Global Nuclear Energy Partnership - GNEP

Announced by Bodman in January - FY07 Request of $250M for GNEP

What is it? Department of Energy initiative to Enable expansion of nuclear energy worldwide by demonstrating and deploying new technologies to recycle nuclear fuel, minimize waste, improve nuclear material management.

7 elements of GNEP
- New generation of nuclear power in the US
- New nuclear recycling/reprocessing technologies
- Manage and store spent nuclear fuel in the US
- Design advanced burner reactors for recycling nuclear fuel
- Establish international fuel services program
- Develop small scale reactors for developing countries
- Improve safeguards to enhance proliferation resistance and safety

More details at: http://www.gnep.energy.gov/
GNEP Strategic Plan

Stimulate U.S. Nuclear Power Restart (Industry)
- Risk reduction & production tax credits for early entrants (2005 Energy Bill, NP 2010)

Early Recycle Demonstrations (DOE/NE)
- Separation of spent fuel
- Advanced (Fast)Burner Reactor (ABR) for transmutation

Waste Management (DOE/OCRWM)
- Early transfer of Spent Nuclear Fuel
- Interim Storage
- Reconfigure Yucca Mountain from Spent Fuel to Waste

Robust R&D (DOE/SC-DOE/NNSA)
- Engage International Partners
- Contribute to the Science and Technology Infrastructure
- Ex. Heavy Element Chem ($8M), Materials (?M), Modeling and Simulation (~$50M)

Support Reliable Fuel Services Regime (Interagency)
- Early Agreements
- Fuel Bank
- Small Secure Reactor
- Advanced Safeguards

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<thead>
<tr>
<th>NE Budget Request</th>
<th>FY 2007</th>
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<tr>
<td>Sep Tech Devel</td>
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<td>Adv. Fuel Devel</td>
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<td>Transmutation Engr</td>
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<td>Advanced Burner Reactor</td>
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<td>Small Business Innovation research &amp; Tech Transfer</td>
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<td>Total</td>
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How should UC respond to, influence, and compete in GNEP?

Initial planning meeting for a UC Forum

- On February 9, 2006, representatives of the UC Campuses and Labs met in a UCOP sponsored meeting on Global Nuclear Energy Partnership.
- Discussion on GNEP particulars, campus and lab capabilities, strategies for UC involvement in GNEP
- Catton and Morley represented UCLA and gave a presentation about interests and capabilities
- The major outcome of this meeting was
  - Launch an alliance of UC researchers to study the future direction of national and international efforts in nuclear energy, nuclear chemistry, nuclear detection, non-proliferation, safeguards, material science, and national security policy in the nuclear arena.
  - Groundwork for UC Forum on GNEP (Catton will discuss)

Presentations and summary available at:
http://www.nuc.berkeley.edu/dept/Courses/UCForum/
UC STRATEGIC OBJECTIVES

- Establish a UC System wide partnership whose focus is to impact the long term national policy in nuclear technology. (Summer 2006)
- Grow the science and technology base for the University by attracting adequate funds, expanding the student populations, faculty, and staff. (Beginning Fall 2006)
- Develop a strong and supportive political constituency within California delegation. (Fall 2006)

IMPLEMENTATION OF STRATEGIC OBJECTIVES:

Policy
- Establish a team of experts from within the UC System to identify key areas of national importance and perform scenario analyses and develop hedge strategies for communication to national decision makers.
- Perform a study of the integrated approach to long term sustainable energy and identify the nuclear energy role.

Political
- Develop communication plan/packages concerning the role that nuclear science and technology will play in California’s and the Nation’s future.
- Identify key stakeholders and prepare a plan to communicate the role that the University should/could play in impacting these needs.

Science and Technology:
- Bring the University’s expertise together to formulate the overall education, and R&D game-plan.
- Identify sponsors so as to accelerate the build-up of UC wide competency in nuclear science and engineering, advanced nuclear detection R&D, advance materials, and manufacturing science.
UC TACTICAL OBJECTIVES:

- Develop coordinated approach to responding to near term solicitations: DOE/NE-GNEP, SC, NNSA, OCRWM, DHS, NSF, Others??
- Develop Partnerships: Industry, State of California, NGOs
- Communicate with the general public the contributions that nuclear S&T makes in society. Develop improved public understanding and support for nuclear S&T.
- Communicate with and educate the political stakeholders, on both the State and Federal levels, about the role of nuclear S&T. Target is to have the Regents and Senior University Management work directly with the congressional delegation on the nuclear S&T needs.

IMPLEMENTATION OF TACTICAL OBJECTIVES:

- Call-for-proposal: Identify teams and specific areas where the UC System can contribute to the existing National goals and objectives. Prepare to respond, collectively, to any call-for-proposals. (Spring 2006) (GNEP, SC, DHS, etc.)
- Host a forum with industry on the topic of Performance Based Design (Summer 2006). Get industry and NRC support and endorsement (NEI or EPRI, GE, AREVA, GA, Toshiba, PG&E…)
- By Fall 2006, host a UC strategic meeting with California Congressional Delegation, communicating the role of nuclear S&T, and the contribution that the UC should play in a national plan.
- Possible international workshop focused on Pacific Rim countries where large energy demand will occur.
UCD McClellan Nuclear Radiation Center

Four Radiography Bays Arranged around the Reactor
Would still like to get summaries of energy related research from all interested participants

- Thrust leaders especially – I have nothing on hydrogen or conservation/conversion
- Images! – send me a couple images of work, labs, etc with a caption and we will rotate them into the page

More professional site

Private Members area – There is a private area where I plan to begin posting the presentation of our internal meetings, etc.

- Login is user/pw = cestar/hsseas. I am considering getting this changed to your seas account logins