

**MASTER**

THE HEALTH PHYSICS SOCIETY: ORIGINS AND DEVELOPMENT

R. L. Kathren

August 1978

Prepared for the U. S. Department of Energy  
under Contract EY-76-C-06-1830

Pacific Northwest Laboratory  
Richland, Washington 99352  
Operated by  
Battelle Memorial Institute

NOTICE

This report was prepared as an account of work sponsored by the United States Government. Neither the United States nor the United States Department of Energy, nor any of their employees, nor any of their contractors, subcontractors, or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness or usefulness of any information, apparatus, product or process disclosed, or represents that its use would not infringe privately owned rights.

*See*

## **DISCLAIMER**

**This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency Thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.**

## **DISCLAIMER**

**Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.**

## THE HEALTH PHYSICS SOCIETY: ORIGINS AND DEVELOPMENT

### Prelude

Prior to World War II, there were few, if any, full-time practitioners of radiation protection, and hence, little need for a professional or scientific society devoted to health physics. During the war, recognition of the hazards potential of radiation led to the formation of a specific organizational component within the Manhattan District concerned exclusively with radiation protection, staffed with scientists with a diversity of academic backgrounds. However, because most of the original eight members were physicists, and the group was concerned with problems related to health, the name "health physics" was coined for the activities of the group. For all practical purposes, health physics is synonymous with radiation protection.

Before the Health Physics Society was formed in 1955, there were no organizations whose sole or primary interest was radiation protection. The American Industrial Hygiene Association (AIHA), organized in 1939, provided a vehicle for those whose interests and activities lay in the occupational health area, but radiation protection per se was only one small facet of the overall concern of this society. Permanent committees on radiation protection had existed within the radiology organizations since at least 1920, staffed in part with physicists interested in this area. These committees, however, were but a small part of a large organization whose interest lay primarily in other areas, namely applications of x-ray and radium to the diagnosis and treatment of disease.

As the Manhattan District grew into the U. S. Atomic Energy Commission, expanding nuclear research and applications led to a need for persons with formal training in radiation protection. This need was in large measure met through the training program of the Health Physics Division at Oak Ridge National Laboratory, which has provided formal graduate level training in radiation protection to scientists and engineers since 1944. Many early graduates of the Oak Ridge felt the need of maintaining ties with the health physics community at Oak Ridge, as well as instructors, classmates, and

colleagues. And, as the numbers of health physicists increased, the need for a vehicle for communication of scientific and technical matters--both on an informal and formal basis--began to be felt.

These feelings were shared by Elda E. Anderson, a physicist who was placed in charge of the health physics education and training program at ORNL in 1949. Many of her former students recall her somewhat wistful queries of their projected whereabouts and activities 10 years in the future. She keenly wanted the health physicists in general and her Oak Ridge charges in particular to have recognition as a professional group and to remain in contact with each other and with their discipline. Early and clearly she sensed the need for health physicists to establish themselves as a separate profession, as did other early leaders in the health physics field, including Karl Morgan (Oak Ridge National Laboratory), Fred Cowan (Brookhaven National Laboratory), G. W. C. Tait (Atomic Energy of Canada), and Lauriston Taylor (National Bureau of Standards).

The idea of a society of health physicists was starkly and squarely placed before the growing nuclear industry by Saul Harris, one of her former students and then Associate Radiophysicist with the State of New York. In a letter to the trade publication Nucleonics, published in November 1952, Harris called for the formation of a radiation protection society ". . . for closer communication and solution of mutual problems." Harris recognized quite clearly the dichotomy between those within the AEC programs and those on the "outside"--industrial hygienists, safety engineers, and others involved in state programs--and also felt that a professional or scientific society would serve to benefit industry and government as well as the individual health physicist.

Not all, however, felt that a separate organization with interests devoted exclusively to health physics was needed. The editors of Nucleonics commented to that effect at the end of Harris' letter, and the Executive Secretary of the American Industrial Hygiene Association, who stated in reply to Harris, ". . . radiation protection is simply a new emphasized phase of . . . occupational health." Other health physicists apparently concurred, or felt that a tie with the medical physicists or some group would be more appropriate.

## Birth of the Society

In June 1955, the Ohio State University Health Physics Conference, held in cooperation with the USAEC, took place. This was the first large scientific meeting exclusively devoted to health physics, and was largely the organizational effort of Francis J. Bradley, then campus health physicist at Ohio State University (OSU). The conference was two and one-half days in duration (June 13-15, 1955) and, according to the program, one main purpose was to draw together those in the field to hear the latest developments and to discuss problems. Dosimetry was the topic of three of the eight sessions, with waste disposal, air sampling, legislation, organizations, and a general session round out the program. The program committee was chaired by Elda Anderson, and included Bradley, L. C. Emerson, M. F. Fair and L. R. Rogers. Interestingly, a review of the program nearly a quarter century later (1978) reveals a surprisingly current array of titles and projects.

The first day of the conference, leaflets were passed out at the door listing 10 organizational possibilities for health physicists, including formation of a separate society with or without a journal, or affiliation with one of four other organizations: AIHA, American Nuclear Society (ANS), Nuclear Engineering Society, and American Institute of Physics (AIP). These possibilities, along with some additional points in favor of organization, were the subject of a brief talk by Karl Z. Morgan to the AEC Fellowship Alumni, assembled for dinner in the Franklin Room of the Ohio Union. After the dinner and the talk by Morgan and a provocative inquiry into the question of just who was a "qualified expert" by Lauriston Taylor, the meeting broke up. The group, however, drifted to Mack Hall where it reassembled and, after brief discussion, voted 180 to 15 to form a professional Health Physics Society with no journal, no paid officers and dues of \$2.00 per year.

The next day, a business meeting was held and interim officers and a board of directors elected. Officers and board members were:

K. Z. Morgan	President
F. P. Cowan	Vice-President
E. E. Anderson	Secretary-Treasurer
E. C. Barnes	Board Member
F. J. Bradley	Board Member
W. D. Claus	Board Member
W. T. Ham, Jr.	Board Member
J. W. Healy,	Board Member
H. Mermagen	Board Member
W. E. Nolan	Board Member
J. E. Pickering	Board Member
C. M. Patterson	Board Member
G. W. C. Tait	Board Member

The thirteen member board included representation from industry (1), universities (2), USAEC (1), the military (1), and Canada (1), with the remainder coming from the AEC laboratories. Although only two members were from ORNL, most were products of the ORNL training program.

Five committees were established by the newly formed organization, and chairmen appointed:

Consitution and By-Laws	W. D. Claus, J. W. Healy
Name	L. S. Taylor
Program	F. P. Cowan
Qualifications (for membership)	W. E. Nolan
Affiliation	W. T. Ham, Jr.

The Affiliation Committee was charged with the somewhat unusual task of examining the possibility of the newly formed Health Physics Society joining with some other already established organizations. This required a good deal of diplomacy, for many individuals active in radiation protection strongly felt that a new society was unnecessary. Others were equally strongly in favor of remaining unaffiliated, some with bitter feelings left from unpleasant experiences from the formation of a research oriented society a few years before. Within a year, the chairman of the Affiliation Committee noted in a letter to Interim President Morgan,

"I am afraid that the problem of affiliation is the most controversial issue that we face in the new society. My personal opinion is that we should not try to affiliate at the present time but turn the matter over to the permanent officers of the society when they are elected this June."

The committee formally investigated the possibility of affiliation with several organizations, including the AIHA, ANS, AIP, Radiation Research Society, and the newly forming Biophysical Society. Response from these societies was, in most cases, positive, but the committee consensus was for the Health Physics Society to remain on its own. And so, on June 16, 1957, the committee made this recommendation in its report, a single 94-word paragraph entitled "Report of the Affiliations Committee," along with the additional recommendation that it be disbanded since its assignment had been completed.

The other committees functioned well, also. The Committee for Proposals of Name of Organization considered a total of 11 names, ultimately offering to the society membership "Society for Radiation Protection" and "Health Physics Society" for consideration at the annual meeting held in June 1956 in Ann Arbor. A third name, "Radiation Protection Society" was suggested from the floor, but shortly before the adjournment time at 10:30 p.m. on June 25, 1956, the name "Health Physics Society" was selected by the majority of the 198 members present.

For the first scientific meeting of the new society, the Program Committee put together a five-session affair covering 2 1/2 days. The afternoon of the third day was devoted to technical tours, a tradition that has since been continued through every annual meeting. The papers presented covered a broad spectrum of topics ranging from practical health physics through facility description to research reports. Of some significance was the absence of a paper on medical health physics, although one of veterinary health physics was included.



The Qualifications Committee, charged with establishment of the requirements for membership, met in December 1955 in conjunction with the annual meeting of the Radiological Society of North America. Prospective members were to hold a B.S. degree or have equivalent health physics experience, and in addition, were to have two sponsors. The Committee also took a significant step beyond its charter by calling for the establishment of a Certification Committee to ". . . certify people in the field of Health Physics as Radiation Safety Officers." Organizations were suggested and the Qualifications Committee was hopeful that the certification process would eliminate the necessity for associate membership within the Society. Although the latter was not the case, the Qualifications Committee had set the stage for the formation of the American Board of Health Physics, a responsive action to the need for professional identity which had been expressed only 6 months before at the Ohio State meeting.

#### Membership, Chapters and Sections

By the time of the first annual meeting in Ann Arbor, the Society was a year old with a total membership of 628. Several new members were added at the meeting and the membership continued to grow rapidly, exceeding 1000 by early 1958. Less than 5 years later, the membership reached 2000, and by 1966, 10 years after the organizing meeting at Ohio State University, the Society could boast of nearly 3100 members. Membership then leveled off and indeed declined, falling to about 2500. Part of the reason for this decline was the formation of radiation protection societies in other countries which caused many of the overseas members to leave the predominantly American Health Physics Society.

This was, of course, not the only reason. Restrictive, rigidly interpreted membership requirements (a degree plus one year of experience in the field), coupled with a cumbersome, time consuming membership procedure discouraged many would-be members, and led to strong objections--oral and written--from many, and in particular, from one Chapter, which was incensed in 1970 when two of their members--one a Certified Health Physicist--were denied full membership in the Society.

The results of these complaints, which had included indications of wholesale losses of members, spurred the Board to action; the membership procedures and requirements were clarified, largely through the efforts of the late J. C. Hart. In 1973, the Membership Committee was overhauled, and a dynamic young chairman, Jerome Martin, named by President Neal Wald. Martin undertook an aggressive recruiting campaign, including a survey of why members were dissatisfied and leaving the Society. He found that while some had in fact left the field, several hundred each year simply failed to renew, largely through inertia. A second dues notice to the delinquents significantly increased renewals. Martin also worked through the chapters, and instituted an annual membership drive. His efforts, coupled with increased interest in membership complaints on the part of the Board of Directors, resulted in a significant increase in members; the current (1978) membership is nearly 4000.

As the Society grew, the need for chapters organized along regional lines became apparent. For many, travel was difficult, and there was a need to communicate or rub elbows, as it were, with others in the profession. Also, there was a feeling among some that the Society was too "Oak Ridge" oriented and that the formation of chapters would serve to provide greater participation and voice for all members.

In 1958 the Council on Rules and Procedures established the mechanism for the formation of regional chapters and, later in that year, the membership voted to incorporate this change in the By-Laws. Thus, at the Board meeting of June 17, 1959, in Gatlinburg, Tennessee, four chapters were newly certified: Baltimore Washington (as of November 18, 1958) Eastern Idaho, Pittsburgh (now Western Pennsylvania), and Savannah River. The following June four more were added: Columbia (centered at Richland, Washington), Delaware Valley, Northeastern New York and Southern California. The East Tennessee Chapter was added in the fall of 1969, and by 1978, the Society could boast of 39 chapters representing all areas of the United States.

Although the Society has always had a substantial number of Canadian members, many of whom have been quite active, there has never been a Canadian chapter or section. Most of the nearly 100 Canadian members

reside in the province of Ontario. Virtually all are employed in three geographically separate locations, with no one area having enough health physicists or appropriate diversity of employment to support a local chapter.

Foreign membership had grown rapidly, however, responsive in many instances to invitations to join from American Colleagues. Initially, the Society was essentially all American. Only three attendees of the Ohio State Health Physics Conference were from outside the U. S. Two were Canadian and thus could hardly be classed as foreign, and the other a Japanese AEC employee working at the University of Rochester. By 1959, however, the Society boasted of more than 100 overseas members representing 17 countries, in addition to 32 Canadians. The first European member, Werner Hunzinger, joined the Society in 1957.

Overseas members were encouraged, and the growing numbers of overseas members led to the formation of sections. These were organized along national lines, and also served as a national health physics organization. Because they represented the health physicists in an entire country, sections were accorded a relatively important position within the Society, their presidents serving initially as ex-officio and later as full voting members of the Board of Directors.

The France Section affiliated first in 1961, followed by the Japan Section in 1962 and the United Kingdom Section the following year. The Israel and Central European Sections brought the total to five by 1965. Sections based on national or regional lines were discontinued in 1966 following the formation of the International Radiation Protection Association.

Provision also existed within the Society for sections based on specialization or specific interest within the field, although no such section has ever been formed. In 1968, interest was expressed in a power reactor health physics section, and this group met jointly with the Society at the Topical Symposium on Operational Monitoring in Los Angeles in January 1967. Although application was apparently made to form a power reactor health physics section, the Board of Directors was disinclined to accept it, for those making the application wanted to

severely restrict section membership, and to hold closed meetings. Some bitterness resulted, and, despite a mostly overlapping membership, separate Power Reactor Health Physics Association was formed, this group later becoming the Edison Electric Institute Health Physics Task Force.

### The Formation of IRPA

As the sections grew, it became apparent that an international organization was in the making. Initially, the intent was to seek cooperation with international societies in related areas, such as medical physics. However, several overseas members, notably Bruce Wheatley at CERN, J. Zakovsky, Peter Courvoisier, W. G. Marley, Werner Hunzinger, and Walter Moos, were interested in a truly international society. During 1957 and 1958, these individuals strove towards establishment of a European health physics society, which later became, for a time, the Central European Section of the Society.

In the United States and Canada, there was also interest in internationalization, largely centered at Oak Ridge. Elda Anderson, the charter secretary and fourth president (1959 and 1960), had actively worked towards establishment of an international society, and had strongly influenced the organization of European health physicists during the summer of 1957 while serving as an instructor in the Health Physics Course at Mol, Belgium. Other Americans who worked towards the formation of an international society were K. Z. Morgan, J. C. Hart, H. H. Abee, and W. S. Snyder.

In 1963, the membership voted on the formation of an international organization, and an overwhelming majority indicated approval. Thus, the stage was set for the formation of the International Radiation Protection Association (IRPA), which adopted its constitution (largely the effort of J. C. Hart assisted by H. H. Abee) and became a reality on December 3, 1964. This action obviated the need for the sections within the Society and appropriate measures were taken to discontinue them. Karl Morgan, who had been the first president of the Health Physics Society was also chosen as the first president of IRPA. Shortly after the formation of

IRPA, the membership was polled on affiliation. The vote was overwhelming--1144 to 76 in favor of joining IRPA--and President H. L. Andrews made formal application for admitting the Health Physics Society, now geographically limited to the United States and Canada.

### Maturation

In 1959, in response to the increasing business demands of a growing society and the Journal, the Board of Directors appointed an ad hoc committee to examine the practicality of obtaining the services of an executive secretary. Initially, the committee recommended the use of an established organization for this purpose, and the Board concurred. However, sentiment changed, dictated in part by finances, and at the Board meeting on June 29, 1960, considerable discussion ensued as to what might be done within budgeting constraints. Ultimately, the Board voted to interview R. F. Cowing, a charter member of the Society with some experience in managing church groups, for the position. A somewhat surprised Cowing was approached by R. G. Gallagher, chairman of the ad hoc committee, and invited to appear before the Board on June 30, 1960. The Board reviewed the proposed duties of the Executive Secretary with Cowing, heard his qualifications and ideas, and after excusing him from the meeting, moved to accept him as part-time Executive Secretary, the first paid employee of the Society.

Cowing's impact was immediately felt. His primary concerns were threefold: communications, membership and finances, and all were interrelated. Among his first efforts was an attempt to update the membership mailing list, a vital link in communications, and an expensive drain on the treasury, since the list was so inaccurate that fully 80% of Cowing's first mailing had wrong addresses. The Newsletter, originally known as the President's Letter, was instituted and greatly expanded under Cowing, serving today not only as a carrier of news items but as a sort of mini-journal on professional affairs, including job opportunities. As the chaos of the membership rolls cleared, the office of Executive Secretary turned towards other activities such as overseeing the Society finances,

encouraging commercial affiliates to join and support the Society and providing continuity between meetings as well as serving as a central information source and providing a permanent address for the Society.

One of the Executive Secretary's early tasks was to poll the membership with respect to incorporation of the Society. About half the members voted, and all the ballots returned to him. Seven hundred fifty-three were in favor of incorporation. Not a single "no" vote was received and accordingly, the Board ratified the vote of the membership. Thus, an action initiated several months earlier, the filing of incorporation papers in the State of New York, was consummated, and the Health Physics Society became a non-profit corporate entity in 1961, 4 years after K. Z. Morgan and C. M. Patterson first proposed and the Board approved the allocation of \$200 to study the matter. In 1974, for practical reasons, the Society was incorporated in Tennessee, and N. Tarr, Editorial Associate of the Journal, named the resident agent.

Among the many tasks of the Executive Secretary was the annual compilation and publication of the Membership Handbook. The first of these was issued November 1, 1957, and contained in addition to the alphabetical listing of members, the constitution and by-laws, organization and committee structure, listing of previous officers, and a few descriptive paragraphs about the Society. A photograph and message from F. P. Cowan, then Society President, was also included. Over the years, the content and format of the Membership Handbook have not changed appreciably, except to add the roster of certified health physicists and radiation protection technologists, a geographical listing of members, and a listing of Chapters and their officers. The size, however, increased from a hand-compiled little book of 70 pages measuring 9.5 x 15 cm to a computer-compiled, substantial 180-page book measuring 15 x 23 cm.

The Membership Handbook contains a sort of mini-history of the Society compacted into an historical listing of officers. Examination of the officers (See Appendix A) provides some indication of the maturation of

the Society. The first permanent Board and Officers (1956 and 1957) were virtually all from AEC sponsored projects or laboratories, or in one case, the AEC itself. Only 2 of the 13 were then from outside the AEC "family"-- G. W. C. Tait of Chalk River, and R. G. Gallagher, Liberty Mutual Insurance Company. Throughout the early years of the Society, the Board and committee membership was, not unexpectedly, primarily of persons from Oak Ridge, or those who had been trained there. This led to some complaints on the part of members, particularly those in the western U. S., who felt disenfranchised. However, as the Society matured and moved into its second decade, representation within the power structure broadened. Ironically, the geographical distribution of committee members was especially made representative under a president from Oak Ridge, J. C. Hart. And, the annual scientific meeting of the Society was held in locations selected roughly in accordance with the geographical distribution of the membership.

Since its inception, the Society has held an annual scientific meeting. Initially, these were of a few days duration, attended by a few hundred persons. Early programs were relatively limited in scope to operational and applied problems, but within a few years the annual meetings expanded to a full five days, with numerous concurrent sessions and a program more broadly based and research oriented. Meeting attendance grew to about a thousand. Moreover, the increasing scope of health physics necessitated augmentation of the Annual Meeting with a Topical Symposium usually on a specific area of applied health physics held annually since 1965. The Topical Symposia are largely a chapter effort although sponsored by the national society.

In recent years, the Society has become concerned with legislative and public policy matters involving radiation protection and applications in addition to strict scientific matters. As early as 1967, John Horan, as president of the Society, commented in a letter against a proposed national radiation exposure registry. And, in 1971, at the 16th Annual Meeting of the Society, President-Elect Dade Moeller read a statement signed by the current and all living past-presidents of the Society

criticizing the validity of claims regarding fallout effects made by Ernest Sternglass, a member of the Society, noting that ". . . Dr. Sternglass' arguments are not substantiated by the data he presents."

An action of this nature, particularly on a politically sensitive issue, is virtually without precedent in science. Sternglass, it should be noted, had made numerous sensational allegations that very low levels of radiation were responsible for "excess" infant mortality as well as other morbidity. In general, the scientific community found these claims without merit and based on dubious reasoning, incomplete and judiciously selected data, and appeal to the public fear of radiation.

Since 1975, when the Board of Directors passed two resolutions relating to legislation, the Society has taken an active interest in matters involving the public or scientific community. However, the interest is scientific, and no attempt is made to lobby or influence legislation.

In 1974, Russell Cowing retired as part-time Executive Secretary. Cowing, whose ribald humorous annual reports were a highlight of the annual business meeting, was replaced by Richard Burk as full-time secretariat; the Society had, in 19 years, come of age.

### The Journal

Perhaps the most significant contribution of the Society to the scientific community in general and the profession in specific was the establishment of a journal devoted to the science and art of health physics. The idea of a society-cum-journal had been proposed at the original organizing meeting, but the vote had been for the formation of a society only. However, the idea and hope for a journal did not die and investigations into the mechanism of establishing a journal were begun by K. Z. Morgan during his year as charter president. The Publications Committee, chaired by John Auxier, made a thorough study of the pros and cons of a journal, recommending in its report to the Board in June 1957 that the Society publish a journal. It buttressed its recommendations with a poll of the membership which overwhelmingly favored a journal.



The Publications Committee was thorough, even recommending an editorial organization.

Throughout the spring and summer of 1957, the Publications Committee continued its search for a publisher and firm plan for a journal. The committee, under the leadership of acting chairman John Handloser, ultimately recommended Pergamon Press as the publisher, foregoing the offer of Professor J. E. Roberts, Hospital Physicists, Association, of joint publication of Physics in Biology and Medicine.

And so, at a meeting of the Board of Directors in the New York City offices of the Atomic Energy Commission, the journal Health Physics was officially born. At this meeting, the results of a formal membership vote were reported and indicated that 89% favored a journal. Pergamon Press was selected as publisher. John Auxier, one of the original editors and present Editor-in-Chief, recalls how he and Elda Anderson urged Morgan to end his search for a suitable editor by accepting the position himself. Morgan reluctantly did so, and began the task of bringing to fruition the wishes of the membership.

Also discussed at that meeting on October 29, 1957 were several issues vital to the new journal. Emphasis was put on quality, and concern was expressed over publishing disproportionate numbers of papers from a single laboratory. The Board urged that a variety of papers be published and recommended the establishment of an honorary editorial advisory board with wide foreign representation. This was done, and a 50-member board representing 17 countries plus the World Health Organization was appointed to advise Morgan and his two associate editors, W. S. Snyder and J. A. Auxier. Thus the entire editorial staff of the Journal was situated at Oak Ridge. Primarily to provide information from Europe and truly internationalize the Journal, H. J. Dunster of England became News and Comments Editor in early 1966. Later that year, C. M. Patterson was appointed an editor, and G. D. Kerr was added editor in 1972.

In 1977, K. Z. Morgan retired after 20 years as Editor-in-Chief, and named emeritus. H. Wade Patterson of Lawrence Livermore Laboratories was named to replace him, and the Journal editorial offices moved to California. The number of editors, already at 5, was further expanded to 13, plus a news editor and the editor-in-chief.

The first issue of the Journal appeared 3 months behind schedule in June 1958. For the first few years, publication was irregular, but in 1962 bimonthly publication was begun. The following year Health Physics became monthly. In 1960 a particularly significant single number was published as Volume 3: The Report of ICRP Committee II on Permissible Dose for Internal Radiation. Similarly, the proceedings of the annual Hanford Symposia on Radiation Biology have been more or less published routinely in a single issue each year.

The growth of the Journal has been great and indicative of need and interest. Volume 1 has a total of 453 pages; Volume 9, published for calendar year 1963 (the fifth year of the Journal) had more than 1400 pages. In 1970, the Journal began to publish two volumes and ran to more than 1500 pages annually. In the year after the first issue appeared, 75 manuscripts were received; 5 years later the number had doubled and in another 2 years had approximately tripled.

#### A Society Symbol

Among the items informally discussed by attendees at the Ann Arbor meeting was the need for a distinctive and meaningful insignia for the new society. No official action, however, was taken by the membership or the Board of Directors. However, in October of 1957 the first design was submitted by S. G. Fidler, then Chairman of the Membership Committee, to the Society Secretary Elda Anderson. The design was circular with an outer ring bearing the society name and a Latin motto "Salus in Vi Neucleari," rather freely translated as "Safety in Nuclear Energy." The center of the proposed emblem featured an alpha, beta, and gamma--spitting snake entwined around a cutaway representation of a reactor.

The sketch was received by Elda Anderson who replied to Fidler noting that it had arrived too late for consideration as a letterhead, since the stationery had already been purchased. She suggested that he send a copy of the sketch and explanation of the symbol to each Board member, and also noted, "Personally, I like everything about it except the snake and I have an aversion to them."

Other proposed designs were received the following month from Saul Harris and A. L. Baietti. These first three designs are in Volume 1, Number 1 of Health Physics, June 1958. Several other designs were also received and published in subsequent numbers of the Journal. The last of these, submitted in September 1959 by J. C. Hart and A. D. Warden, who solicited ideas from various colleagues, was adopted in 1960 and has served the Society ever since.

#### The American Board of Health Physics

Among the major concerns of the founders of the Society was professional identity and qualification of health physicists. To a great extent, many of the early decisions to "go it alone" were based on a desire to establish and preserve professional identity and perhaps to avoid the snubs and rebuffs that some early health physicists had received from other scientists who felt that health physics was, at best, only semi-professional. Certainly this thinking underlay the formation of the Society itself, as well as the establishment of a separate journal.

In 1956 a Certification Committee, an outgrowth of the earlier Qualifications Committee, was established with the already overburdened Elda Anderson as Chairwoman. Initial efforts were to survey the efforts of other professional societies, and to attempt to incorporate these schema into a viable health physics certification procedure. Certification was an important area of concern within the Society, and was a major discussion topic at many of the early board meetings. Thus, there was some impetus to quickly establish a formal certification mechanism.

The Certification Committee moved towards establishment of a formal procedure, considering at first the creation of a special grade of membership, with election by a special board. By mid-1958, although

considerable progress had been made, no formal certification had been established and the Board, at its July meeting, set forth firm guidelines for the committee and allocated a budget expenditure of \$200 to expedite the effort. To some extent, the identify-certification problem had been exacerbated by the classification of health physicists as specialized industrial hygienists by the Federal Civil Service and thus, interest was keen.

The labor continued, and on November 8, 1958, the plan for certification as proposed by the committee was approved by the Board. The Committee was also requested to serve as the interim American Board of Health Physics, (ABHP) with staggered membership terms.

The newly formed ABHP immediately embarked on a program of certification. One hundred exceptionally qualified individuals were to be certified by selection; others would be certified by a written examination. The qualification would take into account not only scientific knowledge and professional accomplishments, but ethics as well, and all were to sign a code of ethics for the profession prior to being certified. The path of the fledgling certification program was not smooth, however, for many health physicists were opposed to the methods, plan, or rapidity with which the procedure was proceeding. Many openly voiced their objections, some rather strongly, in letters to the Board and Dr. Anderson. Objections notwithstanding, the "grandfathers" were selected and the qualifications submitted to the general membership in mid-1959. Approval was received, and in the fall the Board of Directors formally established the ABHP by a change in the By-Laws on October 29, 1959. A short time later, W. A. McAdams was selected as chairman. The first written examination was given in June 1960 during the Society's annual meeting in Boston. Fifteen candidates took the examination, scoring an average of 58.7%; 13 were certified by the Board.

From the outset, the ABHP realized that it should be a separate incorporated body and attempted to gain such stature in New York. Incorporation was contingent upon approval by the Department of Education which, after an investigation, issued to the ABHP a certificate granting

the ABHP permission to carry out its proposed mission--the first such certificate issued to a private group. Incorporation followed and on December 1, 1960, the ABHP ceased to be a part of the Health Physics Society.

### Awards

In the spring of 1961, the Society was shocked and saddened by the premature death of Elda E. Anderson. Known affectionately as "Andy," this indefatigable lady had worked wonders in the establishment of the Health Physics Society. To many of her former students, the Health Physics Society was her legacy, for her concern was always with the identity and professionalism of the health physicist. To that end she had planted within them the seeds of organization and pride in their profession. She had served the Society in innumerable capacities--as informal committee member giving freely of her ideas, and as a catalyst to others. She had served as Secretary Treasurer pro tem, charter Secretary, and as the fourth President, as chairwoman of the important Certification Committee and of the newly incorporated American Board of Health Physics. As a teacher of health physics, she had no peer, and her humanity and humility were virtues well known to her students and colleagues; to many of her students she was not only teacher, but friend, counselor and confidant as well. Many a lonely, newly arrived student health physicist at Oak Ridge recalls the special efforts (and sometimes a nip of good whiskey) that were provided in his or her behalf.

Elda E. Anderson was, for many, their introduction to health physics as well as their reason for remaining in the profession. She instilled a deep interest in many students. Shortly after her death, a memorial fund was established by her friends and associates and by the 1961 Annual Meeting in June, nearly \$1000 had been contributed. The money, held in trust by the East Tennessee Chapter, was accepted by the Society and a committee chaired by W. T. Ham, Jr. appointed to study possible uses of the fund.

At the next Board meeting, the E. E. Anderson Memorial Fund was established for ". . . teachers, researchers, and others who contribute to the profession of Health Physics." J. S. Laughlin was appointed Chairman of the Fund Committee. The following year, the Elda E. Anderson Award for distinguished service was presented to Lester R. Rogers. Gradually the award evolved into a formal presentation made each year at the Annual Meeting to an outstanding young health physicist; a list of award recipients is given in Appendix B. The emphasis on youth is fitting as a memorial to one whose professional life was devoted to the training of new health physicists.

The Society also introduced, in 1968, a Distinguished Achievement Award, to be given to those making significant contributions to the science of health physics. The first recipient was Duncan Holaday, a long time U. S. Public Health Service officer whose efforts in the area of uranium mining were particularly noteworthy. Other recipients of the award are listed in Appendix B along with the three individuals honored for their contributions to the Society.

Finally, to recognize extraordinary service to the Society, another award was created in 1973. The first recipients were retiring Executive Secretary R. F. Cowing and Journal Editorial Associate N. E. Tarr the following year. In 1975, the Meritorious Service Award was posthumously conferred upon J. C. Hart, the "Tennessee lawyer" who had contributed so much to the organization and administration of the Society, and whose untimely death during his term of office as President had shocked and saddened the Society. Hart, for many years, had worked behind the scenes, drafting Society rules, the Constitution, and handling the reincorporation in Tennessee. Ironically, at the time of his death, Hart was heavily involved in the establishment of a memorial scholarship fund, which is, as of this writing (1978), yet attempting to gain an adequate funding base.

### Acknowledgement

This work is essentially an expansion and updating of the paper "The Origins of the Health Physics Society" (R. L. Kathren and N. E. Tarr, Health Physics 27:419-249 [1974]). Sections of that work were freely copied for inclusion in this, and grateful acknowledgement is made to Health Physics. Much of the other information was obtained from personal interviews, and files and records of the Society, which are deposited in the archives of the American Institute of Physics, Center for History of Physics.

APPENDIX A

OFFICERS OF THE SOCIETY



APPENDIX A

OFFICERS OF THE SOCIETY

1956-57 (Pro-tempore)

President

Karl Z. Morgan  
Oak Ridge National Laboratory

Vice-President

Frederick P. Cowan  
Brookhaven National Laboratory

Secretary-Treasurer

Elda E. Anderson<sup>†</sup>  
Oak Ridge National Laboratory

Presidents

1956-57

Karl Z. Morgan  
Oak Ridge National Laboratory

1957-58

Frederick P. Cowan  
Brookhaven National Laboratory

1958-59

Lauriston S. Taylor  
National Bureau of Standards

1959-60

Elda E. Anderson<sup>†</sup>  
Oak Ridge National Laboratory

1960-61

John S. Laughlin  
Sloan-Kettering Institute

1961-62

Walter D. Claus  
U. S. Atomic Energy Commission  
Division of Biology and Medicine

1962-63

C. Maurice Patterson  
E. I. duPont, Savannah River Plant

1963-64

William T. Ham, Jr.  
Medical College of Virginia

1964-65

Howard L. Andrews  
National Institute of Health

1965-66

Merrill Eisenbud  
U. S. Atomic Energy Commission  
Health and Safety Laboratory (New York)

1966-67

John R. Horan  
U. S. Atomic Energy Commission  
Idaho Operations Office

1967-68

Walter S. Snyder<sup>†</sup>  
Oak Ridge National Laboratory

1968-69

Wright S. Langham\*  
Los Alamos Scientific Laboratory

1969-70

J. Newell Stannard  
University of Rochester

1970-71

Claire C. Palmiter  
Federal Radiation Council

1971-72

Dade W. Moeller  
Harvard University

1972-73

Robley D. Evans  
Massachusetts Institute of Technology

1973-74

Neal Wald  
University of Pittsburgh

1974-75

James C. Hart\*  
Oak Ridge National Laboratory

1975-76

Paul L. Ziemer  
Purdue University

1976-77

John C. Villforth  
Bureau of Radiological Health

1977-78

John A. Auxier  
Oak Ridge National Laboratory

1978-79

Carl M. Unruh  
Battelle Pacific-Northwest Laboratories

1979-80

Melvin C. Carter  
Georgia Institute of Technology

Secretaries

Elda E. Anderson<sup>†</sup> (1956-58)

John W. McCaslin (1958-60)

Frank L. Paschal, Jr. (1960-62)

John S. Handloser (1962-64)

William C. Reinig (1964-66)

John W. Thomas (1966-68)

Robert J. Augustine (1968-70)

Secretaries (continued)

John H. Pingel (1970-72)  
Shirley D. Vickers (1972-74)  
John W. Paston (1974-76)  
John M. Selby (1976-78)  
Geunivieve M. Roessler (1978-80)

Treasurers

Robert G. Gallagher (1956-59)  
Saul J. Harris (1959-61)  
Seymour Block (1961-63)  
Louis B. Silverman\* (1963-64)  
Robert W. Van Wyck (1964-65)  
Dean D. Meyer (1965-67)  
Harold H. Abee (1967-69)  
Robert L. Zimmerman (1969-71)  
Roger J. Cloutier (1971-73)  
Frank L. Paschal, Jr. (1973-75)  
Charles B. Meinhold (1975-77)  
Ralph H. Thomas (1977-79)

---

† Deceased

\*Died in Office

APPENDIX B

AWARD RECIPIENTS

APPENDIX B

AWARD RECIPIENTS

Elda E. Anderson Award

Lester R. Rogers	1962	John C. Villforth	1970
John A. Auxier	1963	Paul L. Ziemr	1971
John R. Horan	1964	William R. Hendee	1972
Conrad P. Straub	1965	Roger D. Caldwell <sup>†</sup>	1973
William G. Marley	1966	Roger O. McClellan	1974
Harold H. Abee	1967	Richard V. Osborne	1975
S. Marshall Sanders	1968	McDonald E. Wrenn	1976
Williams A. Mills	1969	Ronald L. Kathren	1977
		Kenneth R. Kase	1978

Distinguished Achievement Award

Duncan A. Holaday	1968	Shields Warren	1974
Hanson Blatz	1971	Walter S. Snyder <sup>†</sup>	1975
Herbert M. Parker	1971	E. Dale Trout <sup>†</sup>	1975
Wright Langham*	1973	Norman C. Rasmussen	1976
Karl Z. Morgan	1973	William L. Russell	1976
Lauriston S. Taylor	1974	J. Newell Stannard	1977

Meritorious Performance Award

Russell F. Cowing	1974	Natalie E. Tarr	1974
		James C. Hart*	1975

---

\* Posthumous

† Deceased