

**DEPARTMENT OF ENERGY****Office of Science; Office of Biological and Environmental Research; Recommendations for Sequencing Targets in Support of the Microbial Genome Program and the Genomes to Life Program**

**AGENCY:** U.S. Department of Energy (DOE).

**ACTION:** Recommendations for sequencing targets.

**SUMMARY:** This **Federal Register** Notice seeks the input and nominations of interested parties for candidate microbes and candidate microbial communities, for draft genomic sequencing in support of the Microbial Genome Program (MGP) and the Genomes to Life (GTL) Program. Candidate microbes and microbial communities should be relevant to DOE mission needs, e.g., microbes involved in environmental processes, including waste remediation, carbon management, energy production, and biodefense. This announcement is not an offer of direct financial support for research on these microbes. Those nominations selected will result in the DNA sequence of selected microbes being determined at a draft level (6–8 X coverage) at the DOE Production Genomics Facility (PGF) at the Joint Genome Institute (JGI), (<http://www.jgi.doe.gov>). This announcement is designed to assist DOE in determining and prioritizing a list of microbes, or microbial consortia that address DOE mission needs. Following merit review, and subject to the availability of funding and programmatic relevance, draft sequencing will be carried out at the PGF.

**DATES:** To assure consideration, nominations in response to this notice should be received by 4:30 p.m. (EST), March 28, 2002, to be accepted for merit review. It is anticipated that review will be completed early in the summer of 2002 with draft sequencing at the DOE PGF to commence later in 2002, but not before high quality DNA has been provided.

**ADDRESSES:** Written nominations responding to this notice should be sent to Dr. Daniel W. Drell, Office of Biological and Environmental Research, SC-72, Office of Science, U.S. Department of Energy, 19901 Germantown Road, Germantown, MD 20874–1290; e-mail is acceptable for submitting nominations using the following addresses: [joanne.corcoran@science.doe.gov](mailto:joanne.corcoran@science.doe.gov) and [daniel.drell@science.doe.gov](mailto:daniel.drell@science.doe.gov).

**FOR FURTHER INFORMATION CONTACT:** Dr. Daniel W. Drell, SC-72, Office of Biological and Environmental Research, Office of Science, U.S. Department of Energy, 19901 Germantown Road, Germantown, MD 20874–1290, phone: (301) 903–4742, e-mail: [daniel.drell@science.doe.gov](mailto:daniel.drell@science.doe.gov). The full text of this notice is available via the Internet using the following Web site addresses: <http://doegenomestolife.org> and <http://www.sc.doe.gov/ober/microbial.html>.

**SUPPLEMENTARY INFORMATION:** The MGP supports key DOE business areas by providing and analyzing microbial DNA sequence information to further the understanding and application of microbiology relating to energy production, chemical and materials production, environmental carbon management, environmental cleanup, and biodefense. The GTL Program builds on the successes of the DOE Human Genome Program (HGP) by seeking to understand biological functioning with emphases on identifying the multi-component protein complexes in cells, characterizing gene regulatory networks, probing the functional capabilities of the environmental microbial repertoire of genes, and beginning to model these processes computationally. A major goal is to support research on microbes that address DOE Office of Biological and Environmental Research (BER) missions and programs. Relevant BER programs may include Terrestrial and Ocean Carbon Sequestration, the Natural and Accelerated Bioremediation Research (NABIR) Program, the Biotechnological Investigation of Ocean Margins Program (BI-OMP), the Microbial Genome Program (MGP), the Genomes to Life (GTL) program, and the National Nuclear Security Administration's Chemical and Biological National Security Program.

These programs are natural outgrowths of past and current BER Programs, including DNA sequencing from the HGP, structural biology studies utilizing BER-supported facilities at synchrotron and neutron sources located at DOE laboratories, and molecular microbiological research supported by BER environmental programs. These programs benefit from, and provide new scientific challenges to, the DOE national laboratories, the DOE and National Institutes of Health (NIH) Human Genome Centers, the U. S. Department of Agriculture (USDA), the National Science Foundation (NSF), the National Center for Biotechnology Information (NCBI) at the NIH, and the

capabilities of universities and non-profit organizations.

Over the last 5 years, sequencing of a range of microorganisms that live in a wide diversity of environments has provided considerable information base for scientific research related not only to DOE missions, but also to other federal agency missions and U.S. industry. (<http://www.tigr.org/tdb/mbd/mbdcomplete.html> <http://www.ornl.gov/microbialgenomes/organisms.html> and [http://www.jgi.doe.gov/JGI\\_microbial/html/](http://www.jgi.doe.gov/JGI_microbial/html/)). Nonetheless, most of our current knowledge of microbiology still is derived from individual species that either cause diseases or grow easily and readily as monocultures under laboratory conditions and are thus easy to study. The preponderance of species in the environment remains largely unknown to science. Most are thought to grow as part of interdependent consortia in which one species supplies a nutrient necessary for the growth of another. Virtually nothing is known of the organization, membership, or functioning of these consortia, especially those involved in environmental processes in which DOE is interested.

A related issue emerging from genome sequence analyses is the need to develop a better understanding of relatedness or phylogeny using genomics as a tool. Genomic analyses of sequenced microbes have suggested that processes such as lateral gene transfers early in the evolutionary history of some microbial “species” have blurred this understanding, and therefore the phylogeny, among microorganisms that had been thought to have known relationships. For this notice, groups of microbes that are thought to have a species relationship can be proposed to explore what the concept of a microbial species entails and how much sequence divergence defines different species.

Genomic analyses of microbial consortia, and of those species that have proven refractory to laboratory culture, but are either plentiful in environments challenged with chemical contamination, metals, and/or radionuclide wastes, or involved in carbon sequestration are badly needed. These are expected to be the most challenging studies. The candidate(s) must mediate or catalyze metabolic events of energy or environmental importance. Priority will be given to studies on those microbes or microbial consortia that can bioremediate metals and radionuclides, that can degrade significant biopolymers such as celluloses and lignins, or that produce potentially useful energy-related materials (H<sub>2</sub>, CH<sub>4</sub>, ethanol, etc.), or that

are involved in environmental carbon management, e.g., fix or sequester CO<sub>2</sub>.

An additional interest of this notice is microbes that are phylogenetically related to potential biowarfare (BW) threat agents. The Centers for Disease Control and Prevention defines three categories of BW threats (see at <http://www.bt.cdc.gov/Agent/Agentlist.asp>). DOE encourages nominations to sequence microbes or groups of microbes related to the category A and B agents.

For this notice, candidate microorganisms, either individual microbes, groups of microbes, or a consortia of microbes, for draft sequencing can comprise archaea, bacteria, fungi or eukaryotic microbes with genome sizes <60 Mbp, or communities made up of these same types of microbes. For a current list of microbes that have been and are being sequenced see [http://www.ornl.gov/microbial\\_genomes/organisms.html](http://www.ornl.gov/microbial_genomes/organisms.html).

Aims: This request for nominations of candidate microbial sequencing targets has two broad foci:

(1) *Single culturable organisms*. The criteria that will be used to evaluate proposed candidates for draft sequencing will include:

(a) The candidate is likely to have significant relevance to the DOE missions noted above;

(b) The genome size and structure are known;

(c) The source of genomic DNA (i.e., strain or isolate, and researcher) is identified;

(d) A brief description of post sequencing follow-up work (e.g., a data use plan and how will data be annotated to enable rapid and open use) is included;

(e) The availability of a DNA/gene transfer system supporting genetic analyses is known;

(f) Biological novelty or uniqueness (i.e., unusual genetically determined characteristics pertinent to DOE missions) is described;

(g) Place in the currently understood, 16s RNA based, "Tree of Life" is identified, e.g., is the proposed candidate in a sparsely populated or more heavily populated section of the tree?

(h) A brief description of the user community is given;

(i) The potential impact on the scientific community is large;

(j) Explicit commitment to data-release policy given below is provided.

(2) *Currently unculturable or hard-to-culture microbes and environmental consortia*. The review criteria that will be used to evaluate proposed candidates for draft sequencing will include most

of the criteria listed above for single culturable organisms (with less emphasis on genome size/structure, presence/absence of a genetic system, or position in the "Tree of Life" since it is recognized that few data on these attributes will be available), but in addition, the following considerations will be included:

(a) Some measure of the "complexity" of the target community is proposed, e.g., approximate number of species, size(s) of genomes, and proportions of different community members (it is understood that in most cases, only estimates of these parameters may be available);

(b) Past attempts to cultivate community members are described, e.g., have any members of this community been successfully cultured;

(c) Some spatial/temporal/geochemical characterization of the environment is given, e.g., the physicochemical parameters of the site from which the selected community is derived; a description of the site contaminants; the accessibility of the site for future sampling; the adequacy of site documentation;

(d) If proposed, technical approaches and technology development specific for defining and isolating members of a given community are described;

(e) Some indication of the biological function of the consortial relationships where available along with a discussion of the scientific and programmatic importance of understanding these relationships;

(f) Information where available about the phylogenetic affinities of the members of the consortia and what is known about the closely related organisms.

(g) Available informatics tools and annotation plan (e.g. for annotating genes from a community analysis or grouping identified genes into a putative "community phenotype" within the chosen environment).

Usual and customary practice is for the JGI to put all sequencing data up on its web site (<http://www.jgi.doe.gov/>) at frequent and periodic intervals. DOE expects that the Principal Investigators (PI) will collaborate with the JGI and assist in annotating the draft sequence data. Following data acquisition and annotation, DOE expects that those whose nominations have been sequenced will make good faith efforts to publish in the open scientific literature the results of their subsequent work, including both the genome sequences of microbes sequenced under this notice as well as the annotation. These parties are encouraged to create process- and cost-effective partnerships

that will maximize data production and analysis, data dissemination, and progress towards understanding basic biological mechanisms that can further the aims of this effort. Additionally, it must be explicitly understood that DOE will provide an assembled and computationally annotated "draft" (roughly 8 x; carried out in a paired-end sequencing approach) sequence of the microbe(s) selected, but that research using that sequence data should be funded from separate sources and/or separate solicitations. This draft sequence is provided, without use restrictions, to the scientific community at large for any and all subsequent research purposes. (DOE data release requirements, a condition of any award, are available at: <http://www.sc.doe.gov/ober/EPR/data.html>)

Submission Information: Interested parties should submit a brief white paper, consisting of not more than 5 pages of narrative exclusive of attachments (which are discouraged) responding to the criteria set forth above. It is expected that the PI will serve as the main point of contact for additional information on the nominated microbe. Nominations must contain a very short abstract or project summary and a cover page with the name of the applicant, mailing address, phone, fax, and e-mail. The nomination should include 2-page curriculum vitae of the key investigators; letters of intent from collaborators (suggesting the size of the interested community) are permitted.

Nominations will be reviewed relative to the scope and research needs of the BER Microbial Genome and Genomes to Life Programs. A brief response to each nomination will be provided following merit and programmatic reviews.

Other useful web sites include:

Microbial Genome Program Home Page—<http://www.sc.doe.gov/ober/microbial.html>

DOE Joint Genome Institute Microbial Web Page—[http://www.jgi.doe.gov/JGI\\_microbial/html/](http://www.jgi.doe.gov/JGI_microbial/html/)

GenBank Home Page—<http://www.ncbi.nlm.nih.gov/>

Human Genome Home Page—<http://www.ornl.gov/hgmis>

DOE Genomes to Life—<http://DOEGenomestoLife.org>

DOE Natural and Accelerated Bioremediation Research (NABIR) Program—<http://www.lbl.gov/nabir>

Biotechnology Investigations—Ocean Margins Program—<http://www.sc.doe.gov/ober/GC/omp.html>

Chemical and Biological National Security Program—<http://www.nn.doe.gov/cbnp/>

Issued in Washington, DC.

**John Rodney Clark,**

*Associate Director of Science for Resource Management.*

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## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

[Docket No. EC02-34-000] and Ameren Energy Resources Company; Notice of Filing

#### Central Illinois Public Service Company

December 19, 2001.

Take notice that on December 13, 2001, Central Illinois Public Service Company (AmerenCIPS) and Ameren Energy Resources Company (Resources Company) (collectively, the Applicants) filed with the Federal Energy Regulatory Commission an application for an order pursuant to section 203 of the Federal Power Act authorizing AmerenCIPS to transfer to Resources Company its 20% common stock interest in Electric Energy, Inc. (EEInc.).

The Applicants state that the transaction simply involves an internal reorganization within Ameren Corp. and will not have an adverse effect on competition, will not have an adverse effect on rates, and will not have an adverse effect on competition.

Any person desiring to be heard or to protest such filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's rules of practice and procedure (18 CFR 385.211 and 385.214). All such motions and protests should be filed on or before the comment date. Protests will be considered by the Commission to determine the appropriate action to be taken, but will not serve to make protestants parties to the proceedings. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection. This filing may also be viewed on the Commission's Web site at <http://www.ferc.gov> using the "RIMS" link, select "Docket#" and follow the instructions (call 202-208-2222 for assistance). Comments, protests and interventions may be filed electronically via the internet in lieu of paper. See, 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's Web site under the "e-filing" link.

*Comment Date:* January 9, 2002.

**Linwood A. Watson, Jr.,**

*Acting Secretary.*

[FR Doc. 01-31685 Filed 12-26-01; 8:45 am]

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## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

[Docket No. RP02-121-000]

#### Eastern Shore Natural Gas Company; Notice of Proposed Changes in FERC Gas Tariff

December 19, 2001.

Take notice that on December 11, 2001, Eastern Shore Natural Gas Company (ESNG) tendered for filing as part of its FERC Gas Tariff, Second Revised Volume No. 1, certain revised tariff sheets listed on Appendix A to the filing, with a proposed effective date of January 1, 2002.

ESNG states that the purpose of this instant filing is to track rate changes attributable to a storage services purchased from Columbia Gas Transmission (Columbia) under its Rate Schedules SST and FSS. The costs of the above referenced storage service comprises the rates and charges payable under ESNG's respective Rate Schedule CFSS. This tracking filing is being made pursuant to section 3 of ESNG's Rate Schedule CFSS.

ESNG states that copies of the filing have been served upon its jurisdictional customers and interested State Commissions.

Any person desiring to be heard or to protest said filing should file a motion to intervene or a protest with the Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426, in accordance with sections 385.214 or 385.211 of the Commission's rules and regulations. All such motions or protests must be filed in accordance with section 154.210 of the Commission's regulations. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceedings. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection. This filing may also be viewed on the web at <http://www.ferc.gov> using the "RIMS" link, select "Docket#" and follow the instructions (call 202-208-2222 for assistance). Comments, protests and interventions may be filed electronically

via the Internet in lieu of paper. See, 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's web site under the "e-Filing" link.

**Linwood A. Watson, Jr.,**

*Acting Secretary.*

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## DEPARTMENT OF ENERGY

### Federal Energy Regulatory Commission

[Docket No. RP02-122-000]

#### Kinder Morgan Interstate Gas Transmission, LLC; Notice of Reconciliation Report

December 19, 2001.

Take notice that on December 13, 2001, Kinder Morgan Interstate Gas Transmission, LLC, (KMITG) tendered for filing its annual reconciliation filing pursuant to section 35 (Crediting of Imbalance Revenue) of its General Terms and Conditions of its FERC Gas Tariff, Fourth Revised Volume No. 1-B.

KMITG states that it has served copies of its filing upon all jurisdictional customers, interested State Commissions, and other interested parties.

Any person desiring to be heard or to protest said filing should file a motion to intervene or a protest with the Federal Energy Regulatory Commission, 888 First Street, NE., Washington, DC 20426, in accordance with sections 385.214 or 385.211 of the Commission's rules and regulations. All such motions or protests must be filed on or before December 26, 2001. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceedings. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection. This filing may also be viewed on the web at <http://www.ferc.gov> using the "RIMS" link, select "Docket#" and follow the instructions (call 202-208-2222 for assistance). Comments, protests and interventions may be filed electronically via the Internet in lieu of paper. See, 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's web site under the "e-Filing" link.

**Linwood A. Watson, Jr.,**

*Acting Secretary.*

[FR Doc. 01-31690 Filed 12-26-01; 8:45 am]

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