

**DEPARTMENT OF ENERGY**

**Proposed Draft Cost and Performance Goals for the Department of Energy's Coal and Related Technologies Program**

**AGENCY:** Office of Fossil Energy, Department of Energy (DOE).

**ACTION:** Notice of proposed draft cost and performance for the Department of Energy's coal and related technologies program, and request for comments.

**SUMMARY:** Section 962 of the Energy Policy Act of 2005 (EPAc), (42 U.S.C. 16292), directed the Secretary of Energy to conduct coal research and development programs and, in carrying out such programs, to identify proposed draft cost and performance goals for coal-based technologies that would permit the continued cost-competitive use of coal for the production of electricity, chemical feedstocks, and transportation fuels. In compliance with section 962(b) of EPAc, this notice requests public comment on the proposed goals.

**DATES:** Comments on the draft cost and performance goals are due December 27, 2005.

**ADDRESSES:** Comments should be sent to: U.S. Department of Energy, Office of the Assistant Secretary of Fossil Energy, ATTN: Darren Mollot, 1000 Independence Avenue, SW., Washington, DC 20585.

**FOR FURTHER INFORMATION CONTACT:** Dr. Darren Mollot, Office of Clean Coal, Office of Fossil Energy, (202) 586-0429, [darren.mollot@hq.doe.gov](mailto:darren.mollot@hq.doe.gov) or Mr. John Grasser, Director of Communications, Office of Fossil Energy, (202) 586-6803, [john.grasser@hq.doe.gov](mailto:john.grasser@hq.doe.gov), 1000 Independence Avenue, SW., Washington, DC 20585.

**SUPPLEMENTARY INFORMATION:** Section 962 of EPAc directed DOE to conduct a program of technology research, development, demonstration, and commercial application for coal and power systems (42 U.S.C. 16292(a)). In carrying out these programs, DOE was also directed to identify proposed draft cost and performance goals for coal-

based technologies that would permit the continued cost-competitive use of coal for the production of electricity, chemical feedstocks, and transportation fuels (42 U.S.C. 16292(b)). Proposed draft cost and performance goals for program activities currently funded and undertaken by DOE to facilitate production and generation of coal-based power are summarized in the table below.

These aggressive goals are for technology that does not yet exist. The goals provide a basis for guiding technology development, and program funding. They are not being proposed as the basis for present or future regulations or legally binding standards, nor do they attempt to project dates by which technologies will be developed or commercially available. The dates for achieving the targeted goals relate to the projected need for maintaining existing coal-based electric plant capability and for significantly increasing coal-based electric power capacity beginning in the 2010 to 2020 time frame (Energy Information Administration, Annual Energy Outlook, February 2005). Achieving the performance goals within these dates will depend on continued availability of funding. The overall program objective is to develop coal-based technologies that will enable the continued use of coal as a valued energy resource for the Nation.

These proposed goals were established based on a variety of information and data, including the status of current coal-based technology and results from on-going research and development programs carried out by industry, university, and national laboratories. They were developed through feedback from workshops held by DOE that resulted in developing a coal program roadmap to meet national needs and from workshops on advanced technology to improve environmental performance, energy system efficiency, and lower cost of coal-based energy systems. In establishing these goals, DOE consulted with coal-based technology equipment vendors, users (e.g. electric utilities), and technology developers. Consultations also included

exchanges with the Coal Utilization Research Council, the Electric Power Research Institute, and with other organizations, including environmental and consumer groups.

An integrated plan to achieve the performance and cost goals is presented in the DOE Office of Clean Coal Strategic Plan. The latest version of this Strategic Plan is undergoing internal review and will be issued shortly and then made available to the public on the National Energy Technology Laboratory Web site at <http://www.netl.doe.gov/coal/index.html>. Detailed program plans, roadmaps, and other documents related to the goals of individual programs are currently available on the Web site.

Some of the program activities to facilitate production and generation of coal-based power listed in section 962(a) of EPAc have not been funded to date. Therefore, no cost and performance goals have been established for those activities, which include advanced combustion systems, the liquid fuels portion of coal-derived liquids and transportation fuels (except for hydrogen), liquid fuels derived from low rank coal water slurry, and solid fuels and feedstocks.

The following table identifies cost and performance goals for currently funded program activities under DOE's coal and related technologies program. Some of the activities include more than one of those listed in section 962(a). *Advanced Power Systems* includes cost and performance goals for gasification systems, turbines for synthesis gas derived from coal, and advanced separation technologies (oxygen). *Carbon Sequestration* also includes advanced separation technologies (carbon dioxide) and work on advanced combustion technology. *Hydrogen and Fuels* activities are part of coal-derived chemicals and transportation fuels and also include advanced separation technologies (hydrogen). All of the below listed program activities encompass some aspect of advanced coal-related research activities.

Program activity	Performance goals *		Cost Goals *
	Efficiency	Environmental	
Innovations for Existing Plants .....	Maintain current plant efficiency while achieving the environmental performance and cost goals	Mercury (Hg): 50-70% reduction by 2007; 90% reduction by 2010  Nitrogen Oxides (NO <sub>x</sub> ): <0.15 lb/million Btu by 2007; <0.10 lb/million Btu by 2010	70% of today's cost (per lb of mercury removed).  50-75% of current selective catalytic reduction (SCR) capital cost.

Program activity	Performance goals *		Cost Goals *
	Efficiency	Environmental	
Advanced Power Systems .....	45–50% higher heating value (HHV) efficiency to electricity by 2010 Multi-product capability (e.g. power and hydrogen) with over 60% efficiency by 2015	Sulfur Dioxide (SO <sub>2</sub> ): >99% removal NO <sub>x</sub> : < 0.01 lb/million Btu Hg: >90% removal Carbon Dioxide (CO <sub>2</sub> ) capture: >90%	2012 goal: <10% increase in cost of electricity services in zero emission advanced gasification plants integrated with carbon sequestration.
Carbon Sequestration .....	Efficiency of current and new plants consistent with cost of electricity target	90% CO <sub>2</sub> capture and sequestration	2012 goal: <10% increase in cost of electricity services to separate, capture, transport, and sequester carbon using either direct or indirect systems.
Hydrogen and Fuels .....	Efficiency consistent with advanced power systems	Emissions consistent with advanced power systems	Hydrogen at \$0.90/gal. gasoline equivalent (gge) by 2010 and \$0.79 gge by 2015 with no incentives or tax credits when integrated with advanced coal power systems.
Fuel Cell Systems (Coal-based fuel cell/turbine hybrids).	40–60% (40% for kilowatt sizes; 60% for megawatt class hybrid systems integrated with coal gasification)	Emissions consistent with advanced power systems	\$400/kW capital cost for fuel cell power modules (in kilowatt sizes by 2010 and megawatt class hybrids by 2015).

\* All dates shown are meant to indicate the completion dates for ongoing research. The referenced technologies will still have to be commercially demonstrated before they are ready or are available for commercial deployment.

Issued in Washington, DC, on November 30, 2005.

**Mark R. Maddox,**

*Principal Deputy Assistant Secretary, Office of Fossil Energy.*

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## DEPARTMENT OF ENERGY

### Bonneville Power Administration

#### Klondike III/Biglow Canyon Wind Integration Project

**AGENCY:** Bonneville Power Administration (BPA), Department of Energy (DOE).

**ACTION:** Notice of Extension of Comment Period for an Environmental Impact Statement (EIS).

**SUMMARY:** This notice extends the close of comment for scoping from the previously published May 13, 2005 to January 5, 2006. BPA is preparing its Klondike III/Biglow Canyon Wind Integration EIS under the National Environmental Policy Act (NEPA). BPA is currently considering a proposed interconnection requested by PPM Energy, Inc. (PPM), to integrate electrical power from their proposed Klondike III Wind Project into the Federal Columbia River Transmission System (FCRTS). The EIS will now also include a proposed interconnection requested by an additional wind developer, Orion Energy, LLC (Orion) to integrate electrical power from their proposed Biglow Canyon Wind Farm Project. BPA published a NOI to prepare

an EIS for the Klondike III Wind Project in the **Federal Register** on February 11, 2005. After receiving comments during the scoping period that suggested combining the interconnections of these two projects, and receiving an interconnection request from Orion, BPA has decided to include both projects in the same EIS and change the name of the EIS to Klondike III/Biglow Canyon Wind Integration Project EIS. Both proposed wind projects are located in Sherman County, Oregon. BPA proposes to execute agreements with both developers to provide them with an interconnection for up to 700 megawatts (MW) of generation (300 MW from Klondike III, 400 MW from Biglow Canyon). Interconnection would require BPA to build and operate a new double-circuit 230-kilovolt (kV) transmission line, a new 230-kV substation, and to expand an existing 500-kV substation.

BPA also intends to consider the impacts of building another substation in the area. Because more local wind generation projects are expected to be constructed in the coming years, a substation is likely to be needed in this area to integrate them into BPA's transmission system; however, another substation is not needed at this time.

**DATES:** Written comments on the NEPA scoping process are due at the address below no later than January 5, 2006.

**ADDRESSES:** Send letters with comments and suggestions on the proposed scope of the Draft EIS and requests to be placed on the project mailing list to Bonneville Power Administration, Communications—DKP-7, P.O. Box

14428, Portland, OR 97293-4428.

Comments may also be sent to the following Web site: <http://www.transmission.bpa.gov/NewsEv/commentperiods.cfm>.

Please refer to the Klondike III/Biglow Canyon Wind Integration Project EIS in all communications. Comments submitted at the previous scoping meetings or in writing do not have to be resubmitted.

#### FOR FURTHER INFORMATION CONTACT:

Gene Lynard, Bonneville Power Administration—KEC-4, P.O. Box 3621, Portland, Oregon 97208-3621, toll-free telephone 1-800-622-4519; direct phone number 503-230-3790, fax number 503-230-5699, email [gplynard@bpa.gov](mailto:gplynard@bpa.gov). Additional information can be found at BPA's Web site: [http://www.efw.bpa.gov/environmental\\_services/Document\\_Library/Klondike/](http://www.efw.bpa.gov/environmental_services/Document_Library/Klondike/).

#### SUPPLEMENTARY INFORMATION:

**Proposed Action.** BPA proposes to execute an agreement with PPM to provide interconnection services for up to 300 MW from the Klondike III Wind Project. BPA also proposes to execute an agreement with Orion to provide interconnection services for up to 400 MW from the Biglow Canyon Wind Farm Project. As part of these agreements, BPA would agree to construct and operate an approximately 12-mile, double-circuit 230-kV transmission line that would interconnect the electricity from the wind projects to the FCRTS. BPA would also build and operate a new 230-kV substation, expand and place new