



IHS 25TH ANNIVERSARY

CELEBRATION AND CONFERENCE

INTERNATIONAL HYDROFOIL SOCIETY (IHS), A  
REVIEW OF THE FIRST TWENTY-FIVE YEARS

by

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**Robert J. Johnston** is a long-time member of IHS having joined in the mid-seventies. He was a charter member of the North American Chapter of IHS and was the fifth president of the Society. His involvement with hydrofoils started when he was on active duty with the US Navy and fulfilled the assignment of Hydrofoil Project Officer. His interest in hydrofoils led to his resignation from a Regular Naval Officer and a transfer to the Naval Reserve. He is a retired Captain of the US Naval Reserve. Following his Navy resignation, he joined Miami Shipbuilding Corporation as a vice-president in charge of their hydrofoil development. This responsibility included the construction and evaluation of several submerged hydrofoil vehicles, principally in the amphibious application. He later became President of Miami Shipbuilding Corporation. In 1960, he joined the Grumman Corporation's marine group. He was a program manager for the Maritime Commission's *DENISON*, the design of the US Navy's *PLAINVIEW* (AGEH-1), the design and construction of the *FLAGSTAFF* (PGH-1), and the commercial hydrofoil *DOLPHIN* program. He became Grumman's Director of Marine Programs. In 1973, he returned to the US Navy when appointed Technical Manager of the Hydrofoil Development Program at the David Taylor Naval Ship Research and Development Center (DTNSRDC). In 1982, he left DTNSRDC and formed Advanced Marine Systems Associates, Inc., a consulting organization that undertook specialized studies in high-speed waterborne transportation for the US Government, municipalities, and private investors. He is now retired and works at maintaining his golf handicap.

ABSTRACT

This paper traces the development of the International Hydrofoil Society from its London conception, its formation as a Charity under the laws of England, the addition of a North American Chapter, and its transition to a not-for-profit corporation under the statutes of the United States. The story is primarily about the people who have made this all happen, survive, and prosper for twenty-five years. In a sense, it describes a great respect and friendship that the author has enjoyed with the characters of this review.

## INTRODUCTION

It was the fall of 1982 and the location was the Royal Yacht Club on the Isle of Wight. We had arrived at the dock by the Red Funnel Lines' hydrofoil from Southampton. This Club is noted by the principal berthing space, right next to the Clubhouse, always being reserved for Her Majesty the Queen's use. The occasion was a dinner party being given by Royal Yacht Club member, CDR Mark Thornton D.S.O., D.S.C., R.N. (Ret.) honoring Sir Christopher Cockrell. Sir Christopher had been knighted for his pioneer invention of the hovercraft concept. Also present at this dinner were executives of British Hovercraft Corporation, Robert L. Trillo Eur. Ing., editor of Jane's *High Speed Marine Craft* and my wife, Marcia, and myself.

Marcia had been granted special privileges not only to join the group in the main dining room, but also to overnight with me in the Clubhouse. The Royal Yacht Club had severe restrictions on women in the dining room and in using the Club's facilities. A verandah had been constructed for Queen Victoria's use so all the women could stay outside. The evening meal was excellent and the chatter was filled with much banter and nostalgia, particularly between Mark and Christopher. Much of the banter related to the beginnings of the International Air Cushion Engineering Society and the International Hydrofoil Society. It seems that Sir Christopher had used Mark's idea of a hovercraft society and had taken over from Mark as the originator. Not to be outdone, Mark had proceeded with the founding of IHS.

As the toasts of the evening proceeded, a note of sadness became apparent. We toasted the Queen and the President and then personal toasts took place between Mark and Christopher congratulating each other on their accomplishments. I shall never forget Mark's toast to Christopher including the words "Christopher, this will be our last meal together." Mark was dying from lung cancer and a few months later, he was gone. This was the end of the beginning of IHS.

## THE BEGINNING

And so to the beginning... During the 1960s, many individuals in the United Kingdom as well as in other parts of the world, began to show interest in use of high-speed ferries. To an island nation such as England, the use of fast ferries was particularly attractive. Much attention was paid to Sir Christopher Cockrell's work with hovercraft, although the initiation of this attention was difficult to achieve. Christopher once said that to make an advance in the marine field, one had to have infinite patience and a very understanding wife. CDR Mark Thornton, a retired Royal Navy Officer, had recognized the advantages of high speed marine craft and he, therefore, used his efforts to help promote the hovercraft concept. Christopher and Mark worked together and became quite good friends.

With the formation of the British Hovercraft Corporation, the role of Mark Thornton diminished, and he turned his attentions to the growing interest in hydrofoils. It must be said that CDR Mark Thornton was the instigator of IHS. In 1965, he organized the British Hydrofoil Association, Ltd., which was the forerunner of IHS. At the same time, Count-

ess Juanita Kalerghi, who was the editor and founder of the trade magazine *Hovering Craft and Hydrofoil*, encouraged and supported Mark's efforts to found a hydrofoil society. These two individuals, the founders of IHS, had very interesting backgrounds.

Mark Thornton joined the Royal Navy as a midshipman while just a boy. His entire career was in the R. N., rising to and retiring as a Commander. His love of ships centered on the destroyers as the fastest ships in the Royal Navy. During World War II, then Lieutenant Commander Thornton, was assigned command of the *HMS PETARD*. While the *PETARD* was on patrol in the Eastern Mediterranean in October, 1942, the *PETARD* sank a German submarine, the U-559. Mark had extensively trained his crew to capture a U-boat. When the damaged submarine surfaced, a boarding party, trained for such action, went on board. While they couldn't save the submarine, they did manage to retrieve signal books and a decoding machine which enabled the allies to decode German messages. For this accomplishment, CDR Thornton was decorated by the Royal Navy. Mark's Executive Officer, who led the boarding party, and a sailor were lost in the action. More details of this story are contained in reference (1). After Mark's retirement from the Navy, he devoted his time and energies to advancing the cause of hovercraft and hydrofoils.

Juanita Masur was born in the Transvaal Province of South Africa, where she spent her early life. Her mother was Hungarian, although born in the USA, and her father, family name Masur, was a true South African pioneer. Juanita attended college at Witwatersrand University, where she earned a BA degree in political philosophy and economics. She displayed an interest in journalism while in college by becoming editor of the school's newspaper. Juanita considered the South African rules of apartheid unfair, resulting in loss of educated personnel. So she, with some of her classmates, ran a secret nighttime school teaching blacks to read and write. Upon graduation, Juanita's future was focused on journalism. She undertook assignments with the magazines *Democrat* and *South African Opinion*. These assignments resulted in her appointment as sub-editor of the *Johannesburg Sunday Express*. Her interest in politics was centered on General Smuts' United Party. Juanita was selected for the post of organizing secretary of women's groups for the party. During World War II, Juanita assisted her mother in the administration of the camp of 90,000 German and Italian prisoners of war. Recognizing that among the prisoners were doctors and educators, the two women, mother and daughter, organized hospitals and schools staffed by these trained professionals. For these efforts Juanita's mother was honored by the Italian Government.

In 1951 Juanita was selected to represent South Africa at an International Conference of Women in Athens, Greece. While in Greece she met and later married Count Nicholas Kalerghi Mavrogeri, Director of the Ministry of Justice, President of the Martial Court, and legal adviser to the Hellenic Royal family. From this marriage she was titled Countess Kalerghi. While living in Greece she accepted a commission from Quentin Reynolds to prepare a special issue on Greece for the *United Nations World*. This commission led to a teaching position at the University of London which included the editing of the University's Education Journal. In 1961 Juanita made the decision to organize and edit a magazine in the rapidly expanding field of waterborne transportation, and with this *Hovering Craft and Hydrofoil* came into being. The name was later changed to *High Speed*

*Surface Craft*. Juanita eventually sold her interest and retired as editor of the magazine, which is now known as *Fast Ferry International*.

During the late 1960s, Mark, with Juanita's support, started the effort that led to IHS. A steering committee was formed to initiate IHS as a Charity. Mark Thornton was the chairman, and organizational meetings were held in Juanita's place of business. Other members of this committee included Derek Deere, Alan Buckle of Lloyds Register, Michael Eames, and the sailing enthusiast, James Grogono. This effort resulted in the Society being registered as a Charity in 1970 in the United Kingdom. The laws regulating a Charity in the United Kingdom are similar to those for a not-for-profit corporation in the United States. The registration identified the management of the Society as a governing council headquartered in London, England.

On October 20, 1970, at the Institute of Mechanical Engineers in London, the Inaugural Meeting of the International Hydrofoil Society took place. Presiding at this meeting was Baron Hanns von Schertel, who had been elected as the first President. This honor to Baron von Schertel recognized his contributions and inventions related to the development of the hydrofoil. The Baron had at that time spent almost fifty years in developing and perfecting the Schertel hydrofoil system. For much of this effort, he had been supported by an inheritance from his mother. His father was a titled Baron in Germany and his mother was a United States citizen who was heiress to her father's US brewery. They had been married at the turn of the century when it was very popular for wealthy American women to go to Europe to meet and sometimes marry titled Europeans. From his mother's wealth, Schertel was able to finance his many tries at developing a workable hydrofoil system, see reference (2). After he had achieved a performing hydrofoil system and had patented it, he teamed with a German shipbuilder, Sachsenburg, to obtain several building contracts for the German Navy.

Their first Navy contract was to build a trial vessel designated the VS 6 to compete against VS 7, a hydrofoil based on Dr. O. Tietjen's system. The VS 6 proved to be a superior design, and further contracts were awarded to the Sachsenburg Brothers Shipyard during World War II. Two Schertel-Sachsenburg craft were built for the German Navy, the VS 6 which was to be used as a mine layer, and the VS 8 which was planned for carrying tanks between Italy and Africa. This latter design was abandoned after being damaged by Allied bomb raids.

Following WWII, Baron von Schertel moved to Switzerland and formed Supramar, a company devoted to the design of hydrofoil passenger boats. In 1953, the Schertel design PT 10, a twenty-passenger hydrofoil, inaugurated service on Lake Maggiore between Ascone, Switzerland and Stasa, Italy. This was the first passenger hydrofoil to be placed in service. Other larger passenger hydrofoil designs were developed by Supramar and were licensed to be built in a number of countries throughout the world. With this background, it was only fitting that Baron von Schertel be honored with first Presidency of IHS.

## BARON HANNS VON SCHERTEL, IHS PRESIDENT 1970 TO 1974

### Inaugural Meeting

The October 20, 1970 inaugural meeting of IHS was quite successful with fifty members and guests attending. CDR Mark Thornton opened the affair by introducing Baron Schertel as the first IHS President. The Baron's presidential address began by recognizing the representatives from other Societies and Institutions. As president, he promised to contribute his utmost to the successful development of the Society, although handicapped somewhat by living some distance away from London in the Swiss mountains. He congratulated CDR Thornton for having taken the idea and perseveringly employed his initiative to found the Society. He emphasized that the Society was an international technical society and that the main aims of the organization were to advance the study and research into the science and technology of hydrofoils, both power and sail. The Baron expressed hope that our new Society would succeed in transforming "Cinderella" (hydrofoil) craft to a favorite known to the broad public. He pointed out that it took almost fifty years to go from the first flight of Forlanini in 1905 on the Lake Maggiore to the introduction of the first public hydrofoil transportation on that same lake.

Also on the agenda of the inaugural meeting was a paper presented by Mr. Urushidani of the Hitachi-Zosen of Japan. The title was "Nine Years of the Hitachi-Supramar Boat," see reference (3). His paper discussed the experience of Hitachi-Zosen in building the Supramar PT 20 and learning the operational and maintenance techniques to make a commercial hydrofoil successful. This paper stated that the capital cost of their PT 20 was \$380,000 US.

Shown at this meeting was a film made by the National Film Board of Canada of the Canadian Forces hydrofoil ship Program, *BRAS D'OR*. The concluding paper was given by Mr. John Fowler of the Amateur Yacht Research Society (AYRS) discussing the experiments made during the past few years with foilborne sailing boats.

### First IHS Council

Preceding the inaugural meeting, the Steering Committee worked out the final details for the formation of IHS and completed its efforts. The following participants on the Steering Committee agreed to become members of the first Council:

- Baron Hanns von Schertel, President
- A.M. Gonnella, Boeing Company, Vice President
- CDR Mark Thornton, Chairman
- Derek Deere, Technical Editor
- Michael Eames, Head of Canadian Defense Board's Hydrofoil Program
- James Grogono, Surgeon, Sail Hydrofoils
- Miss J. Kalerghi, Editor *Hovering Craft & Hydrofoil*

During the Baron's time as President of the Society, the Council met several times a year. Meetings were scheduled as issues arose that required action and as developments occurred in the life of the Society and hydrofoils. Several meetings of the Society were held where technical papers were presented and discussed. In March 1971, Michael Eames presented a paper at a Society meeting on the *BRAS D'OR* program. At a Council meeting at the same time, Michael was elected Vice-President of the Society.

The Council placed much importance in establishing a Society library. By the end of the Baron's presidency, approximately three hundred documents had been indexed. It is interesting to note that from the beginning of the Society, interest was expressed in the sponsorship of a technical book on hydrofoils. The first planning was for a book titled *The Handbook of Hydrofoils*. Fifteen sections were planned including theory, design, economics, seakeeping, sailing hydrofoils, and history. This handbook concept has remained an objective during the life of the Society.

In November 1971, a winter meeting of the Society was held. Baron von Schertel gave a review of the first year's progress of the IHS. During that year, the Society was legally finalized as an English Charity. The membership increased to about one hundred. Interest in military hydrofoils was demonstrated by Germany, Italy, Canada, Japan, USSR, and the United States -- all having on-going developments. The US Navy's *TUCUMCARI* (PGH 2) had been visited by several members while operating in Germany. The *FLAGSTAFF* (PGH 1) had been outfitted with a six-inch gun and accurately fired while foilborne. Professor S. Schuster, Director of the Berlin Towing Tank, gave the principal paper "Research on Hydrofoil Craft" at this meeting.

The 1972 meeting of the Society was on the subject of "Hydrofoil Sailing." Allan J. Alexander and James Grogono presented papers and led discussions on this subject. Also on the agenda was a US Navy film showing the *TUCUMCARI* and *FLAGSTAFF* operating foilborne.

#### PETER DOREY, PRESIDENT 1974 to 1977

Peter Dorey was the Managing Director of Condor Ltd, located on Guernsey, one of the Channel Islands of the United Kingdom. Condor Ltd started in 1964 with one hydrofoil, *CONDOR 1*, a Rodriquez built, Supramar designed PT 50. They continued to add Rodriquez hydrofoils to their fleet and became the largest passenger carrier between the Channel Islands and the coast of France. Condor used the Port of St. Malo as their primary destination. However, during March to November, service was provided to the mainland of England.

The Society considered it most appropriate to have a hydrofoil operator as president, following the presidency of a designer and developer of hydrofoils. The Society was quite pleased when Peter Dorey agreed to accept the role of President. Peter was a very interesting and likable personality. His family interests were much broader than transportation. They owned dockyard facilities where the upkeep and maintenance of their hydro-

foils were performed. Also, they owned hotels and other real estate on the Islands. They catered to the summer time and holiday visitors to the Islands.

Guernsey was an interesting place to visit. The Channel Islands are exempt from British taxes. As can be expected, this makes the Islands an attractive location for individuals and corporations to avoid taxation. However, to support the local government, the citizens are required to undertake certain tasks. When visiting the Islands, you may find your host off for a few days working on the roads or performing other civic duties.

Peter Dorey was a conservative manager. Although starting rather early in hydrofoil transportation, he studied and experienced the performance of hydrofoils along with their reliability and maintenance requirements before committing to their acquisition. The first PT 50 was actually assigned to Condor for a trial period prior to making the decision to purchase. Another example of his conservatism was experienced by Grumman. Before the management of Grumman would support the *DOLPHIN* hydrofoil program, they required that ten potential customers be identified and committed to the program. This commitment was based on the *DOLPHIN* being produced with the predicted performance and cost. Condor became one of the committed ten. When Peter agreed to this, he said he would take number ten off the production line. His wisdom in wanting to experience the performance, reliability, and cost factors of owning and operating a craft for Condor's fleet was clearly demonstrated.

Peter Dorey became the second President of the Society on January 14, 1974 at the Annual General Meeting in London. In his acceptance remarks to the members, he gave a special vote of thanks to the outgoing president Baron von Schertel, the Chairman of the Council, Mark Thornton, and to Juanita Kalerghi for her support of IHS. President Dorey, in his address, spoke on the status of the hydrofoil industry, stating that it was a growth industry. He further discussed the advantages of the hydrofoil over other vehicles, particularly the open sea passenger comfort.

During Peter Dorey's presidency of IHS, time had lost the details of all of the meetings of the Society and its Council. One of the known facts is that Dott. Ing. Leopoldo Rodriquez became the vice-president and that the Council, with Mark Thornton as Chairman, and changes in the membership, continued to function effectively. Periodic Newsletters followed the first one that was issued in 1971. While not always achieved, the goal was to publish a spring, summer, autumn, and winter Newsletter. Information was also provided to the members by the *Hovering Craft and Hydrofoil* publication. The number of documents in the IHS library continued to grow. Some progress was reported in the development of the *Hydrofoil Handbook*, as authors of chapters were solicited and changed when authors withdrew.

During May 1974, Countess Kalerghi organized an International Hovering Craft and Hydrofoil Conference and Exhibition at Brighton, England. Cosponsors were IHS, UK Hovercraft Society, Institute of Marine Engineers, Royal Institute of Naval Architects, and the Institution of Production Engineers. IHS sponsored and manned a booth at the

Exhibition. During one evening of the Conference, a general meeting of the IHS members was held, which was primarily a social occasion.

Again in the Spring of 1976, Juanita Kalerghi sponsored and organized a High Speed Surface Craft Conference and Exhibition in Amsterdam, Holland. This conference was well received in the technical and operational communities of these craft. Individuals from many countries attended including commercial and military representatives. The papers presented were well received and honors were awarded to the authors of the outstanding papers. LCDR Robert E. Nystrom, USN, Officer in Charge of the Navy's Hydrofoil Special Trials Unit, and a member of IHS, presented a paper on the experiences of this trials unit. The paper was judged the outstanding hydrofoil paper and LCDR Nystrom was so honored. Russian representatives were present at this conference. This was one of the few times that an interchange of ideas was made between representatives of countries of NATO and Russia during the cold war. The United States representatives were somewhat surprised to learn the extent of knowledge of the Russians regarding the US military hydrofoil program and its participants.

In conjunction with the Conference, a meeting of the IHS members attending was held. Peter Dorey organized and hosted this meeting at the Amsler Hotel in Amsterdam. While the evening meeting was primarily social, this was considered the annual meeting of the Society for 1976. President Dorey provided a review of the IHS status and conducted such business that needed attention. Peter's hosting capabilities were demonstrated as outstanding. After a day of technical meetings, that evening of the Society's meeting was most relaxing and worthwhile.

One of the issues that Mr. Dorey undertook was to get the British Government to take more interest in hydrofoils. From one of Peter's papers, reference (4), these words are taken. "From the very birth of the hovercraft industry, however, there has always been a hydrofoil lobby which fought against the allocation of such substantial funds towards hovercraft development whilst nothing of any consequences was allocated to hydrofoils.

"There has been, and still is, a great deal of misunderstanding and lack of appreciation of the true capabilities of hovercraft and hydrofoils as individual vehicles. I have said on occasions, and do feel strongly, that hovercraft have a worthwhile future but like every vehicle that ever was, they have their limitations and also have severe problems both operationally and financially.

". . . Perhaps it is a fact that one of the greatest sources of strength of the (commercial) hydrofoil industry is its lack of reliance on government funds. Decisions which are taken by commercial hydrofoil designers and builders have to be right to the best of their knowledge and ability or it becomes extremely expensive for them . . . One of the greatest spurs to success in any activity is personal risks whether financial or by reputation."

Peter Dorey was a member of a Working Party formed by the British Government to assess the virtue and importance of commercial hovercraft and hydrofoils. The Working Party's report included reference (4), part of which is quoted above. This report was

submitted to the Minister of Technology in November, 1968, but was never published. A number of questions were raised about it in the House of Commons but the replies were always evasive. Peter was a strong believer that commercial hydrofoils had their place in waterborne transportation.

Peter Dorey was also an enthusiastic sailboat owner. One of his greatest joys was in racing his sailboat, an ocean racer. Generally, members of the Dorey family were the crew. Their many trophies represented the success of their sailing endeavors. One of the major races was the Fastnet Race sponsored by the British Sailing Association. This was an open sea event held off the southwest coast of England. In the summer of 1979, a Fastnet was scheduled when the weather predictions were not favorable. The race was started in spite of these predictions. As the race proceeded, storms hit the fleet with increasing winds and seas. Several boats were lost or damaged and there were fatalities including the life of Peter Dorey. Peter was on deck, reefing and trimming the sails while trying to maintain the heading of the boat into the sea. He had taken proper precautions, wearing a harness to prevent being swept overboard. However, a large wave crashed into the boat, tearing the harness loose from its fastenings and Peter was swept overboard. As he disappeared into the gloom, he shouted to his son "save yourselves and the boat. Don't come about." A tragic end to a young man's life.

#### DOTT. ING. LEOPOLDO RODRIQUEZ PRESIDENT 1977 TO 1981

In 1977, IHS, with the desire to alternate the honor of the presidency between a person with a technical background and an individual with operational experience, elected Dott. Ing. Rodriquez as president. At that time, Leopoldo was the technical manager and principal naval architect of Rodriquez Cantieri Navali of Messina, Italy. This shipyard had produced the largest number of hydrofoils of any organization in the free world. Their hydrofoils were operating in a number of countries throughout the world. The yard was under the direction of Leopoldo's uncle, Carlo Rodriquez, who in 1953, had started the construction of their first hydrofoil, a PT 20, under license from Supramar. The yard continued to build Supramar PT series vessels until the early 1970s.

In 1970, Carlo Rodriquez made the decision and directed his nephew Leopoldo to investigate the introduction of electronic seakeeping systems into a new design. Using the experience of Hamilton Standard, a US company with a background in automatic control systems for hydrofoils, Leopoldo initiated the new design. Surface-piercing W-foils were used to replace the V-foils of the Supramar PT hydrofoils. The W-foils had trailing edge flaps in both the bow and rear foils -- these flaps being controlled hydraulically by the electronic seakeeping system. The result was reduced motions of heave, pitch, and roll in a heavy sea. This new design proved to be well fitted for longer sea routes so that larger hulls and increased passenger capacity were required. The new series was designed RHS.

In 1976, the first RHS 160 was launched, marking a productive success for the Rodriquez shipyard and a tribute to Leopoldo's engineering skills. This hydrofoil, over thirty meters long and with a capacity of over two hundred passengers, was able to navigate sea conditions that had been previously believed to be prohibitive for surface piercing hydrofoils.

Quite early in his presidency of the IHS, Leopoldo pursued an idea that had been on his agenda for some time. Prior to his election as president, he had been an active supporter of the Society, attending Council meetings in the role of vice-president. Leopoldo had recognized that the members of the Society from the United States and Canada outnumbered the balance of the membership. His ambition was to organize a North American Chapter of IHS. At that time, IHS had about 125 members. In this regard, he solicited the support of Robert J. Johnston. Bob, in turn, bounced the idea off other prominent hydrofoilers including William Ellsworth, Associate Technical Director of DTNSRDC, James Schuler of the Naval Sea Systems Command, Michael Eames of Canada, CAPT. John King, USN, Chief of Naval Operations PHM Administrator, Walter Wohleking, Manager of Grumman's hydrofoil program, William M. Schultz of Boeing Marine Systems, and Harlow Longfeller from Boeing. The basic idea of a North American Chapter in general was considered to have merit, and a decision was made to pursue the matter further.

On April 16, 1978, in conjunction with an AIAA Advanced Vehicle Conference in San Diego, California, a dinner meeting was held at the Admiral Kidd Officers Club. A significant number of members of IHS attended this meeting with the objective of inaugurating the North American Chapter. President Rodriguez addressed the meeting which included the following remarks:

“As the newly elected President of the International Hydrofoil Society, let me express my happiness in finding new friends pursuing the same aim of the Society -- to advance the study and research into the science and technology of hydrofoils, both power and sail. . . .Bob (Johnston) for sure told you that we are working very closely to establish the Society's Chapter on this side of the world. I am sure that with your efforts, the North American Chapter can be realized for the common benefit of every hydrofoiler in the world.”

With the inaugural meeting of the North American Chapter having made the decision to proceed, the necessary steps were undertaken to formalize the Chapter. LCDR William C. Stolgitis, USN, then serving as hydrofoil program officer at DTNSRDC and a member of IHS, held a law degree. His talent was most helpful in undertaking the legal effort to register the North American Chapter of IHS (NAC-IHS) as a not-for-profit corporation under the statutes of the State of New York. The Certificate of Incorporation was signed on April 14, 1980. This process was materially assisted by the efforts of William Schultz in providing guidance in forming the rules and regulations of NAC-IHS. Mr. Schultz had experience in the formation of a not-for-profit corporation for a ferry boat organization. At that time, Bill Schultz was a vice-president of the Boeing Marine Systems Far Eastern Division.

The governing rules of NAC-IHS required an annual meeting to be held where a board of directors would be elected. In the spring of 1981, in conjunction with the annual meeting of the American Society of Naval Engineers, a dinner meeting of NAC-IHS was held where the first board was elected. These first, board members are identified in the addendum of this paper. The board then elected the officers of the Chapter. The officers elected

were Robert Johnston, President, William Stolgitis, Vice-President, and John King, Secretary-Treasurer. It should be noted that John King has faithfully, loyally, and competently undertaken the chores and responsibilities of secretary-treasurer since the inception of the Chapter and continues to function in this capacity with IHS in 1995. The Chapter was formed with fifty charter members.

In the meantime, the IHS Council held periodic meetings, managing the affairs of the Society and issuing periodic Newsletters from London. On November 28, 1978, Mr. T. Pelinkof relieved Mark Thornton as Chairman of the Council. Mark then became Vice President of the Society. Juanita Kalerghi remained a strong supporter of the Council and the Society. It was a pleasure to learn that Juanita was married to Nat Rothman, an English barrister, during September, 1980. In June 1980, in conjunction with an exhibition and conference held in Brighton, England, and sponsored by Juanita Kalerghi and her magazine, a dinner meeting of the IHS members attending was held. President Rodriguez presided where he reviewed the state of the Society and informed the Non-North American members present about the formation of the new Chapter. The members in turn honored Leopoldo Rodriguez and Mark Thornton for their contribution to the Society.

#### DAVID C. H. LIANG, PRESIDENT 1981 TO 1985

In March 1981, an IHS general meeting was held at the Royal Institute of Naval Architect in London. At this meeting, the selection of David Liang as President was announced. His selection was in keeping with having a sequence of an operator and a developer of hydrofoils alternate as president. David's father had established the Hong Kong Macao Hydrofoil Company in 1964. When his father died in 1977, David became responsible for managing his family's interests. These interests included not only the hydrofoil company but also an old established shipping and ferry company, hotels, other real estate holdings, as well as interests in other small businesses in Hong Kong. In this regard, he was the "Tai-Pan" of the Liang family assisted by his brothers. The China interest in the link between Macao and Hong Kong placed particular importance on the hydrofoil company.

In his acceptance address to the Society, David Liang paid homage to his illustrious predecessors, Baron Von Schertel, Peter Dorey, and Leopoldo Rodriguez. He discussed the importance of hydrofoils to areas of densely populated regions with a large ratio of working commuters. Using Hong Kong as an illustration, he pointed out that, in 1980, close to five million people traveled between Hong Kong and Macao. In addition, feeder services using hovercraft were being introduced between Hong Kong and the People's Republic of China. He encouraged the continual development of bigger, more cost-efficient craft to address the growing requirement for fast, waterborne transportation. David Liang's aims for the IHS included broadening the membership to encompass a wider cross section of people including mariners, designers, shipbuilders, and transportation consultants. He also expressed hope to have the Society issue the handbook of hydrofoil technology during his tenure which would be useful to both operators and manufacturers. He stated that the IHS library then contained over three hundred publications and is located at the Royal Institute of Naval Architects in London.

At the Spring 1981 meeting of the Society, three technical papers were presented:

- “Hydrofoils in Hong Kong,” by Kenny Tham, Technical Mgr of Hong Kong Macao Hydrofoil
- “Future Ship’s Bridges and Navigation Systems” by CAPT. I. S. S. Mackay, Royal Navy
- “A New Self Controllable Pitch Propeller” by John Coxon

In September 1981, in conjunction with the AIAA’s Marine Conference celebrating the AIAA’s Fiftieth anniversary, a meeting of IHS was held in Seattle, Washington. During the three-day AIAA Conference, members of IHS attending were invited by Boeing to attend the christening and launching of the *USS AQUILA* (PHM-4). President David Liang came from Hong Kong to attend the IHS meeting and to give an address at the IHS dinner. He gave a very interesting talk on the problems in achieving commercial viability of high speed waterborne transportation.

In July 1982, the NAC-IHS organized a meeting of the Society at the Keltic Lodge, Ingonish Beach, Nova Scotia, Canada. The planning committee for this meeting was co-chaired by Mike Eames of Canada and Bob Johnston of the United States. Eighty-five members and guests of the Society attended this event. The Parks Canada Bell Museum, in nearby Baddeck, provided support and facilities for the Society’s use. A special tour of the Museum was arranged where Bell-Baldwin hydrofoil HD-4 replica is located. Descendants of Alexander Graham Bell, who spend their summers around Baddeck, invited the Society to a beautiful Canadian salmon picnic lunch. The meeting lasted three days with papers of technical and historical interest presented. One of the historical highlights was the reading by Juanita Kalerghi of a paper prepared by the Society’s first president, Baron Van Schertel, reviewing his lifelong hydrofoil experiences, reference (2). The Baron was in attendance, but his health prevented his presentation of the paper. This was the last paper ever written by the Baron.

President David Liang attended this meeting and was the principal speaker at the banquet. The province of Nova Scotia had assisted in arranging the banquet meal. In words of the Governor, he stated that he wanted the many visitors to have an outstanding Nova Scotia dining experience. The members all agreed that he had accomplished his objective. The evening began with the members being piped into dinner by a charming lass on her bagpipes. From then on, the evening was filled with much banter and fun. When it came time for the President’s address, he showed his paper to the toastmaster, Bob Johnston. It was a rather carefully prepared, complex discussion on the subject of commercial hydrofoil operations. David’s remarks to Bob were that he didn’t think the paper was in keeping with the spirit of the evening. So in lieu of his prepared speech, he gave a spontaneous, humorous talk on the lighter side of hydrofoil experiences. His talk topped off a delightful evening.

During David Liang’s term as president of the Society, changes took place within IHS and the expanding world of hydrofoils. In competition with the Hong Kong Macao Hy-

drofoil Company, the Far East Company of Hong Kong acquired Boeing-built Jetfoils. This competition along with the demands of the Liang family's businesses curtailed David's travels to various meetings of the Council in London and the North American Chapter. David stayed in touch with both organizations and suggested an IHS meeting in Hong Kong. This never came to be, much to the regret of many of the membership. In addition to the continuing growth of commercial hydrofoils, several nations were now operating and acquiring military hydrofoils. The US Navy's fleet of PHMs became active and fulfilled their assigned roles with success. Italy built and operated a squadron of *SPARVIERO* Class, hydrofoil missile craft, developed from the successful Boeing-built *TUCUMCARI*. Israel contracted with Grumman for the construction of missile carrying, surveillance hydrofoils. The lead ship was built in the US and follow production was in Israel.

On November 21, 1982, CDR Mark Thornton died. Juanita Kalerghi was elected as the Chair of the Council which she held until IHS was incorporated in the US. To assist Juanita, the North American Chapter undertook to put out an occasional Newsletter to all IHS members. It is interesting to note that the aim of the Society to publish a *Hydrofoil Handbook* was of high priority but proved difficult to achieve. With the undertaking of the Newsletter responsibility, the NAC also assumed the task of publishing a *Hydrofoil Textbook*. The name was changed from "Handbook" to "Textbook" with the aim of making it attractive to schools of naval architecture and marine engineering. Dennis Clark, as a member of DTNSRDC's advanced hydrofoil program, agreed to head a publishing committee with Michael Eames as editor.

From 1980 to 1982, Robert Johnston continued as President of NAC-IHS. In 1981, Dr. James Wilkins was elected Vice-President, succeeding LCDR William Stolgitis. Dr. Wilkins, as a Captain in the US Navy, had been the PHM program manager. In 1982, Dr. Wilkins was elected President of NAC-IHS, and CDR Ronald Adler was elected Vice-President. Ronald Adler owned and managed a consulting firm specializing in naval logistics and mission analysis. His expertise in this field had contributed substantially to the US Navy's advanced vehicle program. James Wilkins and Ron Adler were re-elected to their respective capacities, serving from 1982 to 1984.

The 1984 annual meeting of the NAC was held in April at the Army-Navy Country Club in Arlington, Virginia. Ronald Adler was elected President and Raymond Hoop, Vice President. Raymond was a long-time supporter of all aspects of the US Navy's hydrofoil program, working as a team leader for the contractor, Wheeler Industries. He was a charter member of NAC. During all of these officer changes within NAC, John King continued as the loyal Secretary/ Treasurer keeping the chapter on a sound financial basis. At this 1984 meeting, CAPT. W. Scott Slocum, USN, was the dinner speaker. CAPT Slocum had just been relieved of the command -- of one of the PHMs. He gave a very informative talk on the activities of the PHM squadron. At this meeting, the Captains of the PHMs and their Squadron Commodore were made honorary members of the Chapter.

## CAPTAIN ROBERT J. JOHNSTON, PRESIDENT 1985 TO 1987

By letter dated February 3, 1985, the IHS Council informed Robert Johnston that he had been elected the fifth President of IHS. At that time, he was the president of Advanced Marine Systems Associates, Inc., a consulting organization, specializing in high speed waterborne transportation studies. He had been a member of IHS since the 1970s while working on several military and commercial hydrofoil projects. The 1985 announcement letter stated the following: "Your dedication to the aims and goals of the Society, along with the efforts of you and your North American colleagues to formulate the North American Association, have been the basis of our selection for you to become the Fifth President of the International Hydrofoil Society." This recognized the effort put forth by several members in forming and activating the North American Chapter. The appointment went on to state the following: "Our first request to you as President is to undertake the transfer of the management responsibilities of the International Hydrofoil Society from London to North America. This would require the formation of a new governing Council to govern our society's activities, and to conduct annual council meeting." The letter was signed by Juanita Kalerghi, Chairman of Council.

Robert Johnston's primary aim as president, therefore, became to make the transition as smooth as possible. An interim council was formed with Ron Adler, the President of NAC, as the chairman of the interim council. The members of the interim were William Ellsworth, Raymond Hoop, George Jenkins, Juanita Kalerghi, John King, Robert Ripley, James Schuler, William Stolgitis, Donald Wight, and James Wilkins. John King was assigned the responsibility of handling the transfer of assets from London to the United States. William Stolgitis went to work on incorporating IHS as a not-for-profit society under the statutes of the State of New York. The basic format of the North American Chapter's management was adopted for IHS. A board of directors consisting of nine members replaced the council. The format called for an annual meeting where three members were elected to the board annually for a three-year term. The Board of Directors then elected the officers of IHS to serve a one-year term.

A position of recording secretary was also established. Patsy Jackson had been an active member and participant in the NAC's affairs since the Nova Scotia meeting where she was in charge of registration. She helped significantly in organizing the annual dinner meetings of the Chapter. Appropriately, Patsy Jackson was officially made the Society's recording secretary, a position she continues to fulfill.

During this transition period, the North American Chapter continued to function under its elected officers. Periodic board meetings were held with the interim council of IHS to report on the status of the incorporation and to resolve issues that arose. Ronald Adler, President, Raymond Hoop, Vice-President and John King, Secretary /Treasurer were the officers of the Chapter until the annual meeting in April 1986 when, after six years, NAC was phased out and replaced by IHS, managed from North America.

During this transition period, on April 18, 1985, the first president of the Society, Baron Hanns von Schertel died. The Baron was born on January 8, 1902 in Seeshaupt/OBB, Germany and passed away in Stanstad, Switzerland. His obituary was in reference (5).

Also, in December 1985, the Publication *High Speed Surface Craft*, founded in 1961, as *Hovering Craft and Hydrofoil* by Juanita Kalerghi, changed hands. The High Speed Surface Craft Publishing Associates from Capstan Publishing acquired all rights and interests in the publication. Alan Blunden became editor, and David Woodgate, the advertising manager. This publication is known today as *Fast Ferry International*. Messrs. Blunden and Woodgate still hold their original positions.

#### JAMES L. SCHULER, PRESIDENT 1987 TO 1989

The Certificate of Incorporation was received in time for a formal announcement at the annual spring meeting of IHS. The first North American board of directors was elected by the membership. The Board then elected James Schuler the sixth President of IHS. John King was elected to both the positions of Vice-President and Secretary/Treasurer. Jim Schuler's selection as President recognized his years of contributions to the Society and to developing hydrofoils. The combination of Jim Schuler and Bill Ellsworth had sustained and advanced military hydrofoils for the US Navy, particularly during the 1960s. The capability of submerged hydrofoil systems had been demonstrated by the performance of *HIGH POINT* (PCH-1). Also the *PLAINVIEW* (AGEH-1) had been built and gave an indication of the use of larger military hydrofoils.

The major questions confronting the US Navy were, what was the role of military hydrofoils and how best can they be manned and maintained? Bill Ellsworth came up with the idea of forming a Hydrofoil Ship Trials Unit (HYSTU) with the two above hydrofoils as the trial ships to address these questions. Jim Schuler, who was the father of hydrofoil development in the US Navy's Naval Sea System Command, used his influence to support HYSTU and to provide the necessary resources. On November 10, 1966, HYSTU was established as a tenant activity at the Puget Sound Naval Shipyard, Bremerton, Washington. The life history of HYSTU is excellently described in reference (6). Jim Schuler continued as a supporter of the development of hydrofoil systems for the US Navy until his retirement. In the meantime, he had become a chartered member of the North American Chapter and a supporter of the aims of IHS.

James Schuler was elected President of IHS again in 1988 with John Meyer becoming Vice President, and John King remaining the Secretary/Treasurer. The Society's annual dinner meetings were well attended and looked forward to by the members. These meetings were semi-technical as guest speakers gave talks on recent developments in both the commercial and military world of hydrofoils. They were also social in nature, giving old friends the opportunity to renew acquaintances and to catch up on what these friends were doing. Work continued on the preparation of a *Hydrofoil Textbook*, with several chapters completed, but the final preparation for publication remained elusive.

Unfortunately, on January 23, 1989, after Jim had retired from the Civil Service and joined Engineering and Science Associates, Inc. of Rockville, Maryland, he suffered a severe heart attack. While the attack proved not to be life threatening, it did cause a severe disability from which Jim has never fully recovered. John Meyer stepped into the role of acting President of IHS. He kept the Society functioning, organizing periodic board meetings and the 1989 annual meeting.

#### DR. JAMES R. WILKINS, PRESIDENT 1989 TO 1991

At the 1989 annual meeting, James Wilkins was elected the seventh President by the Board of Directors of IHS. John Meyer was reelected Vice-President and John King continued on in his position of Secretary/Treasurer. Dr. Wilkins had retired as a Captain from the US Navy and established Wilkins Enterprise, Inc. in Annapolis, Maryland. His long time interests in the Society and hydrofoils, and his major contribution to the US Navy's Patrol Hydrofoil Missile (PHM) ships as acquisition manager were recognized by his being elected President. One of his early suggested goals, strongly supported by the Board and the Vice-President, was the commitment to publish four Newsletters a year. Bob Johnston volunteered to be the editor, with Patsy Jackson doing most of the work as the Production Editor. This commitment has remained an aim of the Society since that time.

At the annual dinner meeting of the Society in 1990, the above officers of IHS were re-elected and commended for maintaining an active program. Renewed hopes were expressed for the publishing of the long awaited *Hydrofoil Textbook* based on Michael Eames' retirement from the Defense Research Establishment Atlantic of the Canadian Navy, giving him time to edit the book. William Ellsworth and Mark Bebar agreed to investigate sources of funding support to help finance the preparation of the missing chapters. Mike Eames believed that the editing process should not start until all the chapters were in draft format.

CDR Charles Luck, USN, the Chief of Naval Operation's platform sponsor for PHMs, addressed the 1990 annual meeting. He stated that the PHMs were operating much as other Atlantic Fleet units. These assets are committed to the national counter-drug effort in the Caribbean. The PHMs have accounted for about one-third of all Navy-assisted drug seizures since 1983. CDR Luck attributed this high success rate to the ships' high speed and maneuverability in the open sea.

#### JOHN R. MEYER, PRESIDENT 1991 TO PRESENT

At the Spring 1991 IHS Annual Meeting held at Army-Navy Country Club, Arlington, Virginia, the Board elected John Meyer as the eighth President of IHS. Mark Bebar was selected as Vice-President and John King as Secretary/Treasurer. Patsy Jackson was continued in the position of Recording Secretary. John Meyer, a charter member of the North American Chapter, had been and continues to be a strong supporter of IHS. When Jim Schuler was incapacitated by his illness, John stepped into the acting president's role, and did an excellent job in providing continuity to the IHS programs. His long and dedicated service to the Society made it most appropriate that he be selected President.

It must be added that John Meyer has been one of the most active presidents the Society has been privileged to have. He has put the Board of Directors to work, holding meetings on a monthly basis and assigning specific tasks to each member. John has been a strict taskmaster with the editor and production editor of the Newsletter to insure four issues per year to the membership. In fact, he has become, more appropriately, the co-editor of the Newsletter. John had expanded joint meetings of IHS with other related societies such, as the Hovercraft Society and the Society of Naval Architects and Marine Engineers' high-speed surface craft panel. Generally, both a spring and fall meeting of IHS have been held during John's tenure.

John Meyer is recognized as one of the world's leaders in the development of the technology of hybrid marine vehicles. He has, in this regard, studied the improvements realized in combining hydrofoils with other advanced ship concepts. John has been annually selected as President since 1991 and has the recognition of having served as President longer than any of his predecessors. Both Mark Bebar and John King have continued to be elected as Vice-President and Secretary/Treasurer during this period.

One of the highlights of John Meyer's presidency was the Intersociety High Performance Marine Vehicle Conference and Exhibit (HPMV-92) held at the Ritz-Carlton Hotel, Arlington, Virginia, June 24 to 27, 1992. The sponsor of HPMV-92 was the American Society of Naval Engineers assisted by thirteen societies and US Government organizations including IHS. One of our members, William Ellsworth, was co-chairman of the technical program and session organizer for the Plenary Session. President John Meyer was the organizer of the hydrofoil sessions. There were five hundred sixty registrants from sixteen countries with sixty papers presented at the sixteen technical sessions. Twenty-two members of IHS were registered.

The membership of IHS was quite active in the conduct of this Conference. William Ellsworth, James Wilkins, John Meyer, Michael Terry, and George Jenkins were technical session moderators. James Wilkins, John Meyer and Michael Terry co-authored papers presented, see reference (7). Robert Johnston was a panel member for the discussion that took place on the evening of June 24 on the subject "What are the obstacles that impede wider utilization of high performance vehicles and what steps can be taken to reduce or eliminate such obstacles?" A special session was sponsored by IHS on the subject "Hydrofoils -- Where Do We Go from Here?" John Meyer organized this session with Bob Johnston as the discussion leader. This session was well attended, and the discussions were quite lively, highlighted by the remarks of Dott. Ing. C. Buccini of Rodriquez Cantieri Navali and Dr. T. Yagi of Kawasaki. IHS also sponsored a booth at the exhibit which was arranged by William Buckley.

As the downsizing of the US Navy began, the PHMs became issues of survival as a fleet asset. IHS played a significant role in bringing to the attention of the decision makers the record of the PHM squadron in their drug interdiction role. It was pointed out that the value of the drugs captured more than paid for the maintenance and operation of the squadron. Alternative ownership of the PHMs was suggested to the US Coast Guard and

the US Customs. This valiant effort on the part of IHS was unable to change the final decision that the US Navy's budget could not support the PHM's role in drug interdiction.

On July 30, 1993, the PHMs were decommissioned. At the ceremony, a message from the US Navy's Chief of Naval Operations, Admiral Frank B. Kelso, II, USN, was read. In part, the message stated “. . . To those officers and men who walk the PHM decks for the last time and participate in the decommissioning ceremonies of the “Flying Gray Terror,” you brought a new dimension to the surface warfare and have served your country well. You have given these proud ships a special honored place in our Navy's history. Land the ship! Well done and Godspeed.”

The IHS effort to keep these ships active was spearheaded by Dr. James Wilkins, Chairman of the IHS Congressional Liaison Committee and ably assisted by John King, George Jenkins, John Meyer, and others, see reference (8). This effort of the Society was recognized by asking President Meyer to address the decommissioning ceremony.

At the Annual Meeting in May 1993, the Society initiated the awarding of plaques to honor members for the hydrofoil accomplishments. Plaques were presented to Cavaliere del Lavoro Carlo Rodriquez, posthumously, and to CAPT Robert J. Johnston, USNR (Ret.) for their roles in the development of hydrofoils and their support of IHS. At a special dinner meeting in November 1993, in recognition of their many contributions to the hydrofoil world and to the Society, IHS Award Plaques were presented to Countess Juanita Kalerghi Rothman and William M. Ellsworth. All recipients of the awards and Carlo Rodriquez's family expressed sincere appreciation for this recognition by the Society.

The Society now comes to its Twenty-Fifth Anniversary Celebration and Conference recognizing its existence from 1970 to 1995. The concept of this event has been promoted for some time by President John Meyer. George Jenkins and Mark Bebar are program co-chairs. Barney C. Black, as papers chairman, has done an outstanding job in organizing the papers to be presented. This event will take place at the Army-Navy Country Club, Arlington, Virginia, June 14 to 16, 1995.

It can be reported that the Society is in good health as it starts its second quarter of a century of existence. The leaders of IHS are strong, active and enthusiastic about the future. The membership is at an all-time high, with twelve countries represented. Financially, IHS remains on a sound basis with adequate resources for any unforeseen contingency. The major unaccomplished aim of publishing a handbook or textbook remains to be done.

The early library of IHS is now part of the Royal Institute of Naval Architects' library in London. At the time the transfer of management took place to North America, a substantial data bank was available at DTNSRDC near Washington, D.C. Therefore, the library asset of IHS remained in London. What is left of the DTNSRDC data bank is now under the control of John Meyer and can be accessed through John.

The concept of CDR Mark Thornton of an International Hydrofoil Society, in the opinion of the author, has exceeded his imagination of where and what IHS would be in 1995. It

has been an interesting twenty-five years of progress of the hydrofoil concept. The advancement in commercial hydrofoils has grown to large craft carrying several hundred passengers over open sea routes. Military hydrofoils have demonstrated the new dimension they can provide in naval warfare. They stand ready to fulfill their mission when required. One cannot but wonder where IHS and hydrofoils will be in the year 2020.

ADDENDUM

When writing a history mainly about people, the author is certain to neglect someone who was a major participant in the events described. For example, it is known that Dr. Robert MacGregor, professor of Naval Architecture, Glasgow University, was an active member of the London Council, but his tenure could not be determined. The records of the activities of the Council, particularly during the 1970s, were quite limited. Therefore, a number of other individuals must have been neglected in this history. To anyone who has been so treated, please let the author know, and an errata will be issued.

Fortunately, rather complete records were available of the various Boards of Directors of the North American Chapter and IHS after it became a not-for-profit US corporation. The records of the participants on these boards is placed here to acknowledge the important role filled by these members.

Board Members of the North American Chapter

1978-1981	1979-1982	1980-1983	1981-1984
Michael Eames	Victor Beck	H. Lee Barhem	Michael Eames
Charles Rabel	James King	William Stolgitis	William Ellsworth
Martin Reeves	Robert Ripley	Donald Wight	Robert Johnston
Robert Johnston	William Schultz	James Wilkins	Michael Terry

1982-1985	1983-1986	1984-1987	1985-1988
Ronald Adler	Robert Ripley	William Ellsworth	Ronald Adler
Raymond Hoop	James Schuler	Robert Johnston	Mark Bebar
Lou Tedeschi	William Stolgitis	Ronald McWilliams	Raymond Hoop
John King	James Wilkins	Donald Wight	John King
		George Jenkins	

Board Members of the International Hydrofoil Society

Note: Boards of Directors of 1984 - 1987 and 1985 - 1988 of the North American Chapter, listed above, were made Board of Director members of IHS when it was incorporated in the USA.

1986-1989	1987-1990	1988-1991	1989-1992	1990-1993
Juanita Kalerghi	William Ellsworth	Ronald Adler	William Erikson	Jeffrey Benson
John Meyer	Robert Johnston	Mark Bebar	John Meyer	William Buckley
James Schuler	Lanny Puckett	Raymond Hoop	John Monk	William Ellsworth
William Stolgitis	Phil Yarnall	John King	James Williams	Robert Johnston

1991-1994	1992-1995	1993-1996	1994-1997	1995-1998
Mark Bebar	John Meyer	Barney C. Black	Mark Bebar	
George Jenkins	John Monk	James King	George Jenkins	
John King	James Wilkins	Mark Rice	John King	
Wade Webster	Phillip Yarnall	Ken Spaulding	Cameron Mixon	

Through all of aforesaid Boards, Patsy Jackson was the Recording Secretary. Her efforts contributed significantly to the maintenance of the Society's records.

### ACKNOWLEDGEMENT

In preparing this review of the first twenty-five years of IHS, the author has been materially assisted by several people. **Derek Deere** of Basingstoke, England provided a wealth of material related to the effort and participants associated with the founding of the IHS as a Charity in England. His collection of documents and letters of the beginning years was the source for that part of the story.

**Michael Eames** sent the author a very helpful collection of documents and letters from his IHS files. This material was most helpful in identifying officers and participants in the early years of the Council and the Society. Mike also wrote the author a letter providing many facts and dates that added to the content of the history. And now, a very sad note must be added that on March 16, 1995, Mike suffered a heart attack and died. A memorial to Mike is in reference (9).

**John Meyer, John King, and Jean Buhler** were most helpful in going through their files, Newsletters, and back issues of *Hovering Craft and Hydrofoil* to provide useful information.

While there are gaps in this review, it would not be as complete as it is without the help of the above mentioned individuals. It must be added that any omissions or errors are solely the responsibility of the author.

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