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# United States Senate

WASHINGTON, DC 20510-1903

August 23, 2010

The Honorable Julius Genachowski  
Chairman  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

**1379**

Dear Chairman Genachowski:

As the Federal Communications Commission deals with a number of issues from network neutrality to spectrum policy, I wanted to write you about a critical component necessary to properly address these matters—adequate technical resources. While the Office of Engineering and Technology (OET) has been and will continue to be a valuable resource, there has been increased concern voiced by the technical community and even Commissioners themselves about the loss of engineering expertise at the Commission. It's for good reason, in 1948, the FCC had approximately 720 engineers on staff; today, it has fewer than 300—*an astonishing 62% reduction*—even though the FCC now must face more technical issues concerning the Internet, advanced wireless communications, cyber security, commercial cable & satellite industries, and broadband.

Engineers once accounted for more than 50 percent of the FCC workforce but now only constitute a dismally low 14 percent. Making matters worse, FCC officials have recently acknowledged a shortage of network engineers and that a large number of experienced engineers—close to 50 percent—will be eligible to retire within the next few years.

A December 2009 report by the Government Accountability Office<sup>1</sup> reaffirms these concerns and provides additional evidence of the looming problem. The GAO concluded that “weaknesses in FCC’s processes for collecting and using information also raise concerns regarding the transparency and informed nature of FCC’s decision-making process.” Furthermore, the report found the “FCC faces challenges in ensuring it has the expertise needed to adapt to a changing market place.”

This presents a significant challenge given that the Commission is in the midst of implementing the National Broadband Plan while at the same time handling its existing workload. Many of the Plan’s proposals are very technical in nature—such as establishing technical broadband and spectrum measurements and facilitating spectrum research & development to increase spectral efficiency and usage. Without sufficient technical assets, it will be very difficult for the Commission to successfully execute the Plan and achieve its ultimate goal of making high-speed, affordable broadband available to all Americans. The lack of technical resources also hinders the ability of the Commission to implement more effective spectrum policy and management to meet the future spectrum needs of all users.

Due to the concern I share with the technical community about the current state of the FCC’s technical resources, I wish to inquire about your plans to increase technical resources at the FCC so it will

<sup>1</sup> *FCC Management: Improvements Needed in Communication, Decision-Making Processes, and Workforce Planning* (GAO-10-79), December 17, 2009

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be better equipped to address the dynamic and increasingly technical landscape of the telecommunications industry as well as the many issues under its jurisdiction. Specifically, I would like to know what your staffing plans are to hire the necessary number of qualified engineers to adequately support the FCC's mission, how the Commission will change hiring practices to have greater visibility on college campuses and be more competitive with industry, and what improvements you plan to make to the Excellence in Engineering program to retain and train FCC engineers. Lastly, I would be interested in knowing the average number of engineering cooperative students or interns compared to the number of legal interns the Commission has annually.

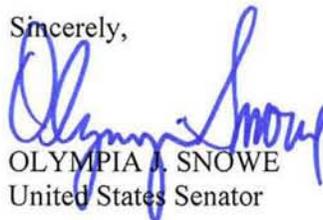
I believe it is very telling that one of the top public recommendations on the FCC's reform website, [reboot.fcc.gov](http://reboot.fcc.gov), is to "require at least one FCC Commissioner to be an engineer."<sup>2</sup> Even the general public clearly realizes the significant technical deficiency that exists at the Commission and the critical need to increase the FCC's technical aptitude.

Comparing the FCC to similar regulatory agencies illustrates some significant differences. For example, every Commissioner at the Nuclear Regulatory Commission is either a physicist or an engineer, and each Commissioner's staff is comprised of both legal and technical assistants. However, each FCC Commissioner's staff is almost solely comprised of legal advisors—not one FCC Commissioner has a technical advisor or assistant on staff. This seems odd given that none of the Commissioners has an engineering or in-depth technical background.

Ensuring the Commission has ample technical resources and proper decision-making processes in place is paramount to the FCC making sound regulatory decisions and being a more effective agency. This is absolutely vital given how rapidly technologies are changing and the implications that regulation could have on the underlying technical catalysts of innovation. It is also essential to overall reform at the Commission because in order to properly regulate communications, the FCC must be deeply knowledgeable of both the legal and technical aspects of the issues before it.

As you know, I have introduced legislation, the *FCC Commissioners' Technical Resource Enhancement Act* (S.2881), to bolster the Commission's technical resources. S.2881 has received significant support from various technical membership organizations and several prominent individuals in the field. I believe this bill could complement your internal efforts so I look forward to receiving your timely response to my inquiry.

Sincerely,



OLYMPIA J. SNOWE  
United States Senator

cc: Commissioner Michael J. Copps  
Commissioner Robert M. McDowell  
Commissioner Mignon Clyburn  
Commissioner Meredith Attwell Baker  
Mr. Julius Knapp  
Dr. Douglas Sicker

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<sup>2</sup> <http://rebootfcc.uservoice.com/forums/37115-rules-processes-how-could-the-fcc-become-more-e/suggestions/439680-require-at-least-one-fcc-commissioner-to-be-an-eng?ref=title>