

radioactive contaminants in the region, to characterize the quality and validity of the data for conducting such studies, and to preserve the existing data using modern technologies. (U.S. support from DOE on cancer incidence and data preservation projects; from National Cancer Institute (HHS) on cancer mortality project.)

3. Project 1.3: "Retrospective Reconstruction of Radionuclide Contamination of Techa River Caused by Liquid Waste Discharge from Radiochemical Production at the Mayak Production Association: 1949-1956"

Objectives: To supplement the population dose reconstruction study by determining source term of radioactive materials released into the Techa River. (U.S. support from DOE.)

Direction 2: "Medical Consequences of Occupational Exposure to Radiation"

1. Project 2.1: "Metabolism and Dosimetry of Plutonium Industrial Compounds"

Objectives: To conduct a joint analysis of the data collected by the U.S. Transuranium and Uranium Registry (USTUR) and the dosimetry registry at the First Institute of Biophysics/MAYAK on deceased people with occupational exposure to radiation. (U.S. support from DOE.)

2. Project 2.2: "Risk Estimation for Stochastic (Carcinogenic) Effects of Occupational Exposure"

Objectives: To determine risk estimates for cancer as a result of prolonged occupational exposure to radiation, from both external sources and internally-deposited radioactive compounds. (U.S. support from DOE.)

3. Project 2.3: "Non-cancerous Effects of Occupational Exposure to Radiation"

Objectives: To validate and analyze the data on acute and chronic effects of radiation, other than cancer, observed in a large number of workers at the Mayak Production Association. (U.S. support from NRC.)

4. Project 2.4: "Reconstruction of Individual Doses of Exposure to Mayak Production Association Workers"

Objectives: To develop an electronic database of reconstructed doses for external and internal exposures received by the Mayak worker cohort. (U.S. support from DOE.)

DOE Office of International Health Programs-Funded Direction 2 Molecular Epidemiology/Biodosimetry Projects

The Office of International Health Programs awarded five cooperative agreements in August 1998 for 15-month feasibility studies to support ongoing joint U.S.—Russian population-based studies in the Southern Urals on low dose-rate radiation health effects. These new studies are aimed at adding a molecular epidemiology/biodosimetry component to the ongoing epidemiologic and dose reconstruction work of the JCCRER. The feasibility studies have been jointly conducted by the FIB-1 in Ozersk and U.S. institutions, and the following three are being considered for long-term study:

1. "Improved Dosimetry and Risk Assessment for Plutonium-Induced Lung Disease Using a Microdosimetric Approach"

Objectives: To evaluate the potential for determining plutonium distribution in relation to pathology in preserved tissues.

2. "Establishment of a Repository Containing Tissues and Organs of Deceased Workers of the Mayak Production Association Who Were Exposed to Actinide Elements"

Objectives: To begin establishing a human tissue repository for cytogenetic and molecular biological research at the First Institute of Biophysics in Ozersk

3. "Molecular Epidemiology and Lung Cancer in Workers"

Objectives: To examine the potential to use molecular epidemiology approach in establishing in the MAYAK workers' cohort of association of lung cancer, smoking and radiation exposure.

**IV. Submissions to this RFI**

There are no eligibility requirements for this RFI. Responses should be no longer than 3 pages and should contain 2 sections: (1) A brief description of the cohort(s) and data available for study; and (2) a short summary of potential research topics. As is noted in Section I of this RFI, responses will be used to define the scope of an RFA that may be issued in late calendar year 1999.

Since DOE may use information submitted pursuant to this RFI to define the scope of an RFA, responses should not include business confidential or any other proprietary information.

**V. Disclaimer**

This RFI should not be construed as: (1) A commitment by the Department to enter into any agreement with any entity submitting response(s); (2) a commitment to issue any RFA

concerning the subject of this RFI; or (3) an RFA.

Issued in Washington, DC, on August 4, 1999.

**Paul J. Seligman, M.D., M.P.H.**

*Deputy Assistant Secretary for Health Studies.*

[FR Doc. 99-20536 Filed 8-9-99; 8:45 am]

BILLING CODE 6450-01-P

**DEPARTMENT OF ENERGY**

**Development of Technologies and Analytical Capabilities for Vision 21 Energy Plants**

**AGENCY:** Federal Energy Technology Center (FETC), U.S. Department of Energy (DOE).

**ACTION:** Notice inviting financial assistance applications.

**SUMMARY:** The Department of Energy announces that it intends to conduct a competitive Program Solicitation and award financial assistance (Cooperative Agreements) for the program entitled "Development of Technologies and Analytical Capabilities for Vision 21 Energy Plants." Through this solicitation, FETC seeks to support applications in the following areas of interest: development of (A) the enabling and supporting technologies upon which the components and subsystems ("modules") of Vision 21 plants depend, (B) systems integration capability needed to combine two or more modules in Vision 21 plants, and (C) advanced plant design and visualization software leading to demonstration of "virtual" plants. Awards will be made to a limited number of applicants based on an evaluation of the promise of the proposed technology, the quality of prior supporting scientific and engineering studies and of the technical approach to reduce the proposed technology to practice, appropriateness of the project plan, the technical and management capabilities of the applicant organization(s), and availability of DOE funding in the technical areas proposed.

**FOR FURTHER INFORMATION CONTACT:** Raymond D. Johnson, U.S. Department of Energy, Federal Energy Technology Center, Acquisition and Assistance Division, P.O. Box 10940, MS 921-143, Pittsburgh PA 15236-0940, Telephone: (412) 386-6109, FAX: (412) 386-6039, E-mail: johnson@fetc.doe.gov.

**DATES:** This solicitation (available in both WordPerfect 6.1 and Portable Document Format (PDF)) will be released on DOE's FETC Internet site (<http://www.fetc.doe.gov/business/solicit>) on or about September 30, 1999.

Additional information on the Vision 21 Program is available on DOE FETC's World Wide Web Server Internet System (<http://www.fetc.doe.gov/publications/others/vision21/v21.pdf>).

**SUPPLEMENTARY INFORMATION:**

*Title of Solicitation:* "Development of Technologies and Analytical Capabilities for Vision 21 Energy Plants."

*Objectives:* Through Program Solicitation No. DE-PS26-99FT40578, the Department of Energy seeks applications for developing the technology basis for Vision 21 energy plants, including developing the enabling and supporting technologies upon which the components and subsystems ("modules") of Vision 21 plants depend, systems integration capability, and advanced computer design and simulation tools. Examples of technology modules are a gasifier, combustor, an engine or turbine system, fuel cell, or a subsystem for separating air into oxygen-and nitrogen-rich streams. Systems integration knowledge is required to design and construct complete plants. Although the DOE's intent is to focus on technology module development rather than on specific plant configurations, arrangements of modules may need to be considered in order to acquire knowledge of systems integration techniques. Computer models for individual technology modules and for complete Vision 21 plants will be required to reduce development costs by minimizing the number of scales at which new technologies will need to be tested, to aid in design and scaleup, and to increase confidence that new designs will meet performance expectations. It is anticipated that spinoff technologies, available as early as 2005, will also result from R&D supported by this solicitation. Spinoff technologies include low-cost oxygen and hydrogen separation technology, gas purification and cleaning technology, better catalysts for producing fuels and chemicals from low-valued raw materials, more efficient and lower cost environmental control technology, improved low-cost manufacturing techniques for high-technology components, advanced combustion and materials technology for enhancing engine and turbine systems, and improved materials for service under aggressive high-temperature conditions.

*Eligibility:* Eligibility for participation in this Program Solicitation is considered to be full and open. All interested parties may apply. The solicitation will contain a complete description of the technical and

organizational evaluation factors and the relative importance of each factor.

*Areas of Interest:* The Department is interested in obtaining applications to develop (A) the enabling and supporting technologies upon which the components and subsystems ("modules") of Vision 21 plants depend, (B) systems integration capability needed to combine two or more modules in Vision 21 plants, and (C) advanced plant design and visualization software leading to demonstration of "virtual" plants.

DOE has, with the help of industry, academic, and government stakeholders, identified "enabling" and "supporting" technologies that are expected to be important in developing high-performance technology modules for Vision 21 plants. Enabling technologies are those upon which the modules or subsystems that form the building blocks of a Vision 21 plant depend. Enabling technologies include:

- Gas separation, e.g., membranes that can be used to separate oxygen from air and hydrogen from syngas
- High-temperature heat exchangers, e.g., alloy exchangers capable of heating high-temperature steam or air for use in advanced, high-efficiency cycles
- Fuel-flexible, thermally efficient gasification to allow the use of low-cost feedstocks, such as municipal waste, petcoke, biomass
- Gas stream purification systems capable of operating at high temperatures for removing sulfur compounds and other constituents that may corrode or erode downstream components, e.g. turbines, or poison downstream catalysts.
- High-performance combustion systems, including ultra-low-NO<sub>x</sub> combustion and combustion systems that burn fuels in O<sub>2</sub>/CO<sub>2</sub> mixtures and produce exhaust streams containing only CO<sub>2</sub> and water; both suspension-fired and fluidized bed systems are of interest.
- Fuel-flexible combustion turbines and engine systems, especially turbines and engines capable of operating on coal-derived gases or hydrogen; fuel cell/turbine-engine hybrids capable of 70–80% efficiency; advanced combustion turbines, including ceramic turbines and engines; advanced steam turbines.
- Fuel cells, e.g., high-efficiency, low-cost fuel cells; cascaded fuel cell systems capable of operating at multiple temperatures and pressures; fuel cells bottomed by fuel cells; fuel cell/turbine hybrids; new, low-cost, fuel cell concepts capable of approaching \$100/kilowatt stack costs and, when

incorporated into a system, 70–80% system efficiency.

- Advanced fuels and chemicals development: systems and catalysts for fuels and chemicals production; hydrogen production and storage.

Supporting technologies are cross-cutting technologies also judged to be important for the design of Vision 21 plants. Supporting technologies include:

- Advanced materials for high-temperature applications in aggressive environments, e.g., boiler tubes for high-temperature steam bottoming cycles, and very high-temperature (>2000°F) heat exchangers for use in indirectly fired cycles and other applications, as well as functional materials needed for turbine/engine hot-gas-path components, and gas cleanup or separation.
- Advanced manufacturing and modularization techniques to reduce costs and improve quality. (Modular design is desired where it can reduce costs by maximizing shop fabrication and minimizing field construction, while maintaining or increasing flexibility in plant design.)

Systems Integration prescribes how to combine high-performance technology modules into safe, reliable, economic Vision 21 plants and, as such, is a critical part of the Vision 21 program. Systems integration can be divided into 3 key subelements: systems engineering, dynamic response and control, and industrial ecology. Systems integration topics of interest to DOE include:

- Systems engineering and compatibility issues related to linking Vision 21 modules and components, e.g., gasifiers with combustion turbines, fuel cells, and gas cleanup devices; development of design modifications and interconnections for major subsystems and components.
- Dynamic response and control of Vision 21 modules and integrated plants; studies of the transient response of subsystems and total plants to changes in load and other operating parameters, startup and shutdown, and upset conditions including component failures; modeling of the dynamic response of Vision 21 systems; design of process control software and hardware.
- Application of industrial ecology principles to Vision 21 systems; development and evaluation of designs to recycle or utilize all process effluents that would otherwise be handled as waste streams.

Computational modeling and virtual demonstration software that provides a cost-effective complement to experimental development is also of interest; advanced models to assist in the design process by providing

physically based simulations of Vision 21 components, modules, and plants are sought; an integrated suite of codes (software) called the "virtual demonstration" or "virtual plant" is needed to illustrate equipment configuration and orientation and simulate plant operation.

#### Awards

DOE anticipates issuing financial assistance (cooperative agreements) for each project selected. DOE reserves the right to support or not support, with or without discussions, any or all applications received in whole or in part, and to determine how many awards may be made through the solicitation subject to the funds available. Approximately \$5 million - \$10 million of DOE funding is planned for this solicitation in each of the three years FY00, FY01, and FY02. Cost sharing by the applicant is required, and details of the cost sharing requirement are contained in the solicitation.

#### Solicitation Release Date

A draft of this Program Solicitation is available for comment on FETC's World Wide Web Server Internet System at <http://www.fetc.doe.gov/business/solicit> until August 20, 1999. The final Program Solicitation is expected to be ready for release on or about September 30, 1999. Applications must be prepared and submitted in accordance with the instructions and forms contained in the Program Solicitation.

#### Raymond D. Johnson,

Contracting Officer, Acquisition and Assistance Division.

[FR Doc. 99-20472 Filed 8-9-99; 8:45 am]

BILLING CODE 6450-01-P

## DEPARTMENT OF ENERGY

### Environmental Management Site-Specific Advisory Board, Hanford

AGENCY: Department of Energy.

ACTION: Notice of Open Meeting.

**SUMMARY:** This notice announces a meeting of the Environmental Management Site-Specific Advisory Board (EM SSAB), Hanford Site. The Federal Advisory Committee Act (Pub. L. 92-463, 86 Stat. 770) requires that public notice of these meetings be announced in the **Federal Register**.

**DATES:** Thursday, September 9, 1999: 1:30 a.m.-5:00 p.m.; Friday, September 10, 1999: 8:30 a.m.-4:00 p.m.

**ADDRESSES:** Radisson Hotel, 17001 Pacific Highway South, Seattle, WA, ph: 206-244-6000.

**FOR FURTHER INFORMATION CONTACT:** Gail McClure, Public Involvement Program Manager, Department of Energy Richland Operations Office, P.O. Box 550 (A7-75), Richland, WA, 99352; Ph: (509) 373-5647; Fax: (509) 376-1563.

#### SUPPLEMENTARY INFORMATION:

*Purpose of the Board:* The purpose of the Board is to make recommendations to DOE and its regulators in the areas of environmental restoration, waste management, and related activities.

#### Tentative Agenda

- Spent Fuel
  - Issues associated with the Cask Loadout System and potential schedule impacts
  - Brief overview of Accelerated Approach
- Office of River Protection
  - Status on implementation of initiatives
  - Status and discussion of Tri-Party Agreement (TPA) negotiations on privatization
- 100 Area Burial Grounds
  - Informational session discussion
- Hanford Advisory Board FY2000 Workplan
  - Identification of issues for FY2000
- Election of EM SSAB Hanford Vice Chairperson
- Discussion of Issues to be Raised at the September Site-Specific Advisory Board (SSAB) Chair' Meeting
  - SSAB Transportation Working Group
- Committee Updates
  - Dollars and Sense
  - Environmental Restoration
  - Health, Safety and Waste Management
  - Public Involvement
  - Tank Waste Treatment Ad Hoc

*Participation:* The meeting is open to the public. Written statements may be filed with the Board either before or after the meeting. Individuals who wish to make oral statements pertaining to agenda items should contact Gail McClure's office at the address or telephone number listed above. Requests must be received 5 days prior to the meeting and reasonable provision will be made to include the presentation in the agenda. The Deputy Designated Federal Officer is empowered to conduct the meeting in a fashion that will facilitate the orderly conduct of business. Each individual wishing to make public comment will be provided equal time to present their comments.

*Minutes:* The minutes of this meeting will be available for public review and copying at the Freedom of Information Public Reading Room, 1E-190, Forrestal Building, 1000 Independence Avenue, SW, Washington, DC 20585 between

9:00 a.m. and 4:00 p.m., Monday-Friday, except Federal holidays. Minutes will also be available by writing to Gail McClure, Department of Energy Richland Operations Office, P.O. Box 550, Richland, WA 99352, or by calling her at (509) 373-5647.

Issued at Washington, DC on August 4, 1999.

#### Rachel M. Samuel,

Deputy Advisory Committee Management Officer.

[FR Doc. 99-20473 Filed 8-9-99; 8:45 am]

BILLING CODE 6450-01-P

## DEPARTMENT OF ENERGY

### Environmental Management Site-Specific Advisory Board, Los Alamos

AGENCY: Department of Energy.

ACTION: Notice of open meeting.

**SUMMARY:** This notice announces a meeting of the Environmental Management Site-Specific Advisory Board (EM SSAB), Los Alamos. The Federal Advisory Committee Act (Pub. L. 92-463, 86 Stat. 770) requires that public notice of these meetings be announced in the **Federal Register**.

**DATES:** Wednesday, August 25, 1999: 6:00 p.m.-9:00 p.m.

**ADDRESSES:** 1474 Rodeo Road, Santa Fe, NM.

**FOR FURTHER INFORMATION CONTACT:** Ann DuBois, Northern New Mexico Citizens' Advisory Board, 1640 Old Pecos Trail, Suite H, Santa Fe, NM 87505. Phone: 505-989-1662; Fax: 505-989-1752; E-mail: [adubois@doeal.gov](mailto:adubois@doeal.gov); or Internet <http://www.nmcab.org>.

#### SUPPLEMENTARY INFORMATION:

*Purpose of the Board:* The purpose of the Board is to make recommendations to DOE and its regulators in the areas of environmental restoration, waste management, and related activities.

#### Tentative Agenda:

1. Public Comment, 6:30 p.m.-7:00 p.m.
2. Committee Reports: Environmental Restoration Monitoring and Surveillance Waste Management Community Outreach Budget
3. Other Board business will be conducted as necessary.

*Public Participation:* The meeting is open to the public. Written statements may be filed with the Committee either before or after the meeting. Individuals who wish to make oral statements pertaining to agenda items should contact Ann DuBois at the address or telephone number listed above.