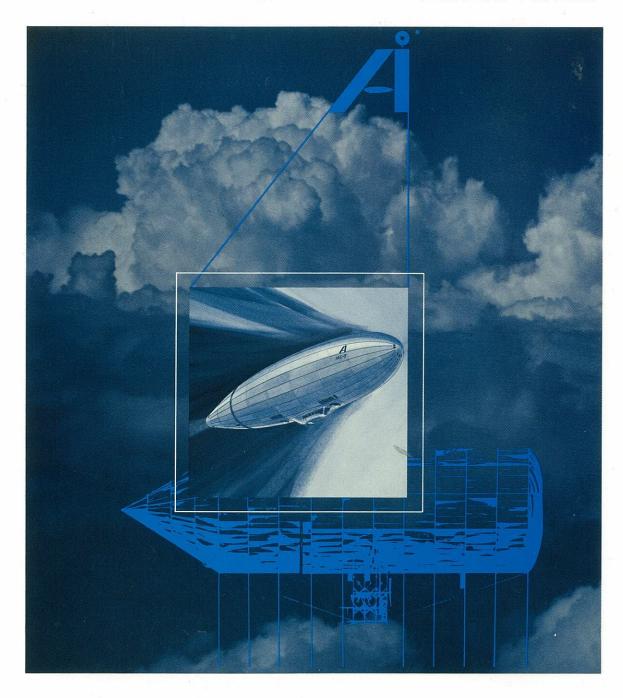
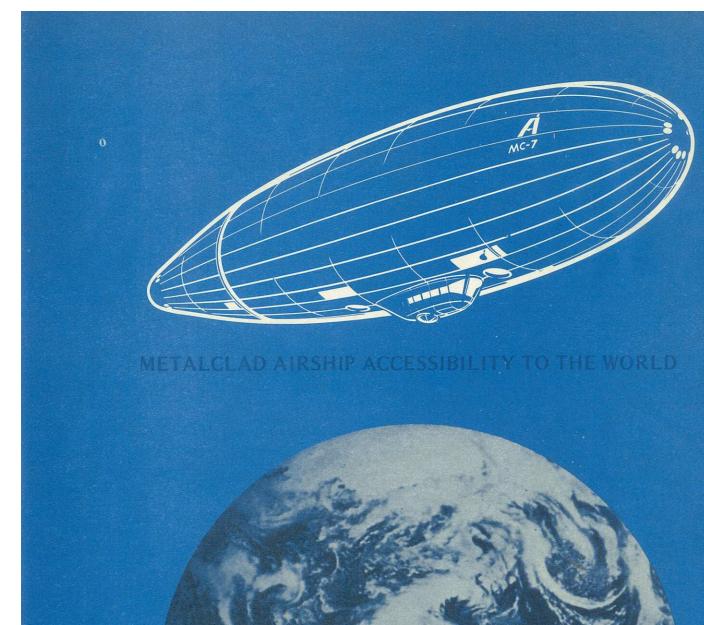
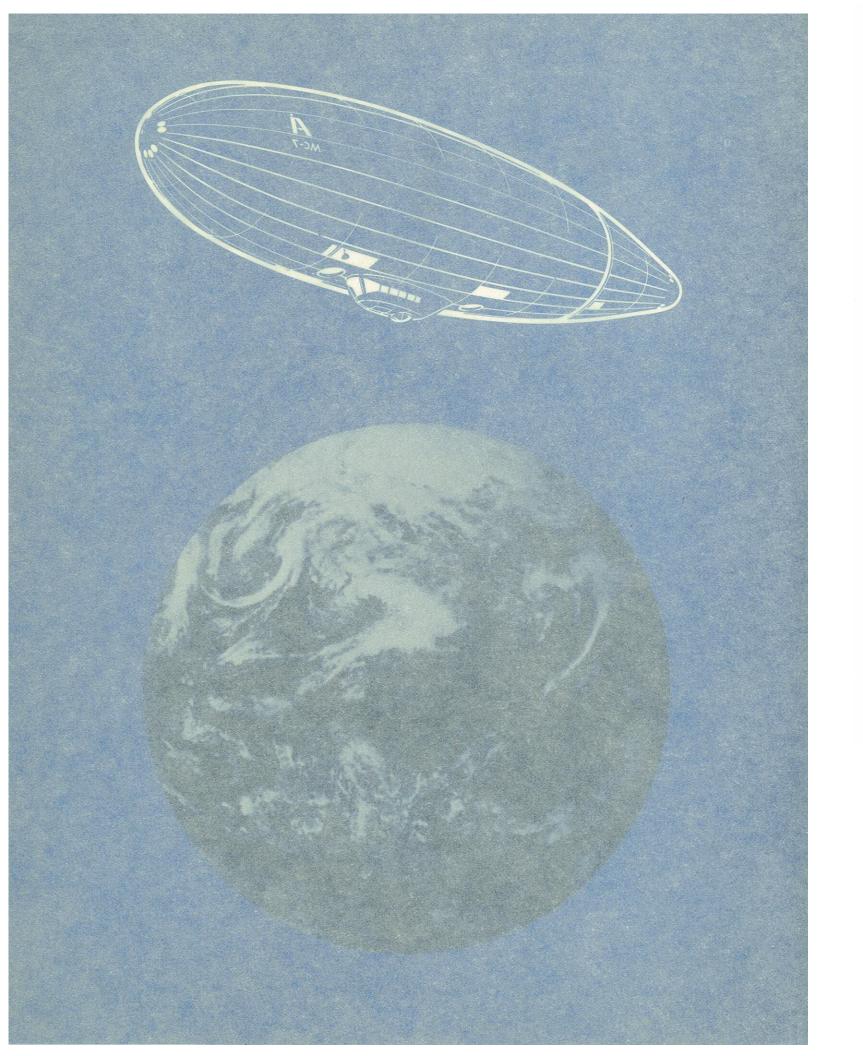
HOME OF THE METALCLAD AIRSHIP



AIRSHIPS INTERNATIONAL







METALCLAD AIRSHIP ACCESSIBILITY TO THE WORLD

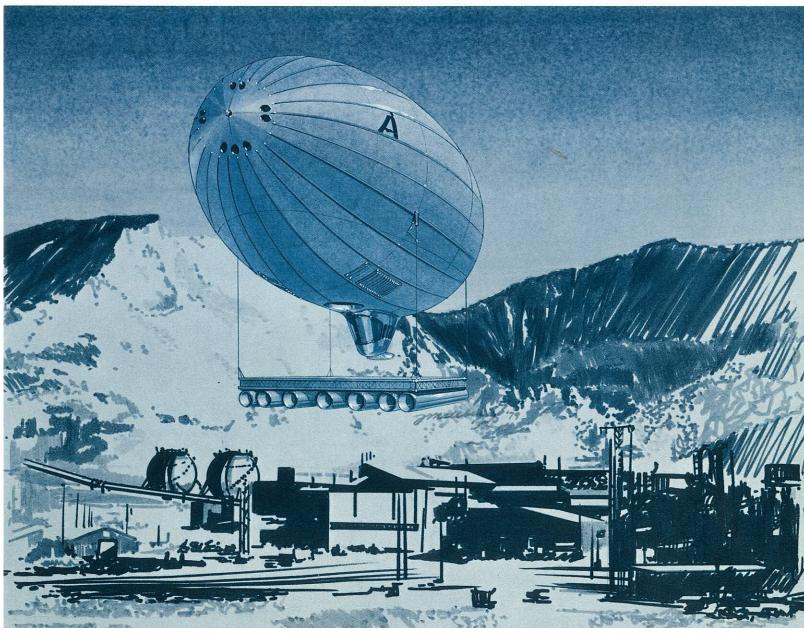


AIRSHIPS INTERNATIONAL AND THE AGE OF MODERN AIRSHIPS

Technological achievements of the past five decades have made possible enormous advancements in the sciences and humanities. One of the greatest benefactors of these accomplishments is the Modern Airship and, in particular, the Metalclad.

This "Airship of the Eighties", with its diverse capabilities and applications, irrevocably transforms all previous conceptions of global transportation, third-world development, surveillance and energy exploration.

Airships International, an unquestioned leader in this field, is totally committed to designing and developing a family of Metalclad Airships which will specifically meet the unique needs of users the world over.



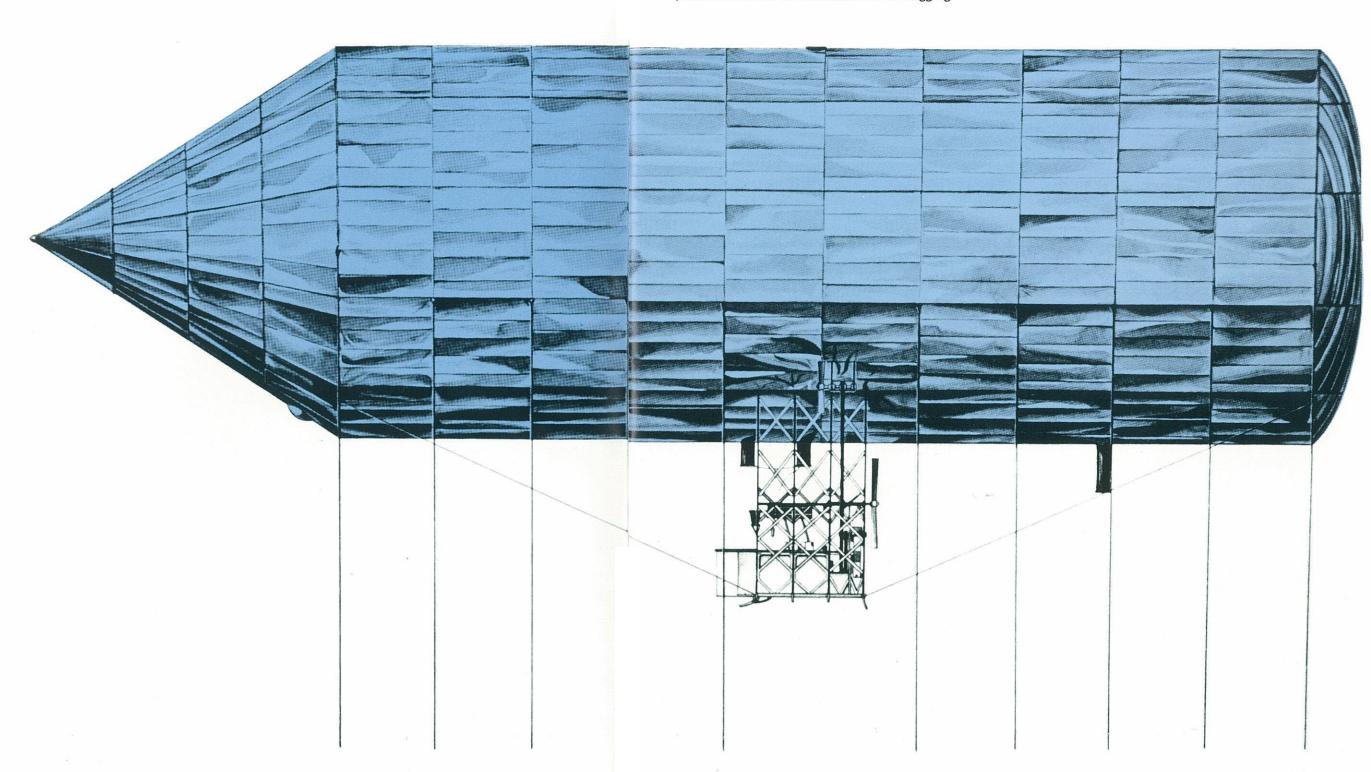
THE GENESIS

During the latter part of the 1800's, recognition of the airship and its transportation potentials swept Europe. In 1896, the German Chancellor created a high-level commission of top engineers, scientists, businessmen and commercial leaders to evaluate various airship designs and award a construction contract to the one deemed most sturdy and efficient.

Competing against Count Zeppelin's concept of a rigid hull covered with fabric, a lumberman named Schwarz submitted a metalclad design which he perceived would be invaluable to the logging

industry. Recognizing, even then, the superiority of a metalclad hull over a fabric one, the commission selected Schwarz's design.

This airship, the very first of its kind, was built and flown in 1897. Flying successfully to an altitude of 800 feet, power was subsequently lost and the pilot valved the lifting gas too quickly and the craft was damaged upon landing. However, that single flight of nearly a century ago clearly demonstrated the structural validity of the Metalclad Airship.



LANDMARKS

OF THE TWENTIES

A major milestone occurred when two Americans, Ralph H. Upson and Carl B. Fritsche, embarked upon an aggressive program to develop the Metalclad Airship. Upson arrived at the optimum design based upon the remarkable effects of internal pressure on the metal hull, while Fritsche obtained the backing of such American industrial giants as Edsel Ford, C.F. Kettering and Alex Dow. Thus, the ZMC-2 program was undertaken in 1922.

What followed was a LANDMARK in aviation history.

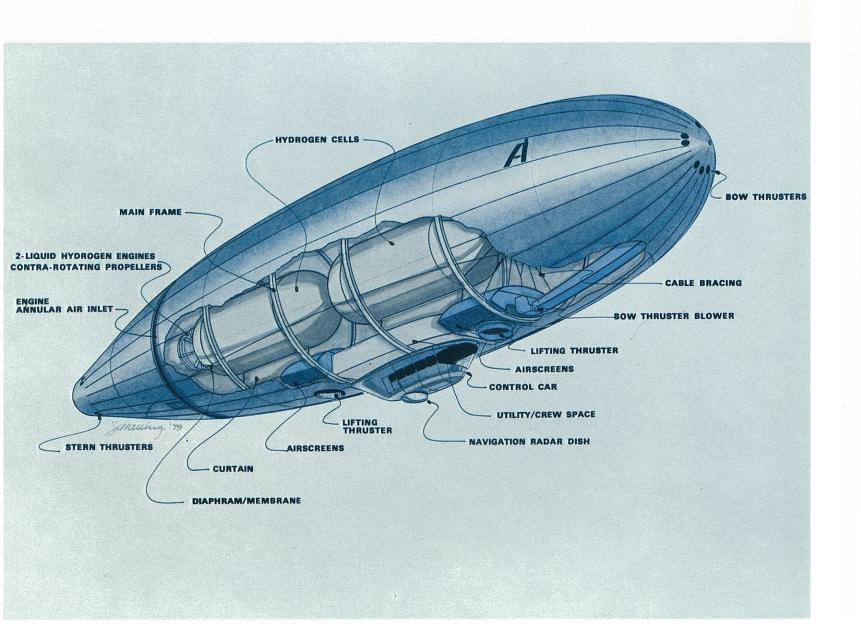
The ZMC-2 elegantly demonstrated its rugged, all-weather reliability by completing 752 separate flights and logging 2,320 accident-free hours over its 12 year lifespan. In 1941, the U.S. Navy was forced to dismantle the "Tin Bubble" due to lack of funds.

OF THE EIGHTIES

Another LANDMARK in the annals of airship design is taking place at Airships International in Tustin, California. Professor Vladimir Pavlecka, chief of design for the original ZMC-2 hull and a world-influence since the 1920's in aeronautical research, has devoted nearly his entire lifetime to perfecting the concept of the Metalclad Airship.

Drawing upon the proven benefits and demonstrated safety features of the ZMC-2, Pavlecka has introduced into his design concepts the latest technological advancements of aerospace and commercial aviation. Capable of accomplishing missions impossible to undertake with conventional aircraft, these new designs literally revolutionize man's concept of the MODERN AIRSHIP.





THE MODERN AIRSHIP

This Modern Airship embodies the most advanced scientific technology developed and tested in space exploration and contemporary commercial aviation.

Airships International has created multiple versions of the Metalclad Airship to facilitate operations for a variety of world-wide applications. All versions are basically related to a single design concept to insure reliability, safety and significant cost savings. Looking beyond the immediate requirements, projected growth programs incorporate the implementation of configurations which will achieve even greater performance levels.

Design features of the Modern Airship include:

 Computer-designed, modified monocoque metalclad hull form which provides maximum aerodynamic efficiency at all operating speeds. All elements of the hull are loaded in tension and shear, the most advantageous design method for any structure.

- Integral attachment of the load-supporting structure to the pressurized metalclad hull which assures a lift-to-weight ratio superior to all other forms of airship design.
- Fully-powered, fully-automatic flight control systems which are optimized for maximum effectiveness, safety and precise flying qualities.
- Advanced turbine engines which have demonstrated high levels of reliability and efficiency as proven through millions of airline hours with commercial transports.
- Complete load handling system designed specifically to accomplish a broad spectrum of cargo, baggage, supply, crew and passenger requirements.

AIRLIFTER OF THE EIGHTIES

Energy consumption/conservation and all of its myriad ramifications will dominate the 1980's Throughout this decade, the greatest challenge will lie in the exploration, research, development and production of all forms of conventional and alternative energy sources.

As the search for energy resources broadens its geographical horizons, a new vehicular form will be required to cross the most formidable of terrain or waters and, without the assistance of any type of special surface structure, be capable of delivering

men and equipment as well as loading valuable resources for delivery to appropriate marketplaces - - no matter what the weather conditions.

Metalclad Airships answer this challenge.

Ruggedness, safety, simplicity and versatility are the cornerstones of this innovative design concept. Unlike any other form of transportation vehicle, the computer-controlled Metalclad Airship can hover in a true zero-zero state without any lateral or vertical motion, can remain in the air totally

without power and can readily be converted to a significant number of different applications. Utilization and operation of this Modern Airship can be accomplished at a cumulative cost less than that of any other mode of transportation.

THE SENTINEL

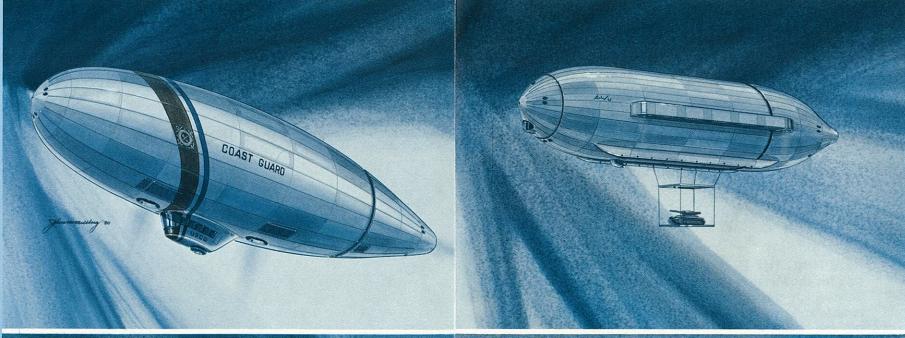
Year-round surveillance over land and sea is mandated by today's political/economic climate.

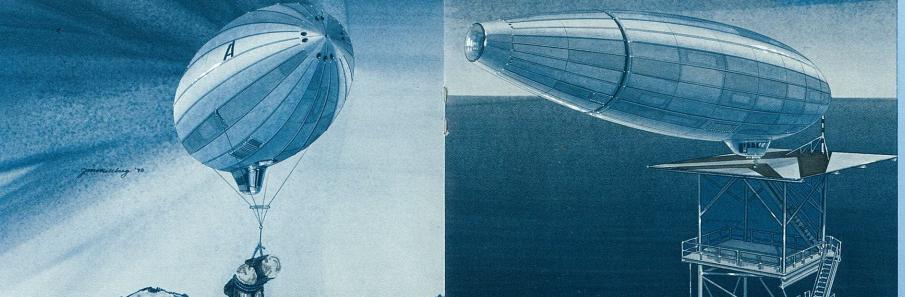
Metalclad Airships overcome the limitations of conventional airplane patrols with almost unlimited flight durations, extraordinary range, excellent payload capacities, major fuel savings and unparalleled comfort for pilots and crew. The SENTINEL is, indeed, the most viable surveillance vehicle ever envisioned.



Requiring a variety of different and difficult transport operations, the logging industry is constantly seeking new and better solutions.

The LOGGER's precise descent/ascent capability, coupled with its ability to lift large tonnage payloads, eliminates costly access roads and specialized transport equipment. Ideally suited to logging tasks, the Metalclad Airship performs a variety of jobs at a great cost savings.





SHIP TO SHORE CARGO MOVER

Among the crucial concerns of oceanic transportation are congested harbors, outmoded on - and offloading equipment, a lack of dock space and costly delays.

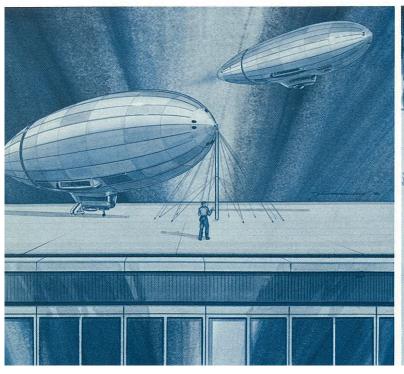
Virtually eliminating all of these problems, the SHIP TO SHORE CARGO MOVER travels directly to moored ships, on- or off-loads typically 60 tons of payload and, then, quickly and efficiently transports the cargo directly to using sites within a 300-mile radius.

THE EXPLORER

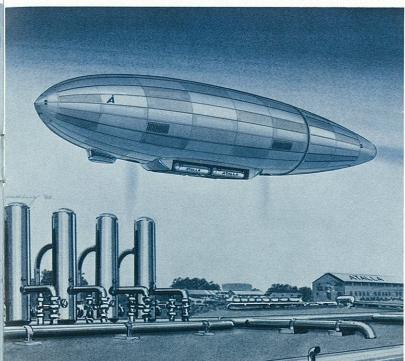
Vast oil fields in both the ocean's depths and remote wilderness areas are as yet untapped because of the excessively costly and often physically impossible job of placing equipment, supplies and crews at these inaccessible sites.

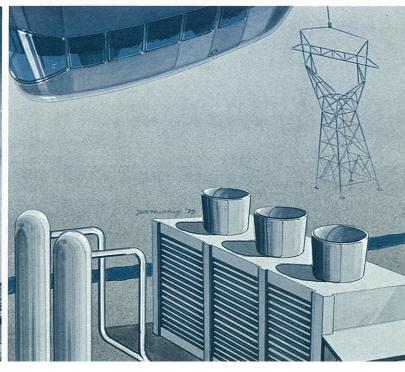
Superior strength and durability enables the Metalclad Airship to perform at a precise and reliable level whatever the conditions.

Technologically, the EXPLORER is the most cost-effective and, perhaps, only solution.









THE VERSATILE COMMUTER

Capable of multi-mission, high-capacity transport, the Airship of the Eighties must retain maximum-use flexibility.

Easily convertible for a variety of transport applications, the versatile Metalclad Airship commands the additional advantages of operating in an ecologically clean fashion as well as being capable of completing landings and take-offs at very low noise levels.

Functioning as a passenger carrier on one trip, the COMMUTER quickly converts to a light-duty freighter configuration for ferrying payloads of palletized or bulk cargo on the return flight. This design provides a comfortable, affordable and reliable alternative that can be profitably operated in an all-passenger mode, passenger-cargo mode or all-freighter mode.

REACHING THE INACCESSIBLE

Beyond the far reaches of any form of surface or air transportation, there is a wealth of energy resources and prime, marketable commodities. Such undeveloped regions include the Northwest Territories in Canada, the Orinoco Oil Fields in Venzuela as well as the outback areas of Brazil, Nigeria and Central Africa - - to name but a very few.

REACHING THE INACCESSIBLE is a natural task for the Metalclad Airship. This is often the only vehicle capable of penetrating into these remote areas as well as quickly and efficiently off- and on-loading cargo without surface infrastructures. Even more importantly, it can operate on a year-round basis.

THE FREIGHTER

Transporting goods and equipment over land and sea is basic to any freightage operation.

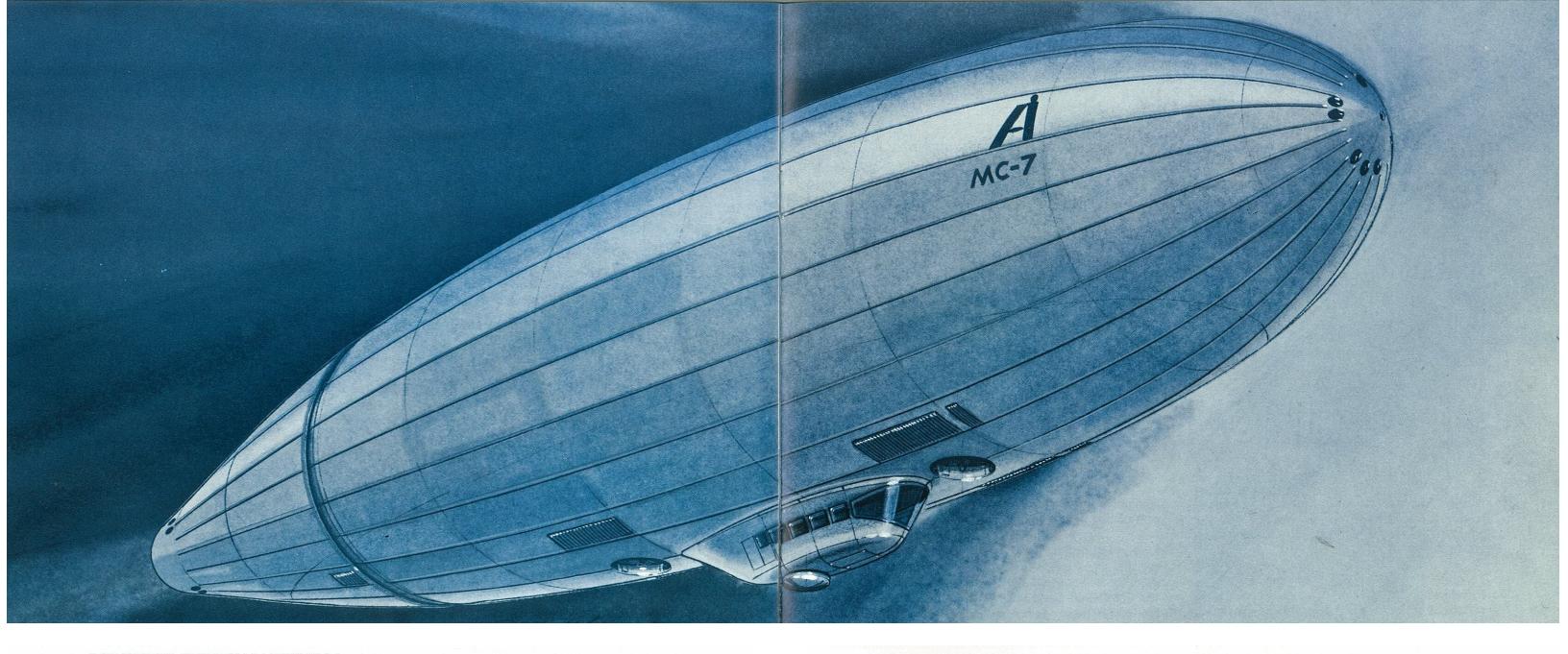
Superior in its strength and durability, the FREIGHTER can best be compared to the powerful capabilities of a Mack Truck and, indeed, is destined to become the DC-3 of the Modern Airship. Augmented with either internal or external thruster power, the payload capacity of this 'airship is enhanced by up to 50 percent.

When a freight mission is completed, this adaptable workhorse can be easily and quickly converted to function as a light-weight express carrier. Fundamentally, this DC-3 of Airships far surpasses the versatility of any other proposed method of conveying men, equipment and materials.

THE BIG LIFTER

As man searches farther into uninhabited regions in hopes of discovering new resources, transporting massive equipment and materials to these sites will be the perfect job for the Metalclad Airship.

At a tremendous cost savings in labor and equipment, the BIG LIFTER will be able to go anywhere at almost any time to perform a variety of transport chores and lifting tasks. Indeed, it is the most practical and reliable workhorse which could be employed in the construction of huge industrial sites in remote and, often, inaccessible areas.



AIRSHIPS INTERNATIONAL

In the mid-1970's Dr. Earl R. Kiernan and Professor Vladimir H. Pavlecka could foresee that:

- The critical world-wide energy shortage would continue into the next century when new energy sources such as solar and fusion could be developed.
- Valuable commercial resources such as foods, lumber, minerals, precious metals and oil were in rich supply in remote, inaccessible areas throughout the world.
- Surveillance of land and sea by conventional aircraft was subject to many deficiencies and constraints.

- Costly inadequacies plagued oceanic, air and surface transportation modes in many areas of the world.
- Certain remote areas were physically inaccessible to any form of air or surface transport.
- Most importantly of all, a new breed of Modern Airships, designed specifically to meet these challenges, would provide a practical, common-sense solution.



AIRSHIPS INTERNATIONAL MANAGEMENT TEAM

Professor Vladimir Pavlecka Robert Brandt Dr. Earl Keirnan Al Brandt John Roda Richard Pope (from left to right)



Airships International was formed in 1977. The corporate objective of this new group was to apply the latest proven scientific technology to known Lighter-Than-Air principles.

To achieve this goal, Dr. Kiernan and Professor Pavlecka recruited a team of specialists from a variety of disciplines including the sciences, engineering, manufacturing, marketing, pricing analysis and contracts administration as well as applications experts with governmental and commercial experience for both domestic and international users.

Locating within the shadows of the United States Navy's blimp hangers in Tustin, California, Airships International established its base of operations.

The corporation then sent teams of researchers and marketing specialists to the scientific and commercial centers of the world to evaluate the state-of-the-art of the airship and all of its global applications. One of these teams spent nearly a year with the National Research Council of Canada,

while others visited interested groups in such places as Washington D.C., London, Paris and Stockholm.

Liaison was initiated and is being maintained with the U.S. Department of Transportation, The World Bank, as well as the U.S. Air Force, Army, Navy and Coast Guard, in addition to key members of the U.S. aerospace industry. This lean, tight organization has completed studies of the basic family of airships and their derivatives. In many cases, conceptual designs have also been finalized for specific applications.

This team is dedicated to bringing into being a new mode of transportation that is ecologically superior, fuel efficient, cost effective and capable of transporting vital payloads to and from areas hitherto considered inaccessible by any other form of transportation.

The realization of Airships International's goal will create a multi-billion dollar industry with an economic opportunity unmatched for the remainder of this century.

DR. EARL R. KIERNAN PRESIDENT, CHAIRMAN OF THE BOARD

Combining a life-long interest in aviation with a career in medicine, Dr. Kiernan has dedicated his time and efforts to the study of the Metalclad Airship. Demonstrating the same initiative that made him a Gugenheim Fellow in experimental surgery at Harvard University, he has extensively researched every aspect of current airship technology and feasibility.

Dr. Kiernan holds the rank of Colonel and Senior Flight Surgeon in the U.S. Air Force Reserves. He has logged over 1,500 hours of flight time and also is a Master Parachutist. Presently, Dr. Kiernan's reserve assignment is that of M.A. Commander of Medical Services at Edwards Flight Test Center in California.



Few men have contributed as much to aeronautical research as Vladimir Pavlecka. As Head of Structural Research at Douglas Aircraft Company, Inc., he revolutionized the industry through his development of light metal structures for the DC-3, Douglas' first pressurized fuselage and the first tricycle landing gear ever used on a large plane, the B-19. He also developed wing folding for naval aircraft, flush riveting, Heliarc welding and the turboprop engine. He designed and built America's first jet engine, and later worked on the Apollo engine design.

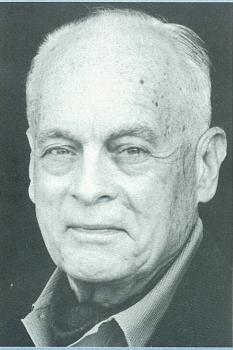
Yet, for fifty years the Metalclad Airship has remained Vladimir Pavlecka's first love. Since serving as Chief of Hull Design during production of the U.S. Navy's ZMC-2, he has spent literally thousands of hours perfecting all of the design elements necessary to the MODERN AIRSHIP.

JOHN W. RODA VICE PRESIDENT FABRICATION & PRODUCTION

No other individual, today, possesses the practical working knowledge of airship construction and the expertise in fabrication and production techniques that John Roda commands. A member of the team which built the U.S. Navy ZMC-2, he subsequently served as the manufacturer's representative during ZMC-2 test and acceptance flights. He also established the Navy flight crew training procedures for the airship.

For 27 years, John Roda was the General Factory Superintendent at Douglas Aircraft Company. He originated for Douglas the multi-model variable rate production line. As an engineering consultant and fabrication specialist, he has also lectured in "prototype and Production Manufacturing Programs for Military and Commercial Aircraft" at the California Institute of Technology.



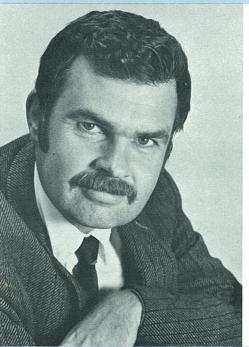






ALFRED W. BRANDT, JR.

Educated as an engineer and experienced in market development, acquisition consulting, investment management and government liaison, Al Brandt uniquely combines an ability to understand scientific technology with a practical business acumen. His background includes positions as Chief Expediter in the Office of Naval Research, Washington Manager for a large steel company and Acquisition Manager for an Eastern manufacturer.



LEE PAYNE

A photojournalist and aviation historian, Lee Payne is the author of "Lighter Than Air, An Illustrated History of the Airship" which was published both in New York and London in 1977. His outstanding photojournalism accomplishments have earned him more than fifty local and national awards.

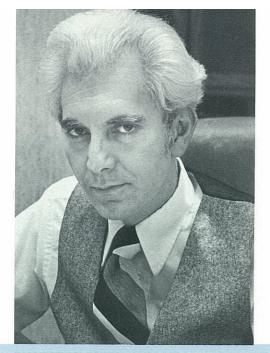


ROBERT J. BRANDT

With more than 25 years of military service, Robert Brandt has flown in virtually every type of conventional military helicopter. He has logged over 6,400 flight hours and is exceptionally experienced with large turbine helicopters, having flown more than 4,000 hours in this type of craft. A qualified flight instructor, Robert Brandt is now serving as a Lieutenant Colonel in the California National Guard.

JAMES E. DUNGER

A Contract Specialist with Rockwell International, who also maintains a private legal practice with offices in Costa Mesa, California, James Dunger has received both technical and business degrees as well as a Juris Doctorate degree. His experiences encompass contract analysis and administration for high-technology aerospace hardware and software.



MARION FRANCIS VANDIVER

Traveling the world over, first for Link Aviation Devices (flight simulators) and later for Lockheed Aircraft Corporation, M.F. Vandiver has established contacts throughout Europe and the Far East as a technical and sales representative. His technical background includes airline flight operations, crew training and flight check procedures as conducted for SAS Airlines. While with the International Civil Aviation Organization of the United Nations, he helped to establish standards for all phases of international civil aviation.



JOHN M. MELLBERG

In over fifteen years as a product/graphic designer, John Mellberg has demonstrated an outstanding talent in visually delineating design concepts and creating detailed scale models. Working with a variety of product types, he has been involved in such design aspects as preliminary concept sketches, supervision of design development, fabrication of scale models, full-scale clay models and operational prototypes.



The Airship

R ISING again and again above disappointments and failure which would have crushed ordinary men, those two indomitable spirits of progress, Wilbur Wright and Orville Wright flew the first successful heavier-than-air machine at Kitty Hawk, North Carolina, twenty-two years ago.

O BSTACLE with them was spelled – O-P-P-O-R-T-U-N-I-T-Y

THEIR spirit was truly American, unconquered and unconquerable. The Shenandoah disaster will not stop progress in lighter-than-air. It will encourage progress. It is not the American way to give up in the face of defeat.

F OR those who hesitate, let them be reminded that it is a high honor to participate in man's last and final accomplishment in the development of a rapid, convenient mode of transportation, which eventually will give each individual in ANY part of the world, a common, economic interest in EVERY part of the world.

T HE AIRSHIP is not alone an instrument of war — more important, it is a MESSENGER OF PEACE.

Preface of proposal prepared by Aircraft Development Corporation and submitted to the United States Government on September 24, 1925. Proposal resulted in the construction of America's first Metalclad Airship, the ZMC -2.

MAN IS LOCKED INTO THE PAST ONLY BY HIS INABILITY TO GRASP THE FUTURE

