DOE - Fossil Energy Techline - Issued on: November 28, 2005

Six Minority Universities Selected for Energy Research Grants

Projects to Advance Methane Hydrate Research, Produce Hydrogen, and Improve Oil Recovery Among Selections

Washington, DC — The Department of Energy has selected six institutions to receive grants for energy research through its Historically Black Colleges and Universities and Other Minority Institutions (HBCU/OMI) program.

Carried out under the Energy Department's Office of Fossil Energy, the program gives students hands-on experience in developing technologies to promote the efficient and environmentally safe use of coal, oil, and natural gas.

"I'm pleased to see the strong interest of faculty in conducting this research and training a promising group of college students," said Mark Maddox, Principal Deputy Assistant Secretary for Fossil Energy. "Their activities promote our nation's energy security and the educational growth of future energy researchers."

The projects, which will receive grants ranging from $20,000 to $200,000, will be managed by the National Energy Technology Laboratory. The selected universities and their projects include the following:

- **Florida International University**, Miami, Fla.—Oil sands and tar sands are deposits of high-viscosity crude oil, which is unrecoverable by conventional methods. To recover this heavy crude, the oil must be broken down by thermal methods or dissolved in a solvent. Florida International University's improved oil recovery project will develop computer-based models that can predict the effects of solvent injection in these vast deposits. (DOE award: $200,000; project duration: 36 months)
- **Hampton University**, Hampton, Va.—In Fischer-Tropsch synthesis, carbon monoxide and hydrogen derived from fossil fuels convert into a wide variety of products for industrial use. Researchers will develop an economically viable, iron-based catalyst to promote the commercial success of this technology in the United States. (DOE award: $200,000; cost share: $18,000; project duration: 36 months)
- **Morgan State University**, Baltimore, Md.—Researchers will develop laser instrumentation for monitoring the flow of solids in coal-fired boilers. Coal particles will pass through an intersection of beams, scattering their signals. These signals will measure the solids' flow rate, and the information will be used to control solids flow and the

injection of oxygen and other process components. (DOE award: $200,000; project duration: 36 months)

- **North Carolina A&T State University**, Greensboro, N.C.—This project will build on recent nanotechnology advances to further develop oxygen-selective membrane materials for the production of high-grade, oxygen-rich gas streams suitable for use in coal combustion and gasification. (DOE award: $200,000; project duration: 36 months)
- **Prairie View A&M University**, Prairie View, Texas—Methane hydrate is a crystalline substance made of water and natural gas which occurs naturally in permafrost regions and beneath the sea. Hydrate deposits create difficulties in off-shore drilling, but they also hold promise as a major source of natural gas. This project will review methane hydrate research programs worldwide—especially outside North America—to determine their goals, achievements, funding, and future direction and to help identify opportunities to increase international collaboration. (DOE award: $200,000; project duration: 36 months)
- **University of Texas**, El Paso, Texas—This exploratory research project will investigate flame synthesis techniques to produce carbon nanotubes from low-heating-value gases. The overall objective of the project is to obtain a cost-effective methodology for the production of carbon nanotubes that could be used as sensors, gas storage media, or high-temperature materials. (DOE award: $20,000; project duration: 11 months)