predominantly allied health education programs. ''Predominantly'' is defined by the agency as follows: at least 70 percent of the number of active programs offered are in the allied health area, and the number of students enrolled in those programs exceeds 50 percent of the institution's full-time equivalent (FTE) students, or at least 70 percent of the FTE students enrolled at the institution are in allied health programs).

2. National Environmental Health Science and Protection Accreditation Council (requested scope of recognition: The accreditation and preaccreditation (''Preaccreditation'') of baccalaureate programs in environmental health science and protection).

3. National League for Nursing Accrediting Commission (requested scope of recognition: the accreditation of programs in practical nursing, and diploma, associate, baccalaureate and higher degree nurse education programs).

4. New York State Board of Regents (requested scope of recognition: the accreditation (registration) of collegiate degree-granting programs or curricula offered by institutions of higher education in the State of New York and of credit-bearing certificate and diploma programs offered by degree-granting institutions of higher education in the State of New York).

Interim Reports

(An interim report is a follow-up report on an accrediting agency's compliance with specific criteria for recognition that was requested by the Secretary when the Secretary granted initial or renewed recognition to the agency)—

1. Accrediting Commission of Career Schools and Colleges of Technology
2. American Academy for Liberal Education
3. American Bar Association, Council of the Section of Legal Education and Admissions to the Bar

American Board of Funeral Service Education, Committee on Accreditation

5. American Dental Association, Commission on Dental Accreditation
6. American Psychological Association, Committee on Accreditation
7. American Veterinary Medical Association, Council on Education
8. Association of Advanced Rabbinical and Talmudic Schools, Accreditation Commission
9. The Council on Chiropractic Education, Commission on Accreditation
10. Council on Education for Public Health
11. Liaison Committee on Medical Education
12. Montessori Accreditation Council for Teacher Education, Commission on Accreditation
13. Western Association of Schools and Colleges, Accrediting Commission for Schools

State Agencies Recognized for the Approval of Public Postsecondary Vocational Education

Petitions for Renewal of Recognition

1. Oklahoma State Board of Vocational and Technical Education
2. Utah State Board for Vocational Education

State Agencies Recognized for the Approval of Nurse Education

Petition for Renewal of Recognition

1. Iowa Board of Nursing
2. Maryland Board of Nursing

Federal Agency Seeking Degree-Granting Authority

In accordance with the Federal policy governing the granting of academic degrees by Federal agencies (approved by a letter from the Director, Bureau of the Budget, to the Secretary, Health, Education, and Welfare, dated December 23, 1954), the Secretary is required to establish a review committee to advise the Secretary concerning any legislation that may be proposed that would authorize the granting of degrees by a Federal agency. The review committee forwards its recommendation concerning a Federal agency's proposed degree-granting authority to the Secretary, who then forwards the committee's recommendation and the Secretary's recommendation to the Office of Management and Budget for review and transmittal to the Congress. The Secretary uses the Advisory Committee as the review committee required for this purpose. Accordingly, the Advisory Committee will review the following institution at this meeting:

Proposed Master's Degree-Granting Authority

1. Air University, Montgomery, AL; Air War College (request to award the master's degree in Strategic Studies) and Air Command and Staff College (request to award the master's degree in Operational Military Art and Science)

A request for comments on agencies that are being reviewed during this meeting was published in the **Federal Register** on June 19, 1998.

This notice invites third-party oral presentations before the Advisory Committee. It does not constitute another call for written comment. Requests for oral presentation before the Advisory Committee should be submitted in writing to Ms. LeBold at the address above by November 6, 1998. Requests should include the names of all persons seeking an appearance, the organization they represent, and a brief summary of the principal points to be made during the oral presentation. Presenters are requested not to distribute written materials at the meeting or to send them directly to members of the Advisory Committee. Presenters who wish to provide the Advisory Committee with brief document (no more than 6 page maximum) illustrating the main points of their oral testimony may submit them to Ms. LeBold by November 6, 1998 (one original and 25 copies). Documents submitted after that date will not be distributed to the Committee. Presenters are reminded that this call for third-party oral testimony does not constitute a call for additional written comment.

At the conclusion of the meeting, attendees may, at the discretion of the Committee chair, be invited to address the Committee briefly on issues pertaining to the functions of the Committee, as identified in the section above on Supplementary Information. Attendees interested in making such comments should inform Ms. LeBold before or during the meeting.

A record will be made of the proceedings of the meeting and will be available for public inspection at the Office of Postsecondary Education, U.S. Department of Education, 7th and D Streets, SW, room 3082, ROB 3, Washington, DC, between the hours of 9:00 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays.

Authority: 5 U.S.C. Appendix 2.

David A. Longanecker,

Assistant Secretary for Postsecondary Education.

[FR Doc. 98–27916 Filed 10–16–98; 8:45 am]

BILLING CODE 4000–01–M

DEPARTMENT OF ENERGY

Notice of Restricted Eligibility in Support of Advanced Coal Research at U.S. Colleges and Universities

AGENCY: Federal Energy Technology Center (FETC), Pittsburgh, Department of Energy (DOE).

ACTION: Issuance of financial assistance solicitation.

SUMMARY: The FETC announces that pursuant to 10 CFR 600.8(a)(2), and in support of advanced coal research to U.S. colleges and universities, it intends to conduct a competitive Program Solicitation and award financial assistance grants to qualified recipients. Proposals will be subjected to a comparative merit review by a Peer Review/DOE technical panel, and awards will be made to a limited number of proposers on the basis of the scientific merit of the proposals, application of relevant program policy factors, and the availability of funds.

DATES: The Program Solicitation is expected to be ready for release by October 14, 1998. Applications must be prepared and submitted in accordance with the instructions and forms in the Program Solicitation and must be received by the DOE by November 25, 1998. Prior to submitting your application to the solicitation, check for any changes (i.e. closing date of solicitation) and/or amendments, if any.

FOR FURTHER INFORMATION CONTACT: Ms. Debra A. Duncan, U.S. Department of Energy, Federal Energy Technology Center, P.O. Box 10940 (MS 921–143), Pittsburgh, PA 15236–0940; (Telephone: 412–892–5700; Facsimile: 412–892–6216; E-Mail: duncan@fetc.doe.gov).

ADDRESSES: The solicitation will be posted on the internet at FETC's Home Page (http://www.fetc.doe.gov/business). The solicitation will also be available, upon request, in Wordperfect 6.1 format on 3.5″ double-sided/high-density disk. Requests can be made via letter, facsimile, or by E-mail. Telephone Requests will not be Accepted for any format version of the solicitation.

SUPPLEMENTARY INFORMATION: Through Program Solicitation DE-PS26–99FT40479, the DOE is interested in applications from U.S. colleges and universities (and university-affiliated research centers submitting applications through their respective universities). Applications will be selected to complement and enhance research being conducted in related Fossil Energy programs. Applications may be submitted individually (i.e., by only one college/university) or jointly (i.e., by ''teams'' made up of: (1) three or more colleges/universities, or (2) two or more colleges/universities and at least one industrial partner. Collaboration, in the form of joint proposals, is *encouraged* but not required.

Eligibility. Applications submitted in response to this solicitation must address coal research in one of the solicitation key focus areas in the Core Program or as outlined in the Innovative Concepts Program.

Background. The current landscape of the U.S. energy industry, not unlike that in other parts of the world, is undergoing a transformation driven by changes such as deregulation of power generation, more stringent environmental standards and regulations, climate change concerns, and other market forces. With these changes come new players and a refocusing of existing players in providing energy services and products. The traditional settings of how energy (both electricity and fuel) is generated, transported, and utilized are likely to be very different in the coming decades. As market, policy and regulatory forces evolve and shape the energy industry both domestically and globally, the opportunity exists for university, government, and industry partnerships to invest in advanced fossil energy technologies that can return public and economic benefits many times over. One means of achieving these benefits is through the development of advanced coal technologies to better use domestic fossil resources in an environmentally responsible manner.

Energy from coal-fired powerplants will continue to play a dominant role as an energy source, and therefore, it is prudent to use this resource wisely and ensure it's a part of the sustainable energy solution. In that regard, our focus is on a relatively new concept we call Vision 21. Vision 21 is a pathway to clean, affordable energy achieved through a combination of technology evolution and innovation aimed at creating the most advanced fleet of flexible, clean and efficient power and energy plants (an ''energy-plex'') for the 21st century. Clean, efficient, competitively priced coal-derived products, and low cost environmental compliance and energy systems remain key to our continuing prosperity and our commitment to environmental challenges including climate change. It is envisioned that these energy-plexes can produce competitively low cost electricity at efficiencies more than 60% on coal. The class of facilities will be a near ''zero discharge'' energy complex—virtually no emissions will escape into the environment. Sulfur dioxide and nitrogen oxide pollutants would be removed and converted into environmentally benign substances, perhaps fertilizers or other commercial products. Carbon dioxide could be concentrated and either recycled or disposed of in a geologically permanent manner or perhaps converted into industrially useful products or by creating offsetting natural sinks for CO_2, that is, the ability to achieve *closure of the carbon fuel cycle.*

Clean coal-fired power plants remain the major source of electricity for the world while distributed generation, including renewables, will assume a growing share of the energy market. Technological advances finding their way into future markets could result in advanced co-production and co-processing facilities around the world, based upon Vision 21 technologies developed through universities, government, and industry partnerships.

This ''Vision 21 Energy-plex Fleet'' concept, in many ways is the culmination of decades of power and fuels research and development. Within the Energy-plex, the full energy potential of coal can be tapped through efficiency boosting combinations of state-of-the-art energy systems: coal gasifiers or advanced combustors, high-temperature cleanup systems, future-generation fuel cells and turbines, innovative carbon capture devices, and perhaps technologies that are just appearing on today's engineering drawing boards. Energy modules in the complex will be reconfigurable, allowing the systems to be customized to meet geographical and market requirements. These ''built to order'' modules can be integrated into any system configuration and sized to meet a range of market applications. They will have the capability of producing an array of products such as high value chemicals, high quality steam, liquid fuels, and hydrogen at competitive prices.

Vision 21 is the ultimate in the fossil fuel cycles—it allows fossil energy to achieve its full potential by being an integral part of enhancing the global environment while meeting the growing energy needs and sustaining economic prosperity. Vision 21 is the successful culmination of the advanced fossil-based power, environmental and fuels portfolio of technologies strategically integrated into an R&D roadmap for clean energy. The destination of this roadmap is the creation of opportunities for long-term, clean and efficient use of our nation's abundant coal resource to meet ever growing energy demands while meeting the climate change challenges. To accomplish the program objective, applications will be accepted in two subprogram areas: (1) the Core Program and (2) the Innovative Concepts Program.

University Coal Research (UCR) Core Program

To develop and sustain a national program of university research in fundamental coal studies, the DOE is

interested in innovative and fundamental research pertinent to coal conversion and utilization *limited* to the following six (6) focus areas under the UCR Core Program and six (6) technical topics under the Innovative Concepts Program. The focus areas under the UCR Core Program are listed numerically in descending order of programmatic priority. The DOE anticipates funding at least one proposal in each focus area; however, high quality proposals in a higher ranked focus area may be given more consideration during the selection process. The areas sought in the focus areas and the technical topics are not intended to be all-encompassing, and it is specifically emphasized that other subjects for coal research that fall within their scope will receive the same evaluation and consideration for support as the examples cited.

Focus Areas

1. Improved Hot Gas Contaminant and Particulate Removal Techniques

Integrated Gasification Combined Cycles plants currently rely on sorbents beds for gas cleanup, and barrier filters for particulate control. Both technologies have shortcomings and overall plant efficiencies are limited by restrictions placed on the peak operating temperatures of sorbents and filters. The DOE is interested in developing new approaches to hot gas cleanup and particulate removal and is not interested in fostering incremental improvements to current methods.

Grant applications are being sought for fundamentally-oriented studies seeking to explore new techniques for removing gaseous contaminants and/or particulate from gasifier exhaust streams having temperatures greater than 1500° F. Proposals must discuss these techniques and suggest ways in which they might be used as the nucleus of an industrial process and subsequently reduced to practice. Techniques that rely on one or more basic methodologies such as agglomeration, acoustics, electrostatics, electrochemistry, membrane technologies, phoresis, novel reaction chemistry, etc. are of interest.

2. Ambient $PM_{2.5}$ Sampling and Speciation

The measurement of the concentration, chemical composition, and physical characteristics of ambient, fine particles smaller than 2.5 microns [$PM_{2.5}$], is a necessary component of a national strategy to better understand linkages between emissions, receptors, and human-health and ecological impacts. It should be noted that ''ambient $PM_{2.5}$'' does not refer to particles of a single chemical composition, but to particles, either liquids or solids, that may be in a delicate equilibrium with the surrounding atmosphere and that consists of hundreds of chemical compounds. Slight changes in temperature or humidity that may occur during collection and sampling can significantly alter the characteristics, composition, and mass of the various species. This characteristic greatly confounds the collection and analysis of these components and makes cause-and-effect relationships difficult to understand.

Grant applications are being sought for the development and evaluation of new methods and technologies to accurately sample, measure, and analyze ambient $PM_{2.5}$ while maintaining original compositions. Research is especially needed in the following areas:

A. Improved technologies such as denuders, particle concentrators and post-filter media for capturing volatile and semi-volatile organics.

B. Improved methods to characterize the organic component of ambient aerosols.

C. Alternative collection methods and protocols that can prevent loss of volatile materials from the collection devices and their comparison with existing methods.

D. Research related to source sampling methodologies such as the development and evaluation of in-stack methods for direct measurement of $PM_{2.5}$ and dilution-type sampling systems that are representative of PM2.5 formation that can occur at the stack exit.

3. Production of Premium Carbon Products From Coal

The U.S. and global market for carbon and carbon products is increasing significantly. It is economically and strategically desirable to find processes that use coal, a low cost, abundant feedstock, for their production. Proposals are sought that would investigate methods that could produce premium carbon products from any of our domestic coals (anthracite, bituminous, sub-bituminous and other low-rank coals) as well as carbon derived from waste coals and waste carbonaceous products from coal combustion and gasification.

Examples of potential technologies that would be responsive to this topic area include, but are not limited to, technologies that produce premium carbon and graphite products from coal (including structural materials), catalytic graphitization, gas and liquid sorbents for emission control or separation technologies, hydrogen storage and separation applications, new coke production methods, electrical battery components, fuel cell applications, chemically tailored carbon molecular sieves, adsorption for water pollution control, and heat-resistant materials.

4. Advanced Diagnostics and Modeling Techniques for Three-Phase Slurry Reactors (Bubble Columns)

Fischer-Tropsch (F–T) synthesis reaction represents an important route to convert coal derived synthesis gas to hydrocarbon fuels. Slurry phase F–T processing is considered a potentially economic method to convert synthesis gas into liquid fuels, largely due to its relatively simple reactor design, improved thermal efficiency, and ability to process CO-rich synthesis gas. The application of three-phase slurry reactor system for coal liquefaction processing and chemical industries has recently received considerable attention. To design/scale-up and efficiently operate the three-phase slurry reactors, the hydrodynamic parameters, the chemistry of the F–T reaction, and a reliable model must be fully understood. Hydrodynamics includes the rate of mass transfer between the gas and the liquid, gas bubble size, gas, liquid and solids holdups, and their axial and radical distributions, velocity distributions and flow regimes. Measurement of these parameters must be made under reaction conditions, such as high temperature and pressure, and with the presence of reaction liquid medium and high gas and solids holdup. Therefore, the advanced diagnostic techniques are required to conduct the measurements under the reaction conditions. A reliable model must encompass all reaction engineering, hydrodynamic parameters and reaction kinetics (F–T). The model must be able to predict the phases holdup (gas, liquid, and solids), temperature and pressure profiles, and concentration profiles for individual reactants and products. The model is needed for better understanding of the design/scale-up of the three-phase slurry reactor.

Grant applications are sought for investigations of the advanced diagnostic techniques for the measurement of hydrodynamic parameters under F–T reaction conditions. Novelty and innovation coupled with the likely prospect of providing new insight on these long standing problems must be demonstrated in the successful application. Proposals based on

extensions of traditional methods or past results are strongly discouraged.

Grant applications are sought for investigations of the development of models for three-phase slurry reactor. The model must incorporate the hydrodynamic parameters and reaction kinetics. Novelty and innovation coupled with the likely prospect of providing new insight on these long standing problems must be demonstrated in the successful application.

5. Advanced Hydrogen Separation Technologies

Production and purification of hydrogen are an important part of the Vision 21 co-production concept. All proposed Vision 21 plant configurations produce hydrogen either as a product, for power production in a fuel cell, or as a reactant to produce fuels and chemicals. Better hydrogen separation technologies can significantly affect the economics of the plant and reduce downtime due to maintenance and failures. A gasifier using coal or coal-biomass feedstocks would produce a complex gas mixture that could contain CO_2, SO_2, COS, NH_3, and CH_4, in addition to CO and H_2.

Grant applications are sought to develop advanced hydrogen separation techniques that have the potential for substantial reductions in capital and operating costs compared to present separation technologies and that would result in improved overall process efficiencies. A process that would produce hydrogen of sufficient purity for use in solid oxide fuel cells would be looked on favorably. The proposed technologies should address the robustness of the process and its resistance to disruption by other gases present. Such technologies are not further defined but could include advanced molecular sieve membranes, advanced absorption technologies, or transport membranes. The proposed concept need not be a stand alone technology and those that require integration into specific processes to achieve the desired cost and efficiency improvements are acceptable.

6. Water Gas Shift with Integrated H_2/CO_2 Separation Process

Options currently under study to obtain deep reduction in CO_2 from power stations are mainly directed to removing CO_2 from power station's flue gases, i.e., post-combustion decarbonization. Pre-combustion decarbonization is an alternative approach to reducing green house gases from power generation. In this approach, a fossil fuel such as coal is gasified and the product gas is converted to a clean gaseous fuel with a minimal carbon content, e.g., hydrogen or hydrogen-rich gas mixtures.

Augmenting the water-gas shift reaction (WGS) via hydrogen separation technology offers the promise of making hydrogen from coal with zero pollution for fuel cell and other applications. One of the methods to circumvent thermodynamic equilibrium limitations is to move the equilibrium displacement to the product side. From the energy-efficiency viewpoint, this should be achieved by continuous removal of one of the product components directly at its place of formation.

A promising approach to reach the above is to demonstrate the feasibility of driving the WGS reaction toward higher levels of hydrogen production by removal of hydrogen from the product stream. This means that the WGS reaction must be driven far to the right, and that the hydrogen produced must be separated from the remaining gases at elevated temperatures and pressures. In order to achieve the goals of the concept, it is assumed that a hydrogen separation device is used to obtain a pure hydrogen product stream as well as to drive the shift reaction toward further hydrogen production.

The hydrogen separation device could be a catalytic membrane reactor, in which the WGS reaction is combined with hydrogen separation from the reaction mixture in one reactor, using membranes selectively permeable to hydrogen. Alternatively, capture or removal of CO_2 from the product gas following WGS, sorption/desorption, or other promising technology could be a viable option.

Grant applications are invited that addresses scientific issues emerging from the above concept as stated below:

A. There is a need to perform WGS studies, both experimental and theoretical, to ascertain that the driving force can be maintained without very high steam addition levels. In other words, will the shift reaction realistically and practically keep the H_2 partial pressure at the stated level, and correspondingly, a high H_2 product flux and H_2 product purity? Grant applications should propose research that would answer these questions.

B. The H_2-separation device or the CO_2-capture device should be capable of withstanding temperatures above 500° C. For example, some membranes are subject to pore coarsening, especially in the presence of steam. Grant applications should propose research addressing the stability of the device under the operating conditions while maintaining the selectivity of the device.

UCR Innovative Concepts Program

The goal of the Innovative Concepts program is to develop unique approaches for addressing fossil energy related issues. These approaches should represent significant departures from existing approaches not, simply, incremental improvements. The Innovative Concepts Program seeks ''out-of-the-box'' thinking, therefore, well-developed ideas, past the conceptual stage, are not eligible. Applications under the Innovative Concepts Program are invited from individual college/university researchers. Joint applications (as described under the Core Program) will also be accepted, although, no additional funds will be made available for joint versus individual applications. Unlike the Core Program, student participation in the proposed research project is strongly encouraged, however, not a requirement of the Innovative Concepts Program.

As the twenty-first century approaches, the challenges facing coal and the electric utility industry continue to grow. Environmental issues such as pollutant control, both criteria and trace, waste minimization, and the co-firing of coal with biomass, waste, or alternative fuels will remain important. The need for increased efficiency, improved reliability, and lower costs will be felt as an aging utility industry faces deregulation. Advanced power systems, such as a Vision 21 plant, and environmental systems will come into play as older plants are retired and utilities explore new ways to meet the growing demand for electricity.

Innovative research in the coal conversion and utilization areas will be required if coal is to continue to play a dominant role in the generation of electric power. Topics, like the ones that follow, will need to be answered.

Innovative Concepts Technical Topics

Novel CO_2 Capture and Separation Schemes

Concerns about Global Climate Change and the possibility of its stimulation by anthropogenic emissions of carbon dioxide CO_2 have begun to stimulate research on CO_2 capture. If carbon emission controls are mandated, options for capture and separation of CO_2 in a cost-effective manner will be necessary to minimize economic impacts. One area where CO_2 capture and separation would have a significant impact is in power generation. Vision 21 plants are able to take advantage of

integrated design to facilitate capture and separation but the retrofit of existing plants poses a greater challenge, yet. This challenge is problematic in that it would require a technology that would be able to capture CO_2 from a dilute flue gas stream containing nitrogen, sulfur oxides, nitrogen oxides, water vapor, oxygen, and particulate matter among others.

Grant applications are being sought for the exploration of novel processes, or the development of novel process chemistry, that offers the promise of cost-effective CO_2 capture and separation from power plant stack gases.

Computational Chemistry To Support Clean Liquid Fuels Production

The DOE is interested in the production of clean liquid fuels to meet the demands of tomorrow's transportation fleets. One important type of new fuel is produced by the F–T synthesis of alkanes from synthesis gas. Since synthesis gas is readily produced from domestic resources such as coal, such fuel production facilities can become integral parts of the Vision 21 concept. The production of clean diesel fuels in such a process now typically involves the synthesis of high molecular weight waxes which are then hydrocracked to form useable fuels in the diesel boiling range. The efficiency of the overall process could be improved by obtaining better control of the catalytic hydrocracking process. Computational chemistry now offers promise that progress toward optimizing the catalytic hydrocracking process could be accelerated by the generation of suitable models of the reaction kinetics. These models would define the top performance to be expected from available catalytic systems, specify the reaction parameters that lead to optimal productivity and selectivity, and identify critical barriers that need to be overcome by additional laboratory research. It is believed that computational chemistry will provide a powerful adjunct in devising more cost effective and less time consuming avenues to the improvement of catalytic processes.

Applications are sought for development of computational chemical approaches to modeling of catalytic hydrocracking of high molecular weight alkane waxes. The applications must include a clear route from available kinetic data to the calculation of global kinetics of conversion. Key results from this work include the ability to specify the results of changes in reaction parameters such as reaction time, temperature, and catalyst properties. The influences of catalyst activity and selectivity on a product distribution and reactor throughput are also key results desired from the model.

Development of Innovative, Protective Surface Oxide Coatings

Protection from corrosion and environmental effects arising from damaging reactions with gases and condensed products is required to exploit the potential of advanced high-temperature materials designed to improve energy efficiency fully and reduce deleterious environmental impact (e.g., to achieve the performance goals of the Vision 21 powerplants). The resistance to such reactions is best afforded by the formation of stable surface oxides that are slow growing, compact, and adherent to the substrate and/or by the deposition of coatings that contain or develop oxides with similar characteristics. However, the ability of brittle ceramic films and coatings to protect the material on which they are formed or deposited has long been problematical, particularly for applications involving numerous or severe high temperature thermal cycles or very aggressive environments. This lack of mechanical reliability severely limits the performance or durability of alloys and ceramics in many high-temperature utility and powerplant applications and places severe restrictions on deployment of such materials. The beneficial effects of certain alloying additions on the growth and adherence of protective oxide scales on metallic substrates are well known, but satisfactory broad understandings of the mechanisms by which scale properties and coating integrity (i.e., corrosion resistance) are improved by compositional, microstructural, and processing modifications are lacking.

Grant applications are sought for expanding the scientific and technological approaches to improving stable surface oxides for corrosion protection in high-temperature oxidizing environments. The needs are associated with developing innovative oxide coatings and characterizing oxide-metal interfaces and stress affects on scale growth as part of DOE's efforts to establish a sound technical basis for the formulation of specific compositions and synthesis routes for producing materials with tough, adherent, stable, slow growing oxide scales or coatings that exhibit the improved elevated temperature environmental resistance crucial to the success of many of Fossil Energy's advanced fossil energy systems.

Identification of Promising Vision 21 Configurations

The Vision 21 concept encompasses the idea of interchangeable modules that are capable of assembly into various configurations that may co-produce power and fuels, chemicals, or other high value products. Most of the proposed configurations include a gasifier and a power generating facility with a specific fuel or chemical production capability. These configurations, which appear to be most likely to be commercialized, at first, may not include all potential applications of the Vision 21 concept.

Novel Concept grant applications are being sought which seek to examine the feasibility of advanced central station or smaller distributed power plant configurations or cogeneration plant designs which are specifically intended to take advantage of common or complimentary industrial or agricultural process requirements. These processes may use, for example, internally generated wastes, combustion by-products, or low grade heat, in ways that improve process economics or environmental performance. The study should include mass and heat transfer calculations along with sensitivity studies of the economics of the proposed processes.

Efficient Power Cycles

The thermal efficiency of a conventional coal-fired steam (Rankine) cycle is 33–35% from coal's heating value to electricity. The other 65–67% of the energy is lost during the conversion process of power generation. By increasing the operating temperatures and pressures over the supercritical condition of steam, the cycle efficiency can be increased to 42–45% (based on coal's higher heating value). However, there are limitations in materials for high-temperature applications. On the other hand, a system with a binary working fluid of ammonia and water has shown an improved cycle efficiency of 45–50% by extracting heat from hot streams at variable boiling temperatures of the ammonia-water mixtures. The cost has been a concern for commercializing this binary system.

Grant applications are being sought for:

(A) Binary fluid cycles that demonstrate the potential for a higher cycle efficiency than the conventional system. Also, working fluids other than steam are of interest (i.e., CO_2 is an interesting possibility).

(B) Concepts for a bottoming cycle to extract the low temperature heat from

the flue gas of a coal-fired plant in an economical way. By reducing a typical stack gas temperature of 350–380 °F to 180–200 °F, the plant efficiency can be increased by 3–5%. The cost has been an issue for the low temperature heat recovery system.

(C) New concepts that could be drastically different from the conventional system using a gas or steam turbine (i.e., fuel cells) to generate electricity from coal.

Effect of Concentrated CO_2 Release on Ocean Biology

The effects of increased anthropogenic emissions of CO_2 into the atmosphere and its effects on marine life in the upper portion of the ocean is now under investigation. If, as a method of carbon sequestration, direct injection of CO_2 takes place in the middle to lower depths of the ocean, it is postulated that the liquid plume formed would have an adverse effect on marine life in the immediate vicinity of the release. This is of greater importance than it seems because of effects that may accrue all along the food chain. Unfortunately, little data is available on the subject as indicated in a study by MIT.

Grant applications are sought for controlled laboratory experiments on the effects of high concentrations of CO_2 on marine biota under simulated middle to lower ocean depth conditions.

Awards. DOE anticipates awarding financial assistance grants for each project selected. Approximately $2.9 million will be available for the Program Solicitation. An estimated $2.4 million is budgeted for the UCR Core Program and should provide funding for approximately one to three (1–3) financial assistance awards in each of the six (6) focused areas of research. The maximum DOE funding for individual colleges/universities applications in the UCR Core Program varies according to the length of the proposed performance period as follows:

Performance period	Maximum funding
0–12 months	$80,000
13–24 months	140,000
25–60 months	200,000

The maximum DOE funding for UCR Core Program joint applications is $400,000 requiring a performance period of 36 months.

Approximately $0.5 million is budgeted for the UCR Innovative Concepts Program and should provide support for approximately ten (10) financial assistance awards. The maximum DOE funding for UCR Innovative Concepts Program awards is $50,000 with 12-month performance periods.

Issued in Pittsburgh, Pennsylvania on October 9, 1998.

Raymond D. Johnson,

Contracting Officer, Acquisition and Assistance Division.

[FR Doc. 98–27979 Filed 10–16–98; 8:45 am]

BILLING CODE 6450–01–P

DEPARTMENT OF ENERGY

Office of Fossil Energy

[FE Docket No. 90–88–NG et al.]

Puget Sound Energy, Inc. (Formerly Washington Natural Gas Company) et al.; Orders Granting, Amending, Transferring and Vacating Authorizations To Import and/or Export Natural Gas, Including Liquefied Natural Gas

AGENCY: Office of Fossil Energy, DOE.

ACTION: Notice of orders.

SUMMARY: The Office of Fossil Energy (FE) of the Department of Energy gives notice that it has issued Orders granting, amending, transferring and vacating various natural gas, including liquefied natural gas, import and export authorizations. These Orders are summarized in the attached appendix.

These Orders may be found on the FE web site at http://www.fe.doe.gov., or on the electronic bulletin board at (202) 586–7853.

They are also available for inspection and copying in the Office of Natural Gas & Petroleum Import and Export Activities, Docket Room 3E–033, Forrestal Building, 1000 Independence Avenue, S.W., Washington, D.C. 20585, (202) 586–9478. The Docket Room is open between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays.

Issued in Washington, D.C., on October 13, 1998.

John W. Glynn,

Manager, Natural Gas Regulation, Office of Natural Gas and Petroleum Import and Export Activities, Office of Fossil Energy.

APPENDIX—ORDERS GRANTING, AMENDING, TRANSFERRING AND VACATING IMPORT/EXPORT AUTHORIZATION

[DOE/FE Authority]

Order No.	Date issued	Importer/exporter FE Docket No.	Two-year maximum		Comments
			Import volume	Export volume	
469–A	09/03/98	Puget Sound Energy, Inc. (Formerly Washington Natural Gas Company) 90–88–NG.			Transfer of long-term authority.
607–A	09/03/98	Puget Sound Energy, Inc. (Formerly Washington Natural Gas Company) 91–91–NG.			Transfer of long-term authority.
664–C	09/03/98	Puget Sound Energy, Inc. (Formerly Washington Natural Gas Company) 92–18–NG.			Transfer of long-term authority.
444–A	09/03/98	Puget Sound Energy, Inc. (Formerly Washington Natural Gas Company) 90–68–NG.			Transfer of long-term authority.
324–A	09/03/98	Puget Sound Energy, Inc. (Formerly Washington Natural Gas Company) 89–23–NG.			Transfer of long-term authority.