

Production Program Solicitation is to support research that supplements and complements but does not duplicate or displace private and other public research and development efforts. The objective of the solicitation is to select midterm type research projects that will focus on cost effectively improving current technologies.

DATES: The solicitation will be available on the "Industry Interactive Procurement System" (IIPS) webpage located at <http://e-center.doe.gov> on or about October 30, 2003. Applicants can obtain access to the solicitation from the address above or through DOE/NETL's Web site at <http://www.netl.doe.gov/business>.

FOR FURTHER INFORMATION CONTACT:

Juliana L. Heynes, MS 921-107, U.S. Department of Energy, National Energy Technology Laboratory, P.O. Box 10940, MS 921-107, Pittsburgh, PA 15236, E-mail Address: heynes@netl.doe.gov, Telephone Number: 412-386-4872.

SUPPLEMENTARY INFORMATION: The goals of the Department of Energy's Fossil Energy Oil Program are derived from the National need for increased oil production as a part of the national security, requirements for Federal lands stewardship and increased protection of the environment. The core research program of NETL continues to support these goals through carefully selected projects from similar program solicitations. Approximately two-thirds of all the oil discovered in the United States remains in the ground. This effort will provide further development of technologies to recover the remaining reserves in the domestic arena.

Technological advances can also be applied by companies in foreign reserves, increasing global supplies as well. The program supports the National Energy Policy goals to increase domestic oil exploration through continued partnership with public and private entities and to promote enhanced oil recovery from existing wells through new technology. By providing support to the development of improved and new technologies in three specific areas, the results should improve oil recovery and increase hydrocarbon reserves. This will augment the domestic oil supply. Applications submitted to any Area of Interest or technical topic must contain a minimum of 20% cost share.

Approximately twelve million dollars (\$12,000,000) is expected to be available for new awards under this announcement. It is anticipated that six million dollars (\$6,000,000) will be available during Fiscal Year 2004. (**Note:** The limit on participation by an M&O contractor for an individual project

under this solicitation cannot exceed 25% of the total project cost).

This solicitation has *three separate Areas of Interest*:

Area 1—Drilling Technology for High Speed Downhole Motors

Area 1 is limited to one technical topic. Applications in Area 1 will be for projects designed to develop high-speed downhole motors suitable for drilling with high speed bits in the harsh downhole drilling environment. The Oil Program has a drilling program that is currently focused mainly on microhole drilling and applications. However, the area of high speed bit development is progressing steadily and it was recognized that a suitable downhole motor will be necessary to fully develop the capabilities of the high speed bits in multiple applications. Current long-term research efforts are looking for solutions to drilling in deep wells and hard rock. High speed drilling holds the potential to reduce drilling costs and produce a smaller environmental footprint. The need for a downhole motor to operate with these bits will be required in the near future. It is anticipated these bits and motors will be employed in directional, slimhole and coiled tubing drilled wells. The drilling program will look to enhance this developing area of research.

Area 2—Advanced Diagnostics and Imaging Technology

Area 2 is comprised of three separate technical topics: (A) Subsurface Imaging; (B) Regional Study and Basin Analysis; and (C) Reservoir Characterization and Management.

The Advanced Diagnostics and Imaging Systems (ADIS) Program is an integral part of the DOE/FE mission and strategy. ADIS is directed toward cross-cutting interdisciplinary research to develop advanced and innovative technologies applied to the incremental recovery of the estimated 160 billion barrels of existing and undiscovered technically recoverable oil from onshore and offshore waters of the United States (USGS, 1995, MMS, 1996).

Uncertainty concerning the physical and chemical nature of oil reservoirs is one of the most severe technological barriers to increasing the economic oil recovery from existing and undiscovered fields. Oil reservoirs are composed of a wide variety of architectural heterogeneities (*i.e.*, rock facies geometry, diagenetic alterations, fracturing, stratigraphic and structural setting). Porosity, relative permeability, pore and pore throat morphology, capillary forces, miscibility and saturation variations (oil-gas brine plus

other displacing fluid/gas compositions, rock-fluid, fluid-gas and fluid-fluid interactions) also contribute to technical recovery barriers. Several of these variables often change between like reservoirs within a single geologic play and change due to temporal and spatial dynamic alterations that occur within a reservoir throughout the exploitation and recovery processes.

The ADIS section of this solicitation supports research designed to quantify the interrelationship of the reservoir rock architecture, fluid-rock, fluid-gas, and fluid-fluid interactions that impact oil productibility from petroleum reservoirs. Research efforts should target geologic formations and associated oil reservoirs within United States basins. Multidisciplinary teaming and active involvement by oil producers and /or service companies, with interests in the application of research results for more efficient recovery of larger volumes of oil from fields within the geologic formations and basin studied, is strongly encouraged. Results of these research and technology developments shall be aggressively transferred to the public and private industry thus allowing for informed decisions related to cost-effective reservoir management and exploitation of like oil reservoirs within the productive formations studied.

Area 3—Reservoir Efficiency Processes

Area 3 is comprised of six separate technical topics: (A) Chemical Flooding; (B) Microbial Flooding; (C) Heavy Oil Recovery; (D) Novel Processes; (E) Reservoir Simulation; and (F) Gas Flooding.

Fossil fuels will likely remain the principal energy sources for most of the world, including the United States, well into the middle of the century. The program shall expand the knowledge base which, with industry, can bring efficient, economically competitive, and environmentally acceptable new fossil energy resources and technology options into the marketplace and improve the United States national security by reducing dependence on imported oil. As an integral part of the Fossil Energy mission and strategy, Production Research is directed toward the development of advanced and innovative technologies for recovering oil from large, currently unrecoverable petroleum resources.

As an integral part of the Fossil Energy mission and strategy, the extraction research of oil is directed toward the development of advanced and innovative technologies for recovering oil from large, currently unrecoverable, petroleum resources.