



# HEALTH PHYSICS SOCIETY

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*Specialists in Radiation Safety*

**PUBLIC WITNESS TESTIMONY by the HEALTH PHYSICS SOCIETY (HPS) and  
HEALTH PHYSICS PROGRAM DIRECTORS ORGANIZATION (HPPDO) for the  
SUBCOMMITTEE on ENERGY and WATER DEVELOPMENT regarding the  
DEPARTMENT OF ENERGY OFFICE OF NUCLEAR ENERGY**

**This written testimony for the record for Fiscal Year 2008 requests \$500,000 for the Health Physics Fellowships and Scholarships program through the Department of Energy's Office of Nuclear Energy (DOE-NE) to help address the shortage of health physicists, which is an issue of extreme importance to the safety of our nation's workers, members of the public, and our environment.**

Health Physics is the profession that specializes in radiation safety, which is necessary for the safe and successful operation of the nation's **energy, healthcare, homeland security, defense, and environmental protection** programs. Although radiation safety is fundamental to each of these vital national programs, there is no single federal agency in the Executive Branch that serves as a home and champion for the health physics profession. This is due to the fact that health physics is a profession that cuts across all these sectors and is **necessary** for all these sectors to exist. However, it is a support profession for the principle disciplines in these programs, such as engineers, medical professionals, law enforcement professionals, military personnel, and environmental scientists, which are championed by corresponding federal agencies.

As the nation's development and use of radioactive materials grew following the end of World War II, the nation's energy, defense, public health, and environmental protection needs for health physicists were supported through student fellowships and scholarships largely from the Atomic Energy Agency (energy and defense) and Public Health Service (public health and environmental protection). However, over the years agencies and their missions changed, the nuclear power industry faltered and the DOE nuclear weapons complex downsized following the end of the cold war. This resulted in the academic program support from federal agencies dwindling until the last remaining support from DOE was terminated in FY99. This lack of academic support was despite the continued need for health physicists in the energy, defense, public health, and environmental protection programs and an exponential growth for need in the medical and academic community.

As the health physics human capital crisis grew and loomed in the early years of the 21<sup>st</sup> century, a sector receiving increasing attention in the human capital shortage area was the nuclear energy industry, particularly with its ability to provide energy without producing "greenhouse gases." Congress and the Department of Energy (DOE) took action to add support to the nuclear engineering academic programs through DOE programs in the Office of Nuclear Energy (NE) (previously the Office of Nuclear Energy, Science and Technology) and eventually agreed that this was an appropriate support mechanism for the health physics academic program. In fiscal year 2005, just 3 years ago, Congress appropriated money to DOE-NE for a health physics fellowship and scholarship program as part of the *University Reactor Fuel Assistance and Support* budget item. At that time, then Director of DOE-NE, William Magwood, agreed this support was needed as he testified to this Committee that the DOE recognized ". . . a small but important element [of the University Support budget item was] to provide scholarships and graduate fellowships to students studying the vital and too-often overlooked discipline of health physics." Shortly thereafter,

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Congress reinforced its position that DOE needed to support the health physics academic programs in provisions of Section 954 of the Energy Policy Act of 2005. However, even though the need for increased numbers of health physics professionals continued to exist, after only two fiscal years of funding the NE Health Physics Fellowship and Scholarship programs at minimal levels, the DOE has requested to cease funding this Congressionally authorized program.

In their FY08 Budget Request, DOE states "Enrollment target levels of the University Reactor Infrastructure and Education Assistance program have been met and the program is *no longer considered essential to encourage students to enter into nuclear related disciplines*" (emphasis added). Similarly, in the Office of Management and Budget's (OMB) performance assessment of the University Nuclear Education Programs, they conclude "*Enrollments have tripled since the late 1990's, reaching upwards of 1,500 students. In addition, more universities are offering nuclear-related programs and there is a growing interest in nuclear energy*" and "*While enrollments have reached the program's target level of 1,500 students ten years ahead of schedule, the program is unable to demonstrate that it caused these results.*"

This DOE statement and the OMB assessment are patently wrong with regards to health physics programs. Since DOE has only funded health physics programs for 2 years, we do not believe they have ever established "target levels" for health physics program enrollments nor has there been time to assess the effect of those 2 years of funding on health physics program enrollments. The DOE-NE HP fellowship and scholarship program thus far has **provided 3 graduate fellowships** in FY06 and **0 undergraduate scholarships**. In 2004, the HPPDO developed a plan for revitalizing the academic programs to a level that could meet the projected shortfall of health physicists. The HPPDO plan calls for an initial target of **20 graduate fellowships** and **20 undergraduate scholarships**, i.e., target levels well above the actual performance of the Nuclear Education Programs. In addition, the number of health physics programs graduating at least 5 students annually decreased from 20 programs in 1995 to less than half that number in 2005.

Although we consider it would take approximately \$1,000,000 to get to the HPPDO plan of 20 fellowships and 20 scholarships, we consider it important to address immediately the HP Graduate Fellowship program so we have between 15 and 20 fellows in a two-year Masters Degree program and up to 10 undergraduate scholarships to start meeting our nation's workforce needs for radiation safety personnel. Funding of \$500,000 should allow for up to approximately 12 to 15 fellows and up to 10 scholarships with allowance for overhead administration costs. Considering the DOE budgets for the HP Fellowship and Scholarship programs for FY05 and FY06 combined have totaled \$500,000 and only produced 3 fellowships, we feel this request is very modest and we recognize it will not begin to provide the long term support that will eventually be required if we are to have enough safety professionals for our **energy, healthcare, homeland security, defense, and environmental protection** programs.

**The Committee's favorable consideration of this request will help meet our nation's radiation safety needs of the future.**