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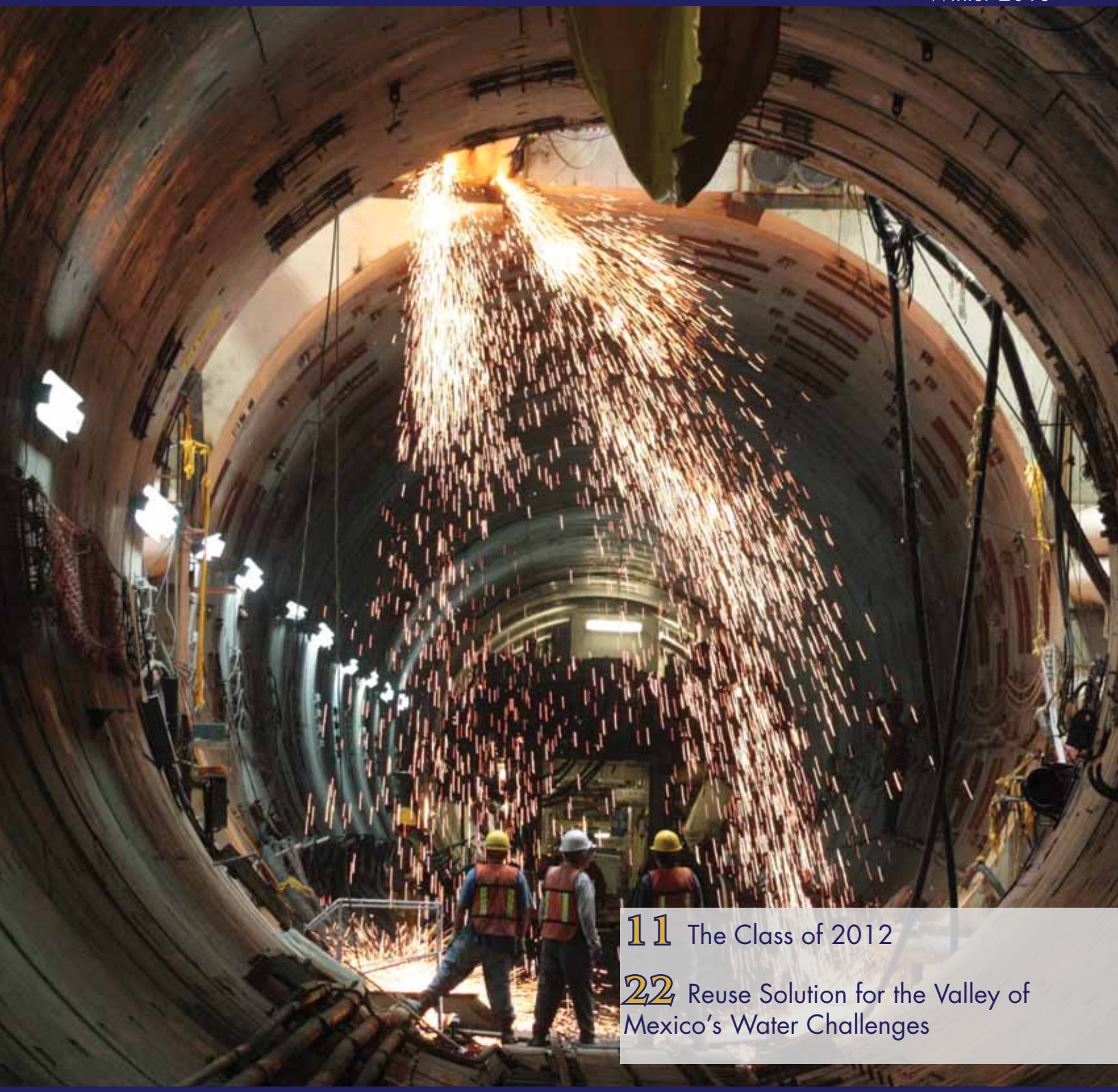

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News and Features

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PRESIDENT'S PAGE

Pasquale S. Canzano, P.E., BCEE
psc@dswa.com

The Spirit of Volunteerism

As my first official action, I welcome our new Board members who were installed at the Academy's Annual Board of Trustees meeting held in Costa Mesa, California, in November 2012. I look forward to working with you to build on the momentum generated in the past year on new programs such as the Board Certified Environmental Scientist (BCES) certification as well as infusing new life into others. For starters, the Academy's new official name is the American Academy of Environmental Engineers and Scientists (AAEES) with a new website address at www.aaees.org. I invite you to take a few minutes to visit us and become familiar with the Academy's programs and committees.

Four areas of special interest to me in the coming year will deal with the:

(1) International Relations Committee
(2) Academy's State Representatives
(3) Diversity Task Force, and
(4) Tau Chi Alpha

Lastly, the overlay on all of the above will be to continue progress in our efforts to meet all the goals of the Academy's Strategic Plan and Marketing Plan.

The International Relations Committee (IRC) chaired by Kirankumar Topudurti, Ph.D., P.E., BCEE, has been energized by his desire to initiate a pilot certification program in India. I look forward to working with Kumar to get this program off the ground with an eye to our colleagues in Taiwan, Korea, and China, depending on the success of the pilot program. I view broadening Board Certification of our international colleagues as an exciting new horizon to further sustain the Academy's membership growth while expanding our networking capability worldwide. Please contact Kumar at topudurti@gmail.com if you are interested in working on the IRC.

Our State Representatives (SR) are the unsung heroes who administer the certification examinations. In addition, they provide a point of contact within their states for AAEES. I applaud their service and dedication to the Academy. In my discussions with the SRs over the past two years, I've learned that many of them have dutifully served for several years without respite. Therefore, I will encourage our SRs to each consider a succession plan with the intent to mentor young members of AAEES as assistants and potential successors.

The Academy's Diversity Task Force (DTF) needs to be reestablished. I have committed to work with our Executive Director Joe Cavarretta to have this important effort mobilized. The Academy prides itself on having a diverse membership of gender, races, and cultures spanning the world. The major goal of the DTF is to provide AAEES with a plan to achieve greater diversity in the Academy's membership and the BOT. For example, we need to reach out to potential sponsoring organizations such as the National Society of Women Engineers, the National Society of Black Engineers, and the National Society of Hispanic Professional Engineers. I encourage you to contact Joe Cavarretta at jcavarretta@aaees.org, if you are interested in becoming a member of the DTF.

The Academy has been involved with Tau Chi Alpha (TXA) the Environmental Engineering Honor Society since it was established at Manhattan College in 1996. We always hear how the youth are our future and this is certainly applicable to the environmental engineering students who will be graduating this year and adding to our professional ranks. Tau Chi Alpha recognizes the scholastic accomplishments of top students in both graduate and undergraduate studies as well as achievements in the environmental engineering profession. The Academy promotes student membership in AAEES and will help students form a Tau Chi Alpha Honorary Chapter. Under the tutelage of WEF Board of Trustee Jeanette A. Brown P.E., BCEE, and a Past President of AAEE, the Academy's TXA group will be more proactive in its efforts to promote awareness of TXA and provide assistance to universities and colleges interested in forming chapters. If you are interested in being a member of AAEES' TXA Group or wish to form a TXA Chapter, please contact Jeanette at jbrown421@optonline.net.

In closing, I am honored and consider it a privilege to be the Academy's President this year. With your help and support, I am also excited about the prospects of what can be achieved in the coming year not only in the areas already mentioned, but in the various committees and, hopefully, through new initiatives inspired by our environmental scientist colleagues. Therefore, I urge you to embrace the spirit of volunteerism and become involved in the Academy's several committees and other activities. Please visit our website at www.aaees.org or contact Joe Cavarretta at jcavarretta@aaees.org for more information and, as always, I welcome comments and suggestions at psc@dswa.com.

With your help and support, I am also excited about the prospects of what can be achieved in the coming year not only in the areas already mentioned.

ACADEMY NEWS

Notice of 2014 BOT Nominees

Following is the 2014 Notice of Nominees for Board of Trustees. Full profiles will be available in the Spring issue of *Environmental Engineer and Scientist*.

President-Elect

James F. Stahl, P.E., BCEE
Vice President/Senior Technical Advisor
MWH Americas, Inc.

Vice President Candidates

Howard B. LaFever, P.E., BCEE
Principal
GHD

R. Tim Haug, Ph.D., P.E., BCEE
Retired

Trustee-at-Large Candidates

David A. Chin, Ph.D., P.E., BCEE
Professor
University of Miami

Jeffrey H. Greenfield Ph.D., P.E., BCEE
Senior Engineer
South Florida Water Management District

Sandra L. Tripp, P.E., BCEE
Senior Project Manager
GHD

Wendy A. Wert, P.E., BCEE
Environmental Engineer
Sanitation Districts of LA County

The New Year Brings New Changes

On January 1, 2013, American Academy of Environmental Engineers officially became the American Academy of Environmental Engineers and Scientists. In addition to the new website (http://www.aaees.org), below is a list of other changes.

- The AAEES quarterly *Environmental Engineer* is now *Environmental Engineer and Scientist*
- *Who's Who in Environmental Engineering* is now *Who's Who in Environmental Engineering and Science*
- *Environmental Engineering Selection and Career Guide* is now *Environmental Engineering and Science Selection and Career Guide*
- Excellence in Environmental Engineering is now Excellence in Environmental Engineering and Science

New lapel pins, shirts, and other Academy items will soon be available in the AAEES Center.

Committee Appointments

2013 President Pasquale S. Canzano has finalized committee appointments for the Academy's next program year (January 1 to December 31) and appointment letters were mailed to those newly appointed this year. Following is a list of those who will chair the Academy's committees:

- Audit Committee - Richard P. Watson
- Awards Committee - Michael W. Selna
- Honorary Member Selection Sub-Committee - Michael W. Selna
- Brewster Snow Student Selection Committee - James R. Mihelcic
- Bylaws, Policies & Procedures Committee - Stephen G. Lippy
- Admissions Committee - Sandra L. Tripp
- Certification by Eminence Committee - Cecil Lue-Hing
- Membership, Development & Outreach Committee - Michael W. Selna
- Re-Certification Committee - Lisa Woodward
- Development & Upgrading of Examinations - Robert H. Gilbertsen
- Air Pollution Control Committee - David A. Weeks
- Environmental Sustainability Committee - Brian P. Flynn
- General Environmental Engineering Committee - Clement B. Potelunas, Jr.
- Hazardous Waste Management Committee - James D. Fitzgerald
- Industrial Hygiene Committee - Frederick W. Boelter
- Radiation Protection Committee - Ronald L. Kathren
- Solid Waste Management Committee - Robert B. Gardner
- Water Supply and Wastewater Committee - Jeffrey H. Greenfield
- Engineering Education Committee - David A. Chin
- Excellence in Environmental Engineering Committee - David M. Gaddis
- Finance Committee - Howard B. LaFever
- International Relations Committee - Kumar Topudurti
- K-12 Committee - Richard J. Pope
- Nominating Committee - Michael W. Selna
- Planning Committee - C. Hunter Nolen

continued on page 27

PIONEERS IN EDUCATION

James Hunt, Ph.D., P.E., BCEE
Slawomir W. Hermanowicz, Ph.D.

Robert Earl Selleck
University of California, Berkeley
1926-2011

Robert Selleck played a critical if quiet role in the transformation of the sanitary and environmental engineering program within the Department of Civil Engineering at UC Berkeley. His contributions in teaching were long remembered by students and colleagues through his insistence on rigorous analysis of fundamental processes and his reverence for carefully collected experimental data. His individual attention directed at students set high standards leading to general fearlessness in approaching challenges in water quality engineering.

Dr. Selleck was born in Chagrin Falls, Ohio, on October 10, 1926. He graduated from high school in 1944, served briefly in the military, and then attended the Case Institute of Technology (BS Civil Engineering in 1951). He remained at Case until 1956 having served as an instructor and completing the MS degree.

Dr. Selleck enrolled in the PhD program at UC Berkeley in 1956. Given his prior college level teaching experience, he played a critical role in upper division and graduate level teaching in sanitary engineering. His PhD research was part of the most influential study of water pollution in San Francisco Bay. Pollution within estuaries where mixing processes were complicated by tidal action and river discharges were poorly understood. Selleck's contributions were to quantify the mixing in San Francisco Bay through tracer techniques and a rigorous approach to wastewater sources and mixing rates. He completed his thesis in 1961, following a one year internship in Rio de Janeiro, where he successfully applied his tools and techniques to coastal waters.

In Fall 1961, he started as an assistant professor in the Sanitary Engineering Program within the Department of Civil Engineering at UC Berkeley. His teaching contributions were broadly based in water resources, sanitary engineering, design, hydraulic measurements, process engineering theory and laboratory, and advanced reactor engineering. What characterized those courses were an emphasis on theory, application of engineering analysis, and collection and analysis of experimental data. Dr. Selleck's background in fluid mechanics and mixing brought new insights into the research efforts. He had a common approach of picking an important problem; understanding the limitations in the literature; undertaking careful experimental measurements; and then integrating the measurements into a model that could be extended at the field scale.

Research on marine pollution was continued by focusing on contaminant accumulation at the air-water interface, originally addressed during his stay in Rio de Janeiro. The sampling efforts were deployed at coastal wastewater outfalls in California to quantify the benefits associated with advanced treatment systems coupled with new ocean outfall designs.

In the early 1970s, Dr. Selleck and his research students examined treatment systems for elimination of wastewater toxicity of industrial wastes. These studies introduced the concepts of kinetic modeling of toxicity along with continuous biological monitoring. During this period his research expanded to include surface chemistry and particle aggregation in new mixing regimes with stronger coagulants. At the same time, Dr. Selleck initiated research on wastewater chlorination. The research led to better understanding of chlorine reactions in wastewater and to improved design of disinfection reactors. The research program questioned conventional wisdom and backed up that analysis with experimental data and mechanistic modeling.

In the 1980s, Dr. Selleck's research included studies of interfacial mass transfer in the treatment of emerging contaminants. Reverse osmosis was evaluated for the treatment of known and suspected contaminants in agricultural drainage. Membrane reactors were investigated for waste streams from oil shale. Full scale analysis of aeration tower performance for volatile contaminant removal identified the importance of non-ideal mixing. A final research effort addressed the problem of synthetic organic contaminant transport through plastic pipe driven by observations that soil contamination compromised drinking water.

Dr. Selleck shared the 1971 Rudolph Hering Medal of the Sanitary Engineering Division of the American Society of Civil Engineers with an advisee for the most valuable contribution to the profession that year. In 1976, his doctoral advisee won an award for the best PhD dissertations from the American Water Works Association, and, in 1978, another of his students received a best thesis award from the Association of Environmental Engineering Professors (now the Association of Environmental Engineering and Science Professors). Individually, Dr. Selleck received the 1962 Prize Medal for a paper presented at the VII Congress of Inter-American Association of Sanitary Engineers for his work on marine pollution in Rio de Janeiro. In 1980, he was awarded a certificate of appreciation for service to the National Environmental Engineering Division conference by the American Society of Civil Engineers.

Above all else, Dr. Selleck was extremely proud of the accomplishments of his PhD students. He had a unique personality that was reserved and modest but demanding in honesty and rigorous analysis. His advisees found to their amazement his full engagement in their research at every step. While the scope of the research accomplishments are broad, the approach always included his attention to detail, but was combined with spilt coffee, an inability to find an ashtray, and devotion to his cat. If you were fortunate enough to gain his respect, you were awarded the classification of "a process man," even if the gender-specific terminology had long since passed from common usage. The University of California is a stronger place for the contributions made by Dr. Robert Selleck. A

MEMBER NEWS

Awards and Recognition

Joseph G. Cleary, P.E., BCEE, was presented with the Industrial Water Quality Lifetime Achievement Award at WEFTEC 2012. Mr. Cleary, chairman of WEF's Industrial Waste Committee, was honored for his position as an industry leader. In his 40-year career, he has worked to solve problems associated with the treatment, permitting and management of industrial wastewater, water reuse, and energy recovery. He has been a Board Certified Environmental Engineer in Water Supply and Wastewater since 2002.

Richard R. Roll, P.E., BCEE, was selected to receive the 2012 Environmental Engineer Award from the New York Water Environment Association (NYWEA). The award recognizes an Association member who has made a significant impact in the area of environmental engineering and management, and has demonstrated a long-term commitment and outstanding contributions in the environmental engineering field. Mr. Roll currently serves as the Director of Technical and Regulatory Services for the Niagara Falls Water Board. He has been a Board Certified Environmental Engineer in Water Supply and Wastewater Engineering since 1992.

Z. Michael Wang, Ph.D., P.E., BCEE, was selected to deliver the keynote address at the International Forum on the Development of Water Industry. His topic was on utilizing geographic information systems (GIS) and GIS-assisted computer modeling to evaluate water quality in distribution systems. The forum, co-sponsored by the China Yixing Environmental Protection Science and Technology Industrial Park and the Tsinghua University School of Environment, took place on November 6, 2012, in Yixing, China. Dr. Wang is Vice President of Hazen and Sawyer (Raleigh, NC) and an Adjunct Associate Professor at North Carolina State University. He has been a Board Certified Environmental Engineer in Water Supply and Wastewater Engineering since 1998.

On the Move

Saud Cisic, P.E., BCEE, has been promoted to Senior Vice President and Brazil Country Manager of Parsons Corporation from his previous position as Vice President and Program Director focused on international work. He has been a Board Certified Environmental Engineer in Water Supply and Wastewater Engineering since 2009.

W. David Constant, Ph.D., P.E., BCEE, has been named head of the Department of Biological and Agricultural Engineering, a joint position shared between the LSU AgCenter and the LSU College of Engineering. Dr. Constant, who was most recently dean of the LSU Graduate School, has been on the LSU faculty since 1984 and holds the Humphreys T. Turner Professorship in the Department of Civil and Environmental Engineering. He has been a Board Certified Environmental Engineer in Hazardous Waste Management since 2005.

Raymond A. Ferrara, Ph.D., BCEEM, has joined Kleinfelder in San Diego as Vice President. The new role follows the firm's acquisition of New Jersey-based Omni Environmental, LLC. Dr. Ferrara has been a Board Certified Environmental Engineering Member in Water Supply and Wastewater Engineering since 2010.

Joseph F. Malina, Jr., Ph.D.,P.E., BCEE, has retired from the University of Texas at Austin as of August 31, 2012. Dr. Malina had served the university for more than twenty years, beginning in 1961 as an assistant professor. In 1970, he assumed the rank of professor, a position he held until his retirement. From 1976 to 1988, he served as department chair and was instrumental in overseeing the growth of the department from 41 tenure-track faculty members in 1976 to 51 in 1987. Annual research expenditures increased from approximately $2 million to over $5 million, and graduate enrollment increased from 250 students to 360. Dr. Malina has been the recipient of a number of awards honoring his accomplishments, including the 2012 AAEES Edward J. Cleary Award. He is currently a Trustee-at-Large and a Life member of AAEES. Dr. Malina has been a Board Certified Environmental Engineer in Sanitary Engineering since 1972.

Certification Status Updates

Douglas Borgatti, Ph.D., P.E., BCEE, has been reinstated as board certified in Water Supply and Wastewater Engineering. Dr. Borgatti, President with Springfield Water & Sewer Commission (Agawam, MA) was originally board certified in 1989.

Marc Drainville, P.E., BCEE, LEED, was board certified in a second specialty, Environmental Sustainability. Mr. Drainville, Senior Project Manager with GHD (Hyannis, MA) has been board certified in Water Supply and Wastewater Engineering since 2004.

Newton Green, II, P.E., PMP, BCEE, was board certified in a second specialty, Environmental Sustainability. Mr. Green, Senior Sustainability Engineer with Rochester Midland Corporation (Rochester, NY) has been board certified in Air Pollution Control Engineering since 1997.

Jeffrey Greenfield, Ph.D., P.E., BCEE, was board certified in a second specialty, Environmental Sustainability. Dr. Greenfield, Senior Engineer with South Florida Water Management District (West Palm Beach, FL) has been board certified in Water Supply and Wastewater Engineering since 1999.

Elfatih Salim, P.E., BCEE, was board certified in a second specialty, Environmental Sustainability. Mr. Salim, Senior Engineer III with Fairfax County DPWES (Fairfax, VA) has been board certified in Water Supply and Wastewater Engineering since 2007.

IN MEMORIAM

Ralph Graber, P.E., BCEE
1917 - 2012
Former AAEES Executive Director

Ralph C. Graber, P.E., BCEE, a 34 year resident of Annapolis, died December 27, 2012, at Anne Arundel Medical Center.

Mr. Graber was a native of Collegeville, PA, and received his B.S. degree in Sanitary Engineering from Penn State in 1940, and his M.S. in Sanitary Engineering from Harvard in 1947.

After a brief time with the Pennsylvania Railroad, he was commissioned as an engineer officer in the U.S. Public Health Service (1941). He served first in the extra-containment areas of South Texas and later with the Navy. During World War II, the USPHS Commissioned Corps was put in the Armed Forces (until 1952).

During his 30 years with USPHS, he had a variety of assignments: detail to the Texas State Department of Health; direction of environmental programs at the regional level in New York, New Orleans, and Chicago; detail as Chief Sanitary Engineer, U.S. Operations Mission to Mexico (IIAA-ICA); eight years in supervisory capacities in the initial Federal air pollution program (ultimately as assistant Chief of the Division of Air Pollution); Deputy Chief, Division of Commissioned Officers (Personnel); and overall coordinator of national programs concerned with environmental manpower utilization, training grants, and short course training.

Following his retirement from USPHS in 1971, he spent several years as Assistant Director for Federal Affairs of the University of Texas system. He then joined the Department of Environmental Protection of Montgomery County, MD, as a division chief, until 1978 when he moved to Annapolis to enjoy sailing and travel.

Effective January 1, 1982, he became Executive Director of the American Academy of Environmental Engineers and Scientists. He retired from his post on July 1, 1984.

"I took the position originally with the understanding that the tenure could be limited," he stated in the Spring 1984, issue of *The Diplomate*. "AAEE has become involved with a number of new activities since I took office and there are more in various states of development. At this stage of my life, however, I would like more time for sailing (an Annapolis avocation) and travel. I believe strongly in the objectives of the Academy and it was my pleasure to have served it."

He has been a member of numerous associations and earned membership in Chi Epsilon and Tau Beta Pi while at Penn State.

He was a registered professional engineer. Ralph was a member of the Annapolis Yacht Club, New Providence Club, the Sons of the American Revolution, the Civitan's Club and the Masonic Lodge in Collegeville.

Mr. Graber was a Life Member and had been a Board Certified Environmental Engineer in Sanitary Engineering since 1957.

Andrew W. Loven, Ph.D., P.E., BCEE
1935 - 2012

Contributed by John H. Koon, Ph.D., P.E., BCEE, Timothy G. Shea, Ph.D., P.E., BCEE, and David Burstein, P.E.

Andrew (Andy) Loven died on December 6, 2012, in Atlanta following surgery related to lung cancer. Since 1995, Andy had been president of Millennium Science & Engineering, Inc. which he founded with Mel Hockenbury, who predeceased him. Prior to forming Millennium, Andy was president of Engineering-Science, Inc. (E-S), which was acquired by the Parsons Corporation in 1981.

Dr. Loven grew up in the mountains of western North Carolina (Linville) and attended Crossnore School, where his mother was a teacher. Andy was named for his father who died several months before he was born. His middle name, Witherspoon, came from an ancestor who was one of the signers of the Declaration of Independence. Following high school, Andy attended and graduated cum laude from Maryville College in Maryville, TN, in 1957. He continued his education at the University of North Carolina – Chapel Hill where he earned a Ph.D. in chemistry in 1962. His dissertation was titled "Ion Exchange Properties

of Natural and Thermally Altered Montmorillonite." Subsequently, he remained at UNC for post-doctoral study during which time he investigated the thermodynamics of the ion exchange of radioactive waste components onto clay minerals, which was likely his first work in the environmental arena.

Following the completion of post-doctoral work at UNC, he joined Westvaco Corporation (a pulp and paper manufacturer now part of MWV (MeadWestvaco)) where he became responsible for developing and commercializing new applications of activated carbon products. A significant amount of this work evolved to include air and water pollution control applications in the late 60s and early 70s as the country became more concerned about environmental issues. In 1967, he was named manager of the Westvaco Consulting Service, a group that the company formed to develop and manage advanced applications of activated carbon for the treatment of air, water, and wastewater.

With the experience he gained in water and wastewater management and in consulting at Westvaco, it is no surprise that he decided to enter the environmental services consulting business in 1971, when he accepted a position with Engineering-Science, Inc. In 1974, he agreed to move to Atlanta to manage the very small E-S office there with the challenge of growing it into a regional presence in the Southeast. With the passage of the Clean Water Act in 1972, and enactment of RCRA, Superfund (CERCLA), and amendments to the Clean Air Act in the next few years, the decade of the 1970s proved to be a very good one for growth in the environmental services business. In addition E-S, founded by Harvey Ludwig in 1958 (a founder of AAEES), had an established reputation as one of the most competent and innovative environmental engineering firms in the country by this time. E-S had established business bases on the West Coast, in the Upper Mid-West, and in Texas in the early 1970s, but not in the Southeast. Andy quickly grew the Atlanta office into a dominant force in the Southeast and also within the E-S organization.

After accepting increasing responsibilities within the E-S organization for offices in the eastern US and the Caribbean, Andy was named president of the company in 1986, a position he held until 1994, when Parsons reorganized its environmental business, which was the acquired E-S organization. During Andy's presidency, E-S realized significant and consistent growth in emerging areas of the environmental business and new geographic areas. Andy came into the environmental business at a time when environmental control technologies were undergoing rapid change and development. The characteristics of the market at this time favored persons with entrepreneurial talents and sound technical capabilities gained from graduate study, including a number of persons with Ph.D.'s. Andy had those capabilities and also proved to be a very successful business manager. In fact, he was unusual in his ability to emerge as a business leader from a very technical beginning in his career. During his tenure as president of E-S, the organization was very well managed. Andy's ego never was an issue in managing the company; he was clear in his vision for the company, steady in direction, dogged in pursuits, and fair in his treatment of staff. At a time when the environmental business was becoming a "manage by the numbers" world, Andy's organic understanding of the environmental business benefitted the organization. The consistent growth and profitability of the company and the strength of its reputation as a preferred and sought after supplier of engineering and science services attest to his success.

He was married to Joann deGroot until her death in 1994. He is survived by his second wife, Barbara Bolster, whom he married in 2003; a son, James Edward; a daughter, Laura Elizabeth Templeton; and four grandchildren.

Dr. Loven was a Life Member and a Board Certified Environmental Engineer in Water Supply and Wastewater Engineering since 1979.

Reminiscences from three of his colleagues at Engineering-Science - David Burstein, John Koon, and Tim Shea, all of whom served as officers in the E-S organization under Andy's leadership, include the following:

David Burstein: I had the good fortune to work for Andy for 17 years. I have never met anyone (before or since) with his combination of technical and business acumen. He was also fiercely competitive. Andy loved to win but felt that doing so unethically diminished the pleasure of winning. Andy was also an outstanding judge of talent, and he truly understood the benefits of surrounding himself with top-notch people, never feeling threatened by them. His legacy lives on with the new graduates he recruited, many of whom went on to become highly successful in their own right.

Tim Shea: Andy was an excellent judge of character and gave his senior people a great deal of latitude to operate their sectors of the business that he oversaw. He commanded the respect of his people because of his judgmental skills and a dry sense of humor. He used these skills to be a buffer between his operation and his superiors in Parsons.

John Koon: Andy was one of the most persistent guys that I have known. He was very good at maintaining periodic contact with prospective clients; and with this persistence, he won many clients for his E-S offices. Davis Ford, for many years the manager of the E-S offices in Texas, used to remark to me that he was sure that clients faced with Andy's relentless pursuit finally gave him a project to get him to "go away." While I think this was likely accurate in some instances, it worked well for Andy. People value persistence; and Andy also had the knack of staying just short of the fine line that separated persistence from becoming objectionable.

SIDE TRACKS

Softball and the BOT

Two of your former Board of Trustees members are outstanding softball players: Tim Haug and Brian Flynn.

Tim Haug and his Git-R-Done 65+ team recently played in the World Master's Championships, held in Las Vegas. A total of 459 teams from across the U.S. and from Canada, Germany, Japan and Guam entered the competition. The event consisted of two days of qualifying games, followed by two days of double elimination tournament, and the temperature was 100 degrees F plus. The team played 8 games in the tournament and placed 3rd out of 17 teams in its division. In his modest manner, Tim states: "This is a very good showing in my opinion." Just getting there and playing in those conditions would be impossible for most of us. Congratulations, Tim.

Brian Flynn is a believer in physical fitness. He runs, lifts weights, and plays… softball. Let him tell you in his own words.

"I love playing softball. I play in two leagues: one is for guys over 50, the other 55. Many of the players have bad legs, or are just slowed by age. I am the fastest runner there: in the land of the blind, the one-eyed man is king. So, I'm a five tool player: speed, speed, speed, speed, and speed. I bat lead-off. I hit line drives and grounders, which I can beat out. I hate hitting fly balls: only two things can happen and one of them is bad. Not good odds in a game where the average hitter bats 0.500. I run back and forth to my position in left-centerfield. I get great exercise playing the game and expect it will help keep me from using my Medicare card too often."

Coming in the Spring 2013 issue of *Environmental Engineer and Scientist*:

2013 Excellence in Environmental Engineering and Science Awards Winners

2013 Environmental Communications Awards Winners

2013 AAEES Honorees

2014 Officer Nominees

The Class of 2012

The following individuals were Board Certified in November 2012.

From the first applicants in 1956, to the 89 Board Certified Environmental Engineers, Board Certified Environmental Engineering Members, and Board Certified Environmental Scientists listed on the following pages, the Academy has undergone growth and change, but has never wavered from it's core objective to "identify and credential persons with special capabilities in environmental engineering and environmental science."

Today, there are more than 2,550 professionals Board Certified in the Academy, and interest continues to grow on an annual basis.

To be included in an annual class, the application for specialty certification must be submitted to the Academy by March 31. Any application received after that date is held over to the next class. The applications received by March 31 are then reviewed by the Admissions Committee in April and May for adequacy of education and qualifying experience. Examinations are administered to the qualified applicants during July and August at convenient locations throughout the country. The examination results are reviewed by the Admissions Committee in September, and recommendations for each candidate are presented to the Board of Trustees. Each person's history is reviewed by the Board members at the Academy's Annual Meeting.

The Academy announces the issuance of specialty certificates of Board Certified Environmental Engineers, Board Certified Environmental Engineering Members, and Board Certified Environmental Scientists status to those individuals portrayed in this special section of the Environmental Engineer and Scientist®. (The inaugural class of Board Certified Environmental Scientists was featured in the Summer 2012 issue of *Environmental Engineer*). Those persons have demonstrated to their peers that they possess the requisite formal education and environmental engineering or environmental science practical experience and have successfully completed the Academy's examinations to be Board Certified Environmental Engineers, Board Certified Enviornmental Engineering Members, and Board Certified Environmental Scientists.

Minimum qualifications for Board Certification include requisite degree and 8 years' experience (4 years in responsible charge).

Board Certified Environmental Engineer (BCEE): environmental engineering or related engineering degree plus P.E. license.

Board Certified Environmental Scientist (BCES): environmental science or related science degree.

Board Certified Environmental Engineering Member (BCEEM): environmental engineering or related engineering degree plus 20 years' experience (no P.E. required).

Applicants with fewer than 16 years experience sit for a written examination and a peer review in their selected specialty area. Those with 16 or more years of experience may request a waiver of the written examination. A Master's and Ph.D. each count as 1.5 years toward the years-of-experience requirements.

The areas of specialty certification for Board Certification are:

Environmental Engineering

Air Pollution Control
Environmental Sustainability
General Environmental Engineering
Hazardous Waste Management
Industrial Hygiene Engineering
Radiation Protection Engineering
Solid Waste Management
Water Supply/Wastewater Engineering

Environmental Scientists

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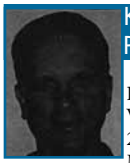

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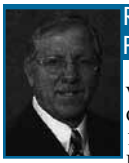

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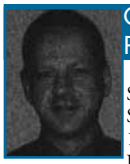

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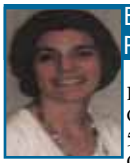

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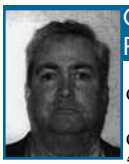

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THE 2013 KAPPE LECTURER

George Tchobanoglous, Ph.D., P.E., NAE, BCEE
Professor Emeritus
Department of Civil and Environmental Engineering
University of California, Davis

Dr. George Tchobanoglous is a Professor Emeritus in the Department of Civil and Environmental Engineering at the University of California, Davis. For over 35 years, he has taught courses on water and wastewater treatment and solid waste management. His research interests are in the areas of wastewater treatment, wastewater filtration, UV disinfection, aquatic wastewater management systems, wastewater management for small and decentralized wastewater management systems, solid waste management, and water reuse. He has authored or co-authored over 500 technical publications, including 22 textbooks and 8 reference works. The textbooks are used in more than 225 colleges and universities, as well as by practicing engineers. The textbooks have also been used extensively in universities worldwide, both in English and in translation. His textbooks are famous for successfully bridging the gap between academia and the day-to-day world of the engineer. More than 500,000 copies have been sold worldwide. The textbooks have been translated into eight languages including Chinese, Korean, Japanese, Spanish (Spain), Spanish (South American), Italian, Greek, and Farsi (Iranian).

Most recently, with coauthors, he has written extensively on water reuse, including the textbook *Water Reuse: Issues, Technologies, and Applications*, the WateReuse report, *Direct Potable Reuse: A Path Forward*, and the NWRI White Paper, *Direct Potable Reuse: Benefits for Public Water Supplies, Agriculture, the Environment, and Energy Conservation*. He serves as Chair of the NWRI Independent Advisory Panel for the City of San Diego's "Indirect Potable Reuse/Reservoir Augmentation Demonstration Project." He also serves on the NWRI Independent Advisory Panel for the Orange County Water District's Groundwater Replenishment System. He consults nationally and internationally to government agencies and private companies. He is a registered Civil Engineer in California. His hobbies include gardening and photography. He has had four major photography shows of black and white and color photographs.

Education

University of the Pacific, 1958, BS, Civil Engineering
University of California, Berkeley, 1960, MS, Sanitary Engineering
Stanford University, 1969, Ph.D., Environmental Engineering

Professional Associations

American Academy of Environmental Engineers and Scientists
American Society of Civil Engineers
American Water Works Association
Association of Environmental Engineering and Science Professors
Water Environment Federation

Professional Awards and Honors

Elected as a WEF Fellow, 2012
Excellence in Engineering Education Award, AAEE and AEESP, 2012
The Frederick George Pohland Medal, AAEE and AEESP, 2007
Honorary Doctor of Engineering Degree, Colorado School of Mines, 2005
Waste-To-Energy Research and Technology Council Distinguished Service Award for Research and Education in Integrated Waste Management, 2004
National Academy of Engineering, 2004
Athalie Richardson Irvine Clarke Prize, National Water Research Institute, 2003
Jack Edward McKee Medal, Water Environment Federation, 1999
Thomas R. Camp Lecturer, Boston Society of Civil Engineers, 1991
President, Association of Environmental Engineering Professors, 1989

Abstracts of Lectures Offered

Wastewater Treatment Trends In The 21st Century

For most of the 20th century, the primary focus of wastewater treatment was on the removal and treatment of settleable and floatable solids, organic matter expressed as biochemical oxygen demand (BOD), total suspended solids (TSS), and pathogenic microorganisms. Late in the 20th century, nutrient removal and odors became issues and controlled, non-potable use of reclaimed water became a common practice in many parts of the world. In the 21st century, a paradigm shift has occurred and wastewater is no longer viewed as a waste requiring disposal, but as a "renewable source of energy, resources, and potable water." In light of this view, it is appropriate to consider some challenges as well as the opportunities that will become increasingly important in the design and implementation of wastewater treatment facilities in the future.

In planning for wastewater treatment plant (WWTP) upgrades or new WWTPs, it is imperative that the incrementalism of the past be replaced with an integrated design process that incorporates energy and resource recovery and purified water production. Using new concepts, technologies, and process configurations, WWTPs can become net exporters of energy and resources. Significant progress toward these objectives will also require consideration of the impact of local and global demographic and environmental events and possible unintended consequences in the implementation of new WWTPs. The benefits and limitations of technology transfer must also be understood and integrated into the design process. All aspects of wastewater management, including source separation, collection, treatment, and reuse must be reexamined. For example, decentralized infrastructure models are now being developed that could make some existing wastewater systems obsolete. Starting the planning process now will allow for early identification of the changes required to both the water and wastewater infrastructure to meet the challenges and opportunities of the future.

Direct Potable Reuse: A Future Imperative

Population growth, urbanization, and climate change, are resulting in stressed public water supplies and development of new water supplies for metropolitan areas is becoming increasingly difficult, if not impossible. As a consequence, existing water supplies must go further. One approach for achieving this objective is by increased water reuse, particularly in supplementing municipal water supplies. Although non-potable water reuse offers many opportunities, the cost associated with the need to provide separate piping and storage systems for reclaimed water is prohibitive and thus, implementation of water reuse programs has been limited. The solution to the problem of distribution and storage cost is to implement direct potable reuse (DPR) of purified water.

Direct potable reuse refers to the introduction of purified municipal wastewater water directly into municipal water supply systems. Purification involves extensive treatment and monitoring to assure that strict water quality requirements are met at all times. The resultant purified water can be blended with raw source water prior to water treatment or blended with potable water for direct pipe-to-pipe reuse. Because DPR will inevitably become part of the water management portfolio, the importance of wastewater and water agencies beginning to develop the necessary information for implementation is great. In planning for wastewater treatment upgrades or new plants that will be used to produce purified water, it is imperative that the incrementalism of the past be replaced with new integrated designs that will produce purified water and achieve the recovery of energy and resources. Technological and implementation issues are examined. The potential application of DPR in Southern California and implications for statewide water management are discussed.

STANLEY E. KAPPE, P.E., DEE (BCEE), a successful environmental engineer, believed he owed a debt to the profession that rewarded him so well. During his life, he gave of himself to his university and to his profession through countless hours of volunteer activity. And, through this Lecture Series, he continues to share his good fortune with tomorrow's environmental engineers.

He graduated from Pennsylvania State University in 1930, with a bachelor's degree in sanitary engineering. He served with the Pennsylvania State Health Department and the U.S. Army Corps of Engineers before joining the Chicago Pump Company as its Eastern Regional Manager in 1935. In 1945, he founded Kappe Associates, Inc., a water supply and wastewater equipment company headquartered in Rockville, Maryland, and continued as its Chief Executive Officer until his death in 1986.

His peers recognized his contributions to the profession by numerous awards, including the AWWA Fuller Award, the WPCF Arthur Sidney Bedell Award, the WPCAP Ted Moses and Ted Haseltine Awards, and the AAEE Gordon Maskew Fair Award. In 1985, Pennsylvania State University named him Outstanding Engineer Alumnus.

Stanley E. Kappe was an activist member and leader in several national and Chesapeake region professional societies. He served as the Executive Director of the American Academy of Environmental Engineers from 1971 to 1981.

REUSE SOLUTION FOR THE VALLEY OF MEXICO'S WATER CHALLENGES

by Ernesto Espino de la O

Urban population growth in Mexico City has far outstripped water supply and wastewater treatment capacity, leading to the overexploitation of aquifer supplies, resulting in subsidence, and pollution and health risks from the disposal of untreated sewage. ERNESTO ESPINO DE LAO reviews the project underway to address these issues, which will feature one of the largest wastewater treatment plants in the world and will provide treated recycled water for irrigation and aquifer recharge.

Mexico City experienced a rapid growth in population in the second half of the 20th Century, increasing from three to nearly 18 million people. In the same period of time, water demand grew at an even faster rate. Under those circumstances, pressing day-to-day problems left little time for city managers to ponder the long-term consequences of emergency measures taken to cover water demand. To satisfy the water demand of the growing city it was necessary, among other things, to drill more wells right in the Valley of Mexico. Soon afterwards, water extraction began to exceed natural recharge of the aquifers, with the resulting imbalance growing every year.

Another serious consequence of this practice was that, due to soil conditions in the Valley of Mexico, the lowering of the water table caused subsidence of the ground across large areas *(Figure 1)*. If one were to look at a typical cross section of the soils in this area, what will most likely be found is an upper layer of clay – the bed of what used to be large lakes that not long ago covered almost 2000 km^2 of the Valley of Mexico, and under the clays layers of granular soils where most of ground- water is stored. When the water table drops, air fills the interstices of the granular soil, what is called the vadose zone, and the previously existing water pressure equilibrium in the interface between the clay and granular soil is irremediably lost. The clays gradually lose their water and shrink, causing the ground to sink. The magnitude of the sinking is proportional to the thickness of the clay layer and, because that thickness is variable,

Welding works in shaft 5 of the Eastern Outfall Tunnel, currently under construction. **Credit:** Aguas Tratadas del Valle de México.

the magnitude of subsidence is also variable. This is, of course, a rather simplistic description of a quite complex process.

Differential sinking of the ground causes serious damage to many above- and below-ground infrastructures, such as roads, water lines, and sewer pipes. These two phenomena, aquifer depletion and ground subsidence, among many others, prompted the National Water Commission (Comisión Nacional del Agua, CONAGUA) to develop a sustainable water management plan aimed at redressing water imbalances in the Valley of Mexico and to secure a safe and sustainable water supply for the Valley's inhabitants, without compromising the ability of future generations to satisfy their own needs. The programme is known as "Programmea de Sustentabilidad Hídrica del-Valle de México" (PSHVM), and was made public by CONAGUA's General Director in October 2007. Two crucial elements of the PSHVM are the Atotonilco Wastewater Treatment Plant (At-WWTP), now under construction, and the El Caracol WWTP, recently opened for bids as a public-private participation (PPP) project.

Mexico City Water Supply

The Valley of Mexico is an endorheic valley, that is, a closed basin with no natural water exits out of the valley. During the past four centuries a number of manmade water exits have been built to prevent flooding of urban areas; exported water goes to a nearby valley, north of the Valley of Mexico. Presently, the most important of these manmade exits is a tunnel outfall known as Tunel Emisor Central (TEC), at 6. 5 m in diameter and 50 km long. In spite of all the works built in the last 400 years, flooding in rainy years remains a permanent threat to the city, so the PSHVM includes a new tunnel outfall, now under construction, known as the Tunel Emisor Oriente (TEO), 7 m in diameter and 62 km long. The Valley of Tula, 60 km north of Mexico City, is the recipient of all water exported from the Valley of Mexico. Underlying the Valley of Tula is a large aquifer that presently is only partially exploited, mainly for agricultural irrigation. Because of the large volumes of water exported from the Valley of Mexico to the Valley of Tula, the aquifer of the Valley of Tula has a positive mass balance and excess water from this aquifer drains down to other aquifers downstream and to rivers that eventually discharge into the Gulf of Mexico. Up to 100 years ago, the Valley of Tula was largely unproductive due to poor soil conditions, water scarcity and unreliability of local surface water sources, but after receiving a steady flow of wastewater from the Valley of Mexico carrying significant amounts of organic and inorganic matter in suspension, as well as phosphorus and nitrogen, the Valley of Tula underwent a significant transformation, becoming a highly productive agricultural district.

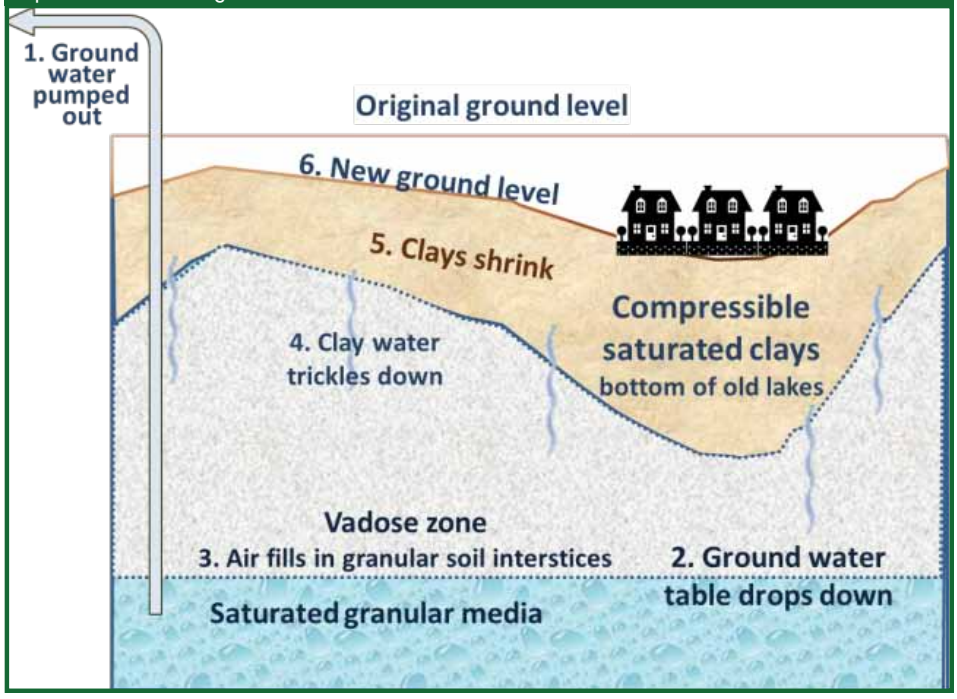
Presently, agriculture and related activities provide jobs, income and roots to their native land to nearly 700,000 people that live in the Valley of Tula. Altogether, nearly 90 thousand hectares are presently irrigated in the Valley of Tula with either raw wastewater or a mixture of wastewater and rainwater. An unfortunate consequence of this practice is the adverse impacts on the water quality of the local aquifer. For CONAGUA it is of paramount importance to preserve the benefits of current irrigation practices, but without the adverse effects of raw wastewater irrigation to the environment and to the farmers and their families. Additionally, within the Valley of Mexico there are close to 10,000 hectares that are either irrigated with raw wastewater, that needs to be cleansed, or with well water, which can be exchanged for treated wastewater.

Goals of the Program

The goals of the PSHVM can be succinctly described in the following terms:

- To stop all agricultural irrigation with raw wastewater, both in the Valley of Mexico and Valley of Tula, and replace it with treated effluent of the quality needed to prevent soil degradation, aquifer contamination, contamination of produce, and risks to the health and welfare of field workers and their families
- To replace all well water presently used for agricultural irrigation within the Valley of Mexico with treated effluent with the same quality standards mentioned above
- To develop safe, sustainable, water

Figure 1
Aquifer overdraft and ground subsidence



sources for the Valley of Mexico and for the Valley of Tula from the aquifer in the Valley of Tula, after restoration of its water quality to standards of potable water

- Direct recharge of the aquifer in the Valley of Mexico with advanced treated wastewater effluent with a level of water quality comparable to drinking water.

Water Balances in the Valley of Mexico

The rate of aquifer depletion in the Valley of Mexico (all values relate to the three main aquifers of the valley that supply the Mexico City Metropolitan Area) was estimated in 2008 as being 27 m^3/s (2341 MLD), as shown as a simplified form in Figure 2. Not shown in this figure is the impact on the aquifers of leakage from water lines, which equals aquifer losses from infiltration into sewer lines and out-falls, and water migration out of the aquifers of the Valley of Mexico. Once all infrastructure works programmed in the PSHVM come on line, a significant change will be achieved in redressing the present water imbalance in the aquifer of the Valley of Mexico (Figure 3). Present overdraft of the Valley of Mexico aquifers, estimated at 27 m^3/s, will be reduced to 10 m^3/s (866 MLD) when all planned new infrastructure is in service.

The PSHVM calls for the development of a sustainable new water source by importing from the Valley of Tula to the Valley of Mexico some of the exported water. Present goals are for bringing back only 20 percent of the water that is currently being exported but, once the results of the programme are better known and evaluated, additional flows might be returned.

Wastewater Treatment and Reuse

For the Valley of Mexico, and elsewhere in many parts of the world, treatment and reuse of wastewater (and an environmentally responsible discharge of used water to the environment) is the single most useful and most flexible tool to achieve sustainable water management, thanks, among other things, to remarkable new developments in wastewater and drinking water treatment technologies.

The PSHVM includes five large facilities to treat and recover wastewater flows from Mexico City (Table 1).

The Atotonilco WWTP

The Atotonilco wastewater treatment plant (At-WWTP) is located 60 km north of Mexico City (Figure 4), near the exit port of the existing TEC and the soon to be completed TEO. Through this point, 75% of all wastewater exported from the Valley of Mexico passes. The objectives of the At-WWTP are to provide irrigation water for the Valley of Tula, complying with the standards of quality previously stated, and to gradually restore the water quality of the water in the aquifer under that valley. The aquifer of Tula will eventually become an important, and sustainable, water source for the people of the state of Hidalgo and for the people of Mexico City. Advanced drinking water treatment technologies will be used in Tula Valley's new water treatment plants. Considerable work has already been done, and much more is underway, to document the evolution of water quality in the

Figure 2
Water balance in the Valley of Mexico for year 2008, m^3/s

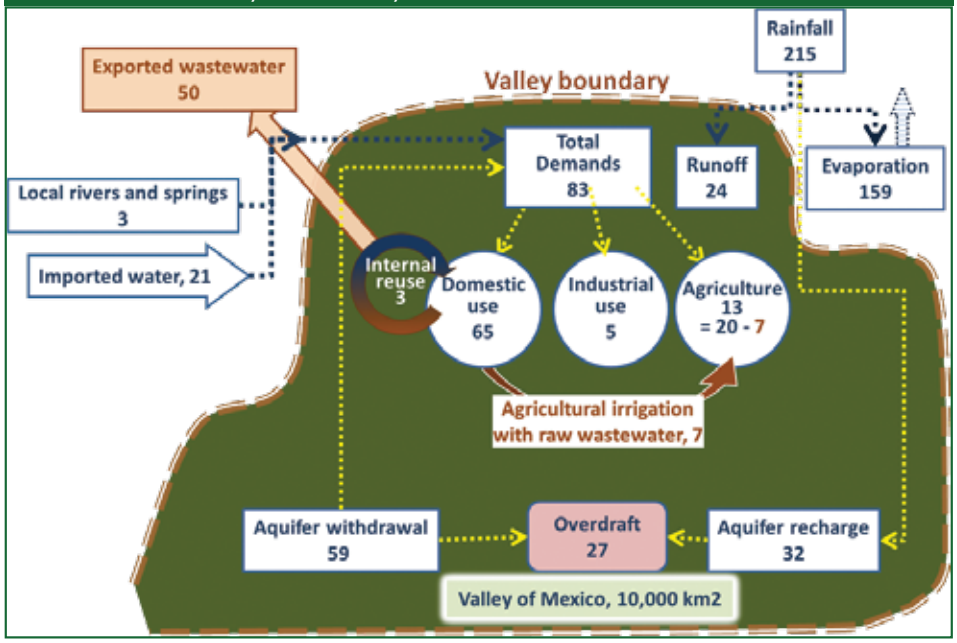


Figure 3
Water balance in the Valley of Mexico with PSHVM, m^3/s

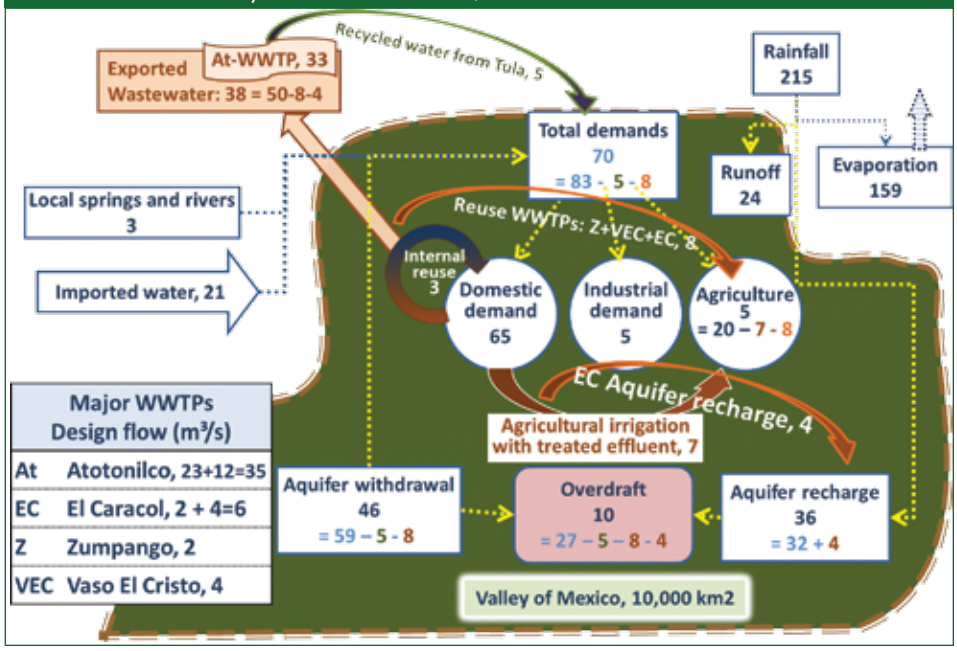


Table 1
Treatment Plants and Effluent Destination

WWTP	Design flow (m^3/s)	Treatment effluent design
Atotonilco	23 12	Dry weather design flow CSO design flow
El Caracol Phase I	2	Green areas and agricultural irrigation, replace well water
El Caracol Phase II	4	Direct aquifer recharge
Zumpango	2	Agricultural irrigation and surface reservoir water renewal
Vaso El Cristo	4	Agricultural irrigation, replace well water
Berriozabal	2	Agricultural irrigation, presenting using raw wastewater
	59	

Table 2
Sludge Production

Type	Solids conc.	Dry matter t/year	Sludge volume	
			Mm^3/year	m^3/day
Sludge to digesters	5.3%	354,000	6.7	18,000
Dewatered sludge to monofill	28.0%	243,000	0.9	2,400

Table 3
Energy Management and Greenhouse Gas Emissions

Energy consumption	245	GW-hr per year
Energy generated in-plant	200	GW-hr per year
Installed power generation capacity	32	MW
Reduction GHG emissions (per approved method)	145,000	Tons CO_2 eq. per year

aquifer, as well as to evaluate water treatment alternatives. Wastewater flows in the TEC, and expected in the TEO, vary widely during the year due to storm runoff reaching the combined sewer system. To address this situation, the At-WWTP was designed with two parallel and independent treatment trains: train number one with a design flow equal to the average dry season flow consisting of a conventional biological treatment system; and train number two with a chemical treatment process, designed to treat the variable excess flows typical of the rainy season that can, and often do, change substantially from one day to another. Train number one is known as TPC (Tren de Procesos Convencionales) and train number two is known as TPQ (Tren de Procesos Quimicos). Design flow of the TPC is 23 m^3/s (1995 MLD), equal to the average dry weather flow (DWF), and TPQ has a design capacity of 13 m^3/s (1045 MLD) and its main purpose is to treat combined sewer overflows (CSOs) in the rainy season.

Process schematics for both trains are shown in Figure 4. Effluent from TPC goes straight into irrigation channels of the agricultural district and effluent from TPQ is discharged to a stream that, 20 km downstream, feeds an agricultural regulation dam where water is stored in the rainy season and later used in the dry season to complement water needs for irrigation.

Energy Management and Greenhouse Gas Emissions at the At-WWTP

Contrary to what is common practice in new WWTPs in Europe and the US, the At-WWTP was designed to retain in the effluent as much nitrogen and phosphorus as possible, whilst removing mostly organic carbon. This decision was made after considering the pros and cons of nutrient removal, including: conservation of nutrients in irrigation water (which are highly valued by local farmers); migration of nitrates to the aquifer; and last, but not least, treatment costs, both wastewater treatment costs now and drinking water treatment costs in the future once the aquifer is fit to be used as a new source of drinking water.

The practical implications of that decision are: sludge age in the biological reactors is rather low (less than three days) and a large part of the removed organic matter ends up as excess biomass; and hydraulic residence time, tank volume and energy requirements for aeration are also relatively low. A consequence of the above is a lower energy demand, larger sludge loads to the anaerobic digesters and proportionally higher methane production.

All this adds up to a very favorable balance of energy in the plant, so much so that up to two thirds of the plant's energy demand is expected to be satisfied with the energy produced from biogas. The favorable energy balance is, among many others reasons, why unit treatment costs of the At-WWTP are significantly lower than those of other plants.

After digestion and dewatering all plant sludge will be disposed of in a dedicated monofill, in shallow layers, 4-6 inches (10-15 cm) deep, in a continuous manner. Once the whole surface is covered with the first layer, disposing of the second layer begins again in the first cell, and by then enough time should have passed for the sludge to have dried up and gone through whatever biological decomposition might take place, which would be under aerobic conditions rather than anaerobic conditions, as it would have been in a more conventional disposal procedure. An important benefit of the selected disposal mechanism is that there will be lower emissions of greenhouse gases (GHG). Overall, reduction in GHG emissions due to construction and operation of the At-WWTP has been estimated, according to Methodology AM0080 of the United Nations Framework Convention on Climate Change, at 147,000 tons of carbon dioxide equivalent per year. The At-WWTP project is now in process of being registered as a Clean Development Mechanism (CDM) – if the process succeeds the project will be entitled to 'Carbon Credits' for the reduction of GHG emissions.

Contracting and Financing the At-WWTP

The At-WWTP project was contracted out as a Design-Build-Operate-Transfer (DBOT) project, with PPP. The contract was awarded in January 2010, entered into effect in July 2010, and actual construction began in October 2010. TPQ is scheduled to be completed by April 2013, and TPC is scheduled to be completed by Novem-

Figure 4
Atotonilco wastewater treatment plant (At-WWTP) process schematic

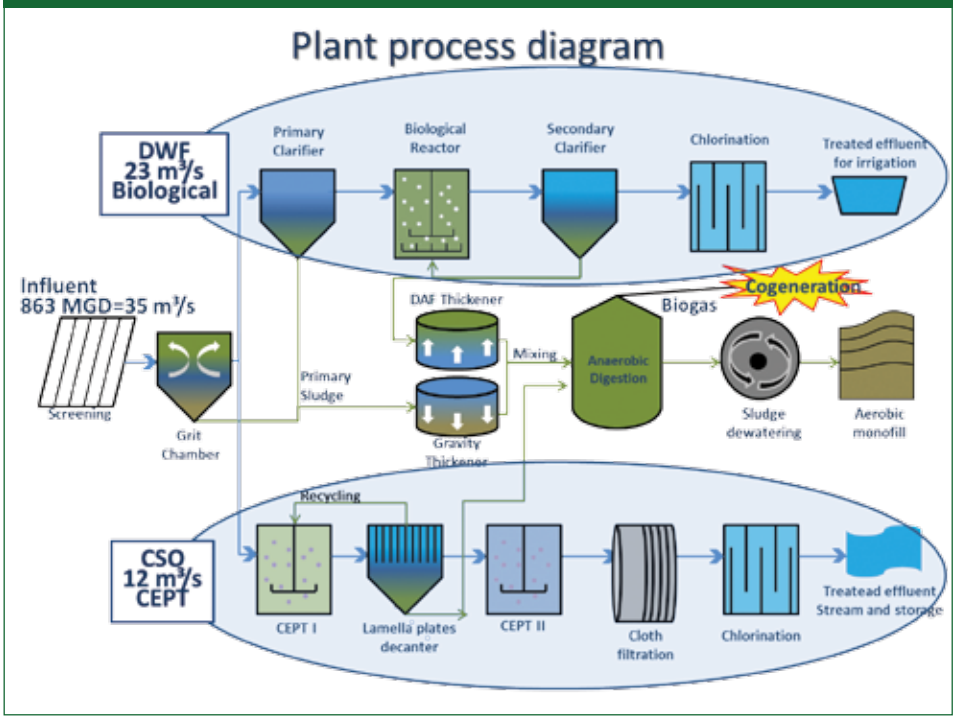
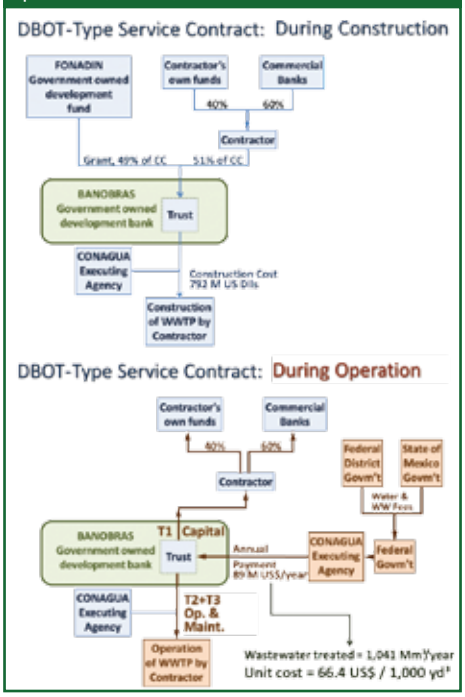


Figure 5
DBOT-type contracting and financing scheme of At-WWTP during construction (top) and during operation (bottom)



ber 2013; additional time for start-up and calibration of the treatment processes and operations, in particular for the biological water and sludge treatment processes, is estimated DBOT contract is for 22 years. The At-WWTP received a grant from the Federal Government for 49% of the construction cost. The financing and contracting scheme of the project is shown in Figure 5.

Conclusions

Dumping raw wastewater on public property, whether it be on land, creeks, rivers, inland or coastal waters, is not much different than dumping domestic refuse on the streets. In 2010 in the Valley of Mexico only 14% (8 m^3/s) of all wastewater discharged received any kind of treatment, but through the operation of the Atotonilco and the Caracol WWTPs, this percentage will increase to 76%. The goal of the PSHVM is to treat 100% of Mexico City's effluents.

Mexico City's water situation has changed drastically in the last 60 years, in response to the urgent needs of a growing population, resulting in many challenges. The Sustainable Water Programme for the Valley of Mexico, launched by the National Water Commission in 2007, is the result of an strategic decision made to redirect efforts and resources to establish the foundations of a reasonable and permanent solution to present imbalances in water management, to prevent environmental damage, to protect the health and welfare of the public, and to secure water supply for the inhabitants of the valleys of Mexico and Tula. Two major infrastructure works, the Eastern Outfall Tunnel (TEO) and the Atotonilco Wastewater Treatment Plant (At-WWTP) are now under construction and there will be more to follow in the next months and years.

Atotonilco wastewater treatment plant in June 2012.
Credit: Aguas Tratadas del Valle de México.

About the Author

Ernesto Espino de la O is the Water and Sanitation Manager in PSHVM's Coordinating Office for the Valley.

- Publications Committee - C. Herb Ward
- Revenue Generation Work Group - Michael E. Tatalovich
- Seminars and Workshop Committee - Wendy A. Wert
- Students & Young Professionals - Stephanie Bolyard
- Website Work Group - Dan Wittliff

New! Value of Certification Video

We are especially proud of this effort to convey - in members' own words - what it means to be a Board Certified Environmental Engineer, Board Certified Environmental Engineering Member, or Board Certified Environmental Scientist. The Academy's first-ever video on the Value of Certification is now available online at YouTube, at aaees.org, Facebook, and LinkedIn! Send the link to those who are interested in qualifying to become Board Certified.

2013 Excellence in Environmental Engineering and Science Awards

Judging for the 2013 E3 Competition was completed on February 18. This year, there are twenty award winners. Full profiles will be featured in the Spring issue of *Environmental Engineer and Scientist*, and the awards will be presented at the AAEES Awards Luncheon and Technical Conference on April 25.

2013 IWA Project Innovations Awards - Development

Submissions are now being accepted for the 2013 Project Innovations Awards - Development. These awards recognize originality, innovation, and engineering excellence for water and sanitation projects applied in low- and middle-income countries. Deadline for project submittal is May 15, 2013. For additional information and submittal guidelines, go to http://www.iwa-pia.org or email PiaDevelopment@iwahq.org.

New Member Benefit - PDH Online

The American Academy of Environmental Engineers and Scientists is partnering with PDH Online to provide members with professional development hour education. All AAEE certification holders and members who use the code AAEE25 receive a 25 percent discount from any of PDH Online's 2,000+ courses, including live webinars. Members can search courses and sign up at www.pdhonline.org or www.pdhcenter.com.

PDH Online is among the leading online course providers and underscores that it is an approved sponsor by many state licensing boards for professional engineers. More than 100 of its courses have been developed by BCEE's. AAEES has designated PDH Online as its Preferred PDH Provider to help AAEES colleagues meet their bi-annual PDH requirements.

Does Your Employer Have an Educational Outreach Program for K-12 and/or College Students?

The Academy would like to know about and help promote the program. Please send links or documents to Joe Cavarretta at jcavarretta@aaees.org.

Ask Your Marketing Director to Sign Up on the AAEES Web Site

The Academy is creating a contact list of marketing directors to support our plans to improve awareness of Academy members and stakeholders and their significant achievements in environmental engineering and science. Please ask your marketing director to visit AAEES.org and sign up for a free account in the AAEES Center.

UPCOMING EVENTS

March 10-13, 2013

The 28th International Conference on Solid Waste Technology and Management will be held in Philadelphia. There will be over 160 presentations from 35 different countries as well as technical field trips, continuing education with PDHs and a pre-conference guided tour of the city's historical and cultural sites. This is a unique opportunity to meet with solid waste academics, consultants and government representatives from around the world. AAEES will be exhibiting. The full details are posted on the conference web site: http://solid-waste.org/. For details, email: solid.waste@widener.edu.

March 28-29, 2013

AAEES Student Conference, UC Irvine, CA. Keynote Speaker, Mike Markus, GM, Orange County Water District: "Successful Reuse Programs in Southern California. Industry Panel Proctor, AAEES Past President Mike Selna will host a discussion on skills that lead to professional success. Meals and refreshments are included with registration as is networking with professionals and students. Fee: Students - Free, AAEES Members and Affiliates - $80, Nonmembers - $100. Register online at https://netforum.avectra.com/eWeb/DynamicPage.aspx?Site=AAEE&WebCode=EventDetail&evt_key=da49cf1c-d060-4601-a671-f899f50597fe.

April 1, 2013

Mid-Year Committee Reports are Due

April 7, 2013

2013 Engineering EXPO will be held at White Plains High School in White Plains, NY, from 11 a.m. to 4 p.m. AAEES will be exhibiting at this event. For more information, contact William McCarthy, Lower Hudson Valley Engineering EXPO, at 845.353.6400 or inquiry@beanengineer.org.

April 25, 2013

AAEES E3 Awards Luncheon and Conference, National Press Club, Washington, DC. Keynote speaker: Nancy Sutley, Chair of the White House Council on Environmental Quality (CEQ). Register online now at http://www.aaees.org

April 26, 2013

AAEES Board of Trustees Spring Meeting

May 14, 2013

AAEES 4th Annual Workshop (with TCHs, PDHs, and CEUs); Disaster Management Workshop: Managing and Minimizing Superstorm Effects on Municipal Utilities and the Public Health; includes breakfast and/or lunch at NJWEA's 98th Annual Conference May 13-17, Atlantic City, NJ. For registration or exhibitor information, visit www.njwea.org.

May 15, 2013

AAEES 5th Annual Breakfast at 98th NJWEA Annual Conference. Lessons Learned for Utility Disaster Preparedness - Hurricanes Katrina, Rita, Isaac and Sandy, Adam Faschan, Ph.D., P.E., Associate, CDM Smith Inc. and Chris Munson, P.E., CDM Smith Inc.; 7:00-8:00 am: Register at www.njwea.org.

June 12, 2013

AAEES/AIDIS/AWWA Luncheon featuring keynote speaker Brian Good, deputy manager of organizational improvement, Denver Water, from 11:30 am to 1:00 pm. Topic: "Lean Methodology," at the AWWA ACE13 Conference, June 9-13, Denver.

September 1, 2013

Committee Reports Are Due

While the nation reinvests in its infrastructure...

Are you reinvesting in the infrastructure of your organization?

Hiring the right people is key to your success. Bringing in qualified Environmental Engineering and Environmental Science candidates will strengthen your organization and provide you with the talent you need. Visit the AAEES Career Center today to find that perfect fit.

The American Academy of Environmental Engineers and Scientists can help move along your candidate search. By posting a job on the AAEES Career Center, you will get unparalleled exposure within the engineering and scientific communities. As a part of the Engineering & Science Career Network, AAEES ensures that your job posting will be seen by thousands of qualified candidates relevant to your industry. And with access to all resumes posted to the network, you can widen your reach to find the right candidate today!

When it comes to making career connections in the Environmental Engineering and Environmental Science industries, more and more job seekers are turning to the AAEES Career Center to find their next position. Where better to post a job and search for qualified candidates? Visit the AAEES Career Center to post your Environmental Engineering and Environmental Science jobs today!

The ESCN is a strategic industry alliance formed by AAEES and other top trade and professional associations that serve companies searching for engineering and science professionals.

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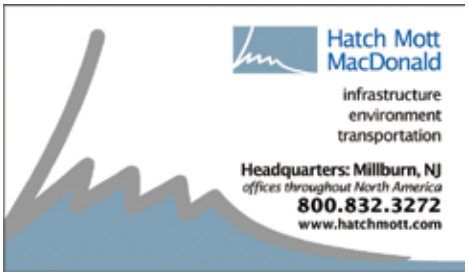

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You Are Inspirational and Your Colleagues Need Your Encouragement!

Do you remember who motivated you to apply for your Board Certification? Statistics show that 80 percent of Board Certified Environmental Engineers and Scientists were encouraged to apply by Board Certified colleagues, usually in a brief conversation. When qualified professionals become Board Certified, everyone wins, and you are helping to advance the environmental engineering and environmental science professions. As a small token of thanks, for every applicant who lists you as referring them, the Academy will enter your name into a drawing for an iPad mini ($329 value).

The application process is simple: Candidates go to www.aaees.org, create a free account in the AAEES Center, and purchase the appropriate application package: **Board Certification for Environmental Engineers** (P.E. licensed) or **Board Certification for Environmental Scientists**. Be sure to remind them to list you in the space labeled "Referred By" on the application form.

Your colleagues and clients will respect your commitment to excellence in environmental engineering and science and appreciate that you think so highly of them. They will remember you, just as you remember who encouraged you to become Board Certified. Start calling your colleagues today. **Applications are due March 31st!**

If you or your potential applicants have questions, please contact Sammi Olmo at JSOlmo@aaees.org or 410.266.3311.

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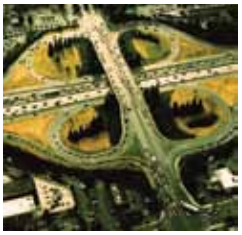

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