

USACA NEWSLETTER

WASHINGTON OPERATIONS REPORT

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DoD BUDGET SHOWS CERAMICS MANUFACTURING AS PRIORITY

Recently released budget documents for FY 08-09 show that DoD has placed a priority on the capability to affordably manufacture advanced ceramics, particularly for gas turbine engines. Within the Defense Research, Development, Test and Evaluation budget, a new program element, proposed by the defense manufacturing community in 2005, has been funded by the department. This new program, placed under the Manufacturing Technology Program, is titled "Defense Wide Manufacturing Science and Technology," and has been funded at \$10M for FY08 and FY09. USACA members have been advocating that CMC materials maturity should be funded under this project element, due to the broad applicability of these materials across all services, and the vast benefits to DoD. Within the budget justification descriptions located by USACA, the first major project is titled "Industry Wide Propulsion," and is funded at \$5M for FY08 and \$5M in FY09. This two-year, two-phase project focuses on CMC materials maturity for production and has the following program plan:

FY 2008 Plan - Initiate Phase 1 for optimizing and validating manufacturing, machining, and non-

destructive inspection techniques for Organic Matrix Composites (OMC) and Ceramic Metal Matrix Composites (CMC). Initiate Phase 1 for processing and Non-Destructive Evaluation (NDE) of Ceramic Hybrid Bearing to mature reliability and repeatability of manufacturing processes.

FY 2009 Plan - Continue Phase 1 for CMC activity. Advance technologies to increase production rate for CMC by 50% of end-point goals. Advance Phase Ceramic Hybrid Bearing manufacturing processes by 25% of end-point goals.

Defense-Wide Manufacturing Science and Technology Mission and Justification

Data calls will be launched annually by the Joint Defense Manufacturing Technology Panel (JDMTP) to identify technology initiatives and single specific issues requiring investment. During evaluation of potential candidates for this PE, priority will be given to those initiatives and single projects that support affordability and productivity of critical enabling manufacturing technologies that cut across multiple platforms. Investments will also balance defense priorities in specialty materials, electronics, propulsion and power and manufacturing (*cont. on p. 2*)

FY 2008 FUNDING FOR CERAMICS PRODUCTIBILITY

USACA members visited Congressional offices the week of February 26 to request support in the FY 2008 budget process for a new program with the Department of Defense. This initiative focuses on ceramics productibility. The CMC/Ceramics Affordability and Productibility program is envisioned as a \$300 million, 10-

year initiative to reduce manufacturing risks and bring CMC and monolithic ceramic material systems to the required MRL for successful transition to DoD and commercial turbine engine systems. USACA members asked Congress to appropriate funds in FY 2008 to jump start this 10-year program.

States Visited

USACA members visited Senate and Congressional offices from Connecticut, Delaware, Ohio, Georgia, Pennsylvania, and Massachusetts. These states have USACA member facilities that would benefit from DoD investment in ceramics productibility. USACA also visited (*cont. on p. 2*)

SPECIAL POINTS OF INTEREST:

- *FY '08 Budget Process*
- *Discussion of FY '08 Budget*
- *Guidance to DoE regarding FY '07 Funds*
- *Upcoming USACA Events*

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CERAMICS MANUFACTURING IN DoD BUDGET (CONT.)

...processes. Final projects are selected by the OSD ManTech Director in collaboration with the JDMTP and in consultation with the Director, Defense Research & Engineering. Technology initiatives and projects will be executed at the Component level.

Industry Wide Propulsion Project

Turbine engines are the main propulsion system for virtually all DoD aircraft and helicopters and also power an array of ships and tanks. Improvements in manufacturing process technol-

ogy must be achieved with each new generation of engines for these challenging new designs to be manufactured with acceptable quality, cost, and delivery rate to meet the war-fighter needs. This initiative seeks to advance and establish the manufacturing technologies and US industrial base capabilities needed to support the development, production and sustainment of advanced gas turbine engines. A \$5-7 billion projected life cycle cost avoidance could be realized with successful maturation. Project objective will be to demonstrate the advancement of manufactur-

ing technologies for advanced turbine engines that result in: 1) percentage increase in reduced weight, 2) percentage increase in engine performance, 3) percentage decrease in maintenance, 4) increasing production flow through, 5) increased non destructive evaluation (NDE) techniques, and 6) increased safety. Advanced manufacturing processes materials will reduce re-work, increase production capacity, and enable production rate requirements for engine components. Projected LCC avoidance for this initiative is projected between \$5-12 billion, with technology maturity within 3-5 years.

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FY 2008 FUNDING REQUESTED (CONT.)

...Senate Defense Appropriations committee member offices to request support for the program. USACA will continue to visit congressional offices from other states over the next several days to request support for the program.

Congress is expected to begin consideration of the FY 2008 Defense budget in March. We expect House and Senate committees to vote out their respective

versions of the FY 2008 Defense budget by July. USACA will work with congressional offices and Defense committee staff during that time to support funding for the CMC/Ceramics Affordability and Productibility program.

SMI MANAGES USACA'S WASHINGTON OPERATIONS

Strategic Marketing Innovations (SMI), Inc., a leading comprehensive government relations firm, has announced that it would manage the United States Advanced Ceramics Association's (USACA) government affairs activity in Washington, D.C.

"This is an exciting new changeover for SMI," said President Ted Lynch. "For 15 years, SMI

has worked closely with its clients to produce quality results and we look forward to extending these efforts as we manage USACA's operations."

The management changeover will be a key component of USACA's corporate business development and advocacy plans for the coming year. SMI will work with USACA and its membership to generate various program initiatives.

2007 BUDGET APPROVED & PRESENTATION OF 2008 PLANS

The Continuing Resolution for FY 2007, H.J. Res. 20, was signed into law by the President on February 15, 2007. This joint resolution provides agencies with guidance on FY 2007 spending and allows them to move forward to implement agency programs. Guidance issued by the Office of Management and Budget to the agency secretaries discourages agencies from listening to pressure from Capitol Hill to fund members' special interest projects. While various agencies and departments will react differently to this guidance, it is USACA's expectation that selected special interest projects will be continued, but that a majority will not be funded for 2007.

With approval of the CR, agencies will move forward to make contract awards that were placed on hold pending approval of the CR. For example, programs authorized under the Energy Policy Act are expected to be awarded by the end of March.

Just a week before the President signed the FY 2007 CR into law, Energy Secretary Bodman testi-

fied before the Senate Energy and Natural Resources Committee and the House Energy and Commerce Committee regarding the FY 2008 Energy Department Budget. That same day Bodman announced President Bush's FY 2008 \$24.3 billion budget request for the Department of Energy.

Within the FY 2008 budget request, \$2.7 billion, \$557 million above the FY 2007 budget request of \$2.1 billion, is requested to fund President Bush's Advanced Energy Initiative, which is aimed at reducing U.S. dependence on foreign sources of oil and promoting the development of cleaner sources of electricity production. The FY 2008 budget request seeks to expedite the deployment of renewable energy technologies, clean coal technologies, and nuclear energy technologies. Extended budget deliberations in Congress are expected to begin this month and continue running through June or July. Appropriations may not be voted out of committee until July 2007.

Link to Energy Secretary Bodman's Testimony to the Senate Energy and Natural Resources Committee:

<http://www.energy.gov/news/4782.htm>

UPCOMING TECHNICAL CONFERENCE

USACA will be hosting a technical conference in Washington, D.C. in late April or early May to engage with federal program managers about upcoming funding opportunities related to advanced ceramics. Doug Freitag, the USACA Technical Director, is developing a program for the conference and has issued invitations to officials from the De-

partment of Defense and the Department of Energy to participate in the meeting. The date for the conference will be decided pending responses to the invitations.

The format for the meeting will be similar to past technical conferences where federal officials give a brief overview of their programs to the USACA mem-

bers and answer questions from the group. We anticipate that the conference will start at 11:00 a.m. and end at 5:00 p.m. Details will be issued as soon as a date is selected.

FY 2008 DoE BUDGET JUSTIFICATION

A cornerstone of the FY 2008 budget is to encourage renewable energy along with energy efficiency R&D that could assist with decreasing the overall demand for natural gas and lower emissions in the electricity sector. There are a few programs that are discussed in the budget request which pertain to the areas of natural gas power generation and high-temperature materials. Under the umbrella of natural gas power generation, a few applicable initiatives are discussed. For example, the Solar America Initiative (SAI) is a Solar Energy program that focuses on developing photovoltaic (PV) systems that will be less expensive, more efficient, and increasingly more reliable than current PV systems. In addition to working with industries to decrease the cost of concentrating solar power technologies (\$9.0 million), this program will also work to establish thermal storage capabilities that will improve its value to utilities.

Research conducted under the Advanced Turbines program

aims at developing a technology base for turbines that will allow the construction of near-zero atmospheric emission IGCC plants as well as a class of FutureGen plants with carbon capture and sequestration.

The FY 2008 budget request includes the President's Hydrogen Fuel Initiative, which supports research on low-cost hydrogen production from clean coal. Although, unlike in FY 2007, no funding will be provided for research and development activities on co-production of substitute natural gas or on producing, distributing, storing, or reformation of liquid carriers of hydrogen. The FY 2007 budget received \$22.1 million for fuels, whereas the FY 2008 budget is only requesting \$10 million.

Another initiative experiencing a funding change from FY 2007 to FY 2008 is the Ultra-Deep and Unconventional Natural Gas and Other Petroleum Research program, a mandatory oil and gas R&D program established by the

Energy Policy Act of 2005. Although this program was funded starting in FY 2007 from federal revenues from oil and gas leases, it has been decided that it would be more appropriate for the private sector oil and gas industries to conduct these activities. This program will thus be repealed through a separate legislative proposal in FY 2008.

Also of interest to USACA members is the Nuclear Hydrogen Initiative (NHI), which requests funding of \$22.6 million. With this money, the DoE will perform R&D which focuses on enabling technologies, demonstrating nuclear-based hydrogen production technologies, and developing technologies that will apply heat from Generation IV nuclear energy systems to produce hydrogen. With this type of research the United States could potentially generate hydrogen at a scale and cost that would enable a future hydrogen-based economy.