

## **POLICY ISSUE NOTATION VOTE**

July 8, 2008

SECY-08-0098

FOR: The Commissioners

FROM: R. W. Borchardt  
Executive Director for Operations

SUBJECT: REQUEST TO INCREASE THE NUMBER OF FELLOWS IN THE  
GRADUATE FELLOWSHIP PROGRAM

### PURPOSE:

This paper provides the basis for and requests an increase in the maximum number of Fellows in the Graduate Fellowship Program at any time from 4 to 16 to fully address the agency's projected critical skill needs.

### BACKGROUND:

In July of 2006, the staff forwarded a memorandum to the Chairman proposing that the Nuclear Regulatory Commission (NRC) engage the Oak Ridge Institute for Science and Education (ORISE) to administer the NRC Graduate Fellowship Program (GFP). The Chairman's response directed the staff to evaluate alternatives to using ORISE that provide for a viable small GFP program of approximately four Fellows in any single year, taking into account the authority received under the Energy Policy Act of 2005, and to inform the Commission of the staff's conclusion.

Based on this direction, the Office of Human Resources (HR) included \$200K in its Fiscal Year (FY) 2009 budget and FY 2010 budget requests to provide tuition and fees for four full-time Graduate Fellows at \$50K per Fellow. Earlier this month, the Office of Research (RES) selected three Fellows for the 2008–2009 academic year. Two of those Fellows are pursuing doctoral

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degrees in Electrical Engineering, Digital Instrumentation and Control, and one Fellow is pursuing a doctoral degree in Applied Experimental Psychology, Human Performance and Human Factors. RES, as the sponsoring office, has included the full-time equivalent (FTE) for these Fellows in their budgets for FY 2008 and FY 2009 and their budget request for FY 2010.

#### DISCUSSION:

The staff has identified the need to significantly increase the number of staff with graduate-level degrees in disciplines where critical shortages currently or are projected to exist. In many technical areas, the complexity of the issues the staff is considering and the sophistication of the analyses and technical solutions submitted by licensees and applicants goes beyond the content of undergraduate courses. This has been a trend over the last several years and it is becoming increasingly problematic to maintain the level of staff expertise needed to effectively manage the contractors, consultants, and the reviews. Consequently, it has become increasingly important to increase the number of staff with the academic training to grapple with these complex issues and the sophisticated analyses and technical solutions. This affords opportunities for knowledge management and transfer among the staff, and increases the consistency in regulatory decisions.

The Offices of Nuclear Reactor Regulation, New Reactors, Nuclear Security and Incident Response, Nuclear Material Safety and Safeguards, Federal and State Materials and Environmental Management Programs, and Nuclear Regulatory Research, have identified the need for more staff with academic training at the Masters and Doctoral levels. Specific technical areas include:

- Digital Instrumentation and Control with additional emphasis on cyber security
- Homeland Security (masters degree program)
- Electrical Engineering
- Fuels – cladding behavior, nuclear process chemistry (recycling), criticality analyses and safety
- Risk Analysis
- Material Control and Accountability
- Fire Engineering
- Human Factors
- Metallurgy and Materials Science, including Corrosion
- Structural Engineering and Structural Mechanics
- Nuclear or Mechanical Engineering with emphasis on Thermal-Hydraulics and Computational Fluid Dynamics
- Health Physics and Radiation Biology
- Earth Sciences – Seismology, Geology, Geochemistry, Hydrology, and Hydrogeology
- Life Sciences – Biology, Aquatic Biology, Ecology, Terrestrial Ecology, and Zoology.

#### RECOMMENDATION:

The staff recommends that the Commission approve an increase in the number of Graduate Fellows from four to a maximum of 16, commencing with the 2009–2010 academic year and to supplement the FY 2010 budget request to provide the needed resources described on the next page.

Total Resources:

Current

FY 2009 HR – \$200K, RES – 3 FTE

FY 2010 HR – \$200K, RES – 3 FTE

Proposed

FY 2009 HR – \$200K, RES – 3 FTE, OCFO – \$300K

FY 2010 HR – \$200K, RES – 3 FTE, OCFO – \$200K

Expansion \$50K and 1 FTE or \$100K and 2 FTE

HR has \$200K and RES has 3 FTE in the FY 2009 budget and in their FY 2010 budget requests to support the existing GFP and the three recently selected Fellows.

Under the proposed GFP expansion, each participating office would need to add to its proposed FY 2010 budget either \$50K and 1 FTE or \$100K and 2 FTE, depending on the level of their participation.

In addition, the Office of the Chief Financial Officer would need to increase their FY 2009 budget by \$300K and FY 2010 budget request by \$200K to support limited moves that may be required.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objections. The Office of the Chief Financial Officer has reviewed this paper for resource implications and concurs.

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for Operations

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