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## DOE Adds New Fossil Energy Projects to Historically Black Colleges and Universities Grant Program

WASHINGTON, DC - As part of its efforts to encourage more participation by minority college students and teachers in its national energy program, the Department of Energy (DOE) has selected seven natural gas, oil, and coal research projects to be carried out by teacher-student teams at historically black colleges and universities.

The institutions will receive Federal research grants, each totalling \$100,000 to \$200,000, for fundamental research in topics ranging from improved oil and gas recovery and to the environmentally cleaner use of coal. One university, Clark Atlanta University, will also receive a separate smaller grant for a 1-year exploratory effort in oil processing.

Secretary of Energy Hazel R. O'Leary said that the selections will broaden the role of the Nation's academic community in solving longer-term energy supply and environmental challenges.

"Our goal is to create a research environment at the Nation's black colleges and universities that not only brings fresh, innovative ideas into our research programs, but also benefits the educational progress of students," O'Leary said. "Another key aspect of this program is that most of the winning projects link the participating schools with private sector companies, creating partnerships that can benefit the companies, the universities, and the students."

The winning projects were selected from 27 proposals submitted to DOE's Office of Fossil Energy in response to its Historically Black Colleges and Universities solicitation. The projects and institutions selected are:

Prairie View A&M University, Prairie View, TX, will receive a \$135,130 grant for a 15-month research project to improve today's technology for gasifying coal. Converting coal into a combustible gas offers an extremely clean, efficient approach for power generation, and many utilities have included coal gasification power plants in their construction plans. The Prairie View A&M research, to be headed by Dr. Daniel Mei, will focus on an innovative way to remove coal ash using "pulse detonation technology." The project could reveal a new type of environmental control technology for the cleaner use of coal in the 21st century. Prairie View A&M will team with Lockheed Fort Worth Company.

Hampton University, Hampton, VA, will receive a \$139,994 grant for a 2-year research project to study chemical compounds that can absorb sulfur pollutants from the hot gases of advanced coal-based power plants. "Hot gas desulfurization" is a key technology for improving the performance of coal gasification power plants. These power plants are expected to make up a growing portion of the next generation of baseload power stations in the U.S. and overseas. The research contact is Dr. K. Jothimurugesan. Hampton will team with Research Triangle Institute and United Catalysts Inc.

Clark Atlanta University, Atlanta, GA, will receive two grants, both in the area of advanced petroleum refining research. One, for \$200,000 in Federal funds, will support a 5-year research project on advanced concepts for extracting useful hydrocarbons from the thick "resid" oil that is often left unprocessed by conventional refining technology. Dr. Conrad Ingram will head the research team. The other, for \$10,000, is a 1-year exploratory grant to study chemical impurities in crude oil that can damage the catalysts used in refining processes. Dr. Xiu R. Bu will be the lead researcher. In the larger project, Clark Atlanta will team with Texaco Inc., Port Arthur, TX.

Morgan State University, Baltimore, MD, will receive a \$200,000 grant for a 3-year research project to develop instrumentation and advanced computer models that will help improve future electric power plant designs. The University will study the way heat is transferred in a "circulating fluidized bed" coal combustor, one of the most advanced, cleanest-burning concepts now available for using coal to generate electricity. Understanding the heat transfer characteristics of these combustors will help improve their designs and future performance. Dr. Seong W. Lee will lead the research team. Morgan State will team with Donlee Technologies of York, PA, and Combustion Systems Inc. of Silver Spring, MD.

Fort Valley State College, Fort Valley, GA, will receive a \$140,000 grant to study the use of advanced geostatistical techniques in defining the characteristics of an oil reservoir. Today's oil companies, especially the smaller independent producers who make up a growing share of the U.S. industry, are recognizing that a better understanding of the geologic properties of an oil reservoir can reveal opportunities for increased oil production. The 14-month Fort Valley State project, lead by Dr. Issac J. Crumbly, will help give these operators better "tools" for obtaining this knowledge and boosting domestic oil production. Fort Valley State will team with Applied Research Associates, Inc.

Southern University, Baton Rouge, LA, will receive a \$104,246 grant for a 2-year research project to improve the technology of "solid oxide" fuel cells. Fuel cells are a new way to generate electricity from fossil fuels. Because they rely on an electrochemical reaction (like a battery), rather than combustion, they are extremely clean power sources. Southern's project will concentrate on one of the most advanced fuel cell concepts, an all solid-state device that can operate at high temperatures and generate electricity very efficiently. Southern will team with Motorola Energy Systems. The research contact is Dr. Bobba