

IEEE Engineering and Diplomacy Fellowship: 2006 Progress Report
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I was the 2006 IEEE Engineering and Diplomacy Fellow at the U.S. Department of State (DOS), where I served as a Foreign Affairs Officer in the Policy and Regional Affairs Office (PRA) of the Bureau of European and Eurasian Affairs (EUR).

The EUR bureau conducts all foreign affairs with about 40 European nations, including Turkey and all of Russia. The PRA Office coordinates all nuclear and nonproliferation collaborations with EUR nations. It oversees our efforts on WMD (Biological, Chemical and Nuclear) and conventional weapons: (e.g., cruise missiles, ManPads, SCUDS, assault weapons). PRA Foreign Affairs Officers serve as an interface between technical program offices and our embassies which must interact directly with foreign governments.

I had recently retired after 30 years with the Los Alamos National Laboratory, where I conducted research in high-energy (10-kJ) lasers, remote-sensing satellite systems and stockpile maintenance and testing. In view of this experience, my principal assignment was to serve as the primary EUR point-of-contact to Department-of-Energy Nuclear Nonproliferation and Defense Programs. (These are the NA-20 and NA-10 offices in the Nuclear National Security Agency.)

The U.S. is heavily involved in numerous international collaborations, primarily via DOE and especially with the Russian government, to reduce the potential for nuclear proliferation. Over the past decade these activities represent a very successful arena of U.S. foreign policy.

The DOE Defense Programs office is responsible for maintaining the nuclear stockpile. DOE and DOD are proceeding with studies to gradually replace the existing U.S. warheads with modified versions that will be easier to maintain without the need for nuclear testing. Such Reliable Replacement Warheads would improve safety and would result in a reduction in the total number of warheads in the stockpile. It is the responsibility of the State dept to respond to any international questions about this policy.

EUR is a very traditional diplomatic bureau that plays a critical role in developing U.S. foreign policy that affects Europe and Eurasia. The Bureau is also responsible for overseeing the daily activities of our embassies and consulates and provides the Foreign Service Officers who staff them. Communications to foreign governments (diplomatic notes, demarches, negotiating positions) are generally transmitted from within the bureau. Likewise, communications from foreign ministries are transmitted through our bureau to the rest of the State Department and to other U.S. agencies. The PRA staff typically starts each day searching several hundred over-night cables, reporting from each of our embassies, for reports that are relevant to our activities.

U.S. foreign policy is generally formulated via a strong team effort; individual contributions are normally not emphasized. Before a policy statement is announced or delivered to another government, a draft of it is circulated for "clearance" through all DOS offices whose portfolios include the issue under discussion. Reviewers have significant input to the final draft. Policies often also require *inter-agency* clearance from DOE, DOD, NSC, etc. Participating in the clearance processes was a major element of my responsibilities.

As part of team efforts during the year, I served as the DOS lead in the following interagency activities:

- To negotiate with the United Kingdom an arrangement among DOD, DOE and the UK Ministry of Defence to conduct a joint research project
- To secure and control nuclear fuel in several former Soviet Republics. In some cases nuclear material is returned to Russia for further processing and long-term disposal.
- In developing a U.S. policy position on energy security in Eastern Europe.

I participated as EUR's lead on U.S. Government (USG) interagency teams and working groups:

- To negotiate with the Russian delegation on *Agreement for Cooperation in Peaceful Uses of Nuclear Energy*.
- To create a DOE *Sister-Lab* in Turkey
- To install nuclear monitors at ports of entry and exit in several Eastern European nations (DOE's *Second-Line-of-Defense* program).
- To develop a FAQ sheet on the future of U.S. nuclear stockpile

I also assisted with work on the following:

- Monitoring the status of the *Fissile Material Cut-Off Treaty* that was proposed by the US at the *Conference on Disarmament* in Geneva in May
- Drafting a *Nonproliferation Issues and Talking-Points* paper for President Bush at his G-8 meeting with Russian President Putin. Similarly, for Sec. Rice's meetings with Russian Foreign Minister Lavrov
- *The Global Initiative on Nuclear Terrorism* initiated by Presidents Bush and Putin at the G-8 Summit. Implementation is now under way via interagency and international working groups.
- *The US-Russia Warhead Safety and Security Exchange* (WSSX), which promotes collaboration on unclassified scientific projects.
- *The Highly-Enriched Uranium Purchase Transparency* program, which is converting 500-tons of Russian weapons-grade highly-enriched uranium to proliferation-resistant reactor fuel.

During my 2006 the following were some of the major international issues and events:

- Iraq war
- Afghanistan: al Qaeda
- G8 summit in St Petersburg in July
- Israel-Lebanon conflict
- Iran: uranium enrichment
- North Korea: nuclear and missile tests
- Proposal for collaboration with India on peaceful nuclear energy
- Energy supplies and future resources for Europe and Eurasia

Several of these do not directly concern a nation that is within the scope of the EUR Bureau. Nevertheless, the EUR nations are among the US's closest allies, and, hence, they are consulted during the formulation of our most important foreign policies. Consequently, I was able to observe the process of developing U.S. policy on each of these important, complex issues.

Perhaps my most interesting assignment was serving a shift on the State Department's *Crisis Management Team for the Lebanon-Israel Conflict* in July. We worked to evacuate 14,000 Americans from Lebanon to Cyprus and addressed a policy issue with the NSC on whether US-chartered ships could evacuate foreign nationals.

I have also been able to take advantage of working in the DC area to attend frequent technical and policy seminars at local institutes (e.g., Brookings, Hudson, and AAAS) and universities (e.g., George Washington U).

However, there were some aspects of my service that would benefit from further examination. I had limited opportunity to leave some legacy of science and engineering expertise that I brought to the Department. I have been successful at conveying a sense of the process by which foreign policy is developed to my technical colleagues. But, I was less successful at conveying an understanding of a science and engineering "culture" to my DOS colleagues.

In planning for my service, PRA assumed that I would function in essentially the same manner as the Interns and Presidential Management Fellows with whom they have past experience. Working as a typical Foreign Affairs Officer with a focus on nuclear activities was a good choice for my primary assignment. However, I was not able to initiate a serious consideration of how an IEEE Fellow might use a fraction of his time (perhaps 20%) to contribute something unique to the office.

Creating an assignment in a political affairs bureau that takes advantage of a technical fellow's expertise is definitely a challenge. I make the following recommendation for the future. After about 2 months, the fellow and the office director will have some mutual practical understanding of each other's needs and capabilities. Therefore, this would be an appropriate time for them to explore whether there is something of a technical nature that the fellow could work on with a part of his time and that could make a longer term contribution to the office and/or the bureau. In some cases there may not be an appropriate technical project, but initially the issue should still be explored. (I had several ideas for PRA.)

Notwithstanding the above comments, I would again choose to serve in PRA because of the importance of its mission and the excellence of its staff, and because of the very interesting experience that it afforded me.

Finally, I can summarize my experience as follows. Working here has provided me a cause for optimism about U.S. Foreign Policy. The DOS staff, as well as those of the other agencies, is highly qualified, very committed, and effective in their diplomatic work. I also note that the U.S. supports a very broad range of nonproliferation programs and funds these activities in many foreign nations (especially those of the Former Soviet Union). This has been a very worthwhile experience. I contributed *modestly* to important activities, and I gained insights into all aspects of nonproliferation and foreign policy that are covered by PRA.

I encourage Science and Engineering professionals to serve in a government policy-making agency either as a Science/Engineering Fellow or as a change-of-station staffer via an Intergovernmental Personnel Action (IPA).