the 24% increase in the NIST budget, the administration removed $137 million in congressional earmarks—money directed by Congress to specific programs that were not in the institute's budget request. A comparison of the congressionally enacted FY 2006 budget with the FY 2007 administration proposal actually shows a 5.8% drop in NIST funding.

While the administration is promoting the big three boosts in science funding, an Office of Management and Budget official noted that overall, the requested increase for nondefense R&D is 1.9%, lower than the rate of inflation. OSTP's Marburger said that funding the war in Iraq and the war on terror and trying to reduce the deficit have a serious impact on the discretionary part of the budget, including science.

Large facilities supported

DOE Office of Science director Raymond Orbach said he would use the 14% proposed increase for his office to "enhance and operate very large [science] facilities," and to fund "the research base supporting an additional 2600 scientists." He pledged strong support for ITER, the international fusion project that he called "the first truly international, self-standing collaboration in the world." The budget proposes $60 million for ITER.

He said advanced scientific computing would receive $318.7 million, an $84 million increase over FY 2006. The Linac Coherent Light Source at Stanford University would continue to be supported, with $105.9 million for ongoing design and construction. Funding would also be restored for full operations of the Continuous Electron Beam Accelerator Facility at the Thomas Jefferson National Accelerator Facility in Virginia, and the Relativistic Heavy Ion Collider at Brookhaven National Laboratory in New York, he said. Brookhaven would also get research, development, and engineering funds for the National Synchrotron Light Source II project (up $45 million).

Orbach also said that funding increases will support nanoscale science research (up $51 million); the administration's hydrogen-fuel initiative (up $17.5 million); and the first full year of operations of the Spallation Neutron Source at Oak Ridge National Laboratory in Tennessee. "We will build machines and operate them so our science will have a leg up on anyone in the world," Orbach concluded.

NSF director Arden Bement said the foundation is focusing on three roles as its part of the competitive initiative. Fundamental science and engineering programs, placed under a category called "ideas" in NSF budget documents, would receive a 6.1% increase to $2.9 billion. The "tools" section of the budget, which includes facilities, instrumentation, and federally funded R&D centers, would increase 31.2% to $1.7 billion. The "people" category, which includes education, individual grants, and similar programs, would go up by 3.8%, or $38.7 million. The overall "people" funding is slightly more than $1 billion.

NIST director William Jeffrey said the institute's core scientific and technical research and services programs, which include the laboratories, would focus on nanotechnology (up $20 million), the Center for Neutron Research expansion (up $10 million), hydrogen initiative research (up $10 million), and a host of other programs. He noted that NIST has zeroed out funding for the Advance Technology Program (ATP), a program that provides federal money to help small companies develop promising but risky technology. The administration and some Republicans on the hill have been trying to kill the program for several years on the ideological grounds that government shouldn't interfere in private enterprise.

NASA would receive an overall increase of just 1%, but R&D funding at the agency would increase 7.5%. All of that increase would go into developing the new crew exploration vehicle, and other R&D would fall. At the Department of Commerce, the National Oceanic and Atmospheric Administration would see its R&D budget drop by 6.3%.

Although it is far from certain whether the funding boom for science will actually materialize, that it happened at all came as a surprise to many science watchers in Washington, DC. For more than a year, as report after report came out highlighting an overall weakening of the US science enterprise, administration officials dismissed the concerns as overblown. But on Capitol Hill, several senators and representatives began putting pressure on the White House to pay attention to the problem.

In October the NAS "Gathering Storm" report came out and received strong support, including hearings, on Capitol Hill. Senators Lamar Alexander (R-TN), Jeff Bingaman (D-NM), and Pete Domenici (R-NM), all strong supporters of science, then met with Bush and urged him to support a new science initiative. There was hope in the science community that Bush would mention science in the State of the Union speech, but the competitive initiative and the big boosts proposed for science programs for NSF, DOE, and NIST were unexpected.

The American Physical Society's director of public affairs Mike Lubell said that Bush's seemingly sudden support of science "is not so different than what we encountered in the Clinton administration. The first four years, science wasn't in good shape, then that changed."

"Science issues aren't issues that get you a lot of votes," he continued. "But they are serious issues for the country, and in the second term you can look beyond the polls and focus on your legacy. Science is a legacy issue. It's economic and national security, and [Bush] is to be applauded for making a good choice on this." **Jim Dawson**

Billionaire Scientist Rescues RHIC Run

When the final federal science budget for fiscal year 2006 was passed by the US Congress in December, a cut of more than 8% in the nuclear physics budget at the Department of Energy had immediate and severe consequences for Brookhaven National Laboratory (BNL) director Praveen Chaudhari. He had a billion-dollar machine, the Relativistic Heavy Ion Collider, and not nearly enough money to operate it. Chaudhari announced that RHIC's planned polarized-proton run for 2006 would be canceled and about 100 employees laid off (see PHYSICS TODAY, January 2006, page 28).

Then came the phone call from Jim Simons, a PhD mathematician who, after teaching at the University of California, Berkeley, and Harvard University, founded an investment company in the early 1970s and became a billionaire. Simons, who also chaired the mathematics department at Stony Brook University and is on the BNL board, was concerned about the RHIC shutdown.

"He called me just before Christmas break," Chaudhari said. "He said he'd like to help raise money for RHIC. After a moment of stunned silence on my part, I had a great sense of exhilaration that we could run RHIC."

What Simons offered, and Chaudhari accepted, was $13 million to do the 20-week polarized-proton run that had been planned before the federal funding was cut. The revived RHIC run was to begin in early February


BNL

Polarized protons will flow for 20 weeks around the 2.4-mile ring of the Relativistic Heavy Ion Collider (top center) at Brookhaven National Laboratory, thanks to a $13 million gift of private money.

and finish at the end of June, in part because electric rates on Long Island jump dramatically in July, making the cost of continued operation of the energy-intensive collider prohibitive.

Simons's investment company, Renaissance Technologies Corp, will provide the operating money to the Stony Brook Foundation, which will in turn give it to the Brookhaven Science Associates, the group that runs the lab. Simons issued a statement saying, "It seemed a terrible shame that so valuable a piece of scientific equipment and so valuable a team of experienced scientists be left for a year to lie fallow. We are happy to be able to help this work get back on track."

Chaudhari said he is not concerned that private money had to be used to replace operating money that traditionally comes from DOE, but he did say it should highlight the ongoing problem with a shortfall in operating funds for federal science facilities. "Maybe this will be a service to the scientific community by pointing out that here is a case of a scientifically rich, valuable machine that we have spent a billion dollars to build, then we don't run it because we're short the operating money. There are other facilities in the DOE complex that have this kind of shortfall, and perhaps once and for all, they [the administration and Congress] will face it and fix it."

Operating times at virtually all of the federal labs have been declining for the past six years. While Simons's gift got RHIC back online, Thomas Jefferson National Accelerator Facility (Jefferson Lab) in Virginia is still facing a reduction in operating time for its Continuous Electron Beam Accelerator Facility (CEBAF) because of the same nuclear physics budget cuts that hurt Brookhaven.

When the operating problems arose for RHIC and CEBAF in December, Jefferson Lab director Christoph Leemann said his science programs could handle a one-year interruption in funding without too much damage, but if the cuts became the "permanent baseline," the lab would have serious problems. As PHYSICS TODAY went to press, the administration's proposed FY 2007 budget included a whopping 34% increase in the DOE nuclear physics program, enough funding to assuage Leemann's concerns (see the story on page 25).

In a 6 February budget briefing, DOE's Office of Science director Raymond Orbach said RHIC would not only be fully funded in FY 2007 but upgraded. He also said there would be money for developing the National Synchrotron Light Source II at Brookhaven, and for the 12-GeV upgrade to CEBAF at Jefferson Lab.

The administration budget is always changed, sometimes dramatically, by Congress, and the final FY 2007 numbers for operating RHIC, CEBAF, and other federal scientific facilities likely won't be known until late this year. But for the moment, Brookhaven's Chaudhari, rescued by an investment billionaire, won't have to worry. Still, he points out, "there aren't that many Jim Simonses in the world," and the probability of having a billionaire scientist who understands and values a big physics machine enough to pay millions of his own dollars to operate it is "very small." **Jim Dawson**

US Visa Processing Speeds Up

The US State Department is taking steps to simplify travel into the country and counter the complications of security measures that have been piled on since the September 11th terrorist attacks. At a 17 Janu-