

Panel on Public Affairs Meeting
February 3, 2012
529 14th Street, NW, Suite 1050, Washington DC

Members present:

J. Dahlburg, R. Rosner, R. Jaffe
A. Bienenstock, R. Falcone, A. Falk, M. Goodman, M. Gunner (via phone), R. S. Kemp, G. Long, P. Looney, T. Meyer, R. Schwitters, S. Seestrom, T. Theis, J. Trebes

Guests:

Mark Reeves, Joel Rynes

Advisors/Staff present:

R. Byer (via phone), K. Cole, K. Kirby, M. Lubell, J. Russo, F. Slakey

Members Absent:

M. Beasley, V. Corless

Call to Order

J. Dahlburg called the meeting to order at 8:15 AM.

Welcome, Introductions, & Approval of Minutes
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J. Dahlburg welcomed everyone and asked them to introduce themselves. Then she walked through the October minutes and asked for comments.

Action: G. Long moved to approve the minutes of the October 2011 POPA meeting, with minor changes as suggested by M. Goodman. A. Falk seconded the motion.

The motion to approve the minutes passed unanimously.

Purpose & Activities of POPA

Members were asked to consider the list of POPA subcommittees as F. Slakey & R. Jaffe provided a review of the purpose & activities of POPA. There are two primary activities of POPA: (1) developing and approving statements and (2) conducting studies. F. Slakey referred to an APS statement on the Society's website and described the process by which a statement is accepted by the Society. The process normally takes 6 months to a year. He then passed around the Energy Critical Elements (ECE) Report, the product of the most recent study completed by POPA. From start to finish a study takes about a year; study deliverables are actionable items. R. Jaffe said POPA works on issues brought to the table by its members. The committee is very open to ideas and the staff provides fertile ground for a study to move forward quickly and effectively.

J. Dahlburg listed the POPA subcommittees:

- Steering Committee – this consists of the POPA chair line, the PPC Chair, the APS Vice President, and the Chairs of all the other subcommittees; the steering committee designs the agendas for each meeting
- National Research Policy – handles policy issues that transcend the budget (items like organizational issues, etc.) The Chair of this subcommittee would work closely with PPC (Physics Policy Committee) which handles budgetary policy issues.
- Physics & the Public – most recently this subcommittee has worked on statements dealing with the misuse of physics. This subcommittee may also become involved in outreach projects involving the intersection of media/science, currently being conducted by the APS DC office.
- National Security – is currently developing a joint workshop with CSIS and considering a study to be conducted for the DNDI regarding their R&D plan for the next decade.
- Ethics – this subcommittee is only active when a need arises; it is made up of the POPA chair line.
- Energy & Environment – currently the subcommittee is dealing with the APS helium statement; there is a proposal on helium working its way into legislation. They are also looking at possibly recasting the APS Statement on Nuclear Energy; a proposal for a study on nuclear reactor life extension to 80+ years is in development.

Proposed Activities

Study: Technical Issues re: Licensing Reactors to 80+ Years

R. Rosner addressed the group. In the United States, we've essentially closed all the facilities that can give long-term neutron exposure to materials. Companies that need to do materials research have had to move operations abroad to conduct their experiments. Historically we've been able to meet materials research needs, but we no longer can. This may be a topic worthy of a POPA study, spearheaded by the Energy & the Environment subcommittee. F. Slakey said he has had discussions with the Nuclear Regulatory Commission and with the Nuclear Energy Institute to get a sense of whether they thought this was a worthwhile topic. The answers from both were very positive. A meeting with the U.S. Department of Energy is being arranged to get their take on the issue. We know that the DOE is actively researching the topic, but that doesn't mean APS shouldn't be involved as well.

Commentary: J. Dahlburg asked if the vision was a study of the world's test facilities. R. Rosner said yes, and we'd demonstrate where/how the U.S. is lacking. R. Jaffe asked if this was a separate study from the "80+" study or whether this was the direction for that study. R. Rosner clarified that it's the direction for the study on life extension of nuclear reactors. J. Trebes asked if it mattered whether the U.S. has operational facilities to conduct materials research. R. Rosner said a study would shed light on that question. The materials/technical study is at the heart of the life extension question. T. Meyer asked what the study's goal would be. F. Slakey framed a policy question: if nuclear reactor licenses aren't extended, we stand to lose a hundred gigawatts of electricity by around 2045. One option to prevent this from happening is to extend the life of reactors from 60 years to 80 years. This would give us a buffer to bring an alternative source of energy online. A study could determine what would be required to extend the life of a nuclear reactor facility from 60-80 years and whether it's even technically possible. The answer to those questions could inform the U.S. Department of Energy, but also Congress

and the Administration. There is a ready audience. APS could identify how much progress has been made on the technical issues laid out in the NRC/DOE workshop summary report provided as briefing material. That is a well defined POPA issue. R. Schwitters said we should take the ideas expressed at today's meeting to a meeting with Pete Lyons slated for late February and see what DOE thinks. P. Looney said we could also consider framing out the risk issues associated with materials failures.

Action: It was agreed that a small group of POPA members will create a proposal, following a meeting with Pete Lyon's at DOE's Office of Science, for a POPA study regarding licensing reactors to 80+ years. The proposal will be presented at the June 2011 POPA meeting. (*Rosner, Schwitters, Dahlburg, Slakey*)

Workshop: Addressing the '93 APS Statement on Nuclear Energy Policy

J. Dahlburg asked everyone to refer to the 1993 APS Statement on Nuclear Energy Policy.

93.7 NUCLEAR ENERGY

(Adopted by Council on November 21, 1993)

The American Physical Society has a long-standing interest in the establishment of a technically sound national energy policy. Such a policy must include steps to decrease the heavy dependence of the United States on fossil fuels. Their use entails significant environmental costs, including possibly substantial changes in global climate with uncertain consequences for human well being. Moreover, since resources of oil and, less immediately, natural gas are limited, U.S. reliance on foreign sources creates economic burdens and military dangers. We therefore endorse increases in federal funding and general support for programs in conservation and in the development of renewable energy sources.

A balanced energy policy, however, also requires that the Department of Energy have strong programs to keep the nuclear energy option open, through: (a) the continued development of nuclear reactors which can be built, operated, and eventually decommissioned in a manner which is simple, safe, environmentally sound and cost-effective; (b) the development and implementation of programs for the safe disposal of spent fuel and radioactive wastes; and (c) the development of an effective public education program to allow a more informed debate on the strengths and weaknesses of nuclear power. The American Physical Society is deeply concerned that the current progress in these areas is inadequate.

Is it time to decide we are going to move forward with small reactors or is it time to decide we are going to go out of the nuclear power business entirely? What effect has Fukushima had on using nuclear energy for the future? We posed these questions a few meetings ago and wondered whether a nuclear energy workshop should be conducted to address the issues. At that point, it became clear that the APS had been working on this for quite some time and the 1993 statement is the one we would have come up with after any such workshop/study. Then we considered holding a workshop to revalidate the 1993 statement, make the public aware of it, and see if any updates needed to be made. R. Rosner took this idea and reviewed the statement in depth. He said, at most, there is about one sentence in the first paragraph we might want to reword; that's

not worth conducting a workshop. The second paragraph doesn't need to be changed at all. It was true in 1993 and holds true today. The recommendation is to leave the statement as is, or change the wording modestly in its reference to natural gas.

Commentary: The general consensus was to leave the statement alone.

Workshop: Non-proliferation joint workshop with CSIS

J. Trebes discussed developing plans for a workshop between POPA and the Center for Strategic & International Studies (CSIS). Work is being done to secure funding that will allow us to move forward with this project. POPA can contribute \$25K to the budget, but an additional \$80K must be secured to proceed. The Nuclear Threat Initiative (NTI) was approached and could not provide funding. A proposal was sent to Ploughshares and we are awaiting a response. If outside funding cannot be secured, we could consider doing a POPA workshop on non-proliferation with the \$25K, but it would be better to collaborate with CSIS on this endeavor.

Commentary: M. Goodman mentioned the State Department's Key Verification Assets Fund ("V Fund") for technically oriented studies; he thought this type of workshop might fall into the scope of what the fund might support. New members of POPA who are interested in participating in this project should speak with J. Trebes. F. Slakey said the technical issues would be identified by both the American Physical Society and the European Physical Society; we will then take that list and jointly lobby our respective legislative bodies. R. Falcone asked whether the international aspect of this endeavor creates avenues to other funding sources. J. Trebes said he thought it could; CSIS is the entree into the international community.

Action: Work to obtain funding for a possible joint workshop between POPA and CSIS on non-proliferation will continue. If funding comes through before the June POPA meeting, preparations for the workshop may begin. POPA will be kept informed. M. Goodman will provide contact information for the State Department's "V Fund." (*Trebes, Goodman*)

Study: Federal Standards

M. Lubell addressed POPA and provided background. A study on federal standards would be spearheaded by the POPA National Research Policy subcommittee. When APS conducted the Energy Efficiency Study a few years ago, it was concluded that federal standards play an important role because they guide policy. The issue which surfaced at the PPC meeting last year had to do with lighting standards; a proposal was on the table at the appropriations committee to defund any enforcement the government would have on lighting standards. The question that followed was, if enforcement of lighting standards was defunded would the appropriations committee defund enforcement of other standards (CAFÉ, environmental, food, etc.)? PPC viewed this as an issue for POPA. We might consider a study that investigates where science intersects the establishment of standards. There are economic and health issues associated with the establishment and enforcement of standards. There might be an opportunity for the APS, in partnership with other societies, to look at these issues. There are also many standards that are purely physics-based.

Commentary: J. Trebes said we could look at standards for qualifying x-ray machines at airports. Currently, there are no standards for these systems. We could have a significant impact on health and national security. M. Lubell agreed this would be a good case study, one that could be contained within a broader study about federal standards in general. P. Looney said that standards are ubiquitous. It's hard to see how we could wrap this large issue into a focused POPA study. M. Lubell said we could produce a non-governmental document on how the best science is brought to bear. It wouldn't be a technical study. M. Goodman said that this sounds more like a statement issue than a study issue. J. Dahlburg said we need a champion to take this idea and develop it into a study proposal or a proposal for a statement. There are three options for actionable items on the table: (1) a workshop towards a report, (2) a workshop towards a statement, and (3) a letter from the APS President. P. Looney said he would be willing to help frame something up. F. Slakey suggested that we could have the Congressional Research Service carry out this study. P. Looney thought that made sense because POPA couldn't delve into these issues without involving the National Institute of Standards and Technology (NIST), and NIST might not be receptive to us because it would look self-serving. M. Goodman asked if we might consider a study on what a good science advising process looks like. What are the features of those that lead to success (or less success)? We could provide recommendations that are hard to ignore. F. Slakey brought up the APS Statement on Science and Technical Advice for Congress, adopted by Council on April 15, 2005 (APS Statement 05.1). When that statement was developed, APS had the Office of Technology Assessment (OTA) in mind. OTA's purpose was to provide Congressional members and committees with objective and authoritative analysis of complex and scientific issues. They were shut down in 1995. The APS statement was an attempt to refund OTA. There wasn't much resonance in Congress to refund it. That's when POPA started doing its own studies & reports.

Action: Framing of how a study on federal standards should be dealt with will be handled by P. Looney, G. Long and A. Bienenstock. A recommendation on how POPA should proceed (1. Workshop towards a report, 2. Workshop towards a statement, 3. Letter from the APS President) will be presented at the June 2011 meeting. (*Looney, Long, Bienenstock*)

International Collaboration Subcommittee

R. Schwitters addressed POPA. Last June there was discussion about the value of adding an internationally focused subcommittee to POPA. Following that discussion, a number of interested POPA members held a teleconference and discussed directives APS is currently working on internationally, issues the subcommittee might become involved with, etc. While there is interest in engaging more international members on the APS Council, it was decided that there is no point pursuing the establishment of an international subcommittee within POPA at this time. At the scientific working level, groups are handling their international collaboration efforts well. If issues arise in the future regarding global projects, POPA should establish an ad hoc committee when needed. K. Kirby said international engagement is a priority area of the Society. In response to that priority, the APS international councilor has been invited to future POPA meetings and, it was noted, the APS Fellow representative to POPA in 2012 is employed in Europe and will provide an international perspective to discussions.

New Business

J. Dahlburg called for subcommittee volunteers.

- R. Schwitters and S. Seestrom joined the Energy & Environment subcommittee.
- M. Goodman joined the National Security subcommittee.
- T. Meyer, M. Goodman and S. Kemp joined the Physics & the Public subcommittee.
- T. Meyer and A. Bienenstock joined the National Research Policy subcommittee.

The new chair of the National Research Policy subcommittee is P. Looney.

The new chair of the Physics & the Public subcommittee is S. Seestrom.

K. Kirby asked for recommendations for new POPA members in 2013 and recommendations for the POPA chair line.

- R. Rosner: Nat Fish, Princeton; Rocky Cole, Chicago; Sid Nagel
- R. Jaffe: Perce Ashell
- T. Meyer: Mark Kushner, Michigan; Homer Neil, Michigan
- M. Goodman: Michael Rosenthal, DNDO guy, at Brookhaven.
- J. Trebes – Steve Libby, Livermore
- J. Dahlburg – Rob Goldston, PPPL
- Committee: Laura Greene, Andrea Liu, Jerry Golub

Physics & the Public Subcommittee

Healing Energy Statement

Mark Reeves from the APS Division on Biological Physics (DBIO) addressed POPA. He began by reading the proposed Healing Energy Statement, prepared by DBIO, to the group.

Practitioners of several types of alternative medicine have argued that human beings can affect biological processes at a distance via the creation of “healing energy” to improve patient health. There is no known biophysical mechanism that could support such effects, and the “energy” being referred to cannot be connected to the concept of energy as it is used in the physical sciences. Specific claims that human beings can generate magnetic fields at the milligauss level are not supported by scientific evidence. Typical measurements of these fields have shown them to be a thousand times smaller, much smaller, in fact, than the magnetic fields generated by thermal fluctuations. There are no known mechanisms for a typical cell or its components to respond to the fields created by hypothesized “healing energy”.

This statement refers to homeopathy and alternative medical practices. M. Reeves discussed the background materials that DBIO provided with their submission. The field of medicine has been forced to take a second look at whether alternative medicine treatments scientifically work. The question is where, and how, do scientific organizations like APS fit into the discussion. If the statement DBIO has created is adopted by APS, it could stand as a model for the ACS, the AMA, and other organizations to proceed with making similar statements; it could also help them to pull back on the movement to put funding for scientifically unproven therapies into the federal

health care bill. Funding for alternative therapies consumes resources that could be better directed towards true, science-backed treatments.

Commentary: A. Falk said he liked the care with which the statement was developed and wondered if DBIO had other statements in the pipeline or whether this statement would likely stand alone. M. Reeves said some of the other issues about which statements could be made fall under other scientific organization's purviews. This statement is narrow, but it is broad in how it describes the related physics. DBIO might consider making clarifications on other therapies in the future, but that was something he couldn't say with certainty. R. Rosner asked if it was likely that the American Chemical Society would make a statement like this. M. Reeves said he couldn't say and didn't know how conservative they were. R. Falcone wondered why DBIO would include mention of milligauss levels and what these really have to do with anything. M. Reeves said the laws of physics can be shown here in the mechanism being invoked. He said they tried to stay away from creating a general statement and wanted to include the unique territory upon which the APS can weigh in. What has crept into the medical discussion of late is biofields and bioenergies – to lend credence to these new “healing energy” therapies. M. Goodman thinks we should feel out other societies. There are elements of the statement that are very useful, but he wasn't sure we would want to make such a long statement, especially if there are lots of other similar statements out there. M. Reeves said DBIO considered how to respond credibly as physicists to this medical and very interdisciplinary question. M. Lubell suggested the AAPM (American Association of Physicists in Medicine) be contacted to review the statement. He also cautioned that most APS statements are much broader. M. Reeves said there might be a reason to broaden it. R. Jaffe said the statement is limited and precise and it casts the first stone; there might not be a reason to broaden it. Collaboration with AAPM could be considered between the POPA vote and the E. Board vote. M. Lubell said we should include a preamble to frame the statement. Mark wants to bring any changes made back to DBIO.

Closed Session Commentary: J. Dahlburg asked how many POPA members would support the statement being presented to the E. Board “as is”. 5 people showed support. R. Rosner said he agreed with M. Lubell's earlier comments regarding broadening the statement. As it stands, the statement is so narrowly drawn that we will most likely see a number of statements of similar flavor introduced in the future. There should be a short example in the beginning that frames the issue. It was generally agreed that practitioners using this type of therapy will pay no attention to such a statement. M. Goodman said we should send it back to DBIO with an idea of what they should do/what they are missing.

J. Dahlburg took a quick poll. 6 members were in favor of rejecting the statement, 9 were in favor of sending it on to the E. Board “as is” (understanding that it would most likely get further scrutinized and rejected), and 0 voted to send it back to DBIO for another round of corrections before presenting to POPA again. A. Falk suggested we should tweak the current statement a bit and send it on to E. Board. He wants to keep it moving forward. J. Dahlburg said the Physics & the Public subcommittee should take this away, rework it, decide who their Chair will be, and come back to POPA with a clear way forward.

Action: S. Seestrom offered to help craft a solution. The Physics & the Public subcommittee will take a few weeks to rework the statement, send it around electronically to POPA for a vote, send it to DBIO for buy in, and then send it on for presentation at the next E. Board meeting.

Climate Change Discussion

M. Lubell began by providing background surrounding actions that transpired in 2007. POPA had developed a statement on climate change, it was presented to the E. Board and Council for review, and a few people didn't think the statement was strong enough. Changes were made by Council on the fly and the statement currently in front of POPA is what the group came up with. There are four paragraphs. The second paragraph has one sentence. There was one person on Council who objected that we include a one sentence paragraph, so that sentence was added to the second paragraph. Stylistically, everything listed after the colon can be considered "incontrovertible". A few years later it was suggested that we revert to what was originally presented (four paragraphs). The commentary that has been posted below the statement on the APS website does not agree with the version of the statement currently posted above it. We should make a technical change in the commentary so that it refers back to the appropriate section of the statement it references.

Commentary: K. Kirby mentioned that there are public minutes that reflect the original three-paragraph version of the statement. F. Slakey said we should be transparent and include information on the website regarding the actions POPA has taken. R. Schwitters suggested the Society look at the statement again. R. Jaffe said we ought to correct the word "incontrovertible" and be very forward about advocating on this statement. M. Lubell said if we change the statement, then we change our position on climate change. There will be a firestorm. J. Trebes said if the new statement is better, then that is where we should go with it. M. Goodman said the word "compelling" might have been better choice than "incontrovertible". It was noted that we went through the process of reviewing the statement two years ago and a judgment was made not to change that word. F. Slakey said we haven't done any advocating on this statement and we should discuss how to move forward in that vein. We should make suggestions to the E. Board on what actions APS should be taking regarding this statement. APS President, Bob Byer, wrote a letter, which was submitted to the Wall Street Journal last Tuesday afternoon. It has not yet been published and may never be. A. Bienenstock suggested we pull the Byer letter and clear the air. R. Schwitters agreed. A. Falk said the problem with this statement is that we haven't been advocating on it. We should fix all the problems surrounding the wording, parsing, etc. so we can begin advocating. Seestrom said if we want to influence the national debate, we need to change the statement. Dahlburg suggested we make the easy fix now and start working on a new statement. M. Lubell said we could make the technical changes now; in 2013, following the Intergovernmental Panel on Climate Change (IPCC) meeting, we could set the statement right.

Action: J. Dahlburg made a motion to fix the APS Statement on Climate Change webpage by:

- 1) Producing a mea culpa statement for the website
- 2) Including commentary on editorial inconsistencies and how they have been fixed (link to old commentary will be provided, to allow comparison)
- 3) Indicating that APS welcomes all technical comments on this topic; plug the Topical Group on Climate Change

The motion was approved unanimously.

Action: R. Schwitters made a motion to recommend an alert letter be sent from the APS President to Membership indicating that editorial changes have been made to the APS Statement on Climate Change. Letter should include information regarding the newly formed Topical Group on Climate Change and encourage member participation in the group.

The motion was approved unanimously.

Action: A motion was made to recommend that POPA and APS Membership review the current APS Statement on Climate Change following the publication of the next IPCC report.

The motion was approved unanimously.

Proposed Activities, continued

Study: Trends in Nuclear & Radiological Threat Detection

Joel Rynes introduced himself. He is the Assistant Director of the Transformational and Applied Research Directorate (TAR) of the Domestic Nuclear Detection Office (DNDO) of the Department of Homeland Security. He introduced a potential study for POPA and provided a power point presentation regarding trends in nuclear radiological threat detection. DNDO is requesting that POPA provide a review of TAR's 5-10 year R&D plan.

Commentary: J. Trebes said he is supportive of POPA either conducting a workshop or a study on these issues. We have to figure out the best mix of people to involve so that we have more discussion and bring out some new concepts and ideas. R. Falcone said most of what Joel talked about was detector oriented. He suggested that aggregating the data they collect might be helpful. Joel said they don't currently have a lot of projects in that area. That might be a recommendation that comes out of a workshop. J. Dahlburg suggested that this study might be best to conduct in joint fashion with IEEE (people recently involved in Valencia, Spain meeting would be good to include). R. Rosner asked Joel why DNDO chose APS to lead this study. Joel said they wanted a technological/science-based focus. APS has the technical credibility. They want to take fresh look at everything that's available and all the new data. J. Trebes asked what DNDO would do with the final product. Joel said that depends on what we present. The goal would be to use recommendations made for future R&D projects. The bottom line is that DNDO wants recommendations on what research they should be involved with.

They are looking for the expertise on the new research areas DNDO should be pursuing. R. Schwitters said he chaired a JASON study, which is non-classified but for organizational use only (FOUO) and he thinks POPA should be able to see it. It would inform their discussions. Joel said the JASON report left him hanging. It didn't provide answers on what to do next. Michael Rosenthal said an examination of whether there is potential for small mobile active systems would be interesting. P. Looney said a report on prioritization might be worth pursuing. M. Goodman said INMM is another group we might consider partnering with. The ANS would be good match as well. DHS/DNDO said they are most closely partnered with IEEE. A. Bienenstock asked to what extent the DNDO is connected to the academic community. Joel explained the Academic Research Initiative (ARI) and said they do a fairly good job of connecting with academia.

Closed Session Commentary: R. Schwitters said this is an important security issue and a tough technical problem. There are interesting ideas to be researched. R. Falcone said industry is probably really into this, NSF is putting money into it, and the National Labs are inventing things too. He wondered what POPA could add. R. Schwitters said we would add a sober assessment. J. Trebes said we could stir the pot where others couldn't. J. Dahlburg said DNDO is asking us to put together their roadmap. She'd be happier if they would share their timeline; we could then assess that timeline. J. Trebes suggested we propose an email dialogue. He volunteered to begin that discussion and also to approach the IEEE regarding their interest in partnering with us. R. Schwitters said the operational part of DHS needs review. T. Meyer asked if DNDO will fund the study. J. Trebes said he was sure they would put up some of the cost.

Action: R. Schwitters will obtain and distribute a copy (preferably a copy available to the public) of the JASON report on Domestic Nuclear Surge Operations, conducted for the DNDO last summer, to POPA members for review. J. Trebes will begin an email dialogue with DHS and the POPA National Security Subcommittee regarding the details of a study on the trends in nuclear & radiological threat detection. He will also approach IEEE (specifically the group that held the recent Valencia, Spain conference) about partnering on the proposed study and for suggestions of personnel appropriate to work with us on the endeavor.
(Schwitters, Trebes, Lieberman)

Old & Ongoing Business

Study Proposal Template – Finalize

J. Dahlburg briefly reviewed the basic study proposal template she created. She asked for comments.

Commentary: The only addition that needs to be made is the inclusion of a definition of the difference between a POPA Study and an APS Report. J. Dahlburg volunteered F. Slakey to handle writing the definition.

Action: F. Slakey will write a brief definition of the difference between a POPA Study and an APS Report, to be included in the final version of the POPA Study Proposal Template. J. Dahlburg will send the final template to POPA electronically for a vote. (*Slakey, Dahlburg*)

Update on RICHES Report

M. Lubell said the report's title is "Building a Better America through Innovation in the Science Marketplace." The document that was sent around to POPA is not final. The study committee is still reviewing and making comments. Jim Roberto, Bill Jeffrey, and M. Lubell spent a few intense days of condensing and writing from a variety of submissions that study committee members had written. Recommendations were developed. The premise of the report is that innovation is an ecosystem. It is only as strong as its weakest link. The U.S. is no longer "number one" in innovation and that is a problem. Most of the reports that are currently circulating focus on a set of issues, not the whole ecosystem.

M. Lubell reviewed the recommendations:

- 1) There should be a national policy to deal with innovation.
- 2) The U.S. should continue to have proficiency with science and engineering.
- 3) Increase the number of U.S. students in STEM fields.
- 4) Workforce skills – strengthen them
- 5) Expand the role of universities and national labs.
- 6) Leverage public investments in science research and education.
- 7) Provide the federal resources necessary to support long-term applied research
- 8) Adopt tax, trade and regulatory policies that encourage innovation and manufacturing in the U.S.

Commentary: J. Dahlburg and G. Long said the report that came out of the meeting with Lubell, Roberto, and Jeffrey is very different from what came out of the study committee meetings. J. Dahlburg said for PPC to come out with a report that recommends industry should be road-mapped is problematic and striking. M. Lubell said that they tried very hard not to make this about industrial policy. Once the study committee has signed off on the final copy, it will go out to PPC for commentary, then to an external review committee and then come back to POPA for review. T. Meyer asked if the report offers something unique. M. Lubell said there is a paucity of data collection in the other studies currently available. The long-term applied research portion is also very significant. Reporting on technical training, vocational training, and retraining is another area that isn't included in other reports.

Update on ECE Report/Lobbying Efforts

R. Jaffe gave an update. There are two different tracks of activity, one in the House and one in the Senate. The House legislation being worked on would address the issue of information/research/recycling and various kinds of economic stimulus for critical elements. There was a flurry of activity 6-8 months ago that led to a bill being written by Representative Lamborn (R-CO, 5th) – it's not an ideal bill (deals mostly with mining). There was another bill sponsored by Representative Hultgren (R-IL, 14th) which contains the triad of research/recycling/information we are most interested in. About two months ago this bill moved ahead through the Committee on Space, Science, and Technology. There was a hearing at which R. Jaffe testified. Rep. Brad Miller (D-NC, 13th) has a similar bill and the Committee suggested Miller's and Hultgren's bills be combined and sent to markup. In the Senate, there is a bill that

was written by Senator Lisa Murkowski that calls out specific elements and it's in front of the Energy and Environment Subcommittee. It does not address several of the points that we feel are important. There is a bill by Mark Udall that does include the important points. Democratic staff proposed a compromise bill to the Murkowski bill and now they are in discussion. Meanwhile, the DOE has written a \$20M item into their budget for a critical elements hub – this is a success of the ECE report.

Next Meeting

The date for the next POPA meeting will be Friday, June 1, 2012.

Adjournment

Action: A. Falk moved to adjourn the meeting. S. Seestrom seconded the motion.

J. Dahlburg adjourned the meeting at 3:06 PM.