Zeppelin, while, all the time, firing its machine guns. It was to be to a Zeppelin what a destroyer at sea was to a dreadnaught. Walter Kamp and MacMechen traveled to England and, after negotiating with high officials of the British Naval Airship Service, obtained an order for the construction of 5 airships and sheds. British industrialists backed the order with a sum of $5 million. A corporation was formed with MacMechen as General Manager and Kamp as chief Engineer. Walter R. Kimball became superintendent of construction. They were assisted by 2 other engineers.

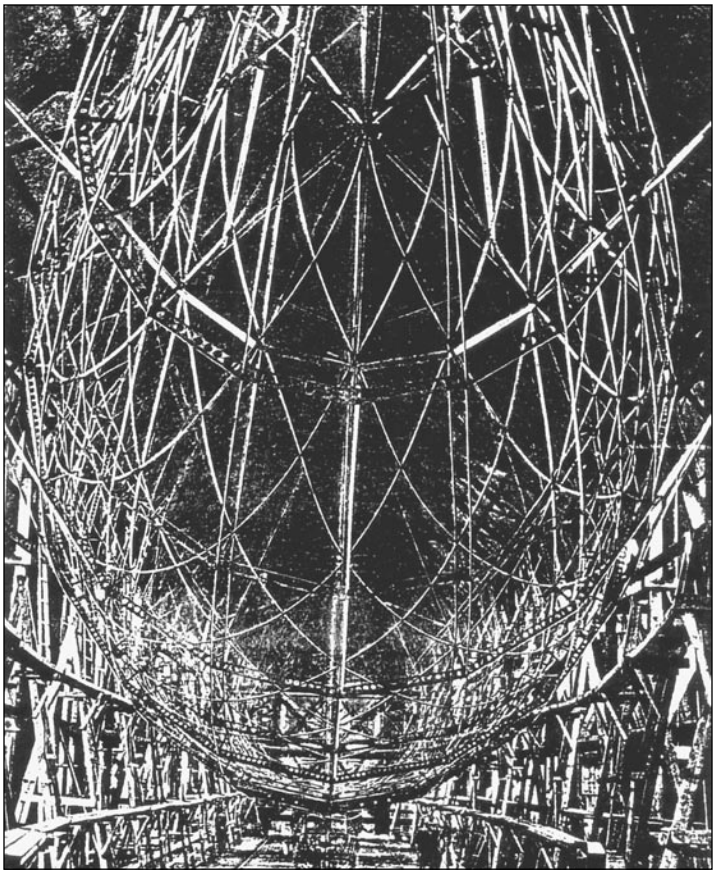


Early in May, 1915, the construction shed was erected in Barking, a suburb of London. It consisted of a wooden frame covered with corrugated sheet metal. Large windows, placed high in both sides, provided daylight but prevented unwelcome visitors from looking in.

The shed a length of 266 ft, 81 m, a width of 50 ft, 15 m, and was 60 ft., 18 m, high. On top of the roof, above the entrance, was a small meteorology station. Rails led from the shed into the open field and electric winches were provided to ease handling of the airship

in and out of its hangar.

Immediately after the shed had been completed, the building jigs were assembled and construction of the airship began. The airship was of the rigid type but of unusual construction, incorporating the design features Walter Kamp had patented.



The hull was a 16-sided polygon and had 29 transverse frames. The longitudinal framing consisted of both, an outer and an inner frame that were interconnected at the transverse frame junctions. The outer longitudinal girders consisted of 2 parallel bars made from laminated Canadian Fir. They had a square cross section and were attached to each other by square struts, such forming a "ladder-type" construction running from bow to stern. The inner frame consisted of 16 pairs of square wooden strips which spiralled right and left from bow to stern and were to contain the 14 gas bags. Fourteen main and 15 intermediate transverse frames consisted of a plywood web with laminated fir cap strips. At the corners they were reinforced with plywood gussets. All webs had multiple lightning holes. The spacing between the outer and inner frame provided for the circulation of cool or warm air was 12 inch, 30.5 cm, wide. On the inside of each of the main transverse frame junction points, a short piece of chain was attached from where radial steel wires ran to steel rings, positioned on the center line of the hull. This construction strengthened the frame work and formed 14 bulkheads separating the gas bags. (This type of construction was used by Charles Toliver just a few years earlier, but it is unlikely that Kamp knew about that.) Although some aluminum rivets were used, all the different frame members were lashed together with Norwegian twine and secured with a special glue.

A keel which also functioned as the control car and housed the engines, fuel tanks and armaments, was positioned underneath the straight part of the hull.

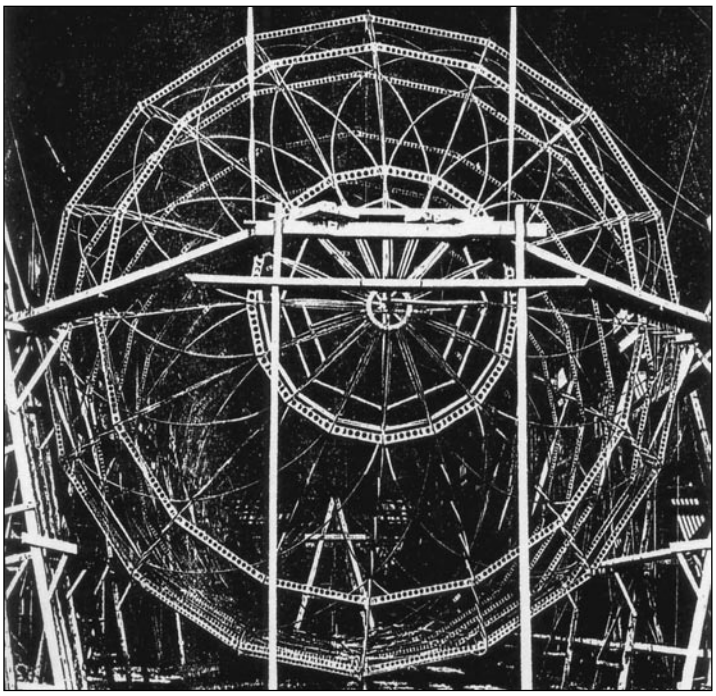
A special feature of the airship was the "drooped" nose cone of the hull by several feet below the center line. Kamp believed that placing the nose cone in the center of the cross section of the hull with keel, it would ease the entry of the keel into the airflow and thus reduce air resistance and increase speed. Somewhat, but not exactly, like the "area-rule" effect of the mid 70's.

Walter Kamp applied for a patent for this invention on October 5, 1916. It was granted on August 14, 1917; U.S. Patent #1,236,961. Six or seven other patents, concerning different types of construction of the frame-work, were granted to Kamp and / or MacMechen.

The outer cover of the hull and the keel consisted of aluminized fabric. It may have been the first time that aluminized fabric was used on an airship. The 14 hydrogen cells were made from 3-ply, rubberized, Ceylon cotton fabric. The airship was originally designed to be propelled by a 40 hp and a 80 hp Green engine, each driving 2 four-bladed propellers, positioned on both sides of the envelope, but this was soon changed to a 75 hp ENV engine in the forward part of the keel and a 125 hp green engine in the rear.

Each engine had 2 radiators which were positioned on the outside of the keel. The propellers were wire driven. The exact shape of the 4 tail fins is in question. The rudders and elevators were positioned behind the tail cone of the hull. Two auxiliary elevators were positioned on both sides of the hull above each propeller. The installation to lower or increase the temperature of the lifting gas, consisted of an engine-driven air blower; a valve box and a spark filter. The air blowers were the only American-made components of the airship. The valve box allowed either cool air or a mixture of air with hot exhaust gases to be forced into the space between the inner and outer framework.

A spark filter, installed directly behind the valve box, prevented that any sparks, present in the exhaust gases, could come into contact with the hydrogen. It consisted of a rectangular copper box and contained copper wire mesh screens and asbestos baffles. MacMechen and a British subject, Edwin Marshall Fox from London, had applied for patent on December 1, 1915. It was granted on March 13, 1917, U.S. Patent #1,219,121.



Although the level of security pertaining to this airship was very high, MacMechen had disclosed , in March 1915, that the armament would consist of 2 Hotchkiss machine guns and a "rocket" or "torpedo" gun that could fire a 2 lb. explosive projectile with a range of 1,600 ft., 500 m. Exactly where and how the armament was positioned has not been disclosed, but must have been somewhere in the keel. Early November 1915, the framework of the hull had been completed and was suspended by straps from the roof of the hangar in order to attach, the already completed framework of the keel.

It seems that around this time, it was realized that the airship had become too heavy to fulfill its role as a Zeppelin interceptor.

Replacement of the originally chosen engines with the much stronger and heavier ones, as well as other weight overruns, paid its price. In the meantime, the performance of the German zeppelins had drastically been improved as well as the performance of fighter airplanes which soon would be able to attack their dreaded enemy. Even if the crew of the airship was reduced to 3 and the "torpedo" gun and one machine gun would be removed, it was no longer expected that the killer airship could fulfill its intended role. The Admiralty relieved MacMechen from all his responsibilities as General Manager and delegated it to his former co-worker Edwin Marshall Fox. MacMechen left England on November 17, 1915, and returned to the United States, where, he declared, he would present plans for a large 15 ton airship for the U.S. Navy.

After his departure, the project became known as the "Marshall Fox" airship. Apparently, after this event, activities came to standstill. Nothing is known about what happened to the framework, etc. except that it was used for some type of experiments. The hangar at Barking remained there for several years after WW1 and was than dismantled. Neither one of the principals: MacMechen, Kamp and Marshall Fox played any further role in the development of airships. Ω

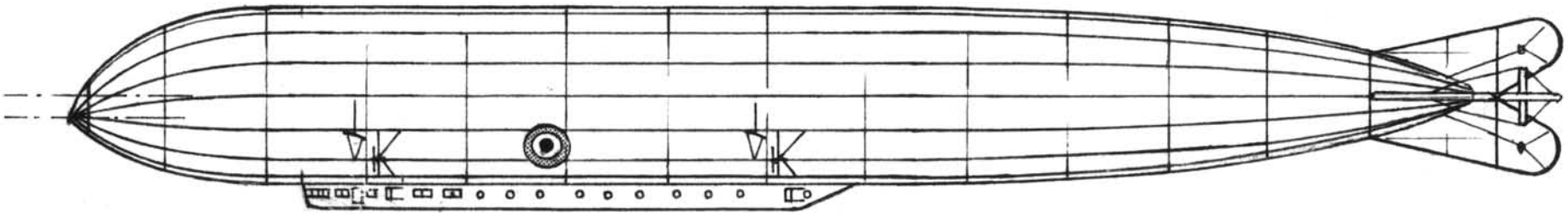
Author's Note

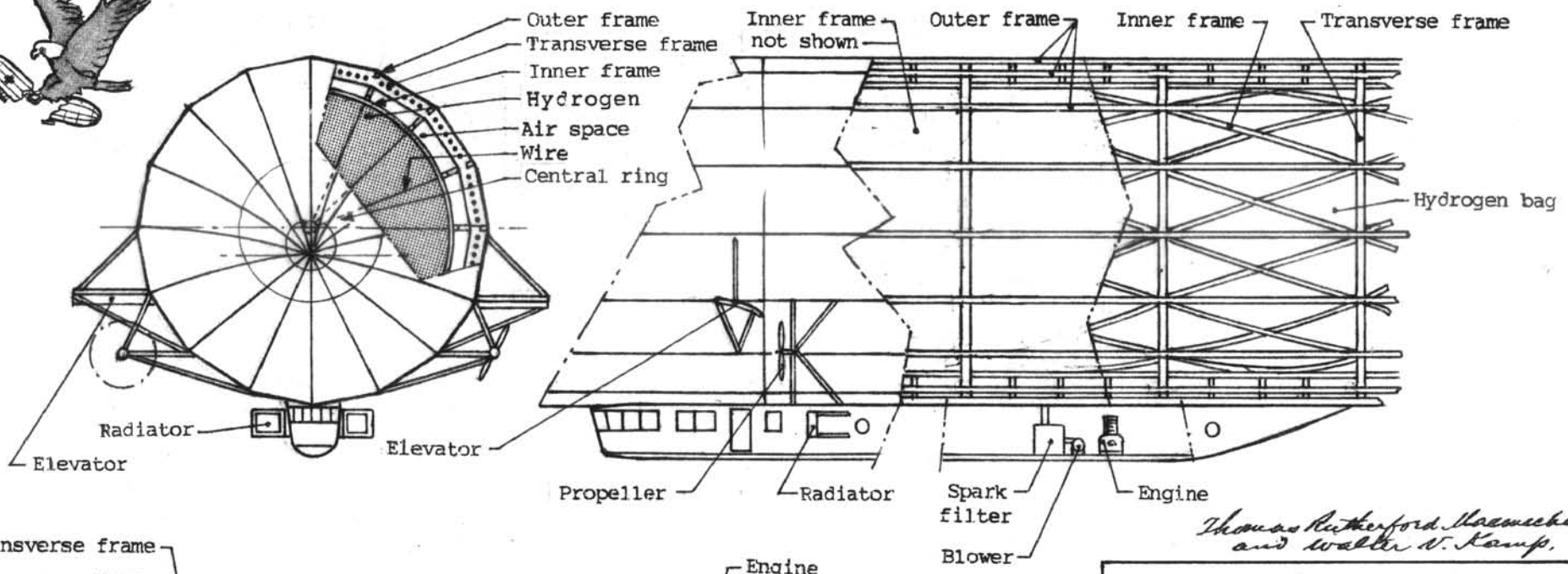
Researching the history of the MacMechen-Kamp airship has been a frustrating experience. The first time that it was mentioned in any publication was in March, 1915. A magazine article showed an illustration (artist impression) of the ship and a small photograph of the hangar, taken before construction of the airship had even begun and before the shed had been completed. Two other magazines published the same inaccurate illustration before the end of WW1. Since then, the project was briefly mentioned in a few books and 2 other magazines, long since out of print.

Only 2 references of prime sources of possible information were found: one at the Naval Records Center, Arlington, VA, and the other at the National Archives and Records Administration, College Park, MD. Unfortunately, neither one could be located. They may have been misfiled.

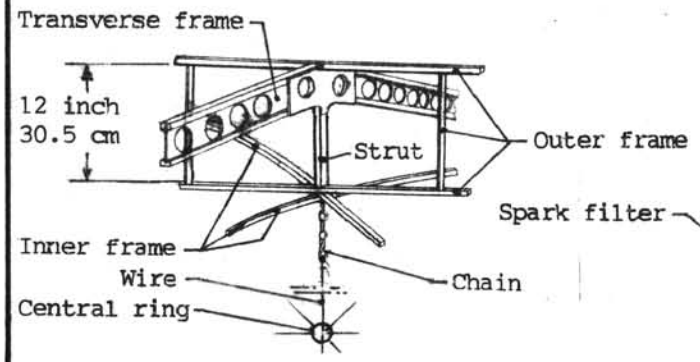
By a great stroke of luck, many years ago, this author had been given a copy of one of the sources by a colleague. It contained many photographs of the completed framework of the hull. Painstaking examination of the faded copies led to the paper reconstruction of the frame and allowed an accurate drawing to be made. Ω

MACMECHEN-KAMP ZEPPELIN DESTROYER

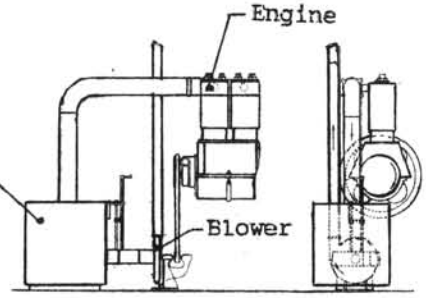




Thomas Rutherford Macmechen and Walter V. Kamp.



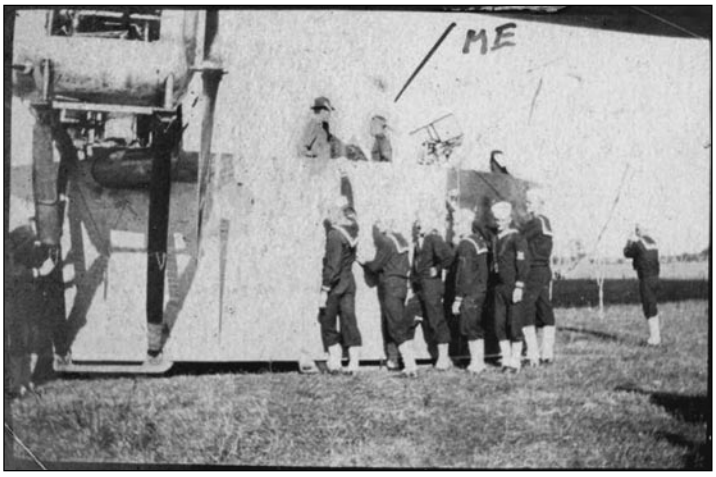
Typical junction of the different frame elements



Blower and spark-box assembly

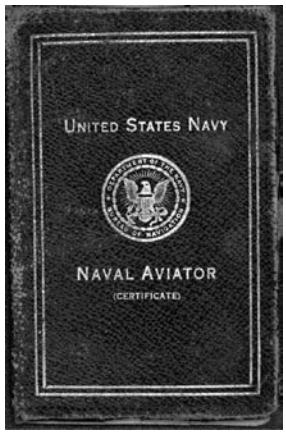
Length	:	237 ft , 72 m
Diameter	:	28 ft , 8.5 m
Volume gross	:	108,000 cu ft, 3056 m3
Volume gas	:	99,700 cu ft, 2820 m3
Gross weight	:	5600 lbs, 2540 kg
Speed max.	:	70 mph , 112 km/h
Range	:	300 miles, 480 km
Engines	:	1 x 75 hp ENV
		1 x 125 hp Green
Armament	:	2 x Hotchkiss mg.
		1 x Rocket gun, 2 lbs

New member **Joe Long**, *Curator of Education at SCCRRMM, offered follow-up items from his incredible article in TNB 79:*

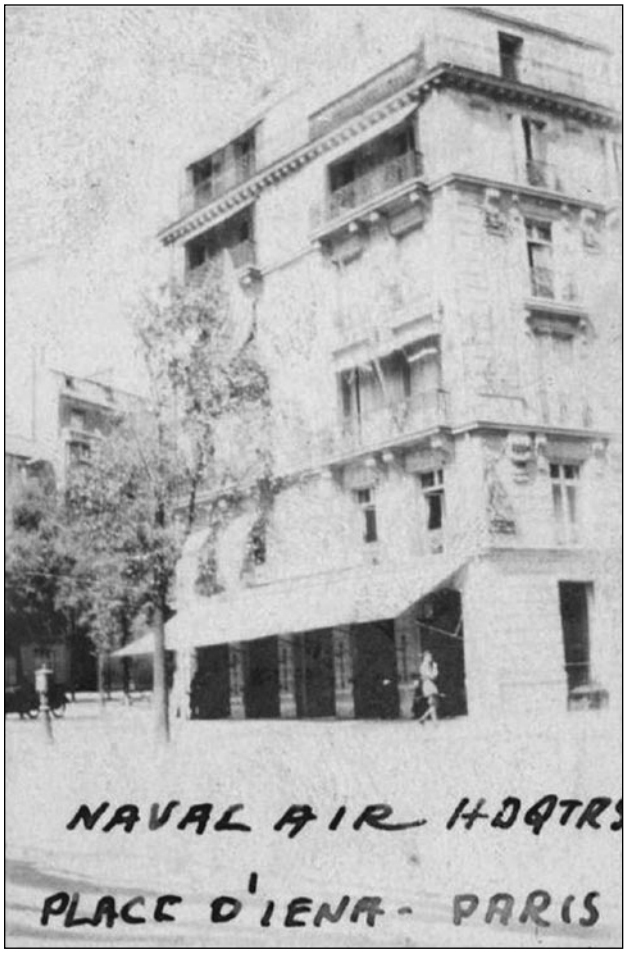


"We found a photo in Griffin's scrapbook which I had overlooked until you sent me the FDR image. It shows him at a distance, with a civilian in a hat - the line which Griffin drew says "Me!", but I think the man he's standing with might be FDR! The photo appears to be James Franklin Griffin shaking hands with Assistant Secretary of the Navy, Franklin Delano Roosevelt, at Paimboeuf air base in an airship car in 1918. Another photo in the same album shows a figure in the same hat and coat walking across the airbase, and Griffin labelled that one "FDR", but in this photo he only labels himself!

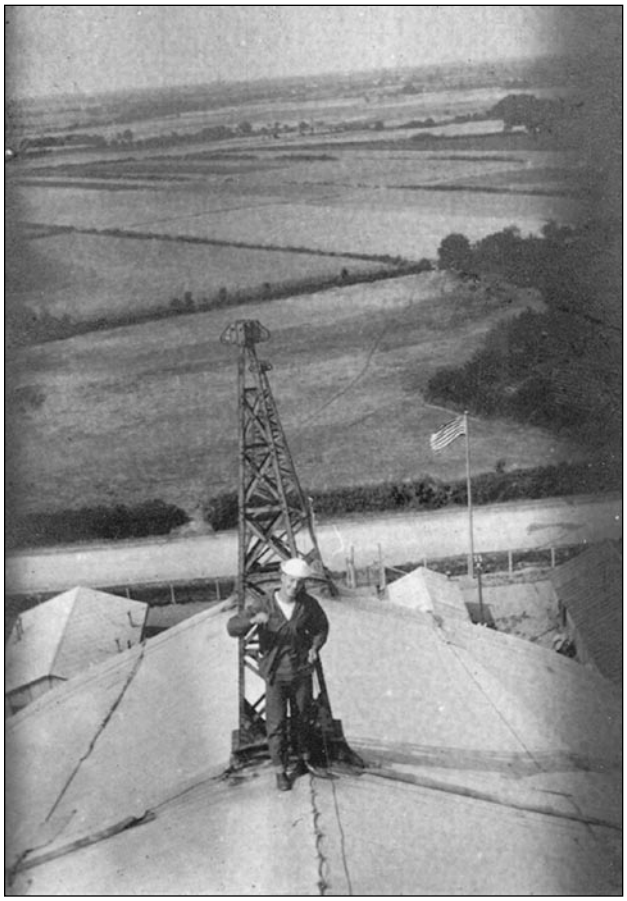
-We run videos from our web site, of assorted artifacts. Early this summer I did one (in WWI naval uniform with the same rating badge Griffin wore...) explaining Griffin's flight helmet. It was just posted to the Web last Friday. I am somewhat embarrassed because they shot the video earlier in my research, and I had not yet discovered that Griffin was not only "shot at" but was actually wounded in action! However, the members might enjoy seeing this piece of history by video anyway, even though it's flawed. It's at – http://www.youtube.com/SCCRRMM Under "WWI dirigible pilot". Close-ups of the leather helmet and a couple of photos from the scrapbook.

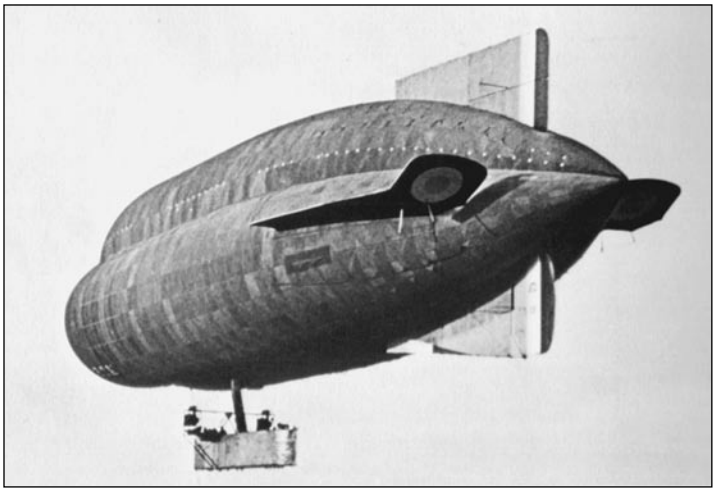


James Griffin's naval aviator ID card case, 1918.



I haven't positively identified whether Griffin took this picture *[below]*, or someone took it OF him, but it is either him or a shipmate at Paimboeuf. Ω





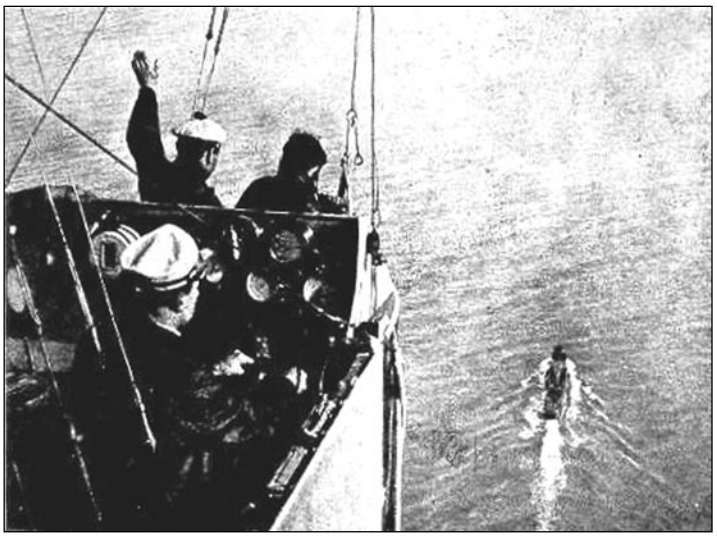
French Naval Airships – Background

By Richard G. Van Treuren

In the birthplace of aeronautics, the French Army and private firms had built many airships before the outbreak of hostilities. Afterwards, as one author stated, "Between August 1914 and March 1917 French airships carried out sixty-two raids over enemy country with a loss of only two airships and ten officers and men killed." The French Navy expressed little interest at first, but in 1915 it was decided to develop a Naval airship program similar to that of Britain. Henri Beaubois states in his book AIRSHIPS that the first naval airships the French utilized were British Sea Scouts and a single Coastal type. The C-4 was transferred to France and re-designated AT-0. (A replacement Coastal airship in England was given the designation C-4, so there were two C-4's.) AT-0 actually destroyed a submarine; unfortunately, it was a British submarine, D-3. Eventually the French Army also transferred their airships to Naval service, including *Champagne* and *D'Arlandes*. The *Champagne* had completed several bombing missions in which she was damaged before finally taking so many hits she settled into trees, at least in friendly territory. Rebuilt, she operated after March 1918 as a Navy ship. French airships were remarkably effective at spotting and destroying mines, protecting convoys, and in air-sea rescue operations.

France established Naval airship bases at Aubagne on the Bouches-du-Rhone, Baraki (Algeria), Beauval, Corfu (Greece), Oran (Algiers), Cuers, Guipavas, Le Havre, Maubeuge, Moisson, Montebourg, Orly, Paimboeuf, Rochefort, Saint-Cyr, La Senia (Algeria), Bizerta, and Sidi-Ahmed in Tunisia. Operations covered the English Channel and the Mediterranean as far as the Ionian Sea. One source places French airship strength at thirty-seven at war's end.

The French operated some 18 Astra-Torres airships. AT-0 (the Coastal purchased from England), and AT-1 through AT-17. AT-11 completed one flight of 37 hours 15 minutes. The big Astra Torres ships of 339,000 cubic feet, AT-10 through AT-17, carried 75 mm cannons in addition to bomb loads. Patrolling the Mediterranean, five Astra-Torres ships were deployed to the north African bases of Alger-Baraki, Oran-La Senia and Bizerte-Sid Ahmed. One Zodiac cruiser hit a cliff in fog near Le Havre; weather or mechanical trouble also claimed AT-5, and AT-8, lost off Tunis.



The French came to appreciate the airship's value in ASW. Naval airships were armed with one or two machine guns, but the larger air cruisers equipped with 47 mm cannons. While they lacked detection equipment, a diesel sub running on the surface left a visible scum on the water. The Lakehurst LTA training course explained the Germans had not matched the English in developing anti-airship projectiles. "Five Army airships were lost to enemy antiaircraft fire but only one crew. Another, the *Dupuy-de-Lome*, was shot down by French troops who mistook it for a German, despite the radical difference in appearance… The mission assigned the French airships was anti-submarine operations, scouting and detection of mines, protection of convoys and merchant ships. Bases were quickly established as the available forces grew, first on the channel coasts, then in the African colonies on the far side of the Mediterranean, and eventually on both sides of this sea. The African convoys were very important to the French and every means were taken to protect them. Because of the long stretch to be covered, the larger ships were used mainly in the Mediterranean and the smaller ships on English Channel and Straits of Dover." Ω

MEMBERSHIP COMMITTEE UPDATE

Since our last message in The Noon Balloon #79, the membership committee has moved forward on the plan to introduce the NAA to colleges and universities that offer military history courses, both undergraduate and graduate level, to increase their awareness of the unique role played by airships during WWII. We are also targeting schools with ROTC programs. While not as exciting as dogfighting by pursuit aircraft or flights of hundreds of bombers carpet bombing enemy munitions factories, we all know that the airship played a critical role in winning the Battle of the North Atlantic.

Our goal is to educate people on this, raise awareness through teachers, and get more students exposed to this important phase of the war and the other contributions made by airships in the Cold War as well. Your TNB editor has reached an agreement with a major supplier of model kits to include a NAA brochure in their kits. I am sure he will cover this separately. Our half page ad in the October, 2008 issue of The Journal of Military History, published by the George C. Marshall Foundation and the Virginia Military Institute for the Society for Military History is being published as I write this and we look forward to an excellent response. We are still looking into other publications that could provide us with additional exposure to not only former blimp crew members, but also airship enthusiasts and aviation historians and researchers. If anyone has any suggestions of potential publications please let us know. Please keep looking for other outlets where we can display NAA brochures and contact me with your thoughts. We will do the follow up work and any mailings necessary. Ω

- Fred Morin, Chair

Black Blimp

William H. Clarke, *(above)* a few weeks shy of his 99th birthday, passed 5 AUG 08. Navy veteran from the era of rigid air ships and a survivor of the USS *Macon*, Mr. Clarke was identified as the last surviving crew member of the USS *Akron* (in which he was assigned the HTA unit) and USS *Macon*, in which he was ship's company, as a rigger. William Henry Clarke was born in 1909 and reared in Topeka, Kan. His family struggled to make ends meet, so he left school in the 10th grade and joined the Navy at age 17 in 1926. He married Mary McLachlan in 1934.

He was the coxswain at the rudder of the *Macon* returning to Moffett Field on Feb. 12, 1935. A violent wind gust is said to have ripped off the upper fin, causing damage that slowly forced the airship to hit the water, catch fire and sink. Mr. Clarke continued serving on smaller, non-rigid blimps. "He was off shift when the *Hindenburg* burned, but the next day he was assigned to guard the wreckage," said his son-in-law, Ollie Guinn. "He had a few pieces of the wreckage that he later donated to museums." He climbed the ranks to lieutenant junior grade during 25 years of active duty, including World War II and the Korean War. He worked as a transportation officer at Moffett Field and opened Clarke's Charcoal Broiler restaurant in Mountain View in 1954. He retired in the 1960s and lived Hemet and Auburn. He is survived by his wife Mary, a daughter and son. Ω

O. E. "Ed" Henne Jr., of Brentwood, Mo. *(left)* passed on July 5, 2008. Ed served in LTA on the West Coast. Ω

James Henry Hughes, 90, of Palestine, IL passed 8 AUG 08. James grew up in Crawford County, IL, graduating from Palestine Township High School in 1935. He graduated from the University of Illinois in February of 1940. He taught aircraft engines for the Air Corps Technical Training. November 1942 he enlisted at St. Louis, MO, as an Aviation Cadet. On March 4, 1944, LTJG James married Rita G. Smith at Lakehurst, NJ. After a transfer to Weeksville, NC, he spent the duration flying blimps. Jim was a relief pilot of the K-72 crew and first brought out the story of their dropping a homing torpedo on a submarine they'd tracked with sono-buoys. James is survived by his wife, one son, two daughters, and a number of grand- and great-grandchildren. Ω

Simon Lewis "Sy" Beattie, Jr., 88 *(above)* of Eureka, CA, passed August 31, 2008. Enlisted 10 days before Pearl Harbor, Beattie was a radioman in ZP-32 and flew K-ships, including the K-47, out of Eureka and other West Coast bases. Sy is survived by his wife Marie, a son, and grandchildren. Ω

Robert "R.D" Moore, 90, *(above)* passed on 28 JUN 08. Born in Maryland in 1917, Moore enlisted in the US Navy and served eleven years, his notice stating he reached the rank of "1st Lt." The notice also states he was on the crew of the first blimp to cross the Equator. Moore ran an avionics business and is credited with installing the first motion picture entertainment aboard airplanes. He was a member of NAA, QBs, and was a 33rd degree Mason. Moore is survived by his wife Betty and two sons. Ω

Harold L. Eberly, 86, *(above)* passed 12 JUL 08. Harold served as an LTA and HTA pilot from 1942 until retiring in 1964 as a LCDR. He received his master's degree and taught until his retirement in 1986. He is survived by his wife Annabelle (photo), three children and a number of grandchildren. Ω

Hadley K. Burch, passed July 13, 2008, in Pittsfield, VT. Ω

Join us in Pensacola...

The 2009 NAA Reunion will be held in historic Pensacola, Florida at the Crowne Plaza Pensacola Grand Hotel beginning **May 4th** and ending with a banquet dinner on **May 6th**. Rooms will be available at our reduced rate of **$125** per night plus tax, from May 1 to May 8, 2009. The hotel is holding rooms for the NAA until April 2009.

Weather permitting, we will have bleacher seats for a Tuesday air show presented by the Blue Angels (rain date for the show is Wednesday). Tuesday and Wednesday will afford time to visit the National Museum of Naval Aviation. The museum's naval airship display has been completely reworked with the addition of the front portion of the Snow Bird car and the completed, restored L-8 car. A NAA Business meeting, with proposed by-law changes and election of new officers, will be held sometime during the reunion.

Other activity options have yet to be finalized but may include trips to Pensacola Beach, the casino in Biloxi and a car caravan tour to Battleship Park in Mobile.

Registration forms will soon be mailed to you, including menu selections for the banquet dinner. But there is no need to wait to book your room: the Crowne Plaza Pensacola Grand Hotel is now accepting reservations via telephone or online.

To reserve a room over the phone, call toll free at 1-800-2 CROWNE, or direct at 1-850-433-3336.

To reserve online, visit www.pensacolagrandhotel.com and follow these steps:
1) Select **"Reserve Now"**
2) Click on the plus sign **(+)** next to **"Corporate, Group & IATA"** to expand the field
3) Fill out required information, dates, room preference, etc. Next to the "Group Booking Code", type **"NAS"** to receive the group rate of **$125**.
4) Proceed to making your reservation.

If you have any questions about reserving a room or you need assistance, contact Kasey Buchanan or the hotel's Sales Department at 1-850-433-3336.

Above: Colorized photo, USS Macon (ZRS-5) with HTA unit insignia and next TV set of bridge (See page 23).
Below: William and Mary Clarke, our last connection to the "Zeppelin" era and its "storied history" (See page 30).