

Will NASA's Materials Research Survive Budget Gauntlet?

To date, the 1990s have not been very good years for U.S. space and aeronautics. Nor does it look like things are going to improve given the belt-tightening going on in the U.S. federal government. But because NASA wants to maintain a strong science program and strengthen its aeronautics efforts, policy experts think materials research may do OK.

That is, so long as Congress does not get more aggressive with its budget axes, said Steve Moran, now with the U.S. Office of Science and Technology Policy, Technology Directorate.

In 1992, NASA's estimated funding needs for 1993 through 1997 exceeded its likely budget allocations by \$13 billion to \$21 billion. That spurred a round of cuts and the development of a five-year plan that called for \$72.4 billion total for NASA from 1996 through the turn of the century. In 1993, NASA responded by reducing 5-year program plans by almost 22%, or \$20 billion.

But even that wasn't enough. In January, President Clinton called on NASA to keep to a \$14.3 billion budget (its allocation for 1993) and to reduce its expenditures through the end of this century. Also a report by the U.S. General Accounting Office (GAO)—out in April—pointed out that NASA had not yet figured out how to handle the \$5.3 billion shortfall in funds promised and money expected to be allocated for NASA over the next five years.

The adjustments made in 1993 were based on assumptions that put the goals of some programs, such as launch schedules for the shuttle, at risk, the GAO report, "NASA Budgets: Gap Between Funding Requirements and Projected Budgets has Been Reopened," pointed out. Furthermore, that revised budget did not take into account inflation, which will reduce the purchasing power of what funds remain.

Consequently, the GAO identified \$1.3 billion in cuts that still needed to be made in the Shuttle Program and \$4 billion of similar "unresolved percentage reductions" needed in the rest of NASA's programs.

By April this year, NASA had already begun to make changes to the Shuttle program that should save \$1.3 billion, said Frank Degnan, assistant director for Defense Management and NASA issues at GAO. Then in mid-May, Daniel S. Goldin, head of NASA, revealed how NASA intended to take care of the \$4 billion expected shortfall.

At that time, Goldin unveiled the results of an internal review which suggested ways to streamline the agency. All 10 of NASA's major research centers and all the big programs would continue, so long as Congress did not require further budget cuts, he said. That review incorporated input from many levels of NASA managers as well as other NASA evaluations.

Overall the number of civil service employees will drop to 17,500 from the current 24,030, and NASA will lose 25,000 contractors. There will be better accounting of full program costs, including overhead, and better use made of commercially available products. An outside contractor is taking over the Space Shuttle, Goldin announced.

However, this review made few specific suggestions. Instead, individual center and program directors are now deciding how to meet the goals set for them. "Where [to make cuts] and at what pace is pretty much what they are wrestling with right now," said Degnan.

As part of the proposed reorganization, each center will focus its efforts on specific aspects of NASA's mission. Overlaps in programs will be eliminated. According to the fiscal year 1993 interagency report, "Advanced Materials and Processing," materials research is concentrated at four of those centers. One, Langley Research Center, is to become a Center of Excellence for structures and materials. Even so, it and the other three are scheduled for budget reductions of 20 to 33 percent. Thus far they seem to be maintaining all the programs covering materials efforts. Only microgravity research at Lewis Research Center was specifically targeted for being shifted to an outside institute.

So this summer has been critical. In general, program managers spend their summers shaping up the budgets for the fiscal year that begins about eighteen months later. And the budget will be one many will be anxiously waiting for. "The 1997 budget is a key document," Degnan said. "It will be the first official picture of how they, as [NASA's] managers, intend to do this [cutting]."

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MRSECs Seek Pre-Proposals

Materials Research Science and Engineering Centers (MRSECs), supported by the National Science Foundation (NSF), are soliciting pre-proposals from academic institutions in the United States with broad research and education programs in the area of condensed matter

science and materials physics, solid state and materials chemistry, materials science and engineering, and related areas of science and engineering. Based on pre-proposal evaluations, NSF will invite full proposals.

Awards will be made for an initial period of five years, subject to evaluation during the fourth year. Individual MRSEC awards are expected to range from \$0.5 million to \$5 million per year.

The deadline for pre-proposals is September 8, 1995.

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U.S. House Leans Toward Phasing Out ATP

On June 28, the U.S. House Commerce Appropriations Subcommittee voted to phase out the Advanced Technology Program (ATP) administered by the National Institute of Standards and Technology (NIST). On the same day, the House Science Committee excluded ATP in its authorization legislation for NIST's core laboratory programs. Robert S. Walker (R-Pa), chair of the Science Committee, opposes ATP. NIST's public affairs specialist Michael Baum said that the final decision on the program's status is a long way off. He foresees a better chance for ATP's retention in the Senate.

DOE Announces Plans to Convert Nuclear Stockpile

On June 7, the U.S. Department of Energy (DOE) and the United States Enrichment Corporation (USEC) announced plans to reduce the country's excess nuclear stockpile. They are to dilute highly enriched uranium (HEU) to a lower level for use as commercial nuclear reactor fuel at the Portsmouth Gaseous Diffusion Plant in Piketon, Ohio.

The HEU, in the form of uranium hexafluoride gas, is being fed back into the plant to reduce the concentration of the uranium-235 isotope, ranging from 20 to 98 percent U-235 (HEU), to about four percent U-235 (LEU) which is suitable for use in commercial nuclear reactors to produce electricity. USEC plans to supply this LEU to its domestic and foreign customers. □