The Official Newsletter of THE NAVAL AIRSHIP ASSOCIATION, INC.

No. 85   SPRING 2010

REUNION: ZEPPELIN FLIGHT!
NASA’s Web Site identifies this photo as “PAGEOS Satellite test inflation at Weeksville, NC,” obviously confusing it with the ECHO test seen at right. Rick Zitarosa writes of the August 5, 1965 Lakehurst image above, “You can see many details of the interior of the giant hangar…you can see a (reverse image) view of the car of ZPG-2 #141561 against the Northeast hangar door, together with what appears to be the car of ZPG-3W #144243 covered with a “tarp” made from a discarded airship envelope. Also note fins (with distinctive red ruddevator surfaces) as well as red nosecone from the “561” against the Southeast door, several storage crates containing mothballed airship parts and a few of the old German Magirus airship maintenance ladders which dated back to the 1920’s...All this stuff eventually ended up over in Hangar #5 by 1968-69...”
“What!? You still haven’t renewed for ’10?”
Communications officer at South Weymouth in May ’44. Walter Pilsbury, advises you to send in your dues! (NARA photo via Mark Frattasio)

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The continued nonsense spouted by editor Richard Van Treuren about helium being somehow detrimental to the overall history/progress of LTA reeks of uninformed bias, revisionism and disinformation. It also constitutes a slap at the history of airships in the United States Navy and the men who valiantly strove to make the concept work and develop helium into universally-accepted lifting gas for LTA. They did not do this blindly or stupidly; their pencil/paper slide-rule-era education in engineering and aerostatic principles nevertheless gave them realistic parameters in which to seek the best possible solutions for long-term sustained operations. Despite the challenges, the overwhelming conclusion was that helium was an economic, political and operational necessity.

Under ideal circumstances, an efficient airship leaves the ground light or around “eq” and returns slightly heavy, utilizing a cheap and universally-available lifting agent. The physics and economics behind this dictate a gas like hydrogen. The realities behind this, at least for now, dictate helium, despite the greater expense. Why? Because nobody is going to provide money for a start-up venture utilizing a gas associated with one of the most spectacular disasters of modern times unless there is a demonstrated need/benefit.

You go into business to succeed and make money and to do this you must sell something someone wants to buy. This is often done by planning, incremental growth and demonstration, not by dreaming and fanaticism.

I have battled long and hard with Richard Van Treuren on this issue, as he continues to postulate the myth that hydrogen was blameless in most of the high profile flaming airship accidents of the 1897-1937 period. He continues to blame everything from fuel to materials used, particularly fabric outer covering and the use of certain types of acetate and acetate-butyrate fabric “dope.” (I guess I could simply ask, “Richard, can you name me three helium-inflated airships that burned and were lost with all aboard?”)

Whatever Richard continues to wish to believe (and peddle in his fanatical ramblings that unfortunately are beginning to seriously undermine the quality of the NOON BALLOON) it must be reasonably and generally concluded that the use of hydrogen is not a particularly strong selling point for modern LTA/LTAV/ADV craft at this juncture. And I say this even at a time when the U.S. Government is operating a number or large, tethered aerostats overseas where the problems of helium supply/reclamation/purification are somewhat complicated, yet it is still felt advantageous to continue with helium use rather than hydrogen. For the record, the U.S. Navy did not completely abandon hydrogen until 1943. They still used it for all their training balloons until a static electricity accident that summer claimed three lives...and then helium became standard even for free balloon training operations in which there was little/no chance of recovering the gas unless you happened to land back at an LTA base. (Of course, by this time the cost of helium was two or three cents per cubic foot, about a tenth of what it is today.) For the most part, operations have been tied to helium availability ever since.

While the cost of helium has gone up, the availability of better materials has helped bring about considerable overall savings. We’ve come a long way from the “goldbeater’s skin” (animal gut) cotton gas cells that only gave way to “modern” materials like gelatin-latex fabric in the very twilight years of the rigid airships. And even in what was regarded as the “heyday,” airship envelopes of the 1940’s were made from (usually 3-ply, sometimes 2-ply) rubberized Egyptian cotton. Particularly in the case of long-term outdoor (mast-based) operations in coastal or tropical climates these envelopes might have service life of 18-24 months. Rule-of-thumb gas loss was generally around 1.5 times the overall volume of the airship per annum. (As rubberized fabric has a tendency to rub and spark, I have always wondered how safe the old-time “rubber cow” hydrogen inflated non-rigids really could have been, particularly if one takes into account the amount of surging/swirling that the ballonets can do in flight, coupled with possible air contamination of the gas!)

Today’s Dacron-based envelopes are 1/2-1/3 the weight, 4-5 times as strong, service lifespan is anywhere from 10-15 years, annual gas loss is generally under 50% per (some TCOM envelopes are even better).

The U.S. Navy’s rigid airships used all types of expedients to maximize the effects of “superheat” and “supercooling” and generally left the ground with the gas cells inflated no greater than 92-95% so they wouldn’t have to valve anything in climbing to a reasonable altitude. This conserved helium but it also robbed payload/range capability and the USN’s tendency to fly slightly “heavy” probably didn’t do the airframe much good. Helium supplies remained sporadic and expensive thru most of the 1920’s, but it is doubtful that America would have pushed airships much at all had it not been for the “blessed natural monopoly” of helium gas that made the argument so convincing. Hydrogen-inflated ships had no such thorny restrictions...they could take full advantage of the ship’s lifting gas capacity. Coupled with the fact that hydrogen was also cheap and available just about anywhere in the
world, this was an enormous commercial advantage. But gruesome headlines (particularly the ZR-2, Roma, R-101 and Hindenburg helped slam the coffin lid on rigid airship concept). Despite lots (and lots) of talk, there has not been a large rigid airship in the skies in 70 years. Even America, with its “blessed natural monopoly” wasn’t anxious to buy into the rigid airship argument anymore.

With non-rigids, in order to get maximum payload you have to start off low or “flat” ballonet and in the case of helium this limits the altitude you can attain without venting gas through the automatic valves. So even today most non-rigids fly in calculated compromise of payload/altitude capability, particularly in the hot summer months.

Despite the “ballonet ceiling” restrictions, non-rigids by the mid-1930’s began to get innovative on their own. Rattan “bumper bags” under airship cars gradually gave way to rubber tires and finally actual “taxi wheels” which could really do something. Goodyear commercial blimp pilots found that by making a rolling takeoff into the wind, they could lift off some 300 pounds “heavy” with their standard pre-war 123,000 cubic foot advertising ships. Ship sizes and capabilities were continually revised upwards from this point. The wartime “K” ships could be coaxed to take off 2,000 lbs heavy...in an airship that might burn 30-40 gallons of fuel per hour, this was a considerable advantage. The “M” ships could lift off 3,000 pounds overloaded and by the late 1950’s the ZPG2 airships were proving capable taking off over 10,000 lbs. overloaded. Depending on how the flight was planned, it was possible to takeoff with a substantial amount of fuel/payload, fly for days and still come back to land slightly “heavy” with no need to valve any gas.

What could the same airships have accomplished with some form of hydrogen ballonet, hydrogen/helium lifting gas mixture (up to 15% is said to be safe and feasible) and is helium an essential especially in the case of some type of high altitude unmanned project? Fair questions, but best answered in the context of wanting to first maximize a platform and move forward on the heels of demonstrated and proven success rather than speculation.

-Rick Zitarosa

Want to get something off your chest? Let the editor have it at rgvant@juno.com.

ATTENTION ALL MEMBERS

The Nominating Committee for the proposed election of officers at the 2010 reunion has been confirmed. As a group, they represent over 100 years of association with airships. They are widely dispersed geographically and are well representative of our Members.

Chairman: Mort Eckhouse (FL)
Members:
Bob Forand (MA)
Albert H. Robbins (IN)
Daniel R. Toleno (CA)
Robert L. Ashford (FL)

Their addresses, telephone numbers and e-mails are listed in the current Membership Directory. NAA members are strongly encouraged to assist the Committee by submitting names of proposed officers to any member of the Committee for consideration. Those recommended must agree to serve, if elected. Herman G. Spahr, President

Important: Sec-Treasurer Pete Brouwer asks all members to please verify their roster information is updated and correct. Please pay close attention to complex and changing e-mail addresses, not just address and phone numbers, and keep us up to date.

THE NOON BALLOON
Newsletter of the NAA

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Florida Division of Corporations, Letter Number: 800164733008-010710-N11957: SUBJECT: NAVAL AIRSHIP ASSOCIATION, INC. In compliance with the request on your 2010 Annual Report, the certificate of status for the subject business entity is attached. Document Number: N11957
The Executive Council were again guests of Debbie and Richard Van Treuren at their home in Edgewater, FL, last September. “The Dome,” as it is called, has become the “unofficial white house” of the NAA. [Below Florida’s own Spirit of Innovation buzzes the dome house, AUG 2009.]

The presence of Mort Eckhouse and Eloise was missed since Mort had requested to be relieved of his position and in turn accepted a new appointment as Chairman of the Nominating Committee. A search for a replacement Council Member is in progress.

As you know, much of the historical information relating to airship operations has disappeared. We have been searching for memorabilia in the possession of our members that hopefully could be preserved in the files of our organization and perhaps shared with our Members and the National Museum of Naval Aviation in Pensacola. Recently, Linda Bolam Corcoran, daughter of deceased Captain Cecil A. Bolam, USN, presented the NAA a large roll of film which was thought to be about airships. The film had not been viewed for over 50 years. When transferred to a DVD it revealed only a few seconds of hangars 5 and 6 at Lakehurst; the remainders were family scenes.

Much was accomplished. It is regretful that time, money, and distance does not permit the Council to convene more often. However, Secretary/Treasurer Peter Brouwer does a good job in keeping the Council informed and administrative matters flow smoothly. Your officers and Council Members are in frequent communication with one another. We have a great team.

As a matter of expediency, I appointed your elected officers as a Site Selection Committee for our next reunion. Several sites were considered and Moffett Field, CA, was considered the most appropriate. Peter and Betty Brouwer made a personal visit to the area and gave an impressive report on their findings. The Council was unanimous in their approval. Peter will serve as Chairman of the Reunion Committee, assisted by several members who reside in the area. You will read much about scheduled activities in the months ahead.

However, during a recent visit with CDR Walter D. Ashe, USN at Bristol, TN, it was confirmed that Captain Bolam actually did film airship operations during carrier landing qualifications of two airship squadrons in the mid 1950’s. I was present during those operations out of NAF Weeks-ville, N.C. We are trying to recover those historic films.

Members who have possession of similar memorabilia are urged to consider donating such items to NAA for preservation, reproduction, and perhaps sharing with other members. Naval airship operations reflect a rich history in the defense of our country and preservation of peace, which is slowly fading from memory.

It is up to all of us to keep it alive.

- Herm Spahr
TREASURER’S STRONGBOX

Welcome Spring! I’m sure the changing weather will make everyone smile! We are in good standing with the renewals. Thank you everyone for sending in your renewals and also, we thank all for their generous donations. Also, please call me if you have any changes in your home address, e-mail address, or phones. It is very important to keep this information current. Remember, the date above your name and address on the mailing wrapper shows your membership standing.

WELCOME TO OUR NEW MEMBERS
Proctor, Ronald E., High Point, NC, former ZP1
Bumpers, Carl J., Racine, WI
Punderson, James M., Island Heights, NJ (re-instated)
Hayes, David E., Salem, MA (re-instated)
Bain, Addison L., Melbourne, FL
Gladstone, B. James, Santa Monica, CA
Pant, Rajkumar S., Powai, Mumbia, India
Furtado, Dan, Campbell, CA
Slate, Thomas Rev., Puyalluo, WA
Slate, Robert, Fort Collins, CA
McMillan, Edward R., Silverdale, WA (re-instated)
Dennis, Franklin W., Long Branch, NJ
Newton, John T., Montreat, NC

DONATIONS
Leon Moore
Dan Furtado
August F. Dobert
William Sargent
A. V. VanNostrand
L.E. Hurley
Raymond F. Braun
Thomas R. Cuthbert
George W. Allen
George Carmichael
Sidney M. Shaw
Daniel B. Bowser
Bart Donohue
Hastings, Wayne C.
Kiefer, Robert C.
Lyon, Roy
McKeon, Donald E.
Sullivan, Gerald
Scherer, Russell
Vincent J. Hoye
Frank Mahne
Julian H. Parrish Jr.
Robert L. Sorrentino
Walter D. Thomas
William E. Zidbeck
John Craggs
James P. Fliint
Edward Pietrzak
Herman G. Spahr
William R. Spahr
John Warden
Ben J. Borrebach
Gordon S. Bodek
William A. Gibson
Peter W. Halke
Richard L. Jourtas
Joseph V. Wood
Jeffrey C. Evans
John W. Vaughn
Paul H. Hawley
William H. Smith
Von Fecht, Kent C.
Virgil J. Klibofoske

TREASURER'S STRONGBOX

James E. Vaughn
Michael R. Hanneld
Ed Clark
John H. Spangler
Richard Rosenbloom
Chuck Sapp

Harlan Wilson
Tony Dermarderosian
Chuck Davis
James L. Yarnell
Roland J. Knobel
Bobby E. Sheril

MEMBERSHIP COMMITTEE UPDATE

As was reported in the previous Noon Balloon, the Executive Council met in November. Among the many issues discussed was the progress the membership committee is making regarding expanding into non-traditional areas for new members. Based on feedback from members and others I have consulted, it was determined that we need to make some improvements in our website and databases to attract more members in the academic, aviation enthusiast and researcher areas. Accordingly, the membership committee submitted a proposal to the history committee asking for their help in expanding the base of information we have on the NAA website. In this day and age, most people look to an organization’s website for information on the organization, their benefits of membership and what they have to offer to researchers, enthusiasts, etc. I recently was substitute teaching in a high school science class and one of the students was making a radio-controlled blimp for his science project. I directed him to a number of LTA websites and to the NAA site for background material on blimps. After looking through our site he wanted to know how he could find information without reading each page of The Noon Balloon and what else we had for information. Aviation enthusiasts, military history students and researchers have the same questions. While we have made great progress in posting complete copies of The Noon Balloon on the website, there is no way to determine the content of each issue without reading each issue. We need to provide an index of each issue that makes it easy to find specific topics. Furthermore, we need to post an index or finding aid to the collection of historic documents, artifacts, memorabilia, etc. that the history committee has in its possession. I am pleased to report that the chairman of the history committee agreed 100% with the request. By expanding the data on the website we increase the value of membership and make our association more attractive to a host of new members. Our direct mail campaign to colleges and universities, military history departments and ROTC groups will then have a substantial new benefit to offer.

Over the next several weeks we will be contacting some NAA members asking for their help in organizing the website changes and possibly looking into some form of internship program to assist the history committee in indexing their data. As always, any suggestions or help will be graciously accepted.

- Fred Morin, Chairman
Pigeon Cote

Robert Feuilloy (who supplied the photo at right, from his book) answered the Ed.’s question about a Power Point from France comparing Normandy of 1944 to today. The images included what was obviously an airship hangar, which if it still stands, would be a few years older than America’s oldest original LTA structure, Hangar 4, at Lakehurst. Robert e-mailed, “I have also received from somebody else this pps. The airship hangar is the n°2 from Montebourg also named more precisely Ecausseville. There is an association which owns this hangar and I know the president.”

Ω

Ralph Jeffer sent along this image of the last K-ship flight roster. He has donated the original to NLHS. Ω

A Canadian writer was routed to the History Committee trying to follow up on a book by one O.C. Spenser called “Flying The Weather.” The Canadian said the book “…discusses the reconnaissance of a hurricane near Puerto Rico (late 1944) by his unit and upon approach to Kingston the tower controller contacts the Army B-25 plane and reports that a “Navy Blimp” was down over the ocean, south of Jamaica. The tower asked if the Army recon plane could head south and reconnoiter the area for the downed Blimp and report its position for rescue efforts. Flying in the fog, at 150 feet, the Army B-25 locates the Blimp; looking like a huge cigar sticking out of the ocean …”

Ed. checked Jim Shock’s US NAVY AIRSHIPS and found no such incident, and suggested that author may have confused this supposed weather-related accident with the loss of K-94 off Puerto Rico, in which a B-25 was also lost. We know of only two K-ships lost in WWII with weather as the direct cause. The Canadian insisted his information was accurate, so we sent Jim’s complete stories of K-94, K-133 and K-34. The Canadian responded by saying Jim Shock must have missed one. Though unlikely, I suggested the Canadian join the NAA and ask our members. His response: “I have enough expenses on this project already. Your $25 fee is equal to 30 photocopy pages from the National Archives.” Lead a horse to water… which brings up the question of how much time and effort our volunteers should be expected to donate, to what ends.

Another website inquiry direction found History Committee members responding to a Californian who’d heard about a supposed Japanese sub sunk by a blimp off Eureka. Rick Zitarosa answered reiterating what is still the Navy’s official position, “The only crew ever to be decorated for an actual engagement with a submarine was the aircrew of the K-74, which was badly damaged and crashed following an engagement with a German U-Boat in the Florida Straits on July 17, 1943. One man was lost to a shark awaiting rescue. The airship skipper, LT. Nelson Grills, almost got Court Martialled for directly engaging a surfaced sub rather than making the contact and calling for assistance (though he had little choice, as he had valiantly put his airship between the threatening U-Boat and lightly-armed merchant vessels. As it was, Grills didn’t get his Distinguished Flying Cross until a special award ceremony was arranged in 1960!”
Jim Shock wrote this: “K-47: ...the first ZP-32 airship to operate from the auxiliary base at Eureka, California, 22 MAY 43... (Controversial): It is reported K-47 initiated an attack on an alleged Japanese submarine near Trinidad Head (near Eureka, California) in mid-late 1943, Peter “Ace” Culbertson, command pilot... K-47 proceeded to drop depth bombs and was later joined by the Coast Guard Cutter Shawnee that also dropped depth charges. Relieved by K-55, which also dropped charges, K-47 returned to Eureka, was refueled and returned. Local witnesses remember a “combat” day of many explosions and metallic object(s) register on magnetic detector gear in these same off-shore waters... Ed. wrote him back, “I talked to an older fellow at a bookstore downtown Eureka that remembered the “battle” as the explosions attracted the attention of the locals. He confirmed Beattie’s statement about locals finding diesel fuel washing ashore downstream from the fight, but knew nothing of the supposed footprints coming out of the water on the nearby beach. Culbertson himself contacted me after the Naval History article, and I had some phone conversations with him before he was stricken with Alzheimer’s. (Also talked to his son, a TV series actor, who had a screenplay about his famous dad’s LTA life.)

The first “physical remains” possibility we encountered, it was a short distance to a nice restaurant and hotel, not miles at trackless sea in forty fathoms. I wanted to believe those involved. Luckily for us, Christopher Grech, veteran Monterey Bay Research Institute fellow and finder of the USS Macon, volunteered to help. Chris got with Sy Beattie and mapped out the site as remembered. Chris concluded the water, too shallow to hide one of the big Pacific subs, could have only allowed a mini-sub like those launched at Pearl Harbor or the later ones used against American tankers. Returning also on his own nickel, Chris hired a local boat to carry the MAD gear he brought. Getting a MAD hit about where Sy said he should, Chris was ready to dive but the boat Captain forbade it owing to swells.

No one has ever revisited this effort. In later discussions, Chris showed me charts which suggest folks have been using Trinidad Head as a dumping site, so all sorts of major appliances and other metallic objects litter the area. Sy Beattie died last year. The Culbertsons have since disappeared; in September Ed. even visited their former address in Los Cruces, NM, to no avail. Herb Bedibach, past NAA Pres. and Culbertson’s shipmate, politely said “Ace” could find a submarine in the desert (a jab with a nod to his DFC-winning desert rescue) and Herb has since died. It must be noted “Ace” claimed an attack on a German sub as well. Author Gordon Vaeth calls that attack a wreck, but “Ace” told me he was approached after the war by a German submariner survivor who had found out his airship sank his sub. That attack was recorded in the 10th Fleet and the Navy took it seriously enough to transfer him out, a common practice when combat was reported or even suspected, though not universal. I have not been able to match that story in the German records; the Germans did not lose a sub in that area or time. I would not discourage you from pursuing this further, only ask that you join NAA ($25/yr) and keep us posted.” Nothing further from him.

Herm Spar, NAA guest at the recent Lakehurst Transition Ceremonies, was given a CD of Power Point presentations about Lakehurst, past and present, by Steve Rudowski. (With the new change in command, Steve’s position remains the same but his title might not be “Safety Officer.”) You see many of its colorful and dramatic photos on the inside back cover.

Steve’s CD also included a photo history of USS Lakehurst which reads, in part: “Lakehurst (APV-3) was built as Seatrain New Jersey in 1940 by Sun Shipbuilding Co., Chester, Pa.; owned by Seatrain Lines, New York City; acquired by Navy under bareboat charter 13 October 1942; and commissioned as Lakehurst at New York the same day, Comdr. H. J. McNulty in command. Notorious for being shot up more than any other U.S. merchant ship. Had many symbols of rockets and mortar bombs painted on her bridge wing, each denoting an attack.

After loading Army equipment, Lakehurst departed for Hampton Roads 19 October 1942 to prepare for the invasion of North Africa. On 23 October she sailed...
with units of Task Force 34 and arrived 8 November off Safi, Morocco. After unloading gasoline, ammunition, and miscellaneous military equipment, she departed 13 November for the east coast, arriving Hampton Roads the 24th. *Lakehurst* sailed to New York 2 December to embark troops and load cargo. Reclassified APM-1 on 3 December, she sailed 12 December in a convoy to North Africa. Redesignated APM-9 on 17 December, she reached Casablanca 24 December and discharged men and equipment.

Departing 29 December, *Lakehurst* returned to New York 12 January 1943. From 8 February to 28 April she made two more runs out of New York to the North African ports of Oran and Casablanca. After a supply voyage from Norfolk to Oran 10 through 23 May, she arrived Gibraltar 30 May and remained there until sailing for Norfolk 6 July. Reaching Norfolk 24 July, *Lakehurst* was decommissioned 2 August, transferred to the WSA, and was turned over to the Army the same day.

At the Invasion of Normandy on D-Day the USS *Lakehurst* took part again, with the ship bringing critical supplies and equipment to sustain the fighting. Much of the initial cargo at Cherbourg consisted of material for port reconstruction, for the building of railway lines into the interior, and for the erection of pipelines. The discharge of locomotives and railway rolling stock began late in July 1944 when the seatrains USS *Lakehurst* and *Texas* brought sufficient organizational equipment to operate a railway grand division. Until the quays were ready to receive large ocean-going vessels and coasters, such ships were unloaded by lightering cargo from the anchorage. In the beginning, port clearance was effected entirely by motor transport because there were no operable rail facilities.”

*Ford Ross* sent in this photo and caption below. Is not the radar dome modified for “Clinker?”
Walt DeLong sent a package containing a copy of the “US ARMY AIRSHIP ROMA” booklet put out by the Symes-Eaton Museum of Virginia many years ago. Ed. had seen the booklet, but Walt included comments by the author, John B. Mitchell, correcting errors found later, including the date of the crash, corrected to 17 DEC. He noted on page 20, “Captain Walter Reed had retired to the passenger cabin to rest, having been ill with the flu. However, just before the airship crashed, he dashed back to the control cabin in an attempt to discover what was wrong with the airship.” In a photograph we can’t reproduce here, he corrects, “The ROMA did not hit the electrical wires near the curve in the road. She crashed into the wires in the immediate foreground of the photo...”

Walt also sent a clipping showing a group of Army officers (sadly its contrast does not allow us to reproduce it here), writing, “This information concerning the Roma was given to me by Walter J. Reed, Jr., the son of Brigadier General Walter J. Reed.” The clippings mentioned, “Colonel Walter J. Reed of Scarsdale, commanding officer of Seymour Johnson Field, was promoted to grade of Brigadier General by the War Department. General Reed was the commanding general of the 7th AAF Service Command. The senior Reed was one of the officers sent to Rome to take possession of the Roma, which had been purchased from the Italian government. He was also a member of the crew of the airship’s last flight.

General Reed survived a major air catastrophe in 1922 when the dirigible Roma, which he had helped purchase from Italy the year before, crashed at Norfolk. Only three officers and eight enlisted men of the crew of 45 escaped, sustaining severe burns. After his recovery, he served in Washington for six months at the office of the Chief of the Air Corps organizing correspondence courses for Army personnel.

Later that year, General Reed was assigned to the naval station at Lakehurst, N.J., as Army observer during the construction of the Navy dirigible Shenandoah. He also was a student in the rigid lighter-than-airship school there.

Walt asked, “I recall an officer in our WWII- LTA program with the name Biedenback. Could he be a descendant of Staff Sgt. Joseph Biedenback, an engineer on the Roma?”

Ed. invited the junior Reed to join NAA.

Don Morris sent along the page below from NAS Key West’s paper noting the still-record flight.
SHORE ESTABLISHMENTS: LAKEHURST

The Navy’s MZ-3A airship #167811 is scheduled to leave Hangar #6 for a series of extensive Test/Evaluation flights in March. This will mark the first program of tests that the airship has participated in since 2007. The 178-foot all-white airship is likely to be keeping a very low profile as it carries various scientific/research packages for the Navy and several government agencies through the Spring months. Many may recall that this particular airship has survived no less than six deflation orders since May of 2007 but has managed to continue existence in an excellent condition, under the management of civilian contractor ISSI Inc., with the active assistance of personnel drawn from the ranks of the Navy Lakehurst Historical Society.

The unique facilities at Joint Base McGuire-Dix-Lakehurst with its giant airship hangars and specialized facilities, physical plant/perimeter security, secure air space and multi-agency/multi-disciplinary presence bode well for growing official interest in utilizing the base facilities as a Center for Lighter Than Air Excellence.”

There are only a handful of large airship hangars in the world. While some have balked at maintenance costs, these pale in comparison to replacement costs. It should be noted that while there are about a dozen large hangars around the United States the Government currently has no other military base facility that can cater to various airspace and security requirements as would be required for certain LTA programs.

Lakehurst Hangar #1 has not housed an airship in seven years, the Air Force and Navy currently use it as a training, staging and storage facility (yes those 1,350-ton doors still open on the West end!) Weeksville and Akron are private facilities, the big steel hangar at Moffett remains closed due to environmental issues. The seven remaining World War II-vintage wooden-arch hangars (two at Lakehurst, two each at Tustin and Moffett Field and one at Tillamook) are all well beyond their initially-intended lifespan. There have been some concerns raised about structural integrity, yet Lakehurst Hangars #5 and #6 recently received fairly good marks on an engineering/structural survey conducted just before the Air Force took over, so they should be useable for another 10 years and if LTA takes some “meaningful” steps forward that itself can bring forth the necessary funding for long-term upgrades. (Fingers crossed!)

The recent “SyFy” Channel Ghost Hunters show regarding the “Hauntings” at Lakehurst was...well, what you would expect. Not much substance to their “investigation” and most of the portions that highlighted our Historic Artifact displays ended up on the cutting room floor. One positive note was that they did leave behind a $600 donation for the Navy Lakehurst Historical Society coffers. So for six hundred bucks in the Treasury, plus the curiosity it has generated for people who want to book a tour to come see the “haunted hangar” it was at least somewhat worthwhile.

The Ghosts (if there are any) should be reasonably happy. Lots coming up with the Navy airship...right around the time the show aired, we were supposed to host a bunch of engineers from Pax River flying up to see where they can put different packages/gadgets on the ship. Unfortunately, they got hit with a foot of snow so they have re-scheduled to early January. Ω

- Rick Zitarosa

RICHMOND

Tentative schedule for the former NAS Richmond HQ building to be relocated as follows:

1. BCC (Board of County Comm.) item for waiver of site control 1/21/2010
2. Permit to conduct private business on public property by 1/21/2010
3. OCI (Office of Capital Improvements) funding GOB (General Obligation Bond) contract for building relocation by 1/30/2010
4. Museum contract for building relocation 1/31/2010
5. BCC item for License Agreement to RCTC for 2/8/2010
6. Building relocation 3/30/2010 Ω

- Anthony Atwood

SANTA ANA / TUSTIN

As of this writing there has been no public announcement of finding the necessary funding to destroy the timber hangars at the former NAS Santa Ana. Some time ago one Peter Buffa approached the Editor about help finding historic footage for a project about the station. A credible job was done and credit was given. Available free on the internet: http://www.tustinca.org/videos/hangarshistory.wmv
NASA launched its first airborne science mission this [2nd] week [October 09] featuring a 246-foot-long Zeppelin NT airship equipped with two imaging instruments to learn more about environmental conditions in the San Francisco Bay Area.

Scientists from NASA Ames Research Center’s Earth Science Division are collaborating with Airship Ventures, Inc., Moffett Field, Calif., to conduct experiments using the airship’s unique flight characteristics, including its high maneuverability and airframe stability, as well as its capability to fly at low altitude over selected target areas. NASA is interested in using these capabilities to measure reflected solar and emitted thermal radiation and conduct atmospheric sampling of aerosols and gas constituents. “We are very interested in the unique capabilities of the Zeppelin to enable remote sensing and atmospheric science measurements not previously practical,” said Stephen Dunagan, a research scientist at NASA Ames.

On Tuesday, Oct. 6, 2009, scientists embarked on an eight-hour flight from Moffett Field to conduct three science experiments aboard the airship using a large format Bayer array color camera and a hyperspectral scanning imager. The camera provides high-resolution imagery that is not affected by vibrations or movement of the airship during the exposure. The hyperspectral instrument measures 256 bands of color imagery in the visible and near infrared spectrum.

In collaboration with the Search for Extraterrestrial Intelligence (SETI) Institute, scientists studied the distribution and density of harmful algae bloom organisms in Monterey Bay that are poisonous to wildlife, particularly sea birds and fish. They also collaborated with the Pipeline Research Corporation International (PRCI) to search for subsurface natural gas pipeline leaks causing plant root poisoning. This week’s flight featured the first science experiments conducted under the terms of a Space Act Agreement NASA signed with Airship Ventures earlier this summer to use the Zeppelin NT as a platform for conducting airborne science experiments. Future experiments are anticipated to involve such subjects as remote sensing observations, atmospheric sampling collection and electromagnetic field observations.

“We often talk about the airship’s stability, maneuverability and panoramas as benefits to sightseeing passengers when, in fact, they are just as beneficial to scientific work. Working with NASA and other esteemed scientific organizations, we will demonstrate that the airship’s flight characteristics not only make it a great way to see the world, but also to understand it better,” commented Airship Ventures Co-founder and CEO Alexandra Hall.

Moffett Field was closed as a military base on July 1, 1994, and NASA Ames took over supervision of Moffett Field’s many facilities, including two runways and three aircraft hangars. NASA now operates Moffett Field as part of NASA Ames Research Center. NASA and Airship Ventures entered into a lease agreement on Oct. 1, 2008, to base the Zeppelin NT at Moffett Field.

NASA collaborates with more than 50 academia, industry and non-profit entities in the NASA Research Park (NRP) to stimulate innovation and education in science and research disciplines critical to space exploration. Airship Ventures, which brought the first Zeppelin to fly passengers over the United States in more than 70 years, is one of NASA’s newest NRP partners. Three of only 12 remaining airship hangars in the U.S. are located at Moffett Field, and Airship Ventures Zeppelin Eureka uses Hangar 2 as its home. Ω

[Ed. notes this story was given a paragraph in AVIATION WEEK.]
Blimp Maker Aims to Expand
By W.J. Hennigan, The Los Angeles Times

The founder of Worldwide Aeros in Montebello has been fascinated by airships since his childhood in Ukraine. His firm has sold more than 35 different platforms flown on four continents. ‘I don’t remember ever wanting to do anything else as a profession,’ says Worldwide Aeros’ Igor Pasternak, who now is developing an airship as long as two football fields to be used for transcontinental and transoceanic transport for cargo and passengers.

Igor Pasternak, 45, [above] is the founder and chief executive of Worldwide Aeros Corp., a Montebello-based developer and maker of blimps used for surveillance, advertising and transport. Childhood: Pasternak grew up in Lviv, a Ukrainian city of 700,000 near the Polish border in the former Soviet Union. It was his childhood dream to become an airship designer after he saw pictures of blimps in a magazine. “It was something that I fell in love with right away,” he said. “I don’t remember ever wanting to do anything else as a profession.” Early years: After earning a degree in civil engineering at Lvov Polytechnic University, he formed his own company in 1987 and began working on production of airships for advertising and scientific applications as well as on a Russian project to develop mammoth airships to transport cargo to the remote Siberian oil fields. The endeavor was one of the first private business enterprises permitted under Mikhail S. Gorbachev’s perestroika reforms. But when the Soviet Union collapsed, Pasternak’s investment capital dried up. Pasternak fled Russia and immigrated to the U.S. in 1993. After arriving in New York, Pasternak immediately began working to get Worldwide Aeros off the ground. To do that, he had to woo clients.

Starting the business was a real struggle at times,” Pasternak said. “But I secured some customers and moved to California. We stuck here ever since.” Since launching the business, Worldwide Aeros’ more than 35 different lighter-than-air platforms have been sold and flown in about 10 countries on four continents. Now with about 70 employees, Worldwide Aeros expects more than $10 million in revenue this year from selling commercial airships for advertising and surveillance work.

In addition, the company has won several multimillion-dollar Pentagon contracts to develop a military transport airship. Tragic setback: In 2000, Pasternak’s sister Marina, 32, and Levon Samamyam, 35, an employee and friend, died repairing an airship at San Bernardino International Airport. The two suffocated while patching holes in a balloonet, a balloon inside the helium-filled blimp, that had been damaged during flight tests. “It was a very tragic event,” Pasternak said. “But we had to go back to work.” Pasternak is developing an airship as long as two football fields, to be used for transcontinental and transoceanic transport for cargo and passengers. It may conjure up images of the Hindenburg, but Pasternak assures that, in distinct contrast to earlier-generation airships, the Aeroscraft is a new type of aircraft that combines airplane and airship technologies. The craft would be like a flying cruise ship capable of traveling several thousand miles. It could hit a top speed of 174 mph, meaning it could go from Los Angeles to New York in about 18 hours. And by flying at an altitude of 8,000 feet and lower -- compared with airlines’ 30,000 -- passengers would have a clear view of the landscape below. “You have to stay innovative in this business,” Pasternak said. Ω
E-Green Technologies, Inc. Acquires 21st Century Airships  
*(From ANN)*

Company Will Offer High-Performance, Long-Endurance Manned and Unmanned LTA Airships:

E-Green Technologies tells ANN that it has acquired Newmarket, Ontario-based 21st Century Airships. 21st Century is reportedly the world’s leading airship research and development company, with a strong IP portfolio of 18 patents, issued and pending, which protects the Company’s airship technology.

This proprietary technology was developed over a period [of] 15 years, culminating in their “next generation” airship. “The acquisition of 21st Century, with advanced technology and next-generation design, will position us to bring to market the highest-performing, best value, and most capable airships offering low, medium and high-altitude, long-endurance flight services” said E-Green Technologies Chairman and CEO Michael Lawson.

21st Century has successfully flown 14 prototypes, consistently exhibiting performance-enhancing advantages over existing airships, including vertical take-off and landing, high-speed maneuverability and forward thrust in air. Markets that can benefit from this new capability include remote sensing, communications, surveillance and reconnaissance, missile defense, surveying, cargo transport, and advertising, among others.

E-Green Technologies, with its next-generation design, is preparing the new helium-filled Bullet 580 Airship for near term flight. The Bullet 580 Airship is designed to meet industry needs through its unique capabilities of vertical take-off and landing, and ability to attain an altitude of 20,000 feet and maintain long endurance flight. The Bullet 580 is also the prototype for the Company’s Heavy Lift and High Altitude applications.

**ZEP NT Re-visits Los Angeles  (LA Times.Com)**

The last time something like this was seen in Los Angeles was 1929, when the *Graf Zeppelin* dropped in on Westchester’s Mines Field before starting [sic] its nonstop Pacific crossing during its record-setting around-the-world flight. The era of the rigid-framed zeppelin came crashing to an end in 1937, when the hydrogen-filled *Hindenburg* exploded [sic] spectacularly as it attempted to land at Lakehurst Naval Air Station in New Jersey. Thirty-six people were killed.

But now the zeppelin is back and filled with non-explosive helium gas. A privately run company based at the San Francisco-area Moffett Field has returned the German-made craft to California skies. Although airships such as the Goodyear blimp are a common sight in the Los Angeles area, blimps are smaller than zeppelins and carry only six passengers. The 246-foot zeppelin, called the *Eureka*, can carry 13 passengers and a crew of two. Those on board have views of landmarks through giant plexiglass windows that line all sides of its cabin. So far, the Eureka has made four trips to Los Angeles, and its operators plan more for next year, starting with a two-week visit in mid-January.

They offer public flights over the coast and the city and hope to add excursions over Palm Springs and San Diego. Sightseeing rides are spectacular but pricey. A half-hour trip costs $199; a two-hour flight, $950. A daylong excursion between Los Angeles and San Francisco runs $1,500. The craft also can be chartered for events such as birthdays or weddings for $5,500. So far, 5,500 paying passengers have climbed aboard the *Eureka*, using rolling steps to enter, two at a time, while the huge craft is held to the ground by two hull-mounted engines. A third engine on the zeppelin’s tail provides forward thrust at a speed of about 30 miles per hour. As steep as it is, the fare’s a good deal for a ride in one of only three zeppelins in existence, say the *Eureka’s* owners, a husband-and-wife team. Brian and Alexandra Hall recruited investors to create the company they call Airship Ventures. They’ve spent about $18 million on the zeppelin and ground support, which includes two special mast trucks for mooring the craft and a 36-person staff...

- Bob Pool

*Editor was surprised to have the airship fly over his rental car after arrival at LAX last November.*
Race to the Bottom: 46 Months & Counting

[Compiled from news reports and BLM and USGS Mineral Commodity Summaries, 2009]

For the last 10 years, groups around the US, including the American Physical Society, have been predicting that a severe shortage of helium would emerge early in the 21st century. They’ve warned that once the American reserve - which supplies some 40% of domestic needs and 35% of worldwide requirements - is sold off, it can never be replaced. The American Physical Society’s Statement on Conservation of Helium reads, “Supplies of helium are finite and irreplaceable... The remaining helium, about 1120 BCF, is a constituent of some natural gas (methane) fields. Of these fields, helium is most inexpensively recoverable from the so-called “helium-rich” fields, defined as fields containing more than 0.3% helium. Helium-rich fields are found only in the U.S. and to a small extent in Canada. About 85% of the helium-rich U.S. resources are in the large Hugoton and Panhandle fields covering parts of Kansas, Oklahoma and Texas and in the Riley Ridge fields of southwest Wyoming...” The Texas reservoir is in a geologic structure called the Bush Dome.

Lee Sobotka, professor of chemistry and physics at Washington University in St. Louis, says it is being depleted so rapidly in the world’s largest reserve, outside of Amarillo, Tex., that newly mined supplies are expected to be gone there within the next eight years. “Its properties are unique and unlike hydrocarbon fuels (natural gas or oil), there are no biosynthetic ways to make an alternative to helium.” A 1996 federal law mandates sale of the federal helium reserve by 1 JAN 2015, and it might be depleted before then. “We’re pedaling as fast as we can here, but we just can’t produce enough,” said Leslie Theiss, manager of the Federal Helium Reserve near Amarillo. “One-third of the world’s helium comes from our little place here. That’s kind of frightening.” A rising demand for natural gas – cornerstone of the EPA effort for cleaner power generation - will accelerate the depletion of our helium reserves. Any unextracted helium will simply be lost during burning. More than 3.2 BCF annually was the waste rate over a decade ago.

Most of the helium in gas fields outside the U.S. is at a concentration less than 0.1%. Based on the reasonable assumption that extraction energy costs are proportional to the inverse of the helium concentration, the energy required to extract helium from a helium-rich U.S. field is considerably less than the corresponding energy for extraction from fields elsewhere in the world. “Demand is increasing overseas and people are starting to get nervous,” said Maura Garvey, director of market research for Cryogas International, a Massachusetts-based trade journal that closely follows helium markets. She predicts helium supplies will remain tight through 2010 and possibly well beyond. After that, the picture is unclear. There is no practical way to create new helium, and Theiss fears the day of reckoning for world supplies may be coming faster than for oil or other nonrenewable commodities. “To our knowledge, nothing has been discovered to date that has the reserves we have here,” she said. “Exports have increased 50 percent in the last five years. If you’ve got a finite amount and a lot more suddenly starts going overseas, do the math. It’s not going to be good when we’re done here.” New production facilities in the Middle East have been plagued with problems and not produced hoped-for yields. The helium squeeze is being felt everywhere from university physics labs to plants in India, China, Taiwan and Korea that make today’s hottest consumer products. Helium is used to make flat-panel TVs, semiconductors, optical fibers, and it toughens industrial welds. Japanese helium suppliers recently warned customers in the electronics industry to prepare for supply cuts of up to 30 percent.

BLM’s Norbert Pacheco reports during FY 2008 “…most Helium suppliers announced price increases that averaged 30%... the price of helium is expected to continue to increase... demand is expected to continue to grow at about 2.5% to 3.5% per year.” Why? It’s absolutely essential to achieving the extremely cold temperatures required by many current and emerging technologies, including medical MRIs and advanced cooling systems. The cryogenic (low temperature) uses of helium stem from the fact that liquefied helium has the lowest boiling point of any substance, including hydrogen. NASA uses a full train-car load to pressurize a liquid fuel rocket, since it is the only element that remains gaseous in contact with LH2. Each NASA unmanned scientific balloon flight uses millions of cubic feet even though operating above remote regions of the world.

In today’s increasingly interdependent global marketplace, the balloon business finds itself at the bottom of the helium supply chain. What began as spot shortages in 2008 have grown chronic in 2009, said Joe Kaufman, president of the International Balloon Association, a party industry trade group. The firm’s distributor recently put it on a weekly allotment of just 33 cylinders. “Some customers have told me they’re just not going to sell balloons anymore because they can’t get helium,” said Kaufman. Cindi Cronin, who runs the Northwest Side party decor business, said it’s become kind of a scavenger hunt lately to find helium. Ω
**Short Lines**

**Naval Research Laboratory Achieves Milestones**

[Compiled from Internet Reports]

The Naval Research Laboratory (NRL) has completed a successful flight test of the fuel cell powered XFC (Experimental Fuel Cell) unmanned aerial system (UAS) with folding wings. During the June 2 flight test, the XFC UAS was airborne for more than six hours. NRL’s Chemistry and Tactical Electronic Warfare Divisions are developing the XFC UAS (above) as an expendable, long endurance platform for Intelligence, Surveillance and Reconnaissance (ISR). NRL and its fuel cell development and manufacturing partner, Protonex Technology Corporation developed a hydrogen fuel cell power plant system that greatly extends endurance and increases payload capacity.

(Above) NRL’s Ion Tiger, a fuel cell-powered UAV, has flown 23 hours and 17 minutes, setting an unofficial flight endurance record for a fuel-cell powered flight. The 550-Watt (0.75 horsepower) fuel cell (inset) onboard the Ion Tiger has about 4 times the efficiency of a comparable internal combustion engine and the system provides 7 times the energy in the equivalent weight of batteries. The test flight took place on 9/10 October 2009 at Aberdeen Proving Ground. Due to the high energy in the fuel cell system onboard the Ion Tiger, it is now possible to do long endurance missions with an electric UAV, thus allowing a larger cruise range and reducing the number of daily launches and landings of the low-IR signature UAV. Fuel cell technology is being developed to impact the operational spectrum of technologies including ground, air and undersea vehicles and man-portable power for Marine expeditionary missions.

**ALICE Seen As Environmentally-Friendly Propellant**

[Compiled from Internet Reports]

A new mixture of nano-aluminum powder and frozen water could make rocket launches more environmentally friendly, and even allow spacecraft to refuel at distant locations such as the Moon or Mars. The aluminum-ice propellant known as ALICE gets its kick from a chemical reaction between water and aluminum. Researchers hope that the hydrogen products of that reaction might go beyond launching rockets, and also feed hydrogen fuel cells for long duration space missions. Rocket propellant has barely changed in the more than 50 years since the launch of the first artificial satellite “Sputnik.” NASA and the Air Force Office of Scientific Research were pleased to announce they had successfully launched a small rocket using ALICE. The nine-foot rocket (right, credit: Dr. Steven F. Son, Purdue University) which soared to a height of 1,300 feet over Purdue University’s Scholer farms in Indiana in October 09. ALICE is generating excitement among researchers because this energetic propellant has the potential to replace some liquid or solid propellants. When it is optimized, it could have a higher performance than conventional propellants. This represents tens of millions of dollars in research funding. It’s an all-carbon-fiber, minimum diameter high power rocketry kit.

ALICE has the consistency of toothpaste when made. It can be fit into molds and then cooled to -30ºC twenty-four hours before flight. The propellant has a high burn rate and achieved a maximum thrust of 650 pounds during this test. “A sustained collaborative research effort on the fundamentals of the combustion of nanoscale aluminum and water over the last few years led to the success of this flight,” said Dr. Steven F. Son, a research team member from Purdue. “ALICE can be improved with the addition of oxidizers and become a potential solid rocket propellant on Earth. Theoretically, ALICE can be manufactured in distant places like the moon or Mars, instead of being transported to distant locations at high cost.” “This collaboration has been an opportunity for graduate students to work on an environmentally-friendly propellant that can be used for flight on Earth and used in long distance space missions,” said NASA Chief Engineer Mike Ryschkewitsch at NASA Headquarters in Washington.
The Advantages of MARS over Conventional Wind Turbines are:
1. low cost electricity - under 20 cents per kWh versus 50 cents to 99 cents per kWh for diesel
2. bird and bat friendly
3. lower noise
4. wide range of wind speeds - 3 meters/second to more than 28 meters/second
5. higher operating altitudes - from 500 feet to 1,000 feet above ground level are possible without expensive towers or cranes
6. fewer limits on placement location - coast line placement is not necessary
7. ability to install closer to the power grid
8. mobile
9. ideal for off grid applications or where power is not reliable.

Initial MARS Target Markets include:
1. Mini-Grid applications such as developing and island nations where infrastructure is limited or non-existent
2. rapid deployment (to include airdrop) to disaster areas for power to emergency and medical equipment, water pumps, and relief efforts (ex. Katrina, Tsunami)
3. off grid uses such as cell towers and exploration equipment
4. military payload applications

At press time the White House has signed the budget that includes the request for proposal for the LEMV. More news in the next NOON BALLOON.
“Airships 2 Arctic 5” Summary
By Dr. Barry Prentice

The fifth Airships to the Arctic conference was held in Calgary, Alberta, from October 7 to 9, 2009. This is the first time that the conference has been held in Calgary, which is the centre of Canada’s oil and gas industry. Canadian awareness of airship technology has expanded significantly since the first Airships to the Arctic in 2002. At that time we were still battling the Hindenburg legacy, the collapse of the CargoLifter venture and the aftermath of 9/11 flight restrictions on the advertising blimps. The tempo of the 2009 meetings was much more upbeat. Concerns have shifted to high energy prices, environmental footprints and resource opportunities in the Arctic where airships are seen as a solution to chronic logistical problems.

The diversity of airship developments and breadth of international interest are also impressive. The program features 10 different airship developments and delegates came from 11 different countries. Undoubtedly, the greater presence of the large aerospace companies, like the Boeing Company in its partnership with SkyHook International, helps provide confidence that airship developments are “approaching the tipping point” that was the theme of the conference.

Rather than relate the activities of the conference, readers are directed to the website www.airshipstothearctic.com that provides the full program, speaker bios and copies of their presentations. Only a few highlights will be addressed here.

The opening public lecture was given by Ken Laubsch, Project Manager and Chief Engineer of the SkyHook program. Ken took us through the business case for a vertical heavy lift aircraft and steps in project development. A more technical version of the presentation was given at the conference and is available on the website.

Presentations on the operation of commercial airships were made by Brian Hall, Airship Ventures and Hiroyuki Watanabe, Nippon Airship Corp. Both firms are operating Zeppelin NT in passenger, research and advertising roles. Their pioneering experiences provide insight on airship markets and operating challenges.

The keynote banquet presentation was provided by Jacques Collignon, Sr. Reg. Logistics Officer, West Africa Regional Bureau, World Food Programme. Mr. Collignon related the circumstances in which emergency logistics are delivered and the need for a better solution that could be an airship.

Each year, the Airships to the Arctic recognizes an aspect of the industry. The Calgary conference was dedicated to airship pilots. The honoured individual was Delton Gates, one of the few remaining World War II airship pilots attending. Mr. Gates gave some comments on the construction of the US Navy Blimps and his experiences in the pilot’s seat.

Media Watch

Ghost Hunters® is a cable channel program made by investigators looking for evidence of the supernatural. An episode has aired featuring the investigators searching for the supernatural in Hangar #1 and a medical building at Lakehurst NAS. The investigators arrive in three SUVs and are greeted by Rick Zitarosa who shows them around, relates a few tales of sighting, and leaves them to do their best over-night. They set up fixed camcorder equipment and spend the night wandering about in pairs, followed by camera and sound techs, looking for whatever.

Two of the investigators are Kris and Amy. Whether unloading equipment, or investigating whatever, their camera tech tends to follow them - with the cameras recording - as they climb stairs. A discrete amount of that tape never gets to the cutting room floor! I did not expect Captain Ernst Lehmann to appear and clear up the unresolved Hindenburg issues. As this was the case, I was neither disappointed, nor surprised by the results of this investigation.

I am neither fan, nor follower of Ghost Hunters®. I have no gauge with which to measure their findings at Lakehurst as compared to other episodes. They did not seem to find much. They claimed to see things that the video cameras did not pick-up. Considering the quantity and quality of equipment deployed; they replay a lot of sound recordings but never seem to rewind or slow motion any video action. If you never see it you will not miss much regarding LTA.

Ω
- C. P. Hall

(Media Watch continued on page 20)
Ready Room

NAA REUNION
SEPTEMBER 24, 25, 26, 2010
MOFFETT FIELD & SUNNYVALE, CALIFORNIA

Tentative Schedule:
Friday, September 24:
Welcome Aboard Reception

Airship Venture’s *Eureka* at the mast, Moffett
(This is Zeppelin New Technologies airship #4)

Saturday, September 25:
Moffett Field Historical Society Museum:
Barbeque lunch at Museum

Members will make their own reservations with the Sheraton per the flier’s instructions.

Reunion HQ: Sheraton Sunnyvale Hotel

1100 North Mathilda Avenue, Sunnyvale, CA 94089
Complimentary pre-arranged shuttle service to and from the San Jose airport M-F, 7am-7pm; Free self-parking;
Flat panel HD TVs in every room; Sweet Sleeper beds in every room; Starbucks coffee in every room; Heated
outdoor Olympic Sized Pool; Free internet in all public areas as well as complimentary internet up to 45 minutes in
our signature LINK center; Transportation arrangements Sat-Sun.

Saturday, September 25:
Moffett Field Historical Society Museum:
Barbeque lunch at Museum

(models in diorama inside MFHS Museum)

(photos below left, Wes Harrison, Jr.)

Models in diorama inside MFHS Museum
Pending for **Saturday the 25th**, based on the commitment of 60 seats (that’s only 30 couples!):
Half-hour flights in Eureka, the largest and most advanced airship in the world today, from Moffett.

**Eureka:** view looking forward; view looking aft, one-piece window

Members will be making their own flight arrangements per the instructions on the flier.
NAA special target price per seat, half-hour ride, $225, **subject to change**.

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**Sunday, September 26:**
Free daytime; NAA Banquet in the evening

If you have not received a Reunion mailing by June 1st please contact Treasurer Peter F. Brouwer.

The first Reunion of what became the NAA was 1980. Come celebrate thirty years of NAA!

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Other **Ready Room** marks for your calendar: **Only One Conflict with our Reunion!**

2-day Seminar “Advances in Parachutes, Aerostats and Allied Technologies” Target date Summer 2010 at Agra (the city of Taj Mahal) India. Contact NAA member Dr. Rajkumar S. Pant, Aerospace Engineering Department, IIT Bombay, Powai, Mumbai-400076 India, or rajkumarpant@gmail.com.

Twenty-Seventh International Balloon Festival of Saint-Jean-sur-Richelieu 14-22 AUG 2010.
http://www.ballooncanada.com e-mail: festival@ballooncanada.com

Gordon Bennett Race… same days as our Reunion, we will have to cheer on the USA team from afar.

The United Kingdom’s LTA organizations, Airship Association and Airship Heritage Trust, have wisely co-operated in Bedford so the AA Convention will join the AHT’s noting of the 80th anniversary of the R101 crash. Tentative schedule SEP 29 – OCT 4: Weds 29th Sept - Mayor of Bedford opens new airship gallery in town Museum and Conference Registration opens. 30th and 1 OCT - Conference and partner program - Banquet in evening Sat 2nd - Visit to Cardington sheds to see *Skykitten* and watch model Airship Regatta. Public opening of airship gallery at Museum. Sun 3rd - Commemorative service for R101 in Cardington Church (seating limited to invited guests only) followed by re-dedication at the tomb in the churchyard (open to public). Convention officially ends. Mon 4th - Peter Davison and Giles Camplin will be giving a lecture on R101 at the Royal Aeronautical Society in London. Call for papers at:www.airship-association.org/2008web/call.pdf
British Airships 1905-1930
By Ian Castle, Osprey Publishing, 2009

For those unfamiliar with the British airship program, this delightful book by Ian Castle will be just the introduction one needs. Any new book is quickly judged on the number of previously unpublished photographs it contains, and by this reviewer’s estimate, at least 50% of those used in this volume have rarely been printed before. Even more notable is the publisher’s sponsoring original artwork and technical diagrams, reproduced in color. For example, in addition to the excellent painting we have been kindly allowed to reproduce on the back cover of this magazine, artist Giuseppe Rava recreated the SS-15 car aloft. (The incident illustrated was the crew’s efforts to signal for help via flare pistol while also standing on the rail trying to prop-start the stalled engine. What did the airplane jockeys do?) The book is non-linear, which thrusts its strongest section to prominence though it is located in the final pages. The cover painting hints at the treasures therein. This reviewer had researched WWI airship combats extensively, yet this book contained wartime details previously unknown. A basic rundown on every period airship in the UK is offered. There is an excellent table, index, and select bibliography.

While a couple of common misconceptions were not corrected, these are typo-level hiccups. I heartily recommend this cute little 50-page book as a good quick reference on the subject well worth its modest cover price.  

- R G Van Treuren

“What Went Down” The Hindenburg
A Creative Differences production

Finally, a “documentary” about the Hindenburg crash at Lakehurst – without the “Oh, the humanities” connection, along with major glaring errors, which almost all of the previous productions contain. The producers of “What Went Down” came to Lakehurst, contacted the correct people, and followed a story line which actually was developed at the visit to Lakehurst. I was among those interviewed, not that I had witnessed the crash, but I did have the opportunity to meet with several crewmembers, and visited Richard Kollmer at his home in Zeppeleinheim, Germany, many times. The concept of this production was to visualize what the crew saw on the ship as it was crashing, what they felt. Kollmer had related several stories to me – and of course his friend John Provan, who lived very close to the Kollmers.

After shooting basic footage at Lakehurst, and interviewing Rick Zitarosa, the NLHS historian for great background information, the crew went to Washington to interview Dr. Cheryl Ganz, Head Philatelic Curator of the National Postal Museum, and part of the Smithsonian. Cheryl gave a lot of information on the usage of the airships, including the carrying of mail and cargo.

Off to Germany, where the producers met Dr. Provan for the first time. Provan is recognized as a technical authority on historical facts by the airship community, and he was immediately asked to be involved with the entire production. At long last, a technical expert would have a hand in putting forth a realistic, factual account of airship history. John was, as mentioned above, a personal friend of Richard Kollmer, who was a machinist on the Hindenburg and Graf Zeppelin II. Kollmer had related many times his thoughts and feelings to Provan about working for the company, his activities, and of course his thoughts and actions during the final moments. “What Went Down” is an excellent portrayal of the event at Lakehurst, the graphics are really super, the stage set of the emergency steering station portrays what it might have looked like (without the expense of copying exact girder configurations) – even to re-recording Herbert Morrison’s “Oh the humanities” at the correct speed for playback. This is a “keeper”.  

-Henry Applegate
Ret. Fire Chief, NAS Lakehurst
The Second Trans-Atlantic Blimp Crossing
April 28, 29 and 30, 1945

By Robert Ashford

ZP-14 airships in Africa. NARA photo/E. Brothers

My story begins long before the historic transoceanic flight of the K-89 and the K-114 from NAS Weeksville, NC, to Port Lyautey, French Morocco. I go way back as a kid to the early 1930s when the giant rigid airships were tucked into hangar #1 at Lakehurst, NJ. At one time or another the Akron, Macon and the Hindenburg were docked in the huge “barn;” the Akron “lived” there, the Macon visited one time after the Akron was lost and the Hindenburg was docked for some minor hull maintenance on two occasions in 1936. My dad was an airship devotee and never missed the chance to take the family for a Sunday afternoon drive from our home in northeast Philadelphia whenever one of the big ships was present. So, as a kid, I got to see all of them at one time or another and some of the helium from the navy airships must have dissolved in my blood because I am still a fan of airships and have earned my living most of my life working in the LTA industry. Yes, I still work very part time as a consultant to TCOM, the manufacturer of the largest tethered aerostats in the world today.

On the first anniversary of Pearl Harbor, December 7, 1942, I was sworn into the navy as an aviation cadet along with a couple of hundred other future naval aviators on the Philadelphia radio station WCAU in a special program to commemorate the “Day of Infamy.” I actually started my navy career in February 1943 and got my wings at Lakehurst in January 1944. Then I was off to NAS Glynco, GA, and ZP-15 for 13 months of intense flying for long hours patrolling the sea lanes and escorting single ships and convoys along the eastern seaboard.

I vividly recall my assignment as an Ensign co-pilot in an aircrew consisting of ENS Ed Bussell, command pilot, and ENS John Fahey, the other co-pilot. Ed was one of those natural pilots who could have flown the boxes they came packed in, but he always allowed John and I to take our turn at making the thrilling heavy take-offs and very light landings. One thing Ed did not share was the navigation duties; he did not navigate – ever. Fahey and Ashford alternated flights doing all of the navigation for the day and we became pretty good at it. You must remember that we had no GPS, no satellite navigation, no radio or electronic aids to navigate except for the Adcock Radio Range at Glynco (A and N). It was useful in telling us that we were somewhere offshore in the Atlantic Ocean, probably somewhere between Charleston, SC and Miami, FL. We did have a radar that could get a “paint” of the coastline from about 30 miles away. John and I made a contest out of navigating – at the farthest extent of our patrol we would calculate our estimated time of crossing the beach on the way home. If the wind changed drastically at our altitude we could make revisions to our estimate, but never with less than 100 miles to go. I really don’t remember the results of the “contest,” except that we joked a lot about who was better, but we always made it home on time and most often crossed the beach within a few minutes of our estimates. The two of us had the reputation as the “hotshot” navigators in ZP-15.

In January 1945 I was informed that I had been selected for orders to NAS Lakehurst for one month of Celestial Navigation School during February 1945. I have no class records of that period but I do remember the name of one other classmate – Walter Bjerre.

Celestial Navigation from a blimp? You have to be kidding! It turns out that the best star shots (or sun or moon) can be obtained in the range of 30 to 60 degrees above the horizon. You can observe the heavenly bodies in that declination range from just about any angle in the blimp except directly aft or forward – out the side is great.

A special celestial navigation trainer had been installed at NAS Lakehurst and consisted of a device that looked and operated like a Link Trainer, but consisted of a cockpit and navigation station from a PBY. The whole system, including a classroom, was housed in a large building near the old gas station. The sky was simu-
lated by a huge dome quite similar to a planetarium with a whole hemisphere of pinpoint lights for stars. The major navigational stars were simulated by collimated lights that accurately duplicated the positions of the real navigational stars in the hemisphere. The PBY stood still except for the simulated air turbulence while the planetarium dome rotated and translated in response to our progress along a flight track. The navigator used a sextant which was hung from the center of the navigation dome of the PBY in such a way that it was always within the field on view of all of the collimated star lights. Although the combination of thousands of stars and the collimated stars formed the many familiar constellations and looked realistic, only the collimated lights simulated stars from an infinite distance and could be used for accurate celestial navigation aids. Many hours were spent in the PBY on 4 to 6 hour long navigation training flights using the simulated celestial dome for a navigational aid. The nice part was that we could stop the whole gizmo anytime we wished in order to eat lunch or “pump the bilges” and continue where we left off at a later time.

This story is not meant to be a Navigation 101 course, but it must be understood that all navigation, on the sea or in the air, is based on the universally used Dead Reckoning (DR) system which is really no more than following and/or plotting a course line on a chart; everything else is an aid to navigation. Usually a navigator will plot the intended course line on the navigational chart prior to the flight. A radar fix is an aid to navigation which is plotted on the DR chart. The same for a Loran fix; same for a celestial star fix, or a sun line, or a moon line. They all wind up being plotted on the chart and used to correct the heading to stay on the desired course. The modern GPS is really an aid to navigation with the continuous plotting of the fix handled automatically by a computer that is internally plotting the DR track.

Back in the WWII days, once outside the radar range of land, we had no aids to navigation and we diligently kept track of the wind direction and velocity while plotting our best estimate of our progress along our course line. It was the purest form of dead reckoning. The direction and velocity of the wind at the airship altitude was extremely important. We obtained the wind data by changing course momentarily 60 degrees either side of our heading and measuring the drift angles using a primitive grid device. The “drift sight” mechanism consisted of a rotatable grid of parallel wires mounted within a ring inscribed with compass headings from 0o to 360o with the zero axis firmly fixed and aligned with the centerline of the airship. At any time the navigator could open the window at his station and align the movable grid with the ocean surface. The angle the grid
wires made with the axis of the airship was the drift angle for that heading and airspeed. By taking a drift sight while on the base heading and then taking two drift sights at the 60° off-heading points, the navigator would have three drift sight readings for three different headings, all taken at the same altitude and airspeed. The drift sight angles were plotted on a standard compass rose chart made for the purpose and were termed “wind-stars.” These wind-star plots produced a remarkably accurate wind direction and velocity – depending, of course, on the accuracy of the drift sight readings. The drift sights worked well at low altitude, but as the altitude increased it became more and more difficult to get an accurate drift angle reading, particularly in turbulent weather.

All airship navigators became quite adept at getting accurate drift sights very quickly. A good team of rudderman and navigator could work together to get the two off-heading drift sights within a minute; the navigator could plot the angles and come up with a wind direction and velocity in less than a minute. On our crew John Fahey and I made a habit of getting drift sights every 30 minutes and more often if we suspected a wind change. The standard cruise speed for a WWII airship was in the range of 52 to 55 knots using 1,400 rpm on the engines. As the wind velocity increased, it became more and more important to keep track of changes in the wind direction and velocity. With strong winds I can recall drift angle readings approaching 40 degrees. Add to the above the additional complication of doing all of this at night using an Aldis Lamp (handheld spotlight) to illuminate the ocean’s surface while trying to align the drift sight grid with the ocean’s apparent movement. Airship navigation was not a “piece of cake” and it is a tribute to our training that we [most often] made it home with some fuel remaining.

Back to the PBY celestial trainer! For the first two weeks of our one month training period we spent most of our time in the classroom reinforcing what we already knew about dead reckoning and learning about the 93 major navigational stars. During the cold February nights in Lakehurst we spent time on our backs out on the landing mat learning, observing and identifying the navigational stars. We also learned how to use the Nautical Almanac and the massive publications that list thousands of angles of declination which are determined from the celestial angles measured. Not the least of our training was learning how to use a special type of star observation device called a “bubble octant.” I truly don’t know the difference between a sextant and an octant but I do know that in order to take any form of a celestial reading, be it star, moon or sun, a horizon is required. In general, using a nautical sextant, celestial fixes are obtained during the short twilight hours just after sunset or just before sunrise when the bright navigational stars are observable and a horizon can be seen clearly. A celestial line of position (LOP) is obtained by measuring the declination angle between the horizon and the heavenly body. Two or more LOPs are plotted on a chart to obtain a fix. All of this celestial stuff would be useless if a horizon could not be observed accurately. On a surface ship the observer must make a correction for his height above the sea; the accuracy of his LOP is dependent on the accuracy of his altitude correction. From an airship a correction for altitude would need to be made, a correction that requires an accuracy within a couple of feet. Furthermore, it is a rare time when the horizon is seen clearly at night and often a difficult interpretation during hazy daylight hours.

So, now for the bubble octant which to me is nothing more than a sextant with an artificial horizon. This device contained a chamber of viscous fluid and a bubble of air. The pressure within the chamber could be raised or lowered to adjust the size of the bubble. Great! However, a large bubble bounced all over the place, but on the average, was accurate; a small bubble was much easier to interpret, but was sluggish and lead to inaccurate readings especially in turbulent weather. The bubble chamber was illuminated with an adjustable brightness and the bubble could be converted optically to a horizontal line. The bubble line was an accurate representation of the horizon and could be used as such both night and day without altitude corrections. The accuracy of the horizon depended solely on the technique of the operator – a big bubble was hard to use but more accurate; a small bubble was easier to use but it was sluggish and less accurate. Each navigator developed the bubble size which was best for his own technique for obtaining star (sun, moon) shots particularly during turbulent conditions.

At the end of February 1945 I graduated from the celestial navigation school at Lakehurst and then found out what it was all about. On the first flight of airships across the Atlantic Ocean in 1944 there were four navigators –
two on each airship - including Andy Papageorge, Ben Levitt and John Kane. They were all graduates of the Naval Academy and were celestial navigation experts. One of the four original navigators was not available for the second flight which left Andy, Ben, and John short one pilot/navigator for the second journey. Since I had graduated from the Celestial Navigation School, I was selected to fill the vacancy.

We first met as a group in early April and spent a lot of time adjusting our navigation “hacks,” a slang term for an accurate clock made by Waltham which looked just like an old time pocket watch. It was kept in a padded wooden case with a glass face plate. Each of us kept logs of our timing devices; we wound them daily at the same time each day and we kept a record of the time gained (or lost), but we never re-set the time on the clocks. Also, we never removed them from their boxes except for the daily winding. We got our time checks the same time each day from the National Bureau of Standards broadcast on station WWV. Within about 10 days we had constructed a time correction chart from which we could, in the absence of a WWV station (out of range), extrapolate to the exact Greenwich Mean Time. By now you have guessed that the accuracy of the time of a celestial LOP is important to the accuracy of the LOP. A few seconds of time error translates into miles of error on the plotting sheet. Figure 1 is a photograph of the four navigators in front of the meteorology building at Lakehurst during our preparation for the flight.

Another addition to our equipment inventory was the XN-1 model of the first airborne Loran A navigational aid. We spent many hours learning how to line up time traces from a master and slave stations and count pips, finally converting the measured time differences onto curved LOPs on special Loran charts. Mostly we learned that it was difficult to use in the daytime and
nearly useless at night. We also met up with the pilots and crews of the airships that we were going to move from the USA to Lages (then named Lagens) in the Azores.

The command pilot and flight leader was LT Warren Townsend, a squadron mate from ZP-15. The other airship commander was LT George Bowden from ZP-12. Ben Levitt and John Kane were assigned to LT Townsend’s crew as the navigators; Andy Papageorge and Bob Ashford were assigned as LT Bowden’s navigators. Figure 2 is a photograph of LT Townsend’s aircrew, but it shows Andy Papageorge and Bob Ashford as part of his crew when, in fact, Andy and Bob flew with Lt Bowden. I have no record of the crewmember names except for the first three persons from left to right on the back row – Andy, Bob and LT Warren Townsend. I cannot explain the mix-up in crew pictures.

My flight logbook from the period at the end of April 1945 shows that we took a test flight in the K-114 of 4.1 hours duration on the 24th, probably out of Lakehurst. On the 26th of April LT Bowden’s crew flew the K-114 from Lakehurst to NAS Weeksville recording a flight time of 8.2 hours. The intention was to wait for a favorable wind pattern to obtain over the Atlantic for the long flight from Bermuda to the Azores. It must have happened quickly for on the 28th of April we flew the K-114 to Kindley Field in Bermuda, a flight of 9.6 hours. For some reason which I cannot remember we shifted airships so that LT Bowden and crew took off just before dawn from Bermuda in the K-89 on the 29th of April headed for the Azores. LT Townsend and crew departed at the same time in the K-114. It was 29.7 hours later that we landed at the US base in Lages after completing the longest overwater, non-refueled flight in a K-type airship that has ever been recorded – a distance of 1,881 nautical miles. At that time it was a record for all non-rigid airships which was not exceeded until the record flights of the ZPGs in the mid-1950s.

As for the navigation – we used everything that we had. As stated above, the Loran was useless at night when the ground waves were muddled with multiple sky waves. During the day the Loran was marginally useful, but was not dependable as a primary aid to navigation. Believe it or not the aid that we used the most was celestial LOPs (fixes) along with the frequent plotting of wind stars. Andy and I used the common technique of pre-calculating what declination angle we should measure on a star shot (or moon or sun). It then became easy to take the bubble octant readings and correct from where we thought we should be to where we actually were. I can remember very well my adeptness at recognizing the navigation stars. We had partly cloudy skies most of the way, but when a small patch of sky became visible at night, I readily could recognize which navigational star I was observing in that small patch of sky. I don’t recall using moon lines or if there even was a moon. However, I recall getting sun lines as often as possible. A sun LOP is most useful in checking latitude. As we were generally on a west to east course, the sun lines during the middle of the day told us whether we were north or south of our intended track. Of course, everything we did we cross-checked with the other airship. Obviously (tongue in cheek) we were always right – got there didn’t we?

A check of our average ground speed from the data given above (1,881 nautical miles and 29.7 hours) gives a figure of 63.33 knots – a very respectable figure for any airship flight. However, the kudos must go to the meteorological guys who selected the right time for us to make the flight. Actually, the first 24 hours of our flight must have averaged well into the 70 knot region because we picked up a stiff headwind at about dawn on the 30th of April which slowed us down right about the time we first detected the closest of the Azores Islands at about 60 miles on the radar. This headwind dropped our groundspeed to about 40 knots and chewed into our average speed. We had been blessed with tail winds and we took as much advantage as we could by flying as high as the pressure height would allow. At night we were topping out close to 3,000 feet and thus were able to “see” radar ranges to the mountain tops in the Azores as far away as 60 miles. Of course, being the savvy airship men that we were, we dropped our altitude to the minimum for the last few hours with a headwind.

We had one very interesting event during our flight that I have never been able to verify for its accuracy, but it makes for a good sea story. Sometime in the late afternoon on the 29th when the sun was mostly gone for the day, we were able to climb above the clouds to an altitude of about 2,500 feet in order to take maximum advantage of our tailwind. We received a classified (encoded) radio message warning us to be aware of and on the lookout for a German heavy cruiser which had es-
I have been reading a paperback book by George Johnson and Don Tanner about the Bermuda Triangle, copyright 1976. Their attempt to answer some of the mysteries of this strange phenomena has caused the writing of this story you are about to read. It is a true story. It happened just like it is being told. It was on a night flight to Brunswick. In the last years of the U.S. Navy's use of “lighter than air” (L.T.A.) aircraft, Brunswick was the location of a Naval Air Station. The town was near the Atlantic coast of Georgia. The docks along the river had been used for building “liberty ships” during World War Two. It was a beautiful small southern town. Many of the outlying homes were original “ante-bellum” plantations fronting on the Brunswick River. The airfield was northwest of town about ten miles and was the Glynco Naval Air Station. There were two large wooden blimp hangars there and other smaller buildings that made up this base laid out among the Georgia pines.

My outfit, Airship Development Squadron Eleven (ZX-11) was based in Key West, Florida. We had no hangars there. Most of our airship (blimp) maintenance was done outdoors at the “mooring circles” while the blimps were “tied” at their nose to mobile mooring masts. But as the flight-time accumulated on each of the blimps, it was necessary for a crew to fly them to Glynco. Once inside those large hangars, the top-side of each “bag” could be inspected. While work went on in the gondola, at floor level, a few of us would be crawling over the bag hanging from a steel track in the ceiling on a boatswain’s chair... like spiders. This was a necessary chore, but a bit spooky... the bag was spongy beneath our feet and there was no real solid place to “stand”. We wore special soft shoes and carried our tools in a canvas sack below the small wooden bench we were strapped to.

The squadron had well over two hundred men in it. Pilots and officers made up the administrative staff and a larger number of enlisted men, the mechanics and technicians. Men and officers in several “shops” supported the maintenance and flight operations. We were in the first aircraft hangar at the north end of the flight line at Boca Chica Naval Air Station, Key West Florida. My duties revolved in and around a small metal “shed” outside the hangar...50 feet outside....to be exact. This was the “paint locker” and I was the squadron painter. A
“water-trap” and an air hose connected my small world of paint cans and spray-guns to the larger world in our hangar next door. Each month, a roster would appear on the bulletin board, giving the names of men making up “C.A.C.” crews. With six blimps, there would be at least six “combat air crews” assigned for flight duty. Everybody was eligible! Some preferred it! The “painter” was one of those who preferred the “duty”. With the C.A.C. crew assignment came extra pay. Officers and enlisted men making up a “crew” were paid “skins”.... flight pay. Flight duty was considered to be hazardous so we got extra pay to do it. I liked that!

The crew for a blimp was made up of about eleven men. It needed two pilots, one for the elevator and one for the rudder. There was a command pilot, and a navigator. These four were officers...usually ensigns or lieutenants. There were two enlisted men on radio and radar. About “midship” of the gondola, at an auxiliary flight station was a Chief-Petty-Officer to monitor our two 600 horsepower engines, their fuel consumption, power and electrical output. Besides a couple “relief” men who acted as “observers” or lookouts, there were two “riggers.” I flew as a rigger and we did all the loose ends during our flights. One of these duties was to raise and lower (by crank) the main landing gear.... singular. Another of these duties was the “mess cooking”. A special creation from our hot-plate for the crew was a fried egg sandwich. I called it the “Hollander”, after an aunt who used to fix them for me on the stove back home.

Besides the routine flying over the Atlantic Ocean to develop anti-submarine weapons and tactics, a C.A.C. crew might be assigned one of these maintenance trips to Glynco. And for all “flights” there would be a briefing. We would be told about the “mission”, time of take-off, radio and radar stuff and weather. In Key West and in lighter than air, weather was very...very important. An airship is “lighter than air” until loaded with its crew and “disposables” such as fuel, water ballast and ordnance, i.e marker buoys and aerial depth bombs. We always flew “heavy” by about 8 to 9 thousand pounds. And once off the mooring mast, our blimps would make a run into the wind until we “rotated” into a take-off attitude. After leaving the runway we would soar-off into the blue at 70-80 M.P.H. indicated air speed. Many of these flights started at dawn and ended at dusk. My C.A.C. crew was assigned one of these maintenance flights. Because we would be flying all night, our briefing was early in the day so that we could pack some things for a few days of work in Glynco, and get some rest, too. Take-off was to be about dusk. A ten hour flight would bring us into Glynco at dawn. The weather was forecast as “fair,” clear and moonless. The ship was fueled, loaded and “weighed-off” for useful lift. That is, the amount of weight our volume of helium in the-bag could lift. Our ship had static lift, from the helium, as well as dynamic lift too as with airplanes. With a slight nose-up flight attitude the bag acted like an airfoil and produced lift. This trip would be a “piece of cake.”

Our take off was into the west just as the sun was setting. My take-off station was at the aft windows in the gondola so I could watch the lower rudder during rotation. If it made any contact with the runway during our roll, I was to say so on the intercom to the pilots. They could compensate through the controls, mostly the elevator control which was a large wheel at the side of the pilot’s seat. Our turn to a northern heading would be by the co-pilot in the right seat turning a smaller wheel on a pedestal between his knees. The other rigger was busy cranking up the landing gear and closing a door over the wheel well. As we flew out over the Keys into the “gulf” the view of that setting sun was spectacular. Reds, yellows, grays and blues played across the sea below us.

What followed next over several hours, I blame on the Bermuda Triangle. Interchangeably, the authors of my paperback call it the “Devil’s Triangle.” In their book there is a map of the southeastern United States (page 95) and a portion of the North Atlantic Ocean. Drawn into this map is a large equilateral triangle. One of the apex overlays Miami. The other two lay out into the Atlantic touching the Bermuda Islands on the northeast and encompassing Puerto Rico to the southeast. In all, some 200,000 square miles of ocean (page 62, first paragraph). Our flight path was to pass through the apex reaching into Florida at or near Miami. As darkness descended over our “K” ship we droned on in a northeasterly heading. At some point we crossed the Overseas Highway and proceeded out over the “American shoals” of the Atlantic. There was not a star to be seen. Our pilots had probably switched to auto-pilot for a straight approach to a seaward passing of Miami. The blackness increased and a noticeable roll and pitch could be felt through the deck of the gondola. Under “red lights” for night vision, the cockpit was an eerie place. A small ladder forward of the pilots and just behind a huge curved windshield gave access to an overhead lookout station,
and someone was already up there. Soon, rain was zig-zagging across this big window and being lit by our red-lites and from time to time a white-hot flash of lightning. Somewhere above us and beyond the 625,000 cubic feet of helium was the hollow rumble of thunder. We were having gusts of wind that alternately stalled our air speed needle or wound it up to way beyond our expected 80 knots. To relieve the auto-pilot, the pilots would fly manually until exhausted then go back to the automatic flight control. No lights below. No lights on the horizon. Now rain is beating on the windows and our pitch and roll is bad. Rain is coming in and water runs across the deck plates. Hanging on or moving cautiously is all we can do.

Our command pilot on this trip was the squadron’s Executive Officer, a Lieutenant Commander. He was a short stocky man in a tan flight suit and yellow May West. By standing between the pilots and the navigator he could give orders from there to radio and radar operators too. Soon it was apparent “we” were in big trouble. The radar dome extending below the belly of the gondola was full of water and the radar antenna had shorted out. The radio direction finder needles were spinning around, the altimeter was zooming up then down, the compasses were out and the howling of the wind and rain was increasing outside. And this was to be “fair” weather! A piece of cake! We droned on and on for hours into the blackness with everything only getting worse.

Looking back to that experience it is difficult to judge the passage of time that night. What would have been minutes seemed like hours or hours like minutes. It is standard procedure in navigation to make periodic “position reports.” With our onboard radios in trouble, and in the wee hours of that black morning we saw some lights ahead on the horizon. They were dead ahead, then gone, then reappearing on our starboard, to fade out again in the rain, and then be on our portside.

Our roll, pitch and yaw in that darkness were taking their toll. The “exec” yelled at the radio man to send a message to Jacksonville....Florida....some four hundred miles into our flight. Nothing! “Sparks” as he was called could not raise Jacksonville on our transmitters....only static on the receivers. As he twisted the radio dials through different frequencies.... nothing.... only static, then something came through from the ground, from those lights.... quote “Miami to Airship....

that poopy-bag out of here, your lousing up our traffic into Miami International.... static.... screech.... static.... nothing!

Miami! Miami? Miami! ...Huh! We were west, not north by 400 hundred miles of Miami and over the Everglades!

The exec yelled again, “Get the duty rigger up here, on the double”. That was me. While “sparks” wrote out our position report in Morse code, I went amid ship to our storage licker to brake out the “Aldis” Lamp. The Aldis Lamp is a hand held signal light to flash signals from place to place. In this case it would be a signal flashed from our airship to Miami International Airport. Standing next to a window over the radios and with the Aldis Lamp plugged into electrical power and sparks holding the exec’s message I flipped the switch to “on”....click, on! click, on! nothing. The lamp was dark, as dark as it was outside those windows.

The next yell we heard from our exec was something like...."You’re all on report! You’ll see! You’re all going to captain’s mast! You’ll see! I’ll get you all for this mess!"

The rest of that flight to Glynco was spent in utter silence, not a peep! Not a whisper, except for the howling wind outside, the beating of rain on the windows, the sloshing of water below the floor boards and the distant rumble of thunder somewhere above our 625,000 cubic feet of helium. Helium doesn’t burn, but a Lieutenant Commander does!

Sometime before dawn we flew into “fair weather”. We were overdue at our arrival in Glynco. But after all, we had been caught by the Bermuda Triangle and had flown for several hours to where we never knew and had almost complete equipment failure during the critical times....and all these years later I blame it on the mysteries of this strange phenomena....”the Bermuda Triangle”. Why it even effected our exec....he never did put us on report....and I’m not sure that he ever mentioned this weird flight of a Navy blimp back in 1954....to anyone.

(Ed. typed up this story from a zerox handed him some time ago, but no evidence has been found of Jones ever having been a NAA member.)
This photo of “Captain Tom” holding one of his models was taken some time after the hangar was erected, possibly as late as 1928. The photo on the right was taken in 1967.

Thomas Benton Slate and his Slate Aircraft Corporation
By Albert Robbins

Thanks to our editor, I’ve gotten to know the senior Slate’s son Thomas C. Slate, and one of his great-nephews, Robert Slate, who has been gathering and archiving the family’s records relating to the all-metal fireproof airship The City of Glendale.

Thomas Benton Slate was a Journeyman watchmaker, self-taught physicist, mechanical engineer, machinist, publicist, manufacturer and an honorable man. His formal education ended with the fifth grade. He was born December 2nd 1880, in Tangent, Oregon, died November 26th 1980, in Covallis, Oregon, a week before his 100th birthday. We don’t know when or why he first became interested in airships; he had never flown in one.

With apologies to all, I’d like to divide Captain Tom Slate’s story into two segments. No other aviation pioneer has received as little recognition for his enormous contributions to lighter-than-air and the American aviation industry, with the possible exception of “Captain Tom” Baldwin.

Thomas Charles Slate, Robert Stephen Slate and I (the “we” in this story, now all NAA members) are still trying to fill in a number of the blanks of this remarkable pioneer. Thomas B. never maintained an Inventor’s Logbook. No one wrote, or helped him write his biography. Neither he, nor his wife kept a diary or even a scrapbook. Tom, his eldest son, was only six when they moved to California, eleven when The City of Glendale was floated from the hangar for the second and last attempt at a test flight.

When did Thomas Benton Slate (known as Captain Tom after he moved to California) have his airship “flash of inspiration”? He was a highly successful inventor; three of seven patents issued before his first child was born were related to aviation. He won an allied forces competition with a modification of his propeller patent. His variable pitch propeller powered an electrical generator installed on American, British, French and Italian fighter aircraft in the final months of World War I. There is no indication he’d ever been close to an airship, or even been up in a balloon.

He’d already moved his family to 1232 Stanley Ave, Glendale, California, in 1924, before he filed airship patent applications (He didn’t keep copies of any of his applications.). The May 1925 application resulted in P/N 1,681,790 “Process for constructing the hulls of airships”. We don’t know what, if anything, was disallowed; there are no records of division or reapplications.
The July application was divided, part of it issued as P/N 1,642,270 “Airship”. He resubmitted the remainder the following April (1927); and it was divided again, with part issued as P/N 1,720,382 “Fireproof dirigible airship.” At least some of the remainder was ultimately issued as two other patents: P/N 1,772,220 “Elevator system for loading and unloading dirigible airships” and P/N 1,780,448 “Metallic airship of the rigid type”.

In summary, ultimately, the USPTO approved 33 separate claims in five patents. Nothing in any of his airship patents referred to the possible use of steam-power, and nothing in a later patent, P/N 1,741,379 “Steam Turbine”, which he also assigned to the Slate Aircraft Corporation hints at its applicability to aviation. Although he built and tested a number of light-weight flash boilers we have no evidence that he applied for any other patents regarding steam.

Who actually worked for the Slate Aircraft Company, when and why were they hired? We don’t know when the pilot hired on, or what lighter-than-air experience he had. In his article “Slate All-Metal Dirigible Heralded as the First Practical All-Metal Airship” (AERONAUTICAL WORLD pp 18-19 Sept. 1928) he is identified as: R.M. Anderson, B.O., As. P., 2nd Lieut., Air Res. Possibly Anderson was British; no U.S. military LTA info on him. His article indicated the ship would be manned by a crew of five and powered by a single 500 HP steam boiler burning a mixture of fuel-oil and hydrogen (to control buoyancy); but doesn’t indicate when Slate decided to introduce his own steam power plant. Except for estimating total prototype costs of approximately $120,000, and possibly production costs of $75,000, the article tracks closely with the company’s brochure.

We also don’t know when Frederick W. Grantham was hired, or what input he had on design or construction. (The title page of his book SAFETY IN THE AIR, identifies him as Chief Engineer, Slate Aircraft Corporation. That page is the only place that “Slate” appears in the entire book). Two chapters refer to metal airships. In Chapter 7, figures illustrate the Corrugated Ship (CITY OF GLENDALE) and the Metalclad Ship (ZMC-2). Chapter 8, economics of all-metal airships is based exclusively on the Slate-type airship. Unfortunately, the book, published in 1928, doesn’t provide any insight into the actual construction program at Glendale.

There was one other engineer, a young mechanical engineer named Hopkins, primarily involved with the steam system. He escorted the “naval aviator from San Diego” when L.B. Richardson (first name and rank unknown) visited the hangar on April 10, 1928. (We have not been able to find any other indication of Navy or Army interest throughout the construction period.)

L.B. Richardson (US Naval Air Station San Diego, California, 28 April 1928, THE SLATE ALL-METAL AIRSHIP INFORMALLY INSPECTED AT GLENDALE, CALIFORNIA) based primarily on the corporate prospectus and information provided by Mr. Hopkins, who he assumed to be the “chief engineer.” Hopkins apparently told Richardson that the company work force had recently increased from 15 to 35 men. Grantham and Anderson might have been part of the new group.

There might have been as many as forty; we have names, or partial names of 19, including nine relatives, including two of his seven brothers, Frank and Grover, and Grover’s teen-age sons, Claude and his younger brother Leslie “Carl” (Robert S. Slate’s father).

Who had Thomas B. dealt with in the Army before he moved to California? Who was in charge at Ross Field in 1924 and 1925?

He believed he had approval to lease one of the unused WWI Balloon Hangars at Ross Field (photo below) for the several years required to build and test his prototype all-metal airship.

His wife, Edith, had developed tuberculosis, so in 1924, he moved his family to Glendale where Grover and one of their sisters, Mae Mischler had settled earlier. So Tom moved his invalid wife and three small children to Glendale, while he built their “permanent” home at 130 Bonita Street, Arcadia, close to Ross Field. His wife’s sister and her husband (Al Weger, one of his first employees) built their home on the adjoining lot. (Both houses are still standing.)
He ordered construction materials, completed his house (which is still occupied) and moved his family in while lease negotiations dragged on. Finally, stalemated, with rolls of aluminum and loads of supplies due to arrive, he accepted an offer from the Glendale Chamber of Commerce to lease space at the new Glendale Airport. He moved his family back to Stanley Avenue, and prepared to build his prototype airship out-of-doors next to the Los Angeles River.

It didn’t work. The first attempt was wrecked by winds before the first strakes were emplaced. Undeterred, they cleared the site, dug out a long deep pit with horse-drawn excavators, built a lower construction platform, and erected taller and stronger windbreaks. They’d managed to get several strakes attached before another strong wind ended their outdoor efforts. Once again, they cleared the wreckage, removed the windbreaks, and began to build a dock, a hangar around the construction platform.

When his three grown children (Thomas Charles, Dai-sidel, and Betty Jean) asked him to write a biography, he ordered three copies of each of his patents from the patent office. In 1961, when he was 81, he wrote a moving, seven page letter, which he bound in front of the patents, and presented a copy to each of the children. Unfortunately, the letter didn’t say anything about any of his patented inventions, the company or their life in Glendale. (His 31st and final patent, based on a model seaplane, was issued in 1946.) Nearly half of the letter was devoted to his most recent (failed) patent application, to prevent/dissipate tornadoes and hurricanes, and improving municipal administration by introducing effective, economical public transit system.

Any information which might help clear up our confusion would be greatly appreciated. We’d really like to hear from anyone that has photographs or articles regarding the Slate Aircraft Corporation and/or The City of Glendale between 1925 and the bankruptcy sale (1932 or 1933). Ω

(Herman’s Van Dyk’s plan, next page, is based on the best info available.)
October 15, 1924: German-built rigid airship LZ-126 arrived at the Naval Air Station, Lakehurst, NJ, and became the ZR-3 of the United States Navy. The 5,080-mile, 81-hour flight from Friedrichshafen was a bold exercise in remarkably-accurate over-water navigation, “pressure pattern” flying and the maximizing of available assets in order to make a dramatic technological and public-relations statement.

Commissioned as the USS Los Angeles, the big dirigible went on to a successful (or at least not unsuccessful) career. While she only managed about 4,000 hours flying time in a career spanning eight years, her flights to Bermuda, Puerto Rico, Panama and across much of the Eastern two-thirds of the United States were the stuff of headlines and popular enthusiasm, later overshadowed by bigger and more glamorous company (the U.S. Navy’s ZRS-4 USS Akron and ZRS-5 USS Macon, as well as her German-built sisters LZ-127 Graf Zeppelin and LZ-129 Hindenburg) The Los Angeles nevertheless received strong affection from all those who served aboard her as a reliable, “lucky” ship (including C.E. Rosendahl, below). To the casual as well as serious students of airships and aviation history, the Los Angeles always got high marks for her beautiful lines and appearance... arguably to this day among the most beautiful airships ever built.

Eventually grounded due to obsolescence and economic considerations and finally broken up just before Germany and the U.S. went to war for the second time in less than 25 years, the Los Angeles nevertheless earned a particularly lofty recognition as among the “greatest of the greats” in LTA. Most of the personnel who served in Navy LTA in the 1920’s and 1930’s trained, served or honed their skills aboard the Los Angeles at one time or another... a lot of the high standards for training, discipline, ground-handling and ship-handling learned on the Los Angeles filtered down into the greatly expanded ranks of officers and men who forged the Navy’s non-rigid blimp operations into an efficient, dependable organization during World War II and the Cold War. Remarkable enough in her day, even now images of the Los Angeles convey that she was a special ship indeed!
On one occasion the Lakehurst Naval Air Station boiler plant burned an extra 20 tons of coal feeding steam to the hangar heating coils over a 24-hour period, yet the interior temperature of the hangar increased by about 1-degree F!

There was a winter experiment around 1928 which consisted of blowing hot air from the floor vents through canvas ducts up into the hatches in the bottom of the Los Angeles and running the ship out of the hangar to quickly takeoff with false “hangar superheat.” As soon as they got aloft the superheat disappeared so quickly that the ship almost stalled and fell. According to an engineering drawing in my possession some of the heat coil units were removed around 1930, the system was apparently abandoned a few years later. Nevertheless, an interesting “might have been.”

The crash of the fictional dirigible PENSACOLA at sea is interesting...it happened in the movie scene two years before the real USS Akron was lost in the Atlantic, yet life rafts/life jackets removed from the Akron prior to her West Coast 1932 flight were never reinstalled. O - Rick Zitarosa

Ed. was cc'd in some e-mails concerning that movie. Rick was asked a number of questions by Wick Elderkin: “When they filmed the movie were the shots of the interior of LA her very own?”

Rick responded, “Control car and on-board shots were conducted using the Los Angeles as a film set, docked in the hangar. Moving backgrounds were added for aerial sequences in some cases. The keel walkway filmed “crash scene” was a mixture of on-board and studio reproduction shots, including reproduction girders. Items like spare fuel tanks were used to add to the realism. The on-board “squawk box” telephone system, interior lighting, etc. are actually equipment on the Los Angeles. Rosendahl, in his capacity as “Commander, Rigid Airship Training and Experimental Squadron” was consulted for the shooting of the film, though the Los Angeles was, at the time of much of the shooting, flown by Lieutenant Commander Herbert Wiley and Lieutenant Commander Vincent Clarke. In one scene, Jack Holt is seen disembarking the control car and behind him the officer is Commander Alger Dresel, who would command the ship from June 1931 thru January 1932. Commander Frank McCord, who later was killed in command of the Akron, was the Lakehurst liaison officer during the filming. Many crew/ground crew were actual crew members doubling as “extras.”

For years, Rosendahl proudly displayed a photo of him and Jack Holt with the crew of the Los Angeles on his office wall. None of the models or any of the material used in the filming ever survived to make it into any museum to my knowledge.” O
Black Blimp

Dail H. Bennett, 88, passed 1 MAY 2009. He was born September 8, 1921, in St. Anthony, Idaho, and married Marjorie Shirley Ransom on December 10, 1943. He graduated from East High School and then from the University of Utah with a bachelor's degree in Business. Bennett's love of flying took him into the Navy Air Corps, where he flew blimps and fighter planes. He retired from the U.S. Navy in 1981. Dail is survived by his wife, Marjorie, four daughters, one son, 14 grandchildren, and 14 great grandchildren. Ω

Peter M. Yerkovich, 99, passed 12 NOV 09. Peter lived a long and fruitful life devoted to his family and community and was committed to his country as a US Navy veteran of WWII. Peter's commitment to civic and volunteer work in his hometown earned him, along with his wife Ida, the honor of Citizens of the Year in Campbell, CA, where he lived over 84 years. He was a proud member of the Naval Airship Association, American Legion and many other organizations. He worked as a mechanic at Pacific Truck and Coast Counties Truck and Equipment Co. for many years. Peter was preceded in death by his loving wife Ida, of 68 years. He is survived by many nieces and nephews. Ω

Douglas Carlton Adamson, Sr., 87, passed 8 NOV 09, after a lengthy battle with Alzheimer's disease. In his first career as a Navy blimp pilot during WWII, he met his wife Francis “Sis” while stationed at Glynco NAS. LCDR Adamson left the Navy in 1963 following a tour on the USS Kitty Hawk where he served as Maintenance Officer. In the late 1980’s, Douglas served as Secretary/Treasurer of the Naval Airship Association, as well as elder and treasurer of his church. He also acquired a real estate license, opened his own real estate office and held many positions with the Board of Realtors in the Jekyll Island area. Douglas and his wife of 65 years traveled extensively in their motor home. Ω

Leo Joseph Dolan, 89, passed 23 DEC 09. Leo was a WWII veteran serving as an Airship Rigger, Second Class. He served in ZP-14, Weeksville, NC and also tours in Africa and Italy. Leo was a toolmaker for the jewelry industry. Leo was a member of the VFW, Legion, Knights of Columbus, and Moose. He is survived by his wife Barbara. Leo will be buried with military honors at the Florida National Cemetery. Ω

The Navy

(Author unknown)

The work was hard and dangerous; the going rough at times; the parting from loved ones painful, but the companionship of robust Navy laughter, the “all for one and one for all” philosophy of the sea was ever present.

In years to come, when sailors are home from the sea, they will still remember with fondness and respect the ocean in all its moods - the impossible shimmering mirror calm and the storm-tossed green water surging over the bow. And then there will come again a faint whiff of stack gas, a faint echo of engine and rudder orders, a vision of the bright bunting of signal flags snapping at the yardarm, a refrain of hearty laughter in the wardroom and chief’s quarters and mess decks.

Gone ashore for good they will grow wistful about their Navy days, when the seas belonged to them and a new port of call was ever over the horizon.

Remembering this, they will stand taller and say, “I was a sailor once and would do it again.” Ω
Maybe they could report it contains a space alien and instantly gain worldwide media attention.

“Have you heard the one about the chemist who was reading a book about helium and just couldn’t put it down?”

When Bob Forand told a friend he was going to Weymouth, the friend said, “Where the Fox Hat??”

Another failed attempt to marry the incompatible technologies of hot air and vacuum in LTA.

An Airship Powered by the Sun

In an effort to develop long distance electric-powered aircraft, Solar Flight has considered all types of flying machines. History shows us that airships were the first type of aircraft capable of safely flying long distances with limited power plants. Therefore, we have chosen a lighter-than-air configuration for a very long-range aircraft. Unlike blimps which rely on internal pressure to maintain their shape, our design is a rigid airship, of the Zeppelin class. With this machine Solar Flight plans to circumnavigate the globe using only solar energy.

The Sunship is designed to be as small as possible, but large enough to cross the Atlantic and Pacific oceans. It is designed to carry 3 people at lower altitudes, 2 people to medium altitudes, and one person at high altitudes. The Sunship should be able to break the current altitude record for airships of 24,000 ft.
“When the Carriers call 911, Lakehurst answers!” Photos from Steve Rudowski of Lakehurst facilities in action, including the 1960s test (below) of an FAA-sponsored fuel agent designed to reduce fuel explosions. Tests of a new electric catapult will begin soon. Back cover: Art by Giuseppe Rava from British Airships 1905--30 © Osprey Publishing. Depicting the action of 7 DEC 17, Radioman F. E. Tattersall rakes the U-boat with machine gun fire, driving it underwater after which the Submarine Scout Sixteen attacked with two 65-lb bombs. SS-16 pilot Fl Lt John Barrs was awarded the British DFC for this heroic attack.