

Panel on Public Affairs Meeting
June 1st, 2007
529 14th Street, NW, Suite 1050, Washington DC

Members present:

R. Eisenstein, M. Klein, D. Moore (via videoconference), E. Moniz, W. Dorland, E. Heller, J. Lebowitz, M. Ross, F. Hellman, R. Howes, G. Lewis, S. Mtingwa, B. Tannenbaum, J. Scofield, J. Browne, K. Budil, A. Sessoms, R. Goldston, V. Thomas

Advisors/Staff present:

M. Lubell, F. Slakey, K. Duncan, J. Russo, T. Johnson, J. Franz

Members Absent:

C. Murray, G. Crabtree, H. Gao

Guests:

Tim Meyer, *National Academy of Sciences*
Brian Finlay, *Henry L. Stimson Center*

Call to Order

Eisenstein called the meeting to order at 8:15 AM.

Welcome and Approval of Minutes

John Browne introduced himself, as this is his first POPA meeting. Tawanda Johnson introduced herself as the new Press Secretary for the APS Washington office.

Action: The motion to approve the minutes of the February 2nd, 2007 POPA meeting, with noted corrections¹, passed unanimously.

Updates on Completed Studies

Consolidated Interim Storage of Commercial Spent Nuclear Fuel

A brief summary of the Study's report indicates that there is no compelling technical benefit to early development of multiple interim storage sites. There isn't a technical advantage to the Consolidation & Preparation proposal (CAP) that would require the Governor of nearly every state² with an operating reactor to identify a location for storage of spent fuel. There are, however, two potential programmatic benefits associated with consolidated storage. They are:

- (1) Consolidating would help to decommission sites that have no working reactor, but have waste (nine sites);
- (2) Consolidating could possibly remove a potential obstacle to building new nuclear plants.

These two benefits may tip in favor of some smaller scale (in contrast to CAP), deliberate approach to developing a consolidated site.

Results: Dr. John Ahearne made several trips to Washington and met with dozens of congressional staff and DOE & NRC officials. He outlined the problems with the CAP proposal and directed discussion toward smaller scale alternatives. As a result, the CAP proposal is now dead.

Challenges of Electricity Storage Technologies

The Electricity Storage report was reviewed by the Executive Board in April 2007 and it is now posted on the APS website. This has generated some interest, within APS, and people are actively looking for the report. Dr. Howes gave an invited paper at the April APS meeting on the report and was asked to repeat it at the Ohio section. She considers the report a building block for the future, as this is one of the first scientific studies on the topic.

Commentary: Members questioned whether there was any hope that DOE would expand its limited focus on this topic. Howes replied that it isn't likely. Mtingwa discussed a recent DOE conference he attended and indicated the same. There was a question regarding why the report doesn't discuss demand balancing. Howes indicated that they narrowly focused their review on storage, and therefore the issue didn't have a place in this report.

The Role of the Reliable Replacement Warhead

The report indicates that there are insufficient plans for costing, scoping, and scheduling of the current RRW program to decide if it is really a plan worth pursuing. The report was pre-briefed prior to public release to several staffers in Congress and the response was overwhelmingly positive. When the report was released it had wide media coverage and the AAAS received supportive correspondence from the NNSA regarding the technical aspects the report raises. Similar comments were delivered to the AAAS from the State Department.

Results: The Armed Services Committees in both the House & Senate reduced funding for RRW by \$20-\$30 million. Appropriators in the House "zeroed out" the program. House and Senate reports both referenced the AAAS study. The House & Senate have indicated they will require either an independent, bi-partisan commission in the House or a new nuclear posture review from the next Administration to determine what the role of nuclear weapons is in the defense of the United States, before moving forward.

Action: The State Department, DOE, the House & Senate Armed Services Committees, and several House offices have asked that APS & AAAS foster a dialogue about nuclear weapons in a post-9/11 world. John Browne, in cooperation with Slakey and Tannenbaum, proposed to head this directive.

Status Reports on Studies in Progress

Nuclear Power Workforce Study

Members of the Working Group (WG) have been chosen and will meet in July for a Summer Workshop. There will be ten members. The Workshop will include several expert speakers. Chair, Sekazi Mtingwa, reviewed the study's updated charge. Changes were made to the three major scenarios the WG will research. The scenarios will now include:

- (1) Maintaining the status quo;
- (2) The percentage of electricity produced by nuclear power remains constant domestically and;
- (3) A three-fold expansion of current domestic and global nuclear generating capacity.

Nuclear Forensics Study

Bill Dorland indicated that Mike May agreed to Chair the Committee. Committee members have been chosen and include an international perspective (Reza Abedin-Zadeh, Technical Director of IAEA). The audience will be Congressional Staff, Administration (DOE, Department of State, OMB), and the IAEA. The first meeting has been scheduled for July 2007 in Stanford. Second meeting will be in October or November 2007 in Washington, DC. February 2008 is the intended date of completion. The Committee had significant discussion before deciding that the final product would be unclassified.

Commentary: There were questions about whether this study would provide a resource for those who would use the information against us. It was indicated that the study's leadership, and the committee members who were chosen, would be very careful about what was contained in the end product.

Energy Efficiency Study

Mike Lubell indicated that the Executive Board & Council approved the proposal for this study at the April 2007 meeting. The expectation is that APS will raise funds, but the Council will provide up to \$700K for the study regardless. It was difficult to find a Chair for this project because a number of key people were unavailable. Eventually, Burton Richter agreed to Chair the study with David Goldston as Vice-Chair. These will be good anchors for both the technical & policy sides of the issue. Two staffers will be hired for the study, as well; one with a technical background and one with a policy background. Committee members are now being recruited.

The focus of the study will be on building (lighting, heating, appliances, etc.) & transportation efficiency. There will also be a review of policy implementation, and possibly a review of the impact of transmission on utilities. The working title was changed at the Executive Board & Council meeting to: "*Leading the Way on Security and Climate Change: Energy Efficiency - A R&D Road Map*". The reaction of the POPA Committee was that the title was too long and cumbersome.

There will be four meetings of the full committee (summer 2007, fall 2007, February 2008, May 2008), with a briefing of the Council in April 2008 and delivery of a final report, to be sent out

for external review, in June of 2008. That will position the study well to influence the incoming Administration.

The charge is currently being reviewed by the Chair & Vice-Chair, and will be re-written.

There are three other energy efficiency studies materializing, that we know about.

- (1) The National Academies are embarking on a comprehensive study that will take approximately three years to complete, in phases.
- (2) IIASA will meet in August of 2007 to begin looking at energy efficiency from a global perspective. This study will also take about three years to complete.
- (3) The U.N. Foundation will research energy efficiency and produce a report.

Commentary: Conservation isn't mentioned in the charge. Is this purposeful? If so, then the report should clarify why conservation is excluded. Perhaps the report should define the difference between efficiency & conservation. The primary focus of the study should be on long-term solutions and the audience for the report must understand that the report will recommend investing in solutions that will not pay off in a year or two. The study committee should carefully consider whether to use the phrase "high-risk research" since this has both positive and negative implications. Several POPA members urged changing the title of the study.

Action: POPA will be sent the re-written charge via e-mail.

Discussion of APS Nuclear Use Statement

APS

Statement

~~APPA~~ Member, Jorge Hirsch, wrote a letter to APS, which was forwarded to POPA by the Executive Board, urging that we follow up on Statement 06.1, which indicates there should be an "...informed public debate about the circumstances under which the United States might use or threaten to use nuclear weapons." He contends that the debate is not taking place and that POPA should do something about this issue. In his letter, he also asks POPA to recommend that APS adopt an official position against the use of nuclear weapons against countries that do not possess nuclear weapons. He asks that we not only adopt this official position, but that we also lobby Congress to pass such "binding" legislation.

Commentary: As a result of the RRW report, Slakey & Tannenbaum have been asked by Congressional staff and Members to foster a dialogue on what the role of nuclear weapons, post-9/11 and post Cold War, should be. POPA members agreed that little public debate is occurring. What discussions did occur after the Cold War focused on strategy for 10-15 years out. Since then, there hasn't been additional discussion, yet 9/11 has changed the landscape. Several POPA members suggested developing workshops to foster a discussion on nuclear policy. Regarding Hirsch's second request, the majority of POPA members felt that APS should not promote binding legislation in Congress on nuclear use.

Actions: (1) Eisenstein suggests that Browne, Tannenbaum, Slakey, & Moniz draft a proposal for activity that promotes a discussion of nuclear policy post 9/11. POPA will not consider revising Statement 06.1 until after such an activity has transpired. The proposal will be drafted over lunch and voted on in the afternoon.

(2) Motion made by Rob Goldston – POPA will respond to the Executive Board, indicating that POPA recommends that APS not promote binding legislation in Congress on nuclear use, at this time.

Amendment – Slakey & Eisenstein will draft a response to Hirsch over lunch, which will be presented to the committee for approval.

Seconded by Sessoms.

Motion approved by a vote of 18 to 1, with Leibowitz as only detractor.

NRC – Free Electron Laser Technology

Presentation by guest, Tim Meyer

Directed energy applications for weapons have been pursued for some time. In particular, the Navy has been pursuing Free Electron Lasers with ONR overseeing the program. Currently, \$20 million a year is dedicated to this program (6.2 level program).

Technical Status & Developments:

FEL designs for shipboard operations assume high beam currents.

Stability is the big issue with FEL on ships, which are rolling, could be fired at, etc.

J-Lab has achieved a 10-kilowatt laser.

NRC has agreed to review the scientific capability of FELs, how the technology could evolve, and how it could be suitable for naval applications. There will be one or two written reports as a final product. There will be a public report and, if necessary, there will be a classified annex. However, they are shooting to keep it completely unclassified.

Meyer asked POPA for possible experts to serve on the NRC Study.

Suggestions from POPA:

Patrick O'Shea
Jay Marx
Robbie Vogt

Will Happer
Bob Springle
Carl Weinman

Bob Fugate
Jan Hall

Climate Change Statement (1) Motion made by Bill Dorland to appoint an Ad Hoc Working Group on Nuclear Weapons Policy (to include Browne as Chair, and Slakey, Tannenbaum, Budil, Sessoms, Eisenstein, and Moniz). POPA charged the Working Group with examining the following question: "What role do nuclear weapons play in our defense strategy, and how many and what kind do we need to meet this requirement?" Eisenstein indicated that there were several documents provided to POPA members, prior to today's meeting, for them to review. These included two previous statements on Energy Policy & U.S. Energy Problems from APS, the AAAS statement on Climate change, AGU statement, and the IPCC summary report for policy makers.

The Executive Board has asked that POPA review the two previous APS statements and make a recommendation on whether a new statement is warranted.

Commentary: It was suggested that the Energy & Environment Subcommittee should work on this. Bill Dorland indicated that, if we proceed this way, he wants the Nuclear Subcommittee to be included as well. Rob Goldston passed around a graph to discuss with everyone. It led to considerable debate and discussion. Members indicated that if we do make a statement, it should not be based on the graph. There was discussion of the AAAS statement. Many feel it went beyond the science and was overly emotional. Currently, the perception is that APS has no position on climate change and consequently some members of the Executive Board feel strongly that APS needs to have a statement. However, the statement shouldn't simply be a statement on the need for more R&D, as that would be regarded as unduly self-serving. However it is written, the statement should be to the point, brief, and tight.

Action: Motion made by Howes to appoint a Subcommittee that will prepare a draft statement that will be circulated before the next POPA meeting.

Amendment – Scofield suggests that we appoint the standing Energy & Environment Subcommittee. Howes accepts this amendment.

Seconded by Hellman.

Motion approved unanimously.

-Break for Lunch-

Commentary: Over lunch, ideas of how to engage the public on a discussion of nuclear use were explored. Members indicated that we should plan to have an event of some sort in early 2008 (January or February, latest), with group size and format to be determined. Perhaps a briefing book for the incoming Administration could be produced. Browne produced a brief outline for the project over lunch. Also, a draft letter responding to Jorge Hirsch was discussed.

Seconded by Howes.

Motion passed unanimously.

(2) Motion made by Frances Hellman to accept the response to Jorge Hirsch's letter, drafted by Slakey & Eisenstein, to be amended as Eisenstein sees fit, incorporating committee's feedback & commentary.

Amendment – Moniz wants committee to see final version prior to release. Hellman accepts this amendment.

Seconded by Ross.

Motion passed unanimously.

Federal Cooperative Threat Reduction Program

Presentation by guest, Brian Finlay

Presentation Highlights:

Overview of what the Stimson Center is: a non-profit think tank, supported by private philanthropic organizations, the U.S. government, foreign governments, etc.

In 2005, he & his co-director reviewed non-proliferation programs. What they found was that the programs are effective national security tools, they are cost-effective, but they are under-funded.

A primary federally funded non-proliferation program provides short-term grants to weapons scientists from the former Soviet Union. The intention is to employ the scientists so that they are not enticed to engage in activities that would be detrimental to U.S. security.

Stimson does not view the grant program as sustainable and has proposed incentives to encourage the U.S. private sector to hire foreign weapons scientists.

The Stimson Center proposed working with the APS on this industrial partnership concept by (1) promoting the idea among APS industry members and (2) possibly lobbying to develop this new concept in Congress.

Commentary: Following the presentation, Eisenstein asked whether POPA would have any interest in supporting the Stimson Center. Sessoms observed that he has visited labs in the former Soviet Union and they are robust. Moniz felt that this Stimson proposal is unlikely to work and there is probably a better way to spend the money. Sessoms & Franz indicated that the Europeans know their Russian counterparts well and that Russian scientists have no trouble attending the scientific community's events outside the US, but visa issues preclude them from attending events in our country.

Action: Bill Dorland will draft a response to Brian Finlay, indicating that POPA has decided not to partner with Stimson on this particular concept.

New Business

APS

Respons

Joel Leibowitz indicated that there is a union of instructors in the United Kingdom that wants to boycott Israeli academic universities and any meetings that might be attended by Israelis. He would like POPA to respond in some manner to this action. Judy Franz suggested that CIFS should be contacted and they should propose a response.

Universit

Action: Joel will draft a letter and send it to Bob Eisenstein, who will in turn send it from POPA to CIFS. APS Education Activities

Americans, in general, are poorly educated in the sciences. Is this something that POPA should be discussing? Judy Franz suggested that if POPA is interested in an overview of APS education activities, then Ted Hodapp, Director of APS' Education & Outreach Department, should be invited to a future POPA meeting.

Results: It was agreed that this topic could be deferred to another time.

International Linear Collider

Background – A statement regarding the ILC was drafted by PPC, approved by POPA and then passed by the Executive Board. At the time that statement was being approved, some draft wording was composed that discussed “smaller-scale science”. Should POPA now consider developing a statement on smaller-scale science? See Statement 06.4.

Results: Frances Hellman will find and send around the wording that was drafted, some time ago, that was supposed to be considered by PPC.

Future Correspondence with POPA, Pre-Meeting

It was discussed how best to provide pre-meeting materials to members of the POPA committee.

Results: A password protected website for POPA will be created. All members will have the ability to access briefing materials on the web, prior to a meeting. Should a member want hard copies, or a Briefing Binder, they will let the POPA administrator know prior to the scheduled meeting and the materials requested will be presented upon the member's arrival.

PPC Related Items

Goldston described a PPC proposal to send all the Presidential candidates a questionnaire on the support of scientific research and innovation. The answers would be posted on the APS website.

Results: POPA members supported the idea and would like to review questions.

Action: PPC will draft the letter and send to POPA prior to it being sent to the candidates.

GOCO

Judy Franz indicated that GOCO could be taken off the agenda for now. The issue has been tabled.

Next Meeting

The next POPA meeting will be held on **Friday, October 19th, 2007**

The following meeting will be held the Friday of the first week of February. This will be the standing date of all future “first of the year” POPA meetings. Mark your calendars for Friday, February 1st, 2008.

Adjournment

The meeting adjourned at approximately 3:00 PM.

Notations

¹ Valerie Thomas made changes to the section on the proposed CO₂ Reductions Study, inserting text that reads “Multiple committee members cautioned that we not focus on topics where we lacked expertise or could not make a significant contribution.” Sekazi Mtingwa made changes to the section on the proposed U.S. Nuclear Power Workforce Report, rewording the three possible future scenarios the report will consider (see notation ³, below, as well). Action item was removed, as the report’s charge was not approved at the February meeting.

² Every state, except Nevada and Utah.

³Change the second scenario to “...nuclear power remains at constant market share.”