

Minutes of July 16, 2004
Penn State Nuclear Engineering Society Board Meeting

Submitted by: Melissa A. Hunter, Secretary/Treasurer

The second Penn State Nuclear Engineering Society (PSNES) Board Meeting was held at 125 Reber Building, The Pennsylvania State University, University Park, on July 16, 2004.

Attendees:

Jeff Jeffries, President

Len Pasquini, Vice President

Melissa Hunter, Secretary/Treasurer

Jack Brenizer, Chair of Nuclear Engineering Program

Ed Klevans, Past President

Pat Loftus, Board Member

Frank Buschman, Board Member

Larry Hochreiter, Nuclear Engineering Faculty Member

Kim Ripka, Departmental Strategic Planning Specialist, Mechanical and Nuclear Engineering Department

Dick Benson, Head of Mechanical and Nuclear Engineering Department

The meeting was called to order by PSNES President Jeff Jeffries at 10:02 a.m. Jeff thanked everyone in attendance for coming. PSNES has accomplished some success during the past year based on the goals the Board established during last year's Board meeting. However, PSNES did not progress in some areas. One of the purposes of this PSNES Board meeting is to determine how PSNES can go to the next level of being more action-oriented and getting more involvement from alumni.

Dick Benson provided a summary of the Department of Mechanical and Nuclear Engineering. The research spending per faculty member is third in the Big-10; the Radiation Science and Engineering Center (RSEC) is doing very well; the Nuclear Engineering (NE) program has a high number of undergraduate students, and the number is increasing every year; and, there are many students pursuing the dual ME/NE major (all 6 NE graduates last December were dual major students).

Jack Brenizer presented an update on the Penn State Nuclear Engineering Program, including a brief synopsis of the history of university research reactors (URRs) and how important they are to NE research. In 1979 there were 63 URRs in the United States; now there are only 26. An active research program is the key to URR survival. However, as the number of undergraduates in NE increases, the ability to perform research decreases since the URR must be available for undergraduate laboratories and classes. The number of students enrolling in NE has been increasing for the last six years, and this number

continues to rise rapidly nationwide. The dual ME/NE major, which is the only program in the U.S., has been a big success. There are currently 39 students seeking the concurrent degrees. The current enrollment numbers for NE are: 87 undergraduate, 14 Master's of Science, 31 Master's of Engineering, and 27 doctoral students.

Penn State's ME and NE programs are among the largest in the U.S. with respect to funding and have seen an incredible rise in research. For example, the ME and NE programs conducted over \$21 million in research in February 2003 alone. The funding is from a variety of sources such as industry (utilities and vendors) and federal government (DOE, NSF, NRC). The top area of funding for NE is through the Big-10 INIE (Innovations in Nuclear Infrastructure and Educations) Consortium grant, which was first awarded in 2002. The Big-10 INIE Consortium consists of 6 universities and several industry and national laboratories, and was established to be a leading organization for reactor-based research, outreach, and next generation University Research and Training Reactors (URTRs). The 6 universities in the Big-10 INIE Consortium currently supply more than 30% of all NE degrees.

Jack described several recent and future renovations at the Radiation Science and Engineering Center (RSEC). Room 2 at RSEC, which is the outreach/teaching laboratory, was completely renovated and new equipment was added. The design of the RSEC Neutron Beam Laboratory Expansion is complete and funding is being sought. The expansion will have 3 cold and 3 thermal neutron beams, which will greatly expand the areas of research at RSEC.

The goals of the NE program are to: produce the best NE students in the country; have the top-ranked B.S. and graduate NE programs in the U. S. (Penn State is currently ranked 4th for undergraduate); be the first place for recruiters and researchers to consider; and, involve the NE alumni through PSNES. Currently Penn State's NE program is very strong in the power engineering area, but is not as strong in the nuclear science areas. The NE program must become stronger in the nuclear science areas. In addition, a strong research program must be maintained at the reactor and RSEC. PSNES can also help the NE Program to achieve some of the goals by increasing the visibility of the Penn State NE program.

The Board discussed the NE faculties' web pages, which was an issue from last year's Board meeting. The information on the web pages and the presentation of that information on the web pages are important since most people begin their searches for information on the internet. In general, the web pages have significantly improved; however, some of the faculties' personal web pages still can be improved. Ed Klevans agreed to investigate why some of the web pages have not been updated; he will meet with faculty members about their web pages and report back to the PSNES Board in approximately 2 months.

The Board unanimously approved the minutes as submitted from the last Board meeting.

Jeff Jeffries provided a recap of the past year's PSNES activities; the first topic was the creation of the PSNES brochure. Eileen Supko did an outstanding job in spearheading this effort. Approximately 250 brochures were available at the 2004 ANS Annual Meeting last June, and they were all taken.

There are currently 250 to 300 PSNES members, out of a NE alumni database of approximately 1400. The Board discussed how NE alumni can be encouraged to join PSNES by offering something along with membership to keep members involved. Jeff Jeffries relayed that Fred Sears, Director of the RSEC, has offered PSNES the opportunity to be involved in next year's 50th anniversary reactor celebration to be held on August 15, 2005. The Board unanimously passed a motion that the Director of RSEC be an ex-officio member of the PSNES Board.

The storyboard that Eileen Supko has been developing to submit for publication in the College of Engineering's magazine *Engineering Penn State* would be a great way to advertise the NE program and the reactor to alumni. The storyboard could also be submitted to *Nuclear News* to give the NE program more exposure. The storyboard and a virtual tour of the reactor could be mailed to all NE alumni to advertise PSNES, the NE program, and the 50th anniversary celebration. These are all good ways to increase visibility. Jeff Jeffries agreed to assist Eileen with completing the storyboard.

The NE 590 Seminar series is another good way of bringing back alumni to Penn State. Len Pasquini tentatively agreed to present a seminar about Rocky Flats. All PSNES members should submit any potential seminar speakers to Jack Brenizer. Larry Hochreiter agreed to compose an email that describes the seminar series to solicit speakers from PSNES.

PSNES was not very successful in providing judges for the Capstone design team presentations. The main issue appears to be that the teams' presentations must work around the students' schedules. Larry Hochreiter, instructor of this NE course, wants PSNES participation and agreed to provide more information to PSNES members about the projects. The Spring semester projects will be presented during the week of May 2-6. As this week approaches, Larry will provide more detail about presentation times. PSNES participation will benefit both the students, who will be asked questions from engineers not working in academia, and the NE alumni, who will see how much the NE students know.

PSNES was also unsuccessful in establishing a resume review and mock interview for NE students. Frank Buschman reported that the students are interested in PSNES participation in resume reviews. The plan is for students to be able to choose an area of interest when they submit their resumes; then,

PSNES members from that area will review the resumes and provide feedback to the students. PSNES can supply a database of people in the different areas to review resumes. All PSNES members interested in participating in a resume review should submit their names to Jeff Jeffries.

Larry Hochreiter suggested that PSNES members could speak to the NE students about what companies expect from new employees and what new employees should expect from companies at one of the student ANS meetings. The student ANS meetings are approximately every 3 weeks during the semester, and the first meeting is already scheduled for September 21 (directly before the career fair). Frank Buschman will set up an ANS meeting for either September 7 or 8 so that one or more PSNES members can speak to the students. Jeff Jeffries agreed to solicit PSNES members to speak at that meeting.

The next item discussed by the Board was elections. Six of the nine elected members have terms that expire in 2005. The Board unanimously approved a motion that the Immediate Past President of PSNES assume the position of Chair of the Nominating Committee and that he or she can select the members of the Nominating Committee. Ed Klevans, Immediate Past President of PSNES, agreed to choose the members of the Nominating Committee and have a list of candidates for the 2005 elections by the end of 2004.

The next item on the agenda was the discussion of new proposals for PSNES. Jack Brenizer invited PSNES to co-sponsor the Penn State Reception at the ANS Winter Meeting in Washington, D.C. on November 15. The reception is a great opportunity to increase the visibility of both Penn State's NE Program and PSNES. The Board agreed to co-sponsor the reception. Jack Brenizer will provide a message about the reception to Kim Ripka so that she can then send that out to PSNES members via email. Jack will follow that initial email with a series of emails about other subjects such as news about the Program, student enrollment, reactor expansion, INIE, ANS student conferences, student activities, and the 50th Anniversary celebration for the Breazeale Reactor. The initial email will be sent to PSU NE alumni; the follow emails will only be sent PSNES members. This will encourage alumni to join PSNES. Jack agreed to find a work-study student to extract information from his slides and compose good marketing emails for PSNES members to read. Frank Buschman agreed to provide a summary of the ANS student conference papers so that this information could be provided to PSNES members via email.

Several promotional areas where PSNES can help at the reception in November include:

- PSNES brochures
- Slide show
- 50th Anniversary of Reactor
- NE 590 Seminar speakers

- Student ANS speakers
- Resume reviewing
- MNE magazines
- Storyboard
- 1-page flyer

The other new proposal was the invitation to PSNES to assist with the upcoming 50th Anniversary celebration of the Breazeale Nuclear Reactor. The Board agreed that PSNES should participate. Jeff Jeffries will communicate the specifics of the celebration to PSNES members after talking with Fred Sears. One area where PSNES members could help in the celebration included soliciting pictures and/or memoirs from alumni about the Breazeale Reactor. Jeff agreed to talk with Fred to receive more details about the celebration and how PSNES can help.

The last item on the agenda was to review the role of PSNES relative to MNE IPAC. Jeff Jeffries stressed that PSNES is not in any way a replacement for IPAC and that there is a distinct line of demarcation. PSNES is not an advisory board like IPAC.

At the conclusion of the Board Meeting, Jeff Jeffries thanked the Board members for their participation and encouraged all PSNES members to re-double their efforts to take PSNES to the next level. Dick Benson also thanked the Board members and reported that they are trying to establish an alumni organization like PSNES for mechanical engineers.

The next Board meeting will probably be August 15, 2005 to tie in with the 50th Anniversary Celebration of the Breazeale Reactor.

The meeting was adjourned at 1616.

Summary of Action Items

- Investigate why some of the NE faculties' web pages have not been updated (Klevans)
- Provide potential NE 590 Seminar speakers to Jack Brenizer (All)
- Compose email describing NE 590 Seminar to solicit speakers from PSNES (Hochreiter)
- Provide Capstone design description to PSNES members (Hochreiter)
- Establish a database of PSNES members to review student resumes (Jeffries, All)
- Solicit PSNES members to speak to student ANS section during the evening of September 7 or 8 (Jeffries)
- Appoint PSNES members to the Nominating Committee and establish a list of candidates for the 2005 PSNES Board elections (Klevans)

- Send email to PS NE alumni about the ANS Winter Meeting Reception on November 15 (Brenizer, Ripka)
- Send emails approximately every 3 weeks to PSNES members about various NE Program topics (Brenizer)
- Complete storyboard (Supko, Jeffries)
- Hire a work-study student to review information in slides about the NE Program and compose emails to send out to PSNES members (Brenizer)
- Summarize Penn State ANS student conference papers for dissemination to PSNES members (Buschman)
- Communicate with Fred Sears to find out more details about the 50th Anniversary Celebration of the Breazeale Reactor and how PSNES members can help (Jeffries)