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2010 IEEE-USA Congressional Science Fellow
Year End Report

My year was spent in the office of Senator Jon Tester, the junior senator from Montana and a moderate or “Western” Democrat. It was the second year of the 111th Congress. I worked primarily with his legislative assistant for energy, environment and natural resources. The year was educational, rewarding and challenging. I highly recommend the Fellowship experience to all in the scientific and engineering communities.

In reporting on my year, I have decided to begin by describing in detail two tasks that I undertook during the year. I hope to give prospective Fellowship applicants a sense of what it is like to be a Fellow, although of course each Fellowship is unique. I will add more information about my year in the later part of this report.

Senator Tester has an interest in developing geothermal energy in Montana. I interacted with Senate Energy and Natural Resources Committee staff (some of whom are former Fellows), geothermal scientists at the Department of Energy, the Geothermal Energy Association, the Montana Department of Environmental Quality, the Montana Bureau of Geology and Mines and other parties to plan and hold a briefing on geothermal energy that was well attended by staff from other Senate offices. I continued working with these parties to draft legislation promoting geothermal energy. This legislation was introduced as a bill by Senator Tester. I obtained co-sponsors for the legislation by reaching out to other Senate offices and wrote letters for the Senator requesting a Committee hearing on geothermal energy. As is the case with most legislation, no hearings were held and no action was taken by the Senate. However, it often takes several Congresses for legislation to proceed. It is likely that others will continue to promote this legislation in the 112th Congress. What is important is that the hearing educated other staff about geothermal energy and that the Senator, via press releases, informed his Montana constituents about the relevance of geothermal energy to Montana’s energy, environmental and economic future. What I learned from the process was that legislation is not simply one person’s creation but the result of the inputs of many parties working together.

Americans can obtain permits to maintain a cabin on National Forest Service land. The amount of the fee for the permit is an issue of importance to Montanans and therefore to Senator Tester. Cabin owners say that the fee structure is unfair. This is not a scientific issue, so I will not give the details here, but it led to a very educational and challenging experience for me. Legislation to modify the fees was drafted by an organization representing the cabin owners and introduced in the House of Representatives. Further examination of the legislation showed that it was financially flawed and needed revision. I was able to use the numerical modeling and large data set handling skills with which all engineers are familiar to suggest modifications to make the legislation

acceptable, i.e., to ensure it does not add to the deficit! The legislation needed to be vetted by many parties. I had the opportunity, and was required, to interact directly with the House Natural Resources Committee, the Forest Service, the Congressional Budget Office, the Senate Legislative Counsel, the Senate Parliamentarian, the staff of many other Senate offices, both Democratic and Republican, the cabin owners and their lobbyist. This interaction occurred over many weeks. During this time, I reported the status to, and responded to questions from, Senator Tester in weekly staff meetings. I also fielded numerous telephone calls about cabin fees from Montana constituents. Constituents were very appreciative of their access to a DC staff member who was working to help them. In spite of having considerable bipartisan co-sponsorship of the legislation, as the 111th Congress entered its final days, it became clear that far more important issues would consume all the available Senate floor time. Various strategies were developed by me, by more senior staff in my office and by the cabin owners' lobbyist to add the legislation, or some stopgap version of it, to appropriations bills. These discussions on strategy and tactics for moving legislation forward gave me extra insight into how the legislative process functions. A stopgap version was added to the omnibus appropriations legislation and to a year-long continuing resolution, but neither passed the Senate. The 111th Congress ended without addressing the issue of the fairness of cabin fees. One of the final efforts of my year was to transition all that I had done on cabin fees to another member of staff so that the issue can continue to be pursued! This legislation would not have progressed as far as it did without my effort. The office staff simply did not have the time that I did to work on the issue.

Many other activities were also part of my Fellowship year. I worked with staff from my and other, both Republican and Democratic, Senate offices on legislation to promote small-scale wind power development. This effort also had significant participation from the staff of wind energy associations and wind energy developers. I took the lead on extensive background research on several topics in renewable energy, rare earth metals and mine safety issues. I attended interesting and educational briefings and hearings and reported back to Senator Tester's staff on their content. I had many meetings with constituents and special interest representatives. I was useful in handling, in a timely way, constituents' questions on renewable energy. I believe I enhanced the reputation of the Senator in some constituents' eyes simply by demonstrating that the Senator had a scientist in his office. Constituents and special interest representatives that have a science background are always pleased to make their case to a fellow scientist!

Prospective Fellows should be aware of, and hopefully welcome, the fact that every Fellowship year will have some unexpected events. One such event in my year was the Deepwater Horizon oil spill. Most Congressional energy staff turned nearly all their attention to the oil spill and the consequent hearings and development of legislation. I was only slightly involved since it was not as

important to Senator Tester and Montana as to some other states. However, based on publicly available video of the Deepwater Horizon oil spill, I predicted, on May 15, the oil flow at 65,000 barrels/day. The federal government and BP estimates were significantly lower until, two and one half months later, a final federal government estimate of 62,000 barrels/day was released. My office staff and the Senate Energy Committee staff were impressed and glad to have had my early estimate!

Other unusual events during the year that I was able to attend were the Senate impeachment trial of a federal judge, the confirmation hearing of a Supreme Court Justice and the consideration of the New START Treaty. These three events contributed to the great education I received in the operation of the Legislative Branch of the Federal Government. I also had the opportunity to meet with an Under Secretary of Energy and an Assistant Secretary of Interior. I was able to learn about how they set priorities and try to achieve them.

My Congressional Fellowship year educated me about the legislative process, energy policy and the inner workings of a Senate office. It enabled me to make a contribution to the development of renewable energy in Montana and to help Montana constituents. The year was also challenging. It is necessary to come up to speed quickly on topics about which one has little to no prior knowledge. It is also necessary to prioritize amongst the many opportunities with which one is presented including, for example, hearings, briefings, constituent or special interest group meetings, outreach to other offices and organizations and AAAS events, just to mention a few. One cannot experience everything a Fellowship has to offer in just one year! I highly recommend the Fellowship experience to all in the scientific and engineering communities. I thank IEEE-USA for giving me this once in a lifetime opportunity!