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Candidates nominated for 2016 national election

Candidates have been named to fill six ANS leadership positions, for terms beginning in June 2016.

The candidates for a one-year term as vice president/president-elect are Robert N. Coward and James P. Malone. Coward, ANS member since 2001, is a principal at MPR Associates, and Malone, ANS member since 1984, is chief nuclear fuel development officer at Lightbridge Corporation. Statements from both vice president/president-elect candidates will be available in the January/February 2016 issue of *ANS News*.

The elected candidate will succeed current ANS Vice President/President-Elect Andrew C. Klein in June 2016, when he becomes president. The office of treasurer will continue to be filled by Steven A. Arndt, who began a two-year term in June.

For ANS Board of Directors positions, which are held for three-year terms that begin and end during an ANS Annual Meeting, nine candidates have been nominated to fill four U.S. director-at-large seats. The candidates are Sue Aggarwal, New Millennium Nuclear Technologies International; James W. Behrens, retired from the U.S. Navy; Jeffrey L. Bradfute, Westinghouse Electric Company; Daniel L. Churchman, Southern Nuclear Corporation; Harsh S. Desai, Knolls Atomic Power Laboratory; John H. Kessler, J. Kessler and Associates; Todd S. Palmer, Oregon State University; Larry L. Wetzel, BWX Technologies; and William "Art" Wharton III, Westinghouse Electric Company.

The ANS Bylaws and Rules require U.S. and non-U.S. members to be proportionally represented on the Board of Directors, and in the 2016 election, one non-U.S. director-at-



Coward



Malone

large seat representing the Americas (Canada) will be filled. The candidates for non-U.S. director are Eleodor M. Nichita, University of Ontario Institute of Technology, and Jacques Plourde, J.A. Plourde Performance Ltd.

The directors whose terms will end in June 2016 are Yousry Y. Azmy, Heather J. MacLean Chichester, Darby S. Kimball, Kenneth S. Petersen, and Jorge Spitalnik.

The Nominating Committee for the 2016 election was chaired by Immediate Past President Michael Brady Raap. Hatice Akkurt, Rita Baranwal, Vincent Esposito, Julie Ezold, Ben Holtzman, and Steven Nesbit were elected to the committee during the Board of Directors meeting at the 2015 ANS Annual Meeting, and Tinh Tran, chair of the Local Sections Committee, and Hans Gougar, chair of the Professional Divisions Committee, served as *ex officio* members.

Candidates for officer and director positions can also be nominated by petition. Acceptable petitions must contain the original signature of 200 or more ANS voting members, have the nominee's written consent, and reach ANS headquarters no later than January 11, 2016.

Ballots for the 2016 election will be mailed on February 29, 2016, and must be returned and received by noon on Tuesday, April 12, 2016.



American Nuclear Society

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Washington, D.C., will once again host the ANS Winter Meeting, giving ANS members the opportunity to “Storm the Hill” and meet with legislators.

Winter Meeting returns to D.C.

The 2015 ANS Winter Meeting and Nuclear Technology Expo is being held November 8–12 in Washington, D.C., at the Marriott Wardman Park Hotel. “Nuclear: The Foundation of Sensible Policy for Energy, Economy and the Environment” is the theme of the meeting, which will be chaired by Donald R. Hoffman, a past president of ANS (2013–2014) and president and chief executive officer of EXCEL Services Corporation. The program chair is James J. Byrne, of Byrne and Associates LLC.

Two embedded topicals are being held in conjunction with the Winter Meeting: the 12th International Topical Meeting on Nuclear Applications of Accelerators (AccApp ’15), November 10–13; and the 2015 Young Professionals Congress, November 7.

The Winter Meeting mobile app will help you take advantage of everything being offered at the meeting—from 151 technical sessions to meetings and networking opportunities. Special events include the ANS President’s Reception on the first evening of the meeting and an evening of music and political satire with the Capitol Steps on November 10. The President’s Special Session will take place on November 9, and the General Chair’s Special Session will be held on November 10.

The Nuclear Technology Expo runs November 8–10, and all scheduled

meals, breaks, and receptions will take place in the Exhibit Hall.

On November 12, ANS members can “Storm the Hill” to visit the offices of their legislators for face-to-face meetings to discuss policies and regulations that affect nuclear. The ANS Washington, D.C., Office will assist interested members by advising them on current legislation, scheduling congressional meetings, and suggesting travel arrangements. Members must commit to attending a “Focus on Communications” session on November 11 and leave November 12 open for meetings on Capitol Hill.

In addition, two technical tours are planned for November 12. A tour of the Armed Forces Radiobiology Research Institute, which researches the biological effects of ionizing radiation to preserve the health and performance of U.S. military personnel, will include the facility’s 1.1-MW TRIGA research reactor. A separate tour of the Nuclear Regulatory Commission’s newly constructed Operations Center is also being offered. Separate registration is required, and each tour is \$25.

First-time attendees can benefit from the November 8 orientation session, and a mentoring program is offered to student members, new members, and others seeking networking opportunities. Students who want to work as assistants during the meeting and who

Continued on next page

P R E S I D E N T ' S C O L U M N

The world needs nuclear

This summer saw the issuance of the Environmental Protection Agency's long-awaited final rule on carbon emissions from power plants: the Clean Power Plan (CPP). The initial proposed rule did not recognize the contributions of nuclear to limiting and reducing carbon emissions, and so ANS mounted a successful grassroots campaign last fall to bring this to the attention of the agency. EPA officials indicated several times in recent months that they had heard our comments and had modified the rule accordingly.

While the final rule does appear to more explicitly allow for the use of nuclear in the development of future emissions reduction strategies, a closer review of the language reveals that existing nuclear generation gets no credit for its ongoing contribution to lower carbon emissions. The CPP could create unintended results in some states if a nuclear unit is shut down and replaced with a gas plant, earning the state an emissions credit in the bargain. Clearly, this would not be good for the economy, for electricity users, or for the environment. On balance, the rule appears slightly positive for nuclear, but much work remains to be done.

I have appointed a special committee to work on ways to bring the nuclear message to states where important decisions will be made about energy sources and compliance strategies. Under the leadership of cochairs Peter Lyons and Donald Hoffman, the Special Committee on Nuclear and the States will develop action items that we can provide to local and student sections in the various states to help them inform and influence decision processes.

Close on the heels of the issuance of the CPP was the annual ANS Utility Working Conference at Amelia Island, Fla. My deep appreciation goes to Ben Waldrep, Mike Spellman, Shann Coleman, and their colleagues at Duke Energy for organizing an exciting and informative meeting. If you are associated with current power generation activities—whether with a power company or as a supplier—and weren't there, you missed an excellent opportunity to learn, network, and have some fun. Make your plans now to attend next year's UWC.

At the opening plenary session of the UWC, the Utility Achievement Award was presented to the people at Vermont Yankee, who once again demonstrated nuclear professionalism and excellence in operating that unit through a successful final cycle and then shutting it down for the last time. Their achievement resonated with me, since I had recently been part of a similar experience at the Kewaunee

plant in 2013. It is a shame that this kind of excellence has to be recognized after a superb, non-emitting, reliable unit is shut down for economic reasons. In the words of Meredith Angwin on her blog, *Yes Vermont Yankee*, and on the ANS Facebook page, "Every nuclear plant is a jewel. It provides good jobs and school taxes to its community, and clean, reliable power to the grid. We must advocate for the expanded use of nuclear energy." I couldn't say it better.

Many commentators have observed that the administration was probably eager to issue the final CPP rule before the COP21 climate change meeting coming up in December in Paris, France. There appears to be a fair amount of political pressure for further international commitments to CO₂ reduction to come out of this meeting. What makes this almost absurd is that under current U.N. climate change protocols, nuclear is specifically excluded from most emissions reduction plans. We all know that a substantial increase in energy availability is needed throughout the world, and that any plans to provide this energy, and reduce carbon emissions at the same time, are doomed without a significant reliance on nuclear energy.

ANS will be attending the COP21 conference, and united with many other nuclear associations from around the world under the banner of Nuclear for Climate, we will strive to inform and educate the delegates about the unique and vital capabilities of nuclear in addressing the world's energy needs in an environmentally acceptable manner.

Finally, ANS Treasurer Steven Arndt, along with Executive Director Bob Fine and the ANS staff, has started working on the 2016 budget. While much remains to be done before this budget is presented to the Board, it is clear that we must emphasize growing our membership and engaging with the entire nuclear community so that ANS can continue to be a source of reliable nuclear information and an advocate for informed nuclear policy decisions. This is where ANS needs *you*. As the membership renewal season begins, once again I request that each of you reach out to your colleagues and ask them to join us. In addition, please seriously consider joining the more than 200 of your fellow members who have made an additional contribution to be recognized as a Patron or Benefactor. In addition to receiving a tax deduction, you can know that you are helping ANS continue its vital work to dispel misinformation. With your engagement, we can make a difference.

Remember—the world needs nuclear, nuclear needs ANS, and ANS needs *you!*—Gene Grecheck (egrecheck@gmail.com)



Grecheck

fulfill the obligations of the Student Program are eligible for reimbursement of registration fees and a travel grant.

For more information about the Winter Meeting, along with the preliminary meeting program and application forms

for the mentoring and student programs, visit ANS's Winter Meeting website at <http://answinter.org>.

WISE interns explore HLW disposal policy

ANS student members Brian Andersen and Suzanna Hinkle have completed the nine-week 2015 Washington Internships for Students of Engineering (WISE) program, supported by ANS and the ANS Washington, D.C., Section (*ANS News*, Mar./Apr. 2015, p. 4).

Andersen, Hinkle, and the 12 WISE interns sponsored by other engineering organizations each selected and researched an engineering public policy topic and wrote a paper to be published in the *WISE Journal of Engineering and Public Policy*, at www.wise-intern.org. At the conclusion of the program, they presented their research to their fellow interns, representatives of the WISE sponsoring societies, and other invited guests. Andersen and Hinkle were assisted in their research by ANS Fellow and WISE program coordinator Alan Levin, a senior technical advisor in the Department of Energy's Office of Nuclear Safety.

All of the WISE interns had opportunities to meet with policymakers and other experts in the nation's capital. "I thought the two most engaging people we met with in Washington, D.C., were DOE Deputy Under Secretary Pete Lyons and NRC Commissioner William Ostendorff," Andersen said. "It was interesting to learn about how the DOE and the Nuclear Regulatory Commission function, and to hear the insights these two men provided on issues in the nuclear community."

Andersen, a senior at Idaho State University, chose to research the status of U.S. policy on the disposal of high-level radioactive waste and spent nuclear fuel. "The most interesting and challenging part of the research process was meeting individually with experts on nuclear waste policy," Andersen said. "I spent quite a bit of



Hinkle and Andersen were both inspired to research the timely issue of nuclear waste disposal policy.

time preparing all of the questions that I wanted to ask, but it was worth it because I got quite a lot of helpful information."

Andersen concluded that specific legislation is needed to establish a successful disposal program. Congress should charter a federal corporation, he said, to take charge of developing consolidated interim storage and a permanent geologic repository and also to ensure that the nation's transportation infrastructure can support the movement of large volumes of spent fuel across the country.

"The WISE program helped me see firsthand how organizations such as ANS are active in the political process," Andersen said. "I wasn't originally interested in pursuing a career involving public policy, but now I definitely would like to become involved in public policy eventually."

Hinkle, a senior at the University of Pittsburgh, also tackled the issue of

HLW and spent nuclear fuel disposal. "Selecting a topic I was passionate about that was also relevant to today's political climate was a difficult task," she said. Hinkle chose to compare radioactive waste disposal programs in the United States to those in France, where nuclear power generates about 80 percent of the electricity supply and laws have created a framework for the implementation of geological repositories. Studying the French system "provided some difficulties," she admitted, "because of the language and determining the small details of implementation."

The WISE internship program allows each intern to follow his or her research where it might lead. "The self-guided structure was great because I had the freedom to carry out my research in any environment I wanted," Hinkle said, "as well as take the ample opportunities to attend relevant events and interview people who had stakes in my research area. I learned so much about how policy is developed on the Hill."

Throughout her research, Hinkle was able to turn to ANS members and other nuclear professionals for advice. "The folks I interacted with at NEI were incredibly kind and were very generous with the time they took to speak to me about my research," she said. In fact, the

See WISE interns on page 10

APPLY FOR 2016 WISE PROGRAM

Applications are being accepted for the 2016 WISE program, which will run from June 5 to August 5. The application and instructions are available on the WISE website, at www.wise-intern.org. The application deadline is December 31, 2015. Questions regarding the WISE program should be directed to Alan Levin, ANS WISE coordinator, at alevin@alum.mit.edu.

CAPITOL CRITICAL

The Clean Power Plan and its impact on nuclear

BY CRAIG PIERCY,
ANS WASHINGTON REPRESENTATIVE

It's official. The Environmental Protection Agency has finalized its Clean Power Plan rule, which—if fully implemented—will reduce emissions from the U.S. electricity generation sector by roughly a third by 2030.



Piercy

To say that the CPP is complex is a monstrous understatement. At

1,560 pages, the final rule is a byzantine labyrinth of state emissions targets, performance standards, and penalties. I don't think any one person or organization—even the EPA—fully understands the CPP's long-term impacts at this writing. However, while the fine print continues to be parsed by many, we can draw some general conclusions.

Is the final CPP rule good for nuclear energy? On balance, I think it is. Clearly, the five plants currently under construction fare better, as the EPA will now count their energy generation toward each host state's target, rather than the draft rule's approach of "assuming" their completion in their host state's emissions baseline. (This was an ANS recommendation.) In addition, the final rule allows upgrades to existing plants to be counted toward compliance, a nice new feature that was not in the initial rule. Finally, as in the draft rule, the generation of any new nuclear project brought online between now and 2030 (whether it be Generation III+, a small modular reactor, or Gen IV) would count 100 percent toward a state's compliance.

Okay. New nuclear is treated fairly. How about the current fleet? That's where things get complicated. The draft rule included a 5.8 percent credit for keeping a current plant running, which ANS deemed to be insufficient incentive. States merely need to back-

fill 5.8 percent of the generation of a closed plant to stay even with their emissions performance standard. The final rule provides no credit for continued/extended operation of existing plants, which on the surface would seem to be a big step backward for nuclear.

However, the final rule provides a new way for states to reach compliance that could prove to be an important regulatory bonus for the nuclear industry: the "mass-based compliance target." In addition to the familiar emissions performance standard proposed in the draft rule (expressed as pounds of CO₂ emitted per MWh), the final CPP includes an alternative compliance target for each state based on actual carbon emissions from electricity generation (expressed as annual average CO₂ emissions in short tons). Any state choosing a mass-based compliance approach would effectively put 100 percent of its existing nuclear generation in play for compliance. Our early analysis suggests that the EPA's mass-based goals are generally less onerous than their performance standard counterparts, and furthermore, states that choose the mass-based approach could more easily participate in multi-state carbon emissions allowance trading programs.

So what's next? In a word: lawsuits. At least 15 states have already indicated that they will challenge the CPP's legality in federal court. The EPA used some novel legal interpretations in writing the rule, and I suspect that it may go all the way to the Supreme Court. Also, a Republican president could roll back portions of the rule in 2017, although, like Obamacare, each day that passes with the rule in force makes it harder to hit the "undo" button.

The bottom line is that whether or not you take issue with the science of climate change, or would prefer a simpler approach, such as a tax on carbon, it is clear that nuclear is better off with the Clean Power Plan than without it.—*cpiercy@ans.org*

ANS membership: Renew for 2016

ANS is your chosen society and the society for everyone in nuclear—students, those new to their careers, and seasoned professionals alike. It's time to renew your membership to keep your unique benefits active, including free enrollment in two professional divisions and substantial savings on conference registrations, publications, and other items from the ANS Store. Timely renewal ensures that your professional development and educational opportunities will not be interrupted.

■ **Stay informed.** ANS publications such as *Nuclear News* magazine, technical journals, and newsletters, and the Nuclear Headlines news feed from 25,000-plus global sources, keep you up-to-date on the latest happenings and technological advances.

■ **Network.** With over 10 yearly meetings, 20 professional divisions, numerous local and student sections, and committees serving various interests, ANS provides abundant opportunities to connect, collaborate, and make lifelong contacts with other professionals in your field.

■ **Be heard.** Your voice, amplified with those of 11,000 fellow members, supports the advancement of nuclear science and technology in places of influence. Through our Washington, D.C., Office and events like "Storm the Hill," face-to-face interactions with congressional representatives are opportunities for real change.

ANS gifts of appreciation for Patrons and Benefactors! Choose to amp up your support of ANS by increasing your 2016 dues to the Patron or Benefactor level and receive special acknowledgment. Benefactors, at \$250–\$499, will receive an engraved pen. Patrons, at \$500 and above, will receive an elegant engraved pen and pencil set nestled inside a smart zippered valet.

In addition, all first-time Benefactors receive an antiqued silver ANS lapel pin, and first-time Patrons receive an antiqued gold ANS lapel pin. Wear them with pride at the office and at ANS gatherings!

Renew your membership for 2016 now by logging in at www.ans.org/renew.

A busy term for ANS Congressional Fellow

Jeremy Pearson, the 2015 ANS Glenn T. Seaborg Congressional Science and Engineering Fellow, has been serving in the office of Sen. Orrin Hatch (R., Utah) since January. For Pearson, who recently received a doctorate in chemical engineering with a focus on the nuclear fuel cycle from the University of California–Irvine, it is proving to be the rewarding experience he expected.

Following a two-week orientation session in September 2014 attended by all Congressional Fellows serving under the umbrella of the American Association for the Advancement of Science’s Congressional Science and Engineering Fellowship program, Pearson interviewed with many offices and committees, including—by surprise invitation—Sen. Harry Reid’s office.

“Ultimately, the best fit was with Senator Hatch’s office, which had an interest in being involved in energy legislation during the current Congress,” Pearson said. “I had met with the staff on a few previous occasions as part of the Nuclear Engineering Student Delegation.”

According to Pearson, Senate leaders have made voting on bills and amendments a priority during this session of Congress, which has resulted in a flurry of activity and exceptional opportunities for a Congressional Fellow. Pearson has drafted policy memos for Hatch’s office on a variety of bills, from energy and the environment to regulatory reform. He has been able to attend deliberations and watch legislation move through the Senate Energy and Natural Resources Committee, the Environment and Public Works Committee, and the Appropriations Committee’s Subcommittee on Energy and Water Development.

To Pearson’s surprise, it has been an extraordinary year for nuclear policy in Utah, as well as in Washington, D.C. Pearson has been asked to help Hatch’s office interpret the science behind federal policy issues such as the Environmental Protection Agency’s Clean Power Plan, Yucca Mountain, and interim storage. He has also had the opportunity to advise staff on the nuclear agreement with Iran and to see



During a July meeting with the Nuclear Engineering Student Delegation, arranged by Pearson (at right), Sen. Orrin Hatch (center) took the opportunity to sign legislation in the presence of the students before it went to President Obama’s desk.

firsthand how Congress responded to developments during negotiations with Iran.

In Utah, where Pearson received his bachelor’s degree from Brigham Young University in 2002, EnergySolutions is responding to the Nuclear Regulatory Commission’s 10 CFR Part 61 ruling on low-level waste as it relates to the disposal of depleted uranium. New nuclear generation is also being pursued. Utah Associated Municipal Power Systems may become the first customer for NuScale Power’s advanced light-water reactor technology and may construct a reactor in neighboring Idaho, while the Blue Castle Project has proposed building a reactor in Utah. “I think it is important to help the office become aware of these projects and have the opportunity to meet with the leaders of these projects and of the national labs that collaborate with them,” Pearson said.

After Pearson decided to join Hatch’s staff, the November 2014 elections resulted in the leadership of the Senate shifting to the Republicans. As the most senior member of the majority party, Hatch became the president *pro tempore* of the Senate and chairman of the Finance Committee. “He has an extremely rigorous schedule and receives a variety of dignitaries in his current capacity,” Pearson said.

Pearson had the unexpected opportunity to translate for Hatch when he received the president of the Senate of Paraguay and the Paraguayan ambassador, and he was able to supply Hatch with key phrases in their native language. Pearson had lived in Paraguay for a few years, and while his interest in policy began during that time, “never would I have imagined myself at some point in the future, in the Capitol building, translating between senior members of the Senates of our respective countries,” he said.

While his time spent working directly with Hatch has been limited, earlier this year Pearson was able to organize a meeting between Hatch and film director Robert Stone to discuss *Pandora’s Promise*, a documentary film about nuclear power. This summer, Pearson arranged for the 2015 Nuclear Engineering Student Delegation, along with students from Utah universities, to meet with Hatch.

“I am very grateful to ANS for this opportunity,” Pearson said. “This has been a great experience in federal policymaking. I look forward to many more positive experiences before my term expires in December, and I think the knowledge gained during this fellowship will be extremely valuable in the future.”

ANS updates used fuel position statement

The Public Policy Committee and the Fuel Cycle and Waste Management Division, recognizing a time-sensitive need to update ANS Position Statement 22, *Creation of an Independent Entity to Manage U.S. Used Nuclear Fuel*, have revised the position statement to reflect changes in the political environment and to highlight the urgent need for the government to fulfill its obligations regarding used fuel management.

The update was prompted by a Senate Energy and Natural Resources Committee hearing on bill S. 854, the Nuclear Waste Administration Act of 2015, scheduled for early August. The act would reform the government's high-level waste program by, among other things, establishing a new management entity. Although the hearing was subsequently postponed, ANS recognized the importance of having a current position statement on this crucial topic ready to present to legislators.

The changes made to the statement's introductory paragraph are consistent with the Nuclear Regulatory Commission's recently issued Continued Storage Rule, the Nuclear Energy Institute's position on the safe management of used nuclear fuel, and the 2012 report by the Blue Ribbon Commission on America's Nuclear Future.

No changes were made to the substance of the position statement, which was first released in 2008. The updated position statement is published here and can also be found at www.ans.org/pi/ps/docs/ps22.pdf.

CREATION OF AN INDEPENDENT ENTITY TO MANAGE U.S. USED NUCLEAR FUEL

Position Statement #22
Revised July 2015

The United States has a large and growing inventory of commercial used nuclear fuel, as well as government-owned used fuel and high-level radioactive waste. While it is possible to store the material safely for an indefinite period of time, long-term storage is not the ultimate solution. Responsible nuclear waste management requires an integrated approach involving some combination of on-site/centralized dry cask interim storage, nuclear fuel recycling, and emplacement of high-level wastes in a deep geologic disposal facility. A viable and durable waste management program will contribute to public confidence in nuclear energy as an important component of an energy future with reliable baseload electricity generation and low greenhouse gas emissions.

Technologically proven solutions exist today that can safely and economically manage the flow of used nuclear fuel from the nation's current and planned nuclear power plants. As such, the so-called "nuclear waste problem" the United States faces is not the result of inadequate technical capabilities. Rather, it is largely a political problem, whereby parochial and ideological factions have successfully exploited U.S. legislative and administrative processes to prevent the U.S. Department of Energy from taking possession of used nuclear fuel.

In order to promote the primacy of scientifically sound and technically informed decision making in U.S. nuclear fuel cycle policy, the American Nuclear Society urges Congress and the administration to consider the creation of an independent entity to oversee management of the current and expected stockpile of U.S. used nuclear fuel. Such an entity should possess the following characteristics:

- access to nuclear waste fees, not subject to annual congressional appropriations;
- governance that promotes long-range planning and continuity of leadership;
- authority to provide consolidated interim storage, nuclear fuel recycling, and geologic disposal consistent with laws, policies, and regulations;
- authority to support U.S. national security and nonproliferation objectives on a full-cost reimbursement basis;
- fully subject to U.S. Nuclear Regulatory Commission and U.S. Environmental Protection Agency regulations.

All current ANS position statements are available at www.ans.org/pi/ps/. A searchable list of the position statements in descending chronological order can be found at www.ans.org/pi/ps/search.php.

A change is in store for ANS News

Beginning in 2016, *ANS News* will "go digital," and members will no longer receive print copies by mail. ANS members will receive an e-mail when each issue of *ANS News* becomes available online at www.ans.org/members/ansnews, where back issues dating to 1999 can also be found.

ANS members have been able to choose electronic delivery of *ANS News* for several years, and nearly 50 percent of members now take advan-

tage of that service. The newsletter is provided as a PDF document that can easily be printed by those who would like to read from a paper copy.

Eliminating printing and mailing costs—while continuing to make *ANS News* available to all members electronically with no reduction of content—will help reduce the Society's operating costs.

Act now! To ensure that you will continue to receive *ANS News*, update your e-mail address by logging in to

your online account at <https://account.ans.org>. If asked to change your password, simply follow the step-by-step instructions available at www.ans.org/password. If you haven't set up an online account, click on "create an account" at <https://account.ans.org>, and be sure to add your e-mail address. If you do not have an e-mail address associated with your ANS membership, please contact Member Services at members@ans.org, or call 800/323-3044.

Board of Directors meets in San Antonio

The ANS Board of Directors met on June 10 and 11 in San Antonio, Texas, during the ANS Annual Meeting. The 192nd meeting of the Board was presided over by outgoing ANS President Michael Brady Raap, and the 193rd by incoming President Eugene S. Grecheck. The Board addressed the following items.

Professional divisions

The Board heard status reports from three professional divisions: Fusion Energy, presented by Susana Reyes, chair; Nuclear Installations Safety, presented by Susan Y. Pickering, vice chair; and Radiation Protection and Shielding, presented by Steven Nathan, secretary.

Treasurer's report

Treasurer Margaret Harding shared the results of ANS's 2014 audit, which was unanimously approved. She then discussed the April 2015 treasurer's report, which had been presented to the ANS membership at the previous day's Annual Business Meeting. She said that total assets as of April 30 stood at \$24.1 million, while liabilities were about \$7 million. Revenue for the year was projected to total \$9,592,143, which is \$160,021 less than the budgeted amount of \$9,752,164. Expenses were projected to be \$10,320,420, or \$56,063 more than the budgeted amount, which was \$10,264,357. The total operating net deficit for 2015 was projected to be \$728,277, a variance of \$216,084 to the budgeted deficit of \$512,193.

Harding reported that at the time of the meeting, actual revenues were better than budgeted. However, revenue shortfalls from Annual Meeting registration, advertising, and membership were forecasted.

Harding also summarized ANS's investment portfolio, which from January 1 to April 30 had a total value of \$20,141,295. The treasurer's report was unanimously approved.

Harding explained that while ANS has a deficit policy, actual deficits can exceed planned deficits, and guidance is needed in those situations. She

described the Society's budgeting and spending practices over the past three decades, and stated that new guidance will implement existing policies more effectively.

Executive Director Robert Fine provided additional information about the 2016 budgeting process, explaining that the process would begin over the summer and culminate at the Board meeting in Washington, D.C., in November.

Membership

Diane Cianflone, ANS director of Membership and Marketing, updated the Board on the status of Society membership, noting unanticipated declines in 2014, particularly among working professionals and students.

Membership Committee chair Peter Caracappa and incoming chair David Pointer then discussed recovery actions being planned by the committee. They described a short-term recovery plan with four "pillars"—engage, connect, recruit, and incentivize—designed to emphasize the value of ANS membership and establish a corporate incentive program to encourage companies to support employee membership. The Membership Committee will also work with the Local Sections Committee to encourage local section members to become ANS members.

Other issues

■ Washington Representative Craig Piercy updated the Board on the work of the ANS Washington Office since November 2014. He spoke about the importance of international markets, and the U.S.-China 123 Agreement, to the U.S. nuclear industry. Piercy summarized several activities of the Washington Office before introducing Jeremy Pearson, the 2015 ANS Congressional Fellow, who presented an overview of his role and responsibilities (see article on p. 6).

■ Local Sections Committee chair Tinh Tran presented a report to the Board on the status of local sections that are inactive or revitalizing. He listed eight inactive local sections that may be dissolved unless there is sufficient interest from ANS members in

revitalizing the sections (*ANS News*, July/Aug. 2015, p. 13). He also noted that three currently inactive local sections—Kansas, Metropolitan New York, and Puget Sound—are being recommended for revitalization.

■ Student Sections Committee vice chair Lane Carasik requested approval of the dissolution of eight dormant ANS student sections, located at Central Florida Community College, the New Jersey Institute of Technology, Pennsylvania State University—Beaver Campus, the University of Arizona, the University of California—Santa Barbara, the University of New Brunswick, the University of Toronto, and Youngstown State University. The dissolution of the student sections was unanimously approved. The Board then approved a new ANS student section at Brigham Young University (*ANS News*, July/Aug. 2015, p. 13).

New Board business

President Grecheck opened the 193rd meeting of the ANS Board of Directors by introducing 2015–2016 Vice President/President-Elect Andrew C. Klein, 2015–2017 Treasurer Steven A. Arndt, and six new at-large directors: Todd Allen, Carol L. Berrigan, Dorothy R. Davidson, William R. Martin, Kalin R. Kiesling (student director), and Kune Y. Suh (non-U.S. director).

■ Grecheck spoke about his priorities during his year as ANS president, which include developing special committees on low-level radiation and on nuclear and the states, planning ANS committee objectives (with assistance from the Planning Committee), reassessing the Society's business model for meetings, and increasing membership.

■ From a field of nine candidates for the Nominating Committee for the 2016 ANS election, the Board elected six members: Hatice Akkurt, Rita Baranwal, Vincent Esposito, Julie Ezold, Ben Holtzman, and Steven Nesbit. The Board then confirmed that Immediate Past President Brady Raap would chair the committee, with Hans Gougar, chair of the Professional Divisions Committee, and Tinh Tran, chair of the Local Sections Committee, serving as *ex officio* members.

Nuclear for Climate backed by 41 nuclear organizations

ANS is a lead partner with the French Nuclear Society (SFEN) and the European Nuclear Society in Nuclear for Climate—a communication initiative that was conceived by SFEN.

On May 4, during the International Conference on Advances in Nuclear Power Plants (ICAPP), held in Nice, France, Michael Brady Raap—who was then ANS president—joined other representatives of nuclear organizations from around the world to make a joint declaration to the media about the contribution of nuclear to fighting climate change (*ANS News*, July/Aug.

2015, p. 6). A signing ceremony recognized the agreement of 39 organizations that nuclear is a low-carbon energy source and a necessary part of the solution to fight climate change. Those organizations have now been joined by two others, the Indian Nuclear Society and the Ukrainian Nuclear Society.

In December, ANS President Eugene Grecheck and Communications Director Tari Marshall will attend COP21—also known as the 2015 Paris Climate Conference—as observer delegates representing ANS. Plans are being made for ANS to take part in a major Nuclear for Climate exhibit at the conference.



For more information, visit the ANS Center for Nuclear Science and Technology Information website (www.NuclearConnect.org), the Nuclear for Climate YouTube channel (www.youtube.com/user/Nuclear4Climate), or Twitter (@Nuclear4Climate).

HFIC Division: Focusing on the human component

The ANS Human Factors, Instrumentation and Controls Division (HFICD) strives to improve task performance, system reliability, system and personnel safety, efficiency, and effectiveness by focusing on the human component of nuclear technology.

The division had its beginnings in 1979, when the Technical Group for Human Factors was established. That group became a professional division in 1985, and in 2008 it was renamed the Human Factors, Instrumentation and Controls Division.

Sean Smith, a software engineer at Lockheed Martin Corporation, became chair of the HFICD in June. “Our community of human factors and I&C professionals plays a critical role in sustaining the excellent safety record and high performance of the world’s nuclear fleets, and in upgrading and expanding those fleets to meet the world’s needs,” he said. “The HFIC division is here to support and encourage its members in that critical role.”

HFICD has four main missions: promoting the education of nuclear industry professionals in HFIC-related topics, sharing information and advancements in technology, increasing division membership, and engaging the public and

polymakers. The HFICD cooperates with other ANS divisions—including the Operations and Power Division—in the service of these missions.

Division membership has topped 700, and the HFICD expects its membership to continue to increase as the nuclear industry becomes increasingly globalized and research and development focuses on advanced technologies and concepts. “Our interest areas apply to the current fleet of nuclear power plants as well as small modular reactors and Generation IV advanced reactor designs,” said John Mahoney, who completed a term as HFICD chair in June and who works as a business and project management consultant after retiring from Entergy Nuclear in 2013. “They are integral to our industry and will remain relevant for years to come.”

A total of 16 areas of interest have been identified among the division’s diverse membership. A twice-annual newsletter not only keeps members informed about division news, but also includes short papers on technical topics.

The HFICD had record attendance for the 9th International Topical Meeting on Nuclear Plant Instrumentation and Controls and Human-Machine

Interface Technology (NPIC-HMIT), held in Charlotte, N.C., in February. “Our training sessions prior to the conference were also well attended,” Mahoney said. A special committee is already at work planning the 2017 NPIC-HMIT, which will be an embedded topical at the 2017 ANS Annual Meeting in San Francisco, Calif. The division also hosted sessions at the Utility Working Conference in August and is working on sessions for the ANS Winter Meeting in November.

This year, the HFICD awarded the first Robert E. Uhrig Graduate Scholarship. The \$4,000 scholarship will be awarded annually to a nuclear engineering graduate student whose research focuses on technical disciplines related to I&C and human-machine interface technologies for nuclear power or other nuclear engineering applications. “We are preparing for other scholarship offerings,” Mahoney said, “and we also have some ideas brewing for student awards and incentives for preparing technical papers for submission.”

Division members are always welcome to join the group effort to maintain and expand programs that support the HFICD’s missions. “I would like to encourage each current—and future—member to get involved in the work of the division in any way they can,” Smith said. “It is a great group of people with whom to work.”

WISE interns, *continued from page 4*
Nuclear Energy Institute provided office space and related support for both ANS interns, coordinated by ANS member Carol Berrigan, NEI's senior director of industry infrastructure and a member of the ANS Board of Directors.

Hinkle reported that she was also assisted by ANS member Sam Brinton, a former student member of the ANS

Board of Directors. "He's a clean energy fellow at Third Way in D.C. He connected me with relevant people, and he reviewed the recommendations I developed from my research and helped me hone them," Hinkle said.

"This internship has given me a new perspective on ANS," she said, "in that it has shown me all of the opportunities available for personal development

through ANS. I plan on staying involved in ANS as much as I can throughout my career to give back all of the great opportunities that I've been given from this society."

Hinkle plans to pursue master's degrees in nuclear engineering and technology/engineering policy. "Hopefully, I can be a part of the creation of nuclear power policy in the future," she said.

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Sama Bilbao y León	Samuel J. Dechter	Ivan Grosz	Robert E. Lightle	Patrick J. Pinhero	Robert J. Taylor Jr.
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Raap	Juan Eibenschutz	Yasuo Hirose	William J. McTigue	Thomas L. Sanders	Robert C. Webb
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Jeffrey A. Buczek	Guy P. Estes	John R. Ireland	Mohammad Modarres	Paul F. Schutt	X. George Xu
Michael E. Button	Julie G. Ezold	Ralph M. Jacobs	David L. Mohre Jr.	Ralph K. Schwartzbeck	Boris L. Zhuikov
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Starved for attention: Addressing radiation concerns

By LAURA HERMANN,
COMMUNICATIONS COMMITTEE CHAIR

September 8 was the final day for submitting comments on the Nuclear Regulatory Commission's new proposed rule, *Linear No-Threshold Model and Standards for Protection Against Radiation* (see www.federalregister.gov/articles/2015/06/23/2015-15441/linear-no-threshold-model-and-standards-for-protection-against-radiation). The comment period previews what may become a larger debate, but few of us outside the Beltway pay attention to the rulemaking, petitioning, and notice-and-comment processes announced in the *Federal Register*. The terms might even remind you of a civics class from high school. But these mechanisms for public participation offer important communication tools for ANS members.

Spare me the details

Nuclear professionals will pay attention to changes to 10 CFR Part 20, but most people's eyes glaze over at the mention of such bureaucratic filings. Risk communication principles emphasize that facts cannot persuade on emotional issues, and fear of radiation is a prime example. The NRC's review of how it sets standards for protecting workers and the public from radiation will evaluate the need to change from the linear no-threshold model to a hormesis model, which acknowledges that exposure to low levels of ionizing radiation protects, rather than harms, the human body. This debate has been around for decades, but its mainstream appeal has been limited. Now, however, the NRC's review brings topical attention to a longstanding issue.

Opposing forces will battle over which scientific studies provide a sound basis for regulation. The public comment period has mobilized experts, activists, and regular citizens to log their opinions and evidence. Unfortunately, headlines about "quack science" (see <http://nuclear-news.net/2015/07/24/usa-nuclear-regulatory-commission-seriously-considering-quack-science-of-radiation-hormesis>, for example) are

already informing the debate online.

The currency of communication

"Pay attention" is an idiomatic phrase in English, but it says a lot. The expression means to notice or to be attentive, but the transactional metaphor speaks to today's reality: Attention has become a currency. "Eyeballs" are a commodity in the advertising world, and educators quickly learn that they need to compete to deliver ideas. As information proliferates, audiences narrow what they pay attention to. The more information we have access to, the more selective we become.

With so many demands on our time, it's no surprise that people strive to preserve or extend their allocations of this

limited resource. For audiences hungry for qualified and credible sources, ANS offers a wealth of knowledge.

ANS members know the challenges of communicating about radiation. With social media participation skyrocketing in the past year, we are well-positioned to combat misunderstandings about natural and technologically derived forms of radiation. ANS boasts nearly 15,000 followers on Twitter and 8,000 regular readers of *ANS Nuclear Cafe*. To continue to grow that audience, we'll be paying attention to what commenters value and why they are investing their time in the rulemaking process. Respect for their concerns and insight into their information needs will open new avenues for ANS's professional divisions, committees, and local and student sections to share their expertise. The petitioning process offers an important platform for professionals to help others make sense of a glut of information.—*lhermann@pcgpr.com*

Awards presented at UWC

During the opening plenary session of the 2015 ANS Utility Working Conference and Vendor Technology Expo, held August 9–12, the following ANS Operations and Power Division awards were presented.

Utility Leadership Award

Presented to **Lee A. Rogers**, ANS member since 1980 and vice president of strategy and solutions at DataGlance

Inc., in recognition of his leading role in the development, promotion, design, and implementation of electronic work packages.

Utility Achievement Award

Presented to the staff of the **Vermont Yankee Nuclear Generating Station** for meeting the challenges of their final operating cycle with excellent operational performance, including a breaker-to-breaker run.

ANS HONORS & AWARDS

GEORGE C. LAURENCE PIONEERING AWARD

This award was established in 1988 by the Nuclear Installations Safety Division to recognize lifetime achievements by individuals who have made outstanding pioneering contributions to the field of nuclear reactor safety. Nominations are due by **December 1**. Candidates need not be ANS members. Additional information is available online at www.ans.org/honors/va-laurence.

UPCOMING DEADLINES

December 1 George C. Laurence Pioneering Award, Theos J. "Tommy" Thompson Award

January 31 W. Bennett Lewis Award

Additional information and nomination forms are available on the ANS website at www.ans.org/honors/, or from ANS headquarters at 708/579-8290.

ANS Savannah River Section sponsors Southeastern Summer Nuclear Institute

This summer, middle school and high school teachers from Georgia and South Carolina were invited to participate in the first-ever Southeastern Summer Nuclear Institute (SSNI), held July 15–17 in Aiken, S.C.

The ANS Savannah River Section provided financial and organizational support for the SSNI, which was hosted by Citizens for Nuclear Technology Awareness (CNTA) and attended by 21 teachers. ANS member Mel Buckner directed the SSNI, while several other members of the Savannah River Section made presentations or led tours.

The SSNI was organized to promote nuclear education and workforce development in the Southeast. “The key goal was to promote student interest in science, technology, engineering, and mathematics (STEM) education and related careers,” said Buckner,



ANS member Jon Guy (right) explains the Chart of the Nuclides using ANS's Isotope Discovery Kit.

who is a member of CNTA's board of directors.

The SSNI agenda included a tour of

the Vogtle nuclear power station in Burke County, Ga., with visits to the Vogtle-3 and -4 construction site, simulator exercises, and meetings with nuclear plant personnel.

The teachers also toured the Department of Energy's Savannah River Site, including waste management facilities and Savannah River National Laboratory. Classroom workshops at the University of South Carolina at Aiken (USCA) emphasized atomic and nuclear fundamentals, power generation fundamentals, nuclear technology applications, risk (real versus perceived), and nuclear workforce opportunities. Hands-on activities were used to illustrate technical concepts and scientific principles.

SSNI attendees went home with educational resources, including a DVD with the workshop presentations and reference materials, teacher guides and outreach materials from ANS, a certificate of completion, and \$50 in gift cards. All meals were provided, and on-campus housing was offered to those attending from outside the local area.

In addition to the Savannah River Section and CNTA, sponsoring partners of the SSNI included Georgia Power, the SRS Community Reuse Organization, Areva, USCA, SUNRISE Universities, and EnergySolutions.



THE UNIVERSITY OF TENNESSEE-KNOXVILLE STUDENT SECTION is the winner of the 2015 Samuel Glasstone Award, which is presented annually to the ANS student section judged to have accomplished the most notable achievements in public service and the advancement of nuclear science and engineering. Honorable mentions were awarded to the University of Wisconsin–Madison and the University of Florida. Members of the ANS UT-Knoxville Student Section are pictured during a January tour of Southern Nuclear Operating Company's Vogtle nuclear power plant.

Eastern Washington Section hosts BBQ to kick off “new era”

On August 18, the ANS Eastern Washington Section (EWS) hosted its first-ever networking barbecue at Howard Amon Park, located on the banks of the Columbia River in Richland, Wash. The event drew more than 50 attendees, “one of the largest and most age-diverse groups ever gathered for one of our local section monthly meetings,” according to Kiah Griffith, EWS vice chair.

“We were pleased and honored to have ANS President Gene Grecheck in attendance,” Griffith said. Grecheck spoke about the importance and benefits of being a member of the American Nuclear Society. “Gene also unveiled his new slogan—The world



Smiles all around on a summer evening. For more photos from the barbecue, go to www.Facebook.com/ANSEWS or Twitter @ANS_EWS. (Photos: Kiah Griffith)

needs nuclear, nuclear needs ANS, and ANS needs *you!*—to a roaring round of applause,” Griffith said.

“The barbecue was a success,” said EWS chair Dion Sunderland. “We hopefully have increased participation in our local ANS chapter.” Sunderland credited ANS member and former EWS chair Virginia Cleary-Ivanoff with not only taking on grilling duties at the barbecue, but also encouraging local members of North American Young Generation in Nuclear to attend.

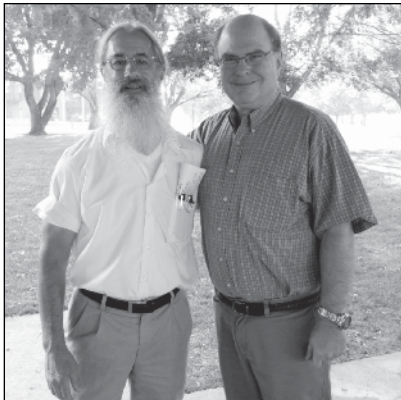
“The event served its purpose to kick off a new era for the Eastern

Washington Section,” Griffith said. The EWS is planning a new program schedule for the upcoming year in which it will continue to hold dinner meetings featuring a technical presentation by an invited speaker in odd-numbered months, but in even-numbered months will offer social networking events.

In September, ANS member Ross Radel, president of Phoenix Nuclear Labs, gave a talk on a new neutron generator recently developed by PNL. The EWS’s next social event will be a nuclear-themed trivia challenge held at a local pub on October 20. “There are rumors of having a scientist costume contest too!” Griffith said.

Last November, the EWS lost a valued member when Gary Troyer, ANS member and former EWS chair, died in a car accident. This year, the EWS has paid a lasting tribute to Troyer by establishing the Gary Troyer Memorial Scholarship. Reflecting Troyer’s strong involvement in the community and with the Boy Scouts, the new scholarship will be awarded annually to a student who has been actively involved in Boy or Girl Scouts and who is studying a STEM subject (science, technology, engineering, or math).

For more information about the EWS, visit the section’s new website at www.anseasternwashington.org.



ANS President Eugene Grecheck (right) posed for a photo with EWS chair Dion Sunderland.

UPCOMING MEETINGS

- **2015 ANS Winter Meeting and Nuclear Technology Expo**, November 8–12, Washington, D.C.
- **2016 ANS Student Conference**, March 31–April 3, 2016, Madison, Wis.
- **Embedded Topical: 12th International Topical Meeting on Nuclear Applications of Accelerators (AccApp ‘15)**, November 10–13, Washington, D.C.
- **11th International Conference on Tritium Science & Technology (TRITIUM 2016)**, April 17–22, 2016, Charleston, S.C.
- **Embedded Topical: Young Professionals Congress 2015**, November 7, Washington, D.C.
- **2016 International Congress on Advances in Nuclear Power Plants (ICAPP 2016)**, April 17–20, 2016, San Francisco, Calif.

VCU hosts science teacher workshop

Virginia Commonwealth University hosted 26 sixth- to twelfth-grade math and science teachers for a four-day teacher workshop, “The Science of Nuclear Energy and Radiation.” The workshop, held July 20–24, was organized by the ANS Virginia Section, the Virginia chapter of the Health Physics Society, North American Young Generation in Nuclear, and the Lynchburg chapter of Women in Nuclear.

Sama Bilbao y León, an ANS member and associate professor and director of nuclear engineering programs at VCU, was the lead organizer of the workshop. Several other members of the ANS Virginia Section took part, including ANS President Eugene Grecheck, who gave a keynote presentation on the future of nuclear power in the United States and in Virginia.

For a fee of \$75, the teachers received instruction, room and board, and teaching materials to take home, including Geiger counters. The atten-



Workshop participants are introduced to ANS's Isotope Discovery Kit.

dees visited VCU's radiation detection and measurement laboratory, nuclear simulator, and nuclear medicine facilities. They also toured Dominion's Surry nuclear power station.

Science teacher workshops have been held at VCU's campus in Rich-

mond, Va., since 2010. Bilbao y León describes the workshop as a full immersion program. “Teachers stay at the dorms for four days, and they mingle and network among themselves and get to know some nuclear professionals,” she said. “They see that we don't glow.”

NEW MEMBERS

The ANS members and student members listed below joined the Society in June and July 2015.

A

Adelman, Lisa B., Absolute Consulting
Aghazarian, Maro, Nuclear and Radiation Safety Center (Armenia)
Akin, Andrew C., Dufrane Nuclear Shielding
Anderson, Anthony, U.S. Navy
Anderson, Denise E., U.S. Nuclear Regulatory Commission
Angell, Christopher T., Japan Atomic Energy Agency
Armstrong, Bobby C., Atkins Global

B

Barnes, Craig, University of Tennessee—Knoxville
Barty, Christopher, Lawrence Livermore National Laboratory
Bell, Jack A., Duke Energy
Blakely, Samuel A., U.S. Air Force
Bohne, Jason, U.S. Department of Energy
Bolisetti, Chandrakanth, Idaho National Laboratory
Bowers, Matthew R., Bechtel Marine Propulsion Corporation

Bowie, Russell A., Project Performance Improvement
Brabec, Richard “John,” Black Diamond Services
Bracall, Robert L., Day & Zimmermann
Brooks, Brandon, General Atomics
Brozenich, Paul W., Jr., Day & Zimmermann
Bubar, Patrice M., retired

C

Cartas, Andrew R., recent graduate
Castle, Brett, U.S. Air Force
Chihara, Rui “Louis,” Toshiba Corporation
Choudhoury, Javed, AWE plc (U.K.)
Coulson, Brianna, recent graduate
Creen, Jeremy M., Nuclear Waste Partnership
Crutcher, Christopher T., University of Tennessee—Knoxville

D

Davies, Andrew W., AWE plc (U.K.)
Deegan, Colleen A., Bechtel
DeMeritt, Jared R., Bechtel
Dolecki, Jacob, U.S. Nuclear Regulatory Commission

E

Evans, William A., A.W. Chesterton Company

F

Fitzwater, Savannah, National Nuclear Security Administration
Flannery, Eoin H., AWE plc (U.K.)

G

Galante, Nicole, recent graduate
Garcia, David V., Jr., American Mergers & Manufacturing International
Garmon, David, U.S. Nuclear Regulatory Commission
Gebrael, Nagi, Georgia Institute of Technology
Goldblum, Bethany, University of California—Berkeley
Gross, Christopher J., TerraPower
Grzeck, Lee J., Duke Energy

H

Heinrich, Carrie M., BWX Technologies
Herrero, Jose J., Paul Scherrer Institute (Switzerland)
Horn, John G., Southern Nuclear

I

Itoh, Ayumi, Institute of Applied Energy (Japan)

J

Jelalian, Alan, Engineering Planning and Management

K

Kohse, Gordon E., MIT Lincoln Laboratory
Kudinov, Pavel, Royal Institute of Technology (Sweden)

L

Laut, Alexander J., recent graduate
Lee, Hyo Myung, Pohang University of Science and Technology (South Korea)
Lefferts, Curt, Fluor Enterprises
Levine, Stephen G., Bechtel Corporation
Lin, Qian, Shanghai Nuclear Engineering Research and Design Institute (China)
Lindl, John, Lawrence Livermore National Laboratory

M

Mansour, Tamar S. M., Federal Authority for Nuclear Regulation (UAE)
Martin, Mathieu G., Areva
Maskal, Alan B., Bechtel Marine Propulsion Corporation
Matherne, Brent, BCP Engineers & Consultants
McDevitt, Mike J., Electric Power Research Institute
Meier, Michael D., Southern Nuclear
Merten, Mat, ATC Nuclear
Munger, David M., recent graduate

N

Navarro, Jorge, Idaho National Laboratory

P

Patel, Hiral, Bechtel Marine Propulsion Corporation
Pecchia, Marco, Paul Scherrer Institute (Switzerland)
Perry, David C., AWE plc (U.K.)
Petrosky, Lyman J., Westinghouse Electric Company

R

Reigot, Luke, recent graduate
Riley, Josh, Duke Energy
Roydhouse, Mark A., AWE plc (U.K.)

S

Sagel, Alexandria M., Energy Steel & Supply Co.
Sanders, Walter, Day & Zimmermann NPS
Schunert, Sebastian, Idaho National Laboratory
Soto, Ruben, Simpson Gumpertz & Heger
Soulje, Nathanael T., Areva TN
Steed, Richard W., WD Associates
Steer, K. Michael, TerraPower
Stuehm, Kevin A., Battelle Energy Alliance
Strickland, James M., U.S. Navy
Sullivan, Clair J., University of Illinois—Urbana-Champaign
Sutter, Lloyd S., Duke Energy

T

Tarnowsky, Terence, U.S. Military Academy

Taylor, John A., Luminant
Thew, Lauren D., Scientech/Curtiss-Wright
Thorpe-Kavanaugh, Meghan M.,
Susquehanna Nuclear Power Plant
Trbojevic, Dejan, Brookhaven National Laboratory

V

VanHoose, Tamara B., U.S. Army/Defense Threat Reduction Agency

W

Wagner, Cynthia A., GE Hitachi Nuclear Energy
Watson, Elizabeth, AWE plc (U.K.)
Weibel, Kristin L., Exelon Nuclear
Welsh, Christopher A., Southern Nuclear
Williams, Mark G., Westinghouse Electric Company
Wollaeger, Ryan T., Los Alamos National Laboratory

Y

Yeremian, Rosemary, Strategic Insights
Yoshioka, Masaki, Japan Electric Power Information Center
Yu, Yiqi, Argonne National Laboratory

Z

Zeissler, Cynthia J., National Institute of Standards and Technology

STUDENT MEMBERS

Arizona State University
Holman-Abbott, Michelle M.

Brigham Young University
Fitzhugh, Richard L.
Wilding, Paul R.

Clemson University
Stem, Brandon N.

College of DuPage
Allen, Keith

Cranfield University
Wood, Peter J.

Excelsior College
Ford, Jeffrey A.

Georgia Institute of Technology
Achey, Lauren

Kansas State University
Gould, Daniel W.

King Abdulaziz University (Saudi Arabia)
Alsulaimani, Anmar

Massachusetts Institute of Technology
Zhao, Xingang

Monroe County Community College
Jackson, James E.

North Carolina State University
O'Brien, Ellen M.

Ohio State University
Wilson, Brandon A.
Zhang, Xiaoqin

Oregon State University
Gomez-Fernandez, Mario E.

Pennsylvania State University
Cohen, Charles A.
Gerheiser, Kyle
Jin, Yue
Leandro, Adrian M.
Smith, Travis G.

Portland Community College
Sullivan, S. Brady

Purdue University
Huang, Dongli
Jing, Tian
Ju, Peng
Lin, Ching-Sheng
Mao, Keyou

Texas A&M University
Kitcher, Evans D.

Tsinghua University (China)
Shang, Xiaotong

University of California—Berkeley
Kendrick, James C.

University of California—Irvine
Travis, Austin W.

University of Illinois—Urbana-Champaign
Hu, Guojun

University of Maryland
Schwarm, Samuel C.

University of Michigan
Rasch, Erich B.
Taller, Stephen A.

University of Nevada—Reno
Nielsen, Taylor M.
Phillips, William C.

University of New Mexico
Williams, Cody M.

University of Pittsburgh
Stack, Brendan

University of South Carolina
Ma, Linlin

University of Tennessee—Knoxville
Wheeler, Alexander M.

University of Texas—Arlington
Lucas, Clayton

University of Wisconsin—Madison
Al-Nasrallah, Eissa
Carlsen, Robert W.

Utah State University
Degel, Benjamin

Virginia Commonwealth University
Toro, Miguel

ORGANIZATION MEMBERS

The organizations listed below recently joined the ANS Organization Membership program. Information about joining the program is available online at www.ans.org/orgmembers/, or by contacting Mary Vitas at ANS headquarters by phone (708/579-8217) or e-mail (organization@ans.org).

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