



Newsletter

Published Quarterly by the Association of Environmental Engineering Professors

VOLUME 12, NO. 4

SEPTEMBER 1977

AEEP UPCOMING EVENTS

NSF/AEEP RESEARCH CONFERENCE SCHEDULED FOR DECEMBER 15 IN WASHINGTON

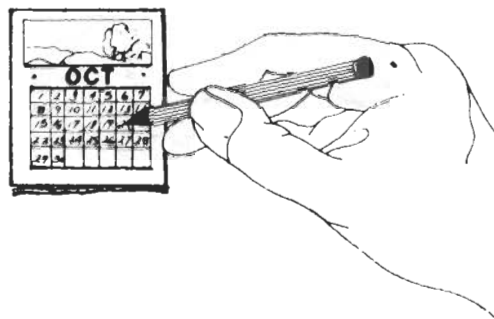
The proposal submitted to the National Science Foundation for support of the Conference on "Fundamental Research Needs for Water and Wastewater Treatment Systems" has been approved! It is now firmly scheduled for December 14 at the Quality Inn, Pentagon City, Arlington, Virginia.

The primary objectives of the Conference will be to (1) provide a forum and focal point for the exchange of information on research needs between the academic community, users of the research, and granting agencies, (2) define and establish priorities for these research needs, and (3) disseminate the results of the Conference for the purpose of stimulating research in high priority areas. The major benefit expected from the Conference will be to bring to the attention of the government, academic and private sectors, the need for increased efforts in long term, fundamental research on water and wastewater treatment.

It is expected that this Conference will have a strong influence on research funding for our profession. As an indication of its importance, the AEEP Board has scheduled a meeting on the day following the Conference to discuss the recommendations put forth.

The formal announcement of the Conference, including registration materials, will be mailed to all AEEP members in early September. However, be sure and reserve the date of December 15 (as well as travel funds!) on your calendar for attendance at this important event. This is your chance to have an input on the type of research which should be funded in future years.

MARK YOUR CALENDAR



AEEP Activities at WPCF Philadelphia Conference

Sunday, October 2, 1977 -

9:00 a.m. - AEEP Board of Directors Meeting
Hotel Sheraton, Room 527
JFK Parkway and 17th Street

Tuesday, October 4, 1977 -

8:00 p.m. - AEEP General Business Meeting
Hall of Flags East
Hotel Sheraton
JFK Parkway and 17th Street

We urge all of the AEEP members and other interested persons to join us at the General Business Meeting.

AEEP ARCHIVES

David Hendricks, chairman of the AEEP Archives Committee has gathered together most, if not all, of the historical files of AEEP. These materials have been received from Norm Jones, Marty Waneliesta, Wes Pipes, Richard Dick, and Erm Pearson. If you have any additional materials, please write to Dave so that they can be included in the Archives.

THE PRESIDENT'S CORNER

All evidence now appears to confirm the alarming concern that our reserve pool of basic knowledge may become inadequate to support the development and activities now judged as necessary to maintain our environment at its current level of well-being, even without considering environmental improvement. Population pressures, coupled with economic stresses, the ominous energy limitation, and man's inherent desire for longer and an even more affluent lifestyle — all contribute to resulting environmental stresses, requiring more and more attention.

An example of the research disparity is in the area of water quality where the research leading to new developments has lagged far behind the emphasis which has been placed on building and placing new treatment plants in operation. We are now finding ourselves approaching anticipated 21st century problems without the research critical to the development of 21st century solutions. The decrease of support for fundamental research in the water quality field was recognized some three years ago in a 1974 report from the Comptroller General to Congress. This report cited a 64 percent decrease in municipal technology R and D funding when compared to a 32-fold increase in the EPA construction grant program. More recently, such prestigious and influential bodies as the National Academy of Science and the House Subcommittee on the Environment and Atmosphere have probed the scope and extent of environmental research efforts. Also a recent review by the Office of Technology Assessment of the EPA 1976 five-year research plan questioned the quality and direction of past research programs.

The current level of environmental research effort, sponsored by the two agencies providing the major portion of the support for water quality, air pollution, solid wastes and related studies, is woefully low. For 1978, some \$35 million can be identified from the EPA program for these efforts. Although the corresponding NSF budget (including RANN) identifies some \$200 million for environmental research, this must cover the entire spectrum, realistically leaving little for the water and wastewater programs.

The NSF-AEEP jointly sponsored conference on environmental research needs, organized by John Andrews and Tom Keinath for December 15 in Arlington, Virginia, is an attempt to create order out of the research morass and to arrive at sound judgments regarding the research needs. The conference has as its objectives the provision of a forum for discussion and information exchange, the identification of basic research needs and priorities, and the stimulation of research and high priority areas.

Perhaps the most significant benefit of such a conference will be to effect a sound interchange of ideas regarding basic research between a major

government agency charged with the responsibility of supporting fundamental studies and members of the academic, governmental, and private sectors who will perform the work and subsequently transfer the research results into practical solutions leading to improved environmental quality.

George P. Hanna, Jr.
President

IAWPR SPONSORED SPECIALIZED CONFERENCES IN THE U.S.

In addition to the international conferences held each two years (next in Stockholm, 6/78), speciality conferences are sponsored or co-sponsored by the International Association on Water Pollution Research throughout the world as needs become known. The USA National Committee to IAWPR solicits proposals for research-oriented speciality conferences to be held in the United States over the next four years. The criteria for these conferences are described elsewhere in this newsletter.

Efforts are currently being made to select a University as a site for the Specialized Conference on Research in the Dewatering and Disposal of Biological Sludges.

Anyone interested in setting up a speciality conference, or desiring more information is invited to contact:

Dr. Richard S. Engelbrecht
Secretary-Treasurer
United States of America National Committee
Department of Civil Engineering
University of Illinois at Urbana-Champaign
Urbana, Illinois 61801
(217) 333-3822

CALL FOR PAPERS

7th ANNUAL UNIVERSITIES FORUM AT THE AMERICAN WATER WORKS ASSOCIATION ANNUAL CONFERENCE Atlantic City, New Jersey June 25-30, 1978

Abstracts for papers are now being solicited for presentation at the 7th Annual Universities Forum at the American Water Works Association Annual Conference. Student presenters are being sought at all university levels, and student educational level is not a factor in the selection of successful papers.

Papers should be related to municipal, agricultural or industrial supply problems including water treatment, water supply quality control (including

monitoring and surveillance, analysis research) and water resource development and management (including economics, user attitudes and water reuse). Water contamination and wastewater treatment considerations should be linked clearly to water supply and water treatment problems.

Papers need not be specifically the result of laboratory or field research conducted by the student. State-of-the-art papers and position papers are encouraged.

The presentation should be 15 minutes in length and will be followed by a five minute discussion period. The use of visual aids is recommended.

Five copies of a TWO PAGE abstract (about 500 words), preferably with figures and tables, should be submitted by DECEMBER 15, 1977 to:

DR. ROGER A. MINEAR
73-B PERKINS HALL
DEPARTMENT OF CIVIL ENGINEERING
THE UNIVERSITY OF TENNESSEE
KNOXVILLE, TN 37916

Abstract evaluation is made by a subcommittee of the AWWA Student Activities Committee in December with those selected being notified in early January. Papers will be chosen for relevancy to the field, technical content, clarity and logic with some consideration given to regional distribution of representatives. Abstracts dealing with experimental studies having no data available will be given low priority.

EDITOR'S NOTE:

As a student participant in the 3rd Annual Universities Forum, I would strongly encourage my colleagues in the environmental engineering profession to support this worthwhile activity by encouraging your students to participate.

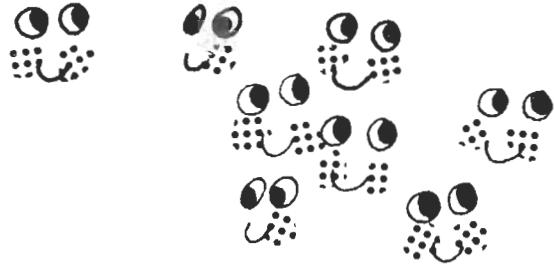
**THIRD U.S. NATIONAL CONFERENCE ON
WIND ENGINEERING RESEARCH
University of Florida
Gainesville, Florida
February 26 - March 1, 1978**

The Third U.S. National Conference on Wind Engineering Research will be held at the University of Florida, Gainesville, Florida between the dates of February 26 and March 1, 1978. A one page abstract must be received by September 30, 1977.

For further information or questions call or write:

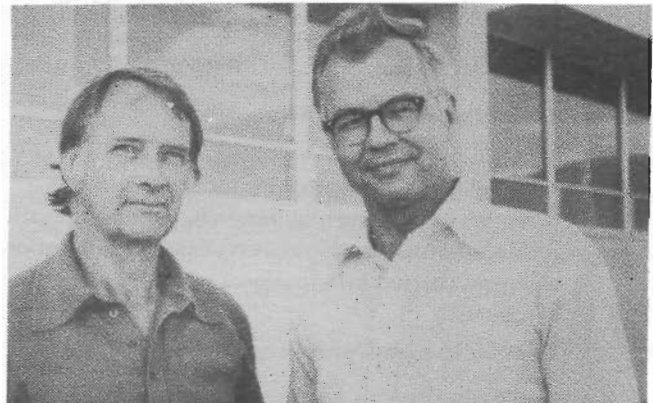
BERNARD M. LEADON, PROFESSOR
DEPT. OF ENGINEERING SCIENCES
216 AEROSPACE BUILDING
UNIVERSITY OF FLORIDA
GAINESVILLE, FLORIDA 32611
904/392-0961

MEMBERS IN THE NEWS



Dr. Herbert A. Bevis Selected Teacher of the Year

Dr. Herbert A. Bevis, at left, receives congratulations from Dr. Robert Q. Marston, President of the University of Florida, on the occasion of being selected Teacher of the Year, 1976-77 in engineering. Bevis currently serves as Professor and Vice Chairman in the Department of Environmental Engineering Sciences. His best known class is "Environmental Quality and Man," an overview of the scope of environmental engineering regularly taught to more than 100 attending students from all areas of the campus.



Dr. Stanley L. Klemetson joins Colorado State University Environmental Engineering Program

Dr. Stanley L. Klemetson, right, is welcomed by Dr. David W. Hendricks to the faculty of the Environmental Engineering Program at Colorado State University as an Associate Professor. Dr. Hendricks is the Professor in Charge of the Environmental Engineering Program which was accredited in 1975.

**ASSOCIATION OF ENVIRONMENTAL
ENGINEERING PROFESSORS**

1977 COMMITTEE STRUCTURE

Archives Committee

Task: To assemble in one location a record of AEEP activities including: Membership, legal papers, history of organization, bylaws, board of directors' membership, etc.

Chairman: David W. Henricks

Arrangements Committee

Task: To make arrangements for AEEP activities at Purdue and WPCF Conferences.

Chairmen: Leslie Grady (Purdue)
John T. Novak (WPCF)

Audit Committee

Task: To audit financial records and report at the Purdue meeting.

Chairmen: Paul L. Bishop
Dennis J. O'Brien

Awards Committee

Task: To select the annual winner of the AEEP/Engineering Science Award for Best Doctoral Thesis Relevant to Practice and other AEEP Awards.

Chairman: Charles R. O'Melia

Education Committee

Task: To coordinate the activities with regard to continuing education, technician training, undergraduate and graduate environmental engineering education.

Chairman: James W. Patterson

Membership and Eligibility Committee

Task: To develop recommendations for the Board of Directors concerning requirements, consider specific membership applications when eligibility is questionable; and develop informational membership brochures.

Chairman: Wayne Hall

Legislative Analysis and Training Support Committee

Task: Review pending federal legislation and (as appropriate) state legislation which has an impact on environmental engineering education; report to the President in cases where action by the Association is appropriate.

Chairman: N. Bruce Hanes

Newsletter Committee

Task: Edit, Publish and distribute the AEEP Newsletter quarterly

Editor: Stanley L. Klemteson

Nominating Committee

Task: Nominate members for election to the Board of Directors in accordance with the Bylaws; submit nominations to President prior to the October meeting of the members.

Chairman: Paul H. King

NSF Workshop Committee

Task: To plan and conduct conference on fundamental research needs in Water and Wastewater Treatment Systems.

Chairmen: John F. Andrews
Thomas M. Keinath

Publication Committee

Task: Provide a central depository and distribution service for AEEP publications; recommend policies for orderly development and distribution of AEEP publications.

Chairman: Michael J. Humenick

Undergraduate Register Committee

Task: Prepare and publish a new register of undergraduate programs in environmental engineering

Chairman: Donald Aulenbach

**Relations with USA National Committee of the
International Association on Water Pollution Research**

Task: Coordinate AEEP activities with USA National Committee, and advise Board of Directors on activities and need for action

Delegate: John F. Andrews

Research Committee

Task: Recommend research-related objectives of AEEP to the Board of Directors.

Chairman: Joseph H Sherrard

Teaching Methodology Committee

Task: To develop programs to improve the technology capabilities of environmental engineering programs.

Chairman: P. Aarne Vesilind

Visiting Lecturers Committee

Task: Arrange for lecture tours for foreign visitors.

Chairman: John F. Ferguson

Purdue Workshop Committee

Task: Plan and conduct the AEEP Purdue Workshop.

Chairmen: Thomas E. Pollock (1977)
William J. Jewell (1978)

1976-77 THESIS TITLES

As a service to the AEEP Membership, the Board of Directors have decided to publish the titles of thesis completed each academic year by June 30. Only those lists submitted by the membership will be included in the listing. The next directory will appear early next fall for the 1977-78 work. See the details elsewhere in this Newsletter.

Since the availability of documents vary, persons interested in a specific publication will be asked to contact the Faculty Advisor directly as indicated by the ().

Air Pollution

"Air Pollutant Monitor Network Design Using Mathematical Programming," Erik S. Houghland (Ph.D.), 339 pp., May 1977, VPI&SU (N. T. Stephens).

"Operating Parameters for State Air Pollution Control Agencies," William C. Jackson, 105 pp., December 1976, VPI&SU (J. M. Hughes).

"Time Series Characterization of Air Quality Data," Cynthia S. Hirtzel (M.S.), 85 pp., June 1977, Northwestern University (J. E. Quon).

Industrial Waste Treatment

"Engineering Analysis for Odor Control During Marine Wastewater Holding and Discharge from Washington State Ferries," Karl B. Parrish (M.S.), 111 pp., November 1976, University of Washington (John Ferguson).

"Experimental Evaluation of Odor Control Alternative for Marine Wastewater Holding Tanks," David Browne (M.S.), 122 pp., December 1976, University of Washington (John Ferguson).

"Preliminary Evaluation of Anaerobic Sludge Digestion for the Tuna Processing Industry," Allan D. KISSAM (M.S.), 78 pp., May 1977, University of Washington (John Ferguson).

"Biological Treatment of Wastewaters from Lead-Zinc Mine/Mill Operation," William Ernest (M.S.), 123 pp., December 1976, University of Missouri-Rolla (Dr. B. G. Wixson).

"Evaluation of Ion Exchange Polymers for the Selective Removal and Recovery of Copper (II) from Brass Mill Wastewaters," Rex A. Niles (M.S.), 66 pp., October 1976, Clarkson College of Technology (Joseph V. DePinto/James K. Edzwald).

"A Study of Ion Exchange Resins for the Selective Recovery of Copper from Brass Mill Wastes," Denard C. White (M.S.), 65 pp., December 1976,

Clarkson College of Technology (James K. Edzwald).

"A Comparative Study of Conventional Washers and a Prototype System Recycling Wash Water," James R. Coleman, 177 pp., December 1976, VPI&SU (Robert C. Hoehn).

"A Treatment Feasibility Study of a Cellulose Acetate Manufacturing Wastewater," Dana M. Boyadjian, 57 pp., August 1976, VPI&SU (Clifford W. Randall).

"Activated Sludge System Influent Toxicity Monitoring Through Utilization of a Commercial, Continuous Respirometer," John B. Reeves, 145 pp., December 1976, VPI&SU (Clifford W. Randall).

"Thiosulfate Oxidation in a Fluidized Bed," Ricardo B. Jacquez (Ph.D.), 150 pp., August 1976, VPI&SU (Paul H. King).

"High Gradient Magnetic Separation of Food Processing Wastewater," Julie A. Petruska, 92 pp., March 1977, VPI&SU (John V. Perumpral).

"Preliminary Investigation of Carbon Adsorption Following Biological Oxidation of Coal Gasification Wastewater," Paul E. Reynolds (M.S.), 103 pp., December 1976, North Dakota State University (Stanley L. Klemetsen).

"Hyperfiltration and Ultrafiltration of Phenolic Compounds in Simulated Coal Gasification Wastewater Streams," Monte D. Scharbow (M.S.), 95 pp., May 1977, North Dakota State University (Stanley L. Klemetsen).

"Preliminary Study of the Ozonation of Phenolic Compounds Present in a Simulated Coal Gasification Wastewater," Wen-Tang Tsay (M.S.), 76 pp., May 1977, North Dakota State University (Stanley L. Klemetsen).

"A Preliminary Investigation of Coalwashed Waste Water and Sludge Characteristics with an Emphasis on the Climatic Influence on Sludge Disposal," Hilol K. Ray (M.S.), 92 pp., June 1977, North Dakota State University (Stanley L. Klemetsen).

Instrumental Methods of Analysis

"Direct Head Gas Analysis for the Isolation of Volatile Trace Organics in Aqueous Environmental Samples," Stephen L. Friant (Ph.D.), 448 pp., June 1977, Drexel University (I. H. Suffet).

"The Reliability of Alternate Methods for Phosphorus Determination," Terry W. DeWitt, 78 pp., August 1976, VPI&SU (Paul H. King).

"The Behavior of Chlorine Dioxide in Disinfection of *E. coli* and its Determination by the DPD Method of Analysis," James S. McGhee, Jr., 113 pp., October 1976, VPI&SU (Robert C. Hoehn).

Non Point Pollution

"Source Control of Storm Generated Pollution by Detention and Treatment in a Small Urban Lake," Larry Oliver (M.S.), 152 pp., December 1976, University of Missouri-Rolla (Dr. S. G. Grigoropoulos).

"A Generalized Model to Predict Runoff Water Quality for Non Point Source Agricultural Areas," Gregg D. Horner (M.S.), 161 pp., July 1976, University of Iowa (Lee D. McMullen).

Rivers, Estuaries and Lakes

"Concentration and Distributive Behavior of Cadmium and Other Selected Heavy Metals in Sediments of Southern Lake Michigan," Monica A. Barron (Ph.D.), 284 pp., August 1976, University of Michigan (W. J. Weber, Jr.).

"Laboratory Study of Fresh-Water Algae-Bacteria Interaction and Accompanying Nutrient Dynamics," Paul W. Rodgers (M.S.), 90 pp., August 1976, Clarkson College of Technology (Joseph V. DePinto).

"Colloid Stability in Natural Waters," Charles C. Feist (M.S.), 61 pp., September 1976, Clarkson College of Technology (James K. Edzwald).

"Effects of Manganese and Iron on Algal Growth in an Adirondack Lake," Robert R. Burns (Ph.D.), 229 pp., May 1977, Clarkson College of Technology (Joseph V. DePinto).

"Investigation of Fish Impingement Processes at the Burlington Generating Station," Scott D. Prill (M.S.), 278 pp., May 1977, University of Iowa (Donald B. McDonald).

"An investigation of Systematic and Quantitative Methods for the Assessment of Environmental Impacts of Aquatic Eco Systems," William D. Liechty (M.S.), 84 pp., July 1976, University of Iowa (Donald B. McDonald).

"Dieldrin Uptake by Fathead Minnows," Randal L. Pohren (M.S.), 91 pp., July 1976, University of Iowa (Donald B. McDonald).

"The Determination of Biochemical Oxygen Demand and the Factors Affecting the Rate Constant on a Section of the Iowa River," James A. Kalina (M.S.), 141 pp., July 1976, University of Iowa (Donald B. McDonald).

"Evaluation of Circulation in Partially Stratified Estuaries as Typified by the Hudson River," Karim A. Abood (Ph.D.), 209 pp., July 1977, Rutgers University (E. L. Bourodimos).

"Wind Effects in Atmospheric Reaeration in a Lake," Drun-Sun Lee (Ph.D.), 225 pp., May 1977. Rutgers University (Shaw L. Yu).

"Dispersion Processes in Circular Open Channel Flows," Aboise Oguntuase (Ph.D.), 403 pp., October 1976, Rutgers University.

"A Numerical Hydrodynamic Assessment of a Stabilization Strategy for an Atlantic Coastal Inlet," Thomas J. Harlukowicz (Ph.D.), 400 pp., January 1977, Rutgers University (Robert C. Ahlert).

"Low Temperature Nitrification Kinetics in the Chowan River Basin of Virginia," Virginia A. Miller, 92 pp., July 1976, VPI&SU (Dinshaw N. Contractor).

"Nitrogen Fixation of Occoquan Reservoir Sediments," Robert W. Stavros, 72 pp., August 1976, VPI&SU (Robert C. Hoehn).

Solid Waste

"Isolation of Bacterial Pathogens from Municipal Solid Waste," Randolph M. Kabrick, 31 pp., November 1976, VPI&SU (Paul H. King).

"A Survey of Hospital Solid Waste Management," Gregory E. Otto, 49 pp., August 1976, VPI&SU (Joseph H. Sherrard).

Water and Wastewater Treatment

"Nitrate Removal From Water Supplies by Ion Exchange: Resin Selectivity and Multicomponent, Chromatographic Column Behavior of Sulfate, Nitrate, Chloride and Bicarbonate," Dennis A. Clifford (Ph.D.), 318 pp., December 1976, University of Michigan (W. J. Weber, Jr.).

"Interactions of Iron With Adsorption on Activated Carbon," Joseph T. Kavanagh III (Ph.D.), 314 pp., May 1977, University of Michigan (W. J. Weber, Jr.).

"Sorption of Poliovirus From Aqueous Solution With Active Carbon," Roger H. Carlson (Ph.D.), 98 pp., August 1976, University of Michigan (W. J. Weber, Jr.).

"Mathematic Modeling of Fixed Bed Adsorber Dynamics - Single and Multicomponents," John C. Crittenden (Ph.D.), August 1976, University of Michigan (W. J. Weber, Jr.).

"Effect of Powdered Activated Carbon on Anaerobic



ASSOCIATION OF ENVIRONMENTAL ENGINEERING PROFESSORS

DIRECTORS

1975 - 1977
George P. Hanna, Jr.
William J. Jewell
Thomas M. Keinath

1976 - 1978
C. P. Leslie Grady, Jr.
N. Bruce Hanes
Gerald A. Rohlich

1977 - 1979
Richard R. Dague
John T. Novak
Charles R. O'Melia

THE BYLAWS OF THE ASSOCIATION OF ENVIRONMENTAL ENGINEERING PROFESSORS

Adopted December 5, 1963

First Amendment October 9, 1967 (Terms of Office)

Second Amendment May 6, 1968

(Affiliate Membership)

Third Amendment May 2, 1972 (Adoption)

Fourth Amendment May 2, 1972

(Emeritus Membership)

Fifth Amendment May 2, 1972 (Board of Directors)

Six Amendment August 1, 1972 (Name Change)

Seventh Amendment February 8, 1977 (Members)

Eighth Amendment February 8, 1977

(Affiliate Membership)

Ninth Amendment February 8, 1977

(Affiliate Membership)

Tenth Amendment February 8, 1977 (Election)

Eleventh Amendment February 8, 1977

(Terms of Office)

ARTICLE I - Name

The name of this organization shall be the ASSOCIATION OF ENVIRONMENTAL ENGINEERING PROFESSORS, hereinafter designed as the Association and abbreviated "AEEP."

ARTICLE II - Objectives

The objectives of the Association shall be:

- 2.01 To strengthen and advance the fields of sanitary engineering, water and air resources, environmental health engineering, and related fields through cooperation of academic personnel associated with these fields.
- 2.02 To present a unified position of questions concerned with natural resources on the local and national levels by the exchange of information and ideas among the membership.

- 2.03 To develop long-range plans concerning education in the fields of sanitary engineering, water and air resources, environmental health engineering, and related fields, and to implement these plans by working with professional and scientific societies and state and federal agencies.
- 2.04 To assist federal and state agencies, through advisory and consultative services, in the development of programs related to the education of personnel in the fields of sanitary engineering, water and air resources, environmental health engineering, and related fields.
- 2.05 To establish policies for the guidance of its members and to assist its members on matters relating to the development of academic and research programs on individual campuses.
- 2.06 To assist its members in achieving their legitimate professional objectives in situations involving governmental agencies, professional societies, and other groups concerned with the planning, development, and management of natural resources.
- 2.07 To establish policy on matters involving the interests of the members and the functions of those pertinent professional and scientific societies in which members have vested interests.
- 2.08 To examine the adequacy of graduate curricula, of entrance requirements and of physical facilities for the purpose of establishing criteria and leading to the betterment of education in the fields noted in the previous paragraphs.
- 2.09 To provide assistance to state professional boards, civil service board, and other groups charged with the licensing and regulation of the sanitary engineering or environmental health engineering professions.
- 2.10 To establish an information service that can keep its members informed on developments in the field of natural resources and related fields at the national and local levels.

- 2.11 To serve as the U.S. organization for international research and educational interest directly related to education and research in the fields of sanitary engineering, water resources, and environmental health engineering.

ARTICLE III - Membership

- 3.01 *Members.* Membership shall be reserved to those of professorial rank in environmental engineering or related programs at educational institutions.
- 3.02 *Emeritus Member.* A former AEEP member who has been active in the Association upon retirement may be nominated by an active member of AEEP for the grade of Emeritus Member. The nomination shall be forwarded to the Board of Directors who shall examine the merits of the case and shall vote on the proposal. Two-thirds of a quorum of the Board shall be required in support of the proposal to elect the nominee to the grade of Emeritus Member. The Emeritus Membership shall continue for the life of the member and all dues will be waived. A suitable certificate shall be presented to the Emeritus Member by the Association.
- 3.03 *Affiliate Membership.* Affiliate membership in the Association shall be available to qualified persons who are ineligible for full AEEP membership as described in Article 3.01, but who are associated with an academic program in sanitary engineering as described in Article 3.01. Affiliate members shall not have voting rights nor shall they be eligible to serve as members of the Board of Directors. Persons included in any of the three following categories are eligible for affiliate membership:
- Individuals who hold or have held, as their principal employment, teaching or research positions associated with environmental engineering programs in academic institutions.
 - Individuals holding positions with outside agencies who also hold academic appointments with environmental engineering programs or who have made recognized contributions to environmental engineering education.
 - Professors in foreign universities who would qualify for membership were it not for their geographical location. Professors from other North American countries, because of their unique opportunities to participate in AEEP activities, shall be eligible for either type of AEEP membership.
- Except for professors from other North Ameri-

can countries, persons eligible for membership are ineligible for affiliate membership.

- 3.04 *Election to Membership.* Eligible academic personnel may become members upon application to the Association and upon payment of the prescribed dues.
- 3.05 *Duration of Membership.* Membership shall be continuous unless terminated by nonpayment of dues, resignation, or change of occupational status.

ARTICLE IV - Dues and Financial Affairs

- 4.01 *Payment of Dues.* For each member, the annual dues to the Association shall be determined by the Board of Directors and shall be payable to the Secretary-Treasurer by 1 February of each year.
- 4.02 Any member whose dues have not been paid by 1 February shall be given notice of such default by the Secretary-Treasurer prior to 1 April. If the dues remain unpaid by 1 July, the person in default shall be deprived of his membership status. He may be reinstated to membership only by paying all dues in arrears and by a unanimous vote of the Board of Directors or a two-thirds vote of the members present at the next annual meeting.
- 4.03 *Control of Funds.* The Secretary-Treasurer shall be responsible for the receipt of dues and other income to the Association, the deposit and custody of such funds, and the payment of proper bills, subject to general fiscal policies prescribed by the Board of Directors and subject also to scrutiny by the Audit Committee.

ARTICLE V - Organization

- 5.01 *Board of Directors.* The affairs of the Association shall be managed by a Board of Directors, referred to herein as the Board, under such rules, policies, and procedures as the Board may determine subject to the specific conditions of the ByLaws and actions of the members at annual or special meetings of the full membership.
- 5.02 *Officers.* The officers of the Association shall be the President, the Vice-President, and the Secretary-Treasurer. All officers shall first be duly-elected Directors.
- 5.03 *Headquarters.* The offices or headquarters of the Association shall be located at the discretion of the President and with the concurrence of the Board.

ARTICLE VI - Board of Directors

- 6.01 The Board of Directors shall consist of nine duly-elected Directors, including the President, Vice-President, and the Secretary-Treasurer as prescribed in Article VII.
- 6.02 **Election.** New Directors of the Board shall be elected by letter ballot by the members. Three Directors shall be elected each year and each Director shall serve for three years. If more than three candidates are nominated, the three receiving the most votes shall be declared elected.
- 6.03 **Terms of Office.** Each Director shall be expected to serve for three years and may be re-elected for a second three-year term. No Director shall serve more than six years.
- 6.04 **Vacancies.** In the event of death or resignation of a Director, the President shall appoint a successor, to fill out the term, subject to confirmation by two-thirds of the Board.
- 6.05 **Meetings.** The Board shall hold its meetings at such times and places as it deems desirable and necessary, provided that a two-thirds majority of the Board concurs.
- 6.06 **Quorum and Action.** At all meetings of the Board, a majority of the Directors serving at that time shall constitute a quorum for the transaction of business. All action shall be by a majority vote of the Directors present and constituting a quorum.
- 6.07 **Proxies.** No Director shall be represented at a Board Meeting or at any other time by a Proxy.
- 6.08 **Duties.** It shall be the duty of the Board of Directors to establish rules, policies, and procedures for conduct of the affairs of the Association, subject to the ByLaws and such action as may be taken by the voting members at annual or special meetings.

ARTICLE VII - Officer

- 7.01 **Designation.** The officers of the Association shall consist of a President, Vice-President, and a Secretary-Treasurer.
- 7.02 **Election.** The officers of the Association shall be elected annually by the then-serving and the Director-elect Board from among the Directors to serve during the term of office of the Officer being elected, under such procedures as the Board may determine. Vacancies arising from death or resignation shall be filled in a similar fashion.
- 7.03 **Terms of Office.** The officers shall be limited to two one-year terms in each office during a six-year period.

- 7.04 **Removal from Office.** Any officer may be removed from office at any time by a two-thirds vote of a quorum of the Board of Directors at an assembled meeting of the Board.
- 7.05 **Duties of the President.** The President shall have general supervision of the affairs of the Association. He shall preside at all meetings of of the Association and meetings of the Board; see that all orders and resolutions of the Board and Association are executed; sign, execute, and deliver all contracts, policy statements, and other instruments authorized by the Board or Association; countersign checks when the Secretary-Treasurer is unable to do so; appoint all committees subject to confirmation by the Board; and perform all other duties normally incident to this office or specifically assigned by the Board.
- 7.06 **Duties of the Vice-President.** The Vice-President shall assist the President in the performance of his duties and shall act for the President in his absence or inability to act. When so acting, he shall have all the powers of, and be subject to all restrictions upon, the President.
- 7.07 **Duties of the Secretary-Treasurer.** The Secretary-Treasurer shall:
- (a) Keep the minutes of meetings of the Association and meetings of the Board,
 - (b) Be custodian of all contracts and documents of the Association and of its official records,
 - (c) Maintain membership records,
 - (d) Handle all correspondence and affairs normally incident upon the Office of Secretary;
 - (e) Perform such additional duties as may be assigned to him by the Board,
 - (f) Have charge and custody of, and be responsible for all funds and valuable effects of the Association; receive and given receipts for moneys due or receivable by the Association; deposit all such moneys to the credit of the Association, or otherwise dispose thereof as the Board or President shall direct; cause such funds to be disbursed by check or drafts signed by the Secretary-Treasurer or the President; and be responsible for the accuracy of the amounts of and preserve proper vouchers for all money so disbursed,
 - (g) Render to the Board quarterly accounts of the financial condition of the Association,
 - (h) Submit all financial records annually to the Audit Committee, and
 - (i) In general, perform all duties incident to the offices of Secretary-Treasurer.

ARTICLE VIII - Meetings

- 8.01 *Annual Meeting.* An annual meeting of the members of the Association shall be held at a time and place designated by the Board.
- 8.02 *Special Meetings.* Upon a majority vote of the Board or upon petition by at least one-third of the members of the Association, a special meeting of the full Association will be held.
- 8.03 *Date and Place.* The date and place of the annual meeting or any special meeting shall be announced to the entire membership at least 30 days in advance and any notice for change in the meeting must be given at least 30 days in advance.
- 8.04 *Quorum.* At all meetings of the full Association, a majority of the Directors of the Board and at least one-third of the members shall be required to constitute a quorum.
- 8.05 *Proxies.* No proxies for the Directors or for the members shall be authorized.

ARTICLE IX - Committees

- 9.01 *Appointment.* All committees shall be appointed annually by the incoming President and approved by the Board. Each committee shall have a chairman and a vice-chairman.
- 9.02 *Nominating Committee.* There shall be a Nominating Committee consisting of three members, at least two of whom shall not be active Directors. The Nominating Committee shall report at the annual meeting of the full membership and shall nominate at least six members for the vacancies on the Board. No person shall be nominated from an institution which already has a member who will serve concurrently with the nominee and there shall be no more than one nominee from any school.
- 9.03 *Audit Committee.* There shall be an Audit Committee comprising of three members, none of whom may be active Directors. It shall be responsible for an annual audit of the financial books and other records of the Association. It shall also serve in the role of Teller for elections.
- 9.04 *Education Committee.* There shall be an Education Committee comprising of five members, of whom not more than two may be Directors. This Committee shall consider all matters relating to academic affairs and make appropriate recommendations to the Board for action by the Association.
- 9.05 *Research Committee.* There shall be a Research Committee consisting of five members, of whom not more than two may be Directors.

This Committee shall consider all aspects of sponsored and non-sponsored research at academic institutions and make recommendations to the Board for appropriate action by the Association.

- 9.06 *Legislative Analysis Committee.* There shall be a Legislative Analysis Committee comprising of five members of whom not more than two may be Directors. This Committee shall review all federal legislation (and such state legislation as may be brought to its attention) that may have an impact on the sanitary engineering profession. It shall make prompt and frequent reports to the President and the Board in order that fast effective action may be taken to protect the interests and objectives of the Association.
- 9.07 *Committee on Eligibility.* There shall be a Committee on Eligibility comprised of five members of whom not more than three may be Directors. This committee shall pass on the eligibility of applicants referred to it by the President or Secretary-Treasurer.
- 9.08 *Other Committees.* The Board may establish such other committees, on a temporary or permanent basis, as it deems necessary for the effective conduct of the Association's affairs.

ARTICLE X - Amendments

- 10.01 *Intitlon.* Proposed amendments to these By-Laws may be submitted by any member to the Board of Directors and it shall be considered at one of its assembled meetings.
- 10.02 *Adoption.* Proposed amendments to these ByLaws must be approved by a two-thirds vote of a quorum of the Board and this approval must be confirmed by a two-thirds vote of a quorum of the full membership at an annual or special meeting or by mail ballot. Amendments shall take effect immediately upon adoption.

"Digestion of Sewage Sludge," Richard Spencer (M.S.), 100 pp., August 1976, University of Washington (John Ferguson).

"The Influence of Initial Mixing on the Efficiency of Aluminum Phosphate," Cornelius J. Marx (M.S.), 134 pp., August 1976, University of Washington (John Ferguson).

"Substrate Utilization by Activated Sludge During Transient Loading of Phenol and Glucose," John Wilson-Van Osdel (M.S.), 140 pp., December 1976, University of Washington (John Ferguson).

"Appraisal of Watercraft Impacts on Municipal Wastewater System," Steven Lellilid (M.S.), 119 pp., March 1977, University of Washington (John Ferguson).

"An Investigation of Calcium Phosphate and Magnesium Ammonium Phosphate Precipitation in Wastewater Treatment," Ronald L. Horres (M.S.), 160 pp., December 1976, University of Washington (Dale A. Carlson).

"Disinfection of Treated Landfill Leachate Using Sodium Hypochlorite," Chongrak Polprasert (Ph.D.), 186 pp., December 1976, University of Washington (Dale A. Carlson).

"Thermophillic Anaerobic Digestion of a Strong Complex Substrate," Henning H. Therkelsen (Ph.D.), 197 pp., December 1976, University of Washington (Dale A. Carlson).

"Sequential Wastewater Treatment by Naturally Selective Populations," George Wiegele (M.S.), 89 pp., June 1976, University of Missouri-Rolla (Dr. D. E. Modesitt).

"Competitive Adsorption of Organics by Activated Carbon," Charles Steffins (M.S.), 101 pp., February 1977, University of Missouri-Rolla (Dr. J. C. Huang).

"Removal of Organic Chemical Contaminants by Granular Activated Carbon," Garry Aronberg (M.S.), 93 pp., May 1977, University of Missouri-Rolla (Dr. S. G. Grigoropoulos).

"Study of Settling Characteristics of Physical-Chemical Floccs in Sedimentation," Andrew Tay (Ph.D.), 219 pp., December 1976, University of Toronto (Gary W. Heinke).

"Flocculation Parameters for Chemically Treated Raw Sewage," Derek Eliot (M.A.Sc.), February 1977, University of Toronto (Gary W. Heinke).

"Biological Denitrification With and Without Carbon Addition," Hesham Sabra (M.A.Sc.), 99 pp., April

1977, University of Toronto (Philip H. Jones).

"Sulfide Generation in Experimental Filled Pipes," Muthiah Mariappan (Ph.D.), 164 pp., July 1976, University of Missouri-Rolla (Dr. J. C. Huang).

"Aerobic Digestion of Sewage Lime Sludge," Kuo-Chun Tsai (Ph.D.), 250 pp., April 1977, University of Missouri-Rolla (Dr. J. C. Huang).

"The Removal of Humic and Fulvic Acids by Coagulation and Direct Filtration," James W. Boak (M.S.), 79 pp., September 1976, Clarkson College of Technology (James K. Edzwald).

"The Removal of Humic Acid by Adsorption on Granular Activated Carbon," John A. Schenne (M.S.), 58 pp., May 1977, Clarkson College of Technology (Paul A. Jennings).

"Coagulation of Humic Acid in the Presence of Clays," Joseph J. Stulb (M.S.), 63 pp., June 1977, Clarkson College of Technology (James K. Edzwald).

"Nitrogen Impact of Anaerobic Digester Supernatant Recycle," Stanley J. Keely (M.S.), 168 pp., December 1976, University of Iowa (Wayne L. Paulson).

"Suppression of Chloroform Formation By Precursor Removal with Macroporous Resins," Stephen J. Evans (M.S.), 62 pp., December 1976, University of Iowa (Lee D. McMullen).

"Bacteriological Studies of High pH Stabilization of Primary Wastewater Sludge," John N. Veenstra (M.S.), 76 pp., December 1976, University of Iowa (Richard R. Dague).

"The Optimization of Water Treatment Unit Processes for the Removal of Trace Organic Compounds With an Emphasis on the Adsorption Mechanism," Michael J. McGuire (Ph.D.), 414 pp., June 1977, Drexel University (I. H. Suffet).

"Effect of Design on the Economy of Aerobic Digestion," Otto Body (M. Eng.), 143 pp., December 1976, University of Toronto (Jerzy Ganczarczyk).

"The Effects of Lime Softening Sludge on Treatment of the Liquid Stream at the Iowa City Wastewater Treatment Plant," Rodney R. Richardson (M.S.), 70 pp., July 1976, University of Iowa (Lee D. McMullen).

"High-Lime Treatment of Combined Primary Wastewater and Chemical Water Softening Sludges," Ted W. McKim (M.S.), 95 pp., May 1977, University of Iowa (Richard R. Dague).

Study of Settling Characteristics of Physical-Chemical Floccs in Sedimentation Tanks," Andrew Tay (Ph.D.), 219 pp., November 1976, University of Toronto (Gary W. Heinke).

"The Effects of Transcient Ammonia Loadings on Nitrofication in a Rotating Fixed Film Biological Disc Reactor," Abdulgader A. Abu-Fayed (M.S.), 108 pp., July 1976, University of Iowa (Wayne L. Paulson).

"Aerobic Digestion of Waste Activated Sludge," Brian Trim, 180 pp., October 1976, University of Kansas (Ross E. McKinney).

"A Bacteriological Evaluation of Home Activated Carbon Filters," Norma Sandberg, 78 pp., May 1977, University of Kansas (Carl E. Burkhead).

"The Effects of Selenium Upon the Growth and Locomotion of *Tetrahymena Pyriformis*," Arthur Tip-pit, 81 pp., May 1977, University of Kansas (Ross E. McKinney).

"The Effects of pH and Exposure Time on the Bactericidal Efficiency of Bromine Chloride Against *Streptococcus faecalis*," Joanne C. Chance, 85 pp., August 1976, VPI&SU (Robert C. Hoehn).

"Heavy Metal Removal Efficiency of Two Conventional Sewage Treatment Facilities," Wayne M. Coppel, 104 pp., July 1976, VPI&SU (Paul H. King).

"Effectiveness of Water Treatment Methods for Removal of Haloforms and Their Precursors," Robert P. Goode, 135 pp., March 1977, VPI&SU (Robert C. Hoehn).

"Activated Carbon Adsorption of Various Components of Municipal Wastewater," Glenn J. Kuntz, 54 pp., September 1976, VPI&SU (J. H. Sherrard).

"Effectiveness of Ozone Against *Salmonella typhi-murium*," Robert P. Newman, 46 pp., September 1976, VPI&SU (Robert C. Hoehn).

"Aerobic Batch Treatment of Various Wastewaters," Charles S. Armentrout, 70 pp., August 1976, VPI&SU (J. H. Sherrard).

"Field Study of Performance of a Contact Aeration Sewage Treatment Plant," Wayne A. Devan, 47 pp., November 1976, VPI&SU (Paul H. King).

"Dewatering Properties of Coagulant Aided Primary Sludges," Robert D. Hazelwood, 72 pp., August 1976, VPI&SU (Paul H. King).

"The Effect of Hydraulic Detention Time and Substrate Concentration on Activated Sludge Re-

sponse," Kenneth M. Krupa, 69 pp., November 1976, VPI&SU (Clifford W. Randall).

"Field Study of the Chlorine Oxidation of Sewage Sludges," Edgar T. Rose, 48 pp., January 1977, VPI&SU (Paul H. King).

"Coagulation Study of a Bound Water Bulked Sludge," James Holland Scott, III, 102 pp., November 1976, VPI&SU (Clifford W. Randall).

"A Comparison of Oxygen Utilization Determination Techniques for the Activated Sludge Process," Warren Michael Stallard, 67 pp., September 1976, VPI&SU (Clifford W. Randall).

"Conditioning and Dewatering of Sludges Resulting from Tertiary Removal of Phosphorus," Arnold R. Tilley, 72 pp., August 1976, VPI&SU (Paul H. King).

"Influences of the COD:TKN on Alkalinity Destruction in the Completely Mixed Activated Sludge Process," Robert Benninger, 80 pp., September 1976, VPI&SU (Joseph H. Sherrard).

Water Management

"A Supplement to Initial Planning of Storm Water Management Models for Analysis of Real-time Control Alternatives," Raffi Bedrosyan (M.A.Sc.), 250 pp., December 1976, University of Toronto (Jerzy Ganczarczyk).

"Formulation of a New Water Quality Index Mechanism," Brett Ibbotson (M. Eng.), 131 pp., November 1976, University of Toronto (Barry J. Adams).

"Common Properties and Limitations of Some Structural Modeling Techniques," Dennis B. Cearlock (Ph.D.), 87 pp., May 1977, University of Washington (Robert O. Sylvester).

"Assessment of Impacts Induced by Public Projects - A Case Study Exploration," Mark H. Bluestein (M.S.), 171 pp., February 1977, Colorado State University (David W. Hendricks).

"Water for Industry in the South Platte Basin," James L. Patterson (M.S.), 264 pp., May 1977, Colorado State University (David W. Hendricks).

"Environmental Intangibles in Resource Planning with Special Reference to Endangered Species," Theodore Elkin, 83 pp., August 1976, VPI&SU (Paul H. King).

"The Predicted Impact of the Shawsville Sewage Treatment Plant on the South Fork Roanoke River," Neil A. Obenshain, 97 pp., August 1976, VPI&SU (Robert C. Hoehn).

"Survey of State Programs and Attitudes on Regionalization for Public Water Systems," Frank Homerosky, Jr., 97 pp., June 1976, VPI&SU (Clifford W. Randall).

PUBLICATION OF THESIS TITLES

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Format

"Title of Paper," Name of Author (Ph.D. or (M.S.), X pp., Month Year, Name of University (Name of Faculty Advisor).

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Submit by August 14, 1978 to:
Editor, AEEP Newsletter

CRITERIA AND PROCEDURES FOR HOLDING INTERNATIONAL ASSOCIATION ON WATER POLLUTION RESEARCH SPONSORED SPECIALIZED CONFERENCES AND MEETINGS IN THE UNITED STATES

Prepared by the United States of America
National Committee

Any regional or specialized conference held in the United States must, of course, abide by the guidelines adopted by the Governing Board of the IAWPR [*Water Research*, 7, 1109 (July 1973)]. In addition, the following criteria and procedures apply to any conference, meeting, symposium, etc., to be held in the United States for which IAWPR is listed as the sole or a participating sponsor. The only exception

is the established series of biennial international conferences.

CRITERIA

1. Any proposed conference to be held in the U.S. must have a well defined and identifiable research orientation. The subject of the conference shall be pertinent to the current water pollution research activities and interests in the U.S. At the same time, the quality of the program of the proposed conference shall be consistent with the expectations of IAWPR and USANC.
2. The conference shall cover a subject and include topics for which appreciable research information and expertise resides outside the U.S. At least one-third ($\frac{1}{3}$) of the proposed speakers shall be from countries other than the U.S.
3. The subject of the conference shall be of sufficient research interest throughout the world to ensure that at least 20 percent of the registrants will be from outside the U.S.
4. The subject of the conference shall not duplicate the theme of any conference or meeting of a sponsoring organization of USANC held during the previous year nor conflict with one anticipated during the year following the proposed IAWPR sponsored conference. Scheduled meetings covering the same subject planned by other organizations should be avoided with respect to the same timing if there appears to be serious overlap.
5. The dates of the proposed conference shall not conflict with the dates of any scheduled meeting of a sponsoring organization of USANC. Desirably, there should be as much time as possible between the dates of the proposed conference and the meetings referred to above and any other significant meeting.

PROCEDURE

1. A proposal covering the conference in question shall be submitted to USANC for approval at least one (1) year before the date of the proposed conference and *before* any formal request is forwarded to IAWPR.
2. The proposal shall address the items covered under "Criteria" given above and include as much documentation and assurance as possible.
3. In addition, the proposal must include the usual information relative to the organizational structure, e.g., planning committee, physical facilities, dates of the conference, etc.
4. A tentative program for the proposed conference, along with anticipated speakers, shall be included as an important part of the proposal.
5. The proposal must include a tentative budget and a description as to how the financial mat-

Application for Membership
in the
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Lafayette, IN 47907

Enclosed are my AEEP dues in the amount of: \$_____.

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