DOE BUDGET

GNEP rollout means big jump for fuel cycle

The Global Nuclear Energy Partnership may be intended to create a worldwide system for safe, secure nuclear power, but in the near term it will be mainly focused on fuel cycle research.

THERE WERE RUMORS in late January that President George W. Bush's State of the Union address would include a specific mention of the Global Nuclear Energy Partnership (GNEP), but the speech delivered on January 31 went no further than to include a mention of nuclear power (along with zero-emission coal and renewable sources) as a domestic energy resource that could help alleviate what Bush called the United States' "addiction" to oil.

It may be that GNEP was one of many topics cut from the speech (including, apparently, references to nearly all of the 28 guests seated with first lady Laura Bush), perhaps to allow reference to recent world events, such as the victory of Hamas in the election in Palestine and the latest developments with Iran's nuclear program. As it happened, the Department of Energy held its own presentation on the GNEP on February 6, when the fiscal year 2007 federal budget request was released, and launched a dedicated Web site, <www.gnep.energy.gov/>.

Over the department as a whole, the request for FY 2007 is $23 557 million, down $6 million, or about 0.04 percent, from the FY 2006 appropriation, which was itself more than 3 percent lower than the FY 2005 amount. Fossil energy research and development would be cut by more than 20 percent in FY 2007, and fossil energy programs as a whole would receive about $649 million, down 23 percent from $842 million in FY 2006, but still about 3 percent more than the FY 2005 amount. The request for renewable energy is $1.2 billion, which is $2.6 million, or 0.2 percent, more than the FY 2006 amount. President Bush had urged the use of zero-emission coal and renewables during his State of the Union address (along with nuclear power), but the budget request in these areas does not suggest that new developments in coal and renewables have a very high priority.

GNEP

With an FY 2007 budget request of $250 million, GNEP is poised to overturn the nation's 30-year moratorium on spent-fuel reprocessing, something that critics of the plan argue would send a wrong message to countries like Iran and North Korea. In addition, the plan would "make it easier for terrorists to acquire plutonium to make nuclear weapons," according to the Union of Concerned Scientists.

The White House is taking a different view. At a February 6 press conference introducing the plan, Energy Secretary Samuel Bodman explained that GNEP would increase energy security in the United States and abroad, encourage "clean" economic development around the world, and improve the environment.

GNEP is the centerpiece of the DOE's Advanced Fuel Cycle Initiative (AFCI), which the agency says is integral to its Generation IV Nuclear Energy Systems effort. AFCI aims to develop a better, more efficient, and proliferation-resistant nuclear fuel cycle. A research and development program, AFCI is focusing on methods to reduce the volume and long-term toxicity of high-level waste from spent fuel, reduce the long-term proliferation threat posed by civilian inventories of plutonium in spent fuel, and provide for proliferation-resistant technologies to recover the energy content of spent fuel.

"The idea is that GNEP will leverage new technology to effectively and safely recycle spent nuclear fuel without producing separated plutonium," Bodman said. "By doing so we will extract more energy from nuclear fuel, reduce the amount of waste that requires permanent disposal, and greatly reduce the risk of nuclear proliferation. If we can make GNEP a reality, we can make the world a better, cleaner, and safer place to live."

In operation, GNEP would achieve its goal by having nations with secure, advanced nuclear capabilities provide fuel services to other nations that agree to employ nuclear energy for power generation purposes only. The closed fuel cycle model envisioned for GNEP requires the development and deployment of technologies that enable the recycling and consumption of long-lived radioactive waste.

Under this scenario, GNEP would build an international fuel services consortium under which "fuel supplier nations" would operate both nuclear power plants and fuel production and handling facilities, providing reliable fuel services to "user nations" that would operate only nuclear power plants.

Clay Sell, deputy secretary for the DOE, said during the press conference that the idea for GNEP started when administration officials looked at world growth projections and saw that perhaps 1000 nuclear power reactors would be operating by 2050. This projected growth got officials thinking about "what are the technologies, what are the policies, what are the international regimes we would want to have in place when we get there," he said.

A main advantage of GNEP, Sell continued, is that because of recycling and the use of actinide fuel and fast reactors, there would be much greater efficiency from nu-

DEPARTMENT OF ENERGY BUDGET BY APPROPRIATION
(DISCRETIONARY DOLLARS IN THOUSANDS)

Discretionary Summary By Appropriation	FY 2005 Current Appropriation	FY 2006 Current Appropriation	FY 2007 Congressional Request	FY 2007 vs. FY 2006 $	FY 2007 vs. FY 2006 %
Energy and Water Development and Related Agencies Appropriation Summary:					
Energy Programs					
Energy Supply and Conservation	1 801 815	1 812 627	1 923 361	+110 734	+6.1%
Fossil Energy Programs					
Clean coal technology	-160 000	-20 000	——	+20 000	+100%
Fossil energy research and development	560 852	592 014	469 686	-122 328	-20.7%
Naval petroleum and oil shale reserves	17 750	21 285	18 810	-2475	-11.6%
Elk Hills school lands fund	36 000	84 000	——	-84 000	-100.0%
Strategic petroleum reserve	126 710	207 340	155 430	-51 910	-25.0%
Northeast home heating oil reserve	4930	——	4950	+4950	N/A
Strategic petroleum account	43 000	-43 000	——	+43 000	+100.0%
Total, Fossil Energy Programs	**629 242**	**841 639**	**648 876**	**-192 763**	**-22.9%**
Uranium enrichment D&D fund	495 015	556 606	579 368	+22 762	+4.1%
Energy information administration	83 819	85 314	89 769	+4455	+5.2%
Non-defense environmental cleanup	439 601	349 687	310 358	-39 329	-11.2%
Science	3 635 650	3 596 391	4 101 710	+505 319	+14.1%
Nuclear waste disposal	343 232	148 500	156 420	+7920	+5.3%
Departmental administration	128 598	128 519	128 825	+306	+0.2%
Inspector general	41 176	41 580	45 507	+3927	+9.4%
Total, Energy Programs	**7 598 148**	**7 560 863**	**7 984 194**	**+423 331**	**+5.6%**
Atomic Energy Defense Activities					
National Nuclear Security Administration:					
Weapons activities	6 625 542	6 369 597	6 407 889	+38 292	+0.6%
Defense nuclear nonproliferation	1 507 966	1 614 839	1 726 213	+111 374	+6.9%
Naval reactors	801 437	781 605	795 133	+13 528	+1.7%
Office of the administrator	363 350	338 450	386 576	+48 126	+14.2%
Total, National Nuclear Security Administration	**9 298 295**	**9 104 491**	**9 315 811**	**+211 320**	**+2.3%**
Environmental and Other Defense Activities:					
Defense environmental cleanup	6 800 848	6 130 447	5 390 312	-740 135	-12.1%
Other defense activities	687 149	635 578	717 788	+82 210	+12.9%
Defense nuclear waste disposal	229 152	346 500	388 080	+41 580	+12.0%
Total, Environmental and Other Defense Activities	**7 717 149**	**7 112 525**	**6 496 180**	**-616 345**	**-8.7%**
Total, Atomic Energy Defense Activities	**17 015 444**	**16 217 016**	**15 811 991**	**-405 025**	**-2.5%**
Power Marketing Administrations:					
Southeastern Power Administration	5158	5544	5723	+179	+3.2%
Southwestern Power Administration	29 117	29 864	31 539	+1675	+5.6%
Western Area Power Administration	171 715	231 652	212 213	-19 439	-8.4%
Falcon & Amistad operating & maintenance fund	2804	2665	2500	-165	-6.2%
Colorado River Basins	——	-23 000	-23 000	——	——
Total, Power Marketing Administrations	**208 794**	**246 725**	**228 975**	**-17 750**	**-7.2%**
Federal Energy Regulatory Commission	——	——	——	——	——
Subtotal, Energy and Water Development and Related Agencies	**24 822 386**	**24 024 604**	**24 025 160**	**+556**	**+0.0%**
Uranium enrichment D&D fund discretionary payments	-459 296	-446 490	-452 000	-5510	-1.2%
Excess fees and recoveries, FERC	-18 452	-15 542	-16 405	-863	-5.6%
Total, Discretionary Funding	**24 344 638**	**23 562 572**	**23 556 755**	**-5 817**	**-0.0%**

clear fuel. Under the current policy, 90 percent of the energy value in spent fuel is destined for permanent disposal. Under GNEP and advanced recycling technologies, a much greater percentage of the energy value is achieved, and, as a result, there is a dramatic reduction in the volume and radiotoxicity of the material destined for Yucca Mountain and other repositories that would need to be built.

The technologies to be used under GNEP would include UREX+ and dry reprocessing (or pyroprocessing). The UREX+ process does not separate out pure plutonium, but instead combines it with other actinides and some portion of uranium so that it is not attractive or usable as weapons material.

Another key element of GNEP is that the United States would cooperate with existing fuel cycle states or other countries in the development of small-scale reactors. "And we think there is a great opportunity here to enhance our nuclear cooperation with many countries on developing reactors of a size and with the nonproliferation benefits that would be appropriate for the developing world," Clay said. "It would be of a smaller scale appropriate for smaller grids."

The plan also would establish enhanced safeguards so that the International Atomic Energy Agency could effectively and efficiently monitor and verify nuclear materials. In addition, GNEP would design advanced safeguards approaches directly into the planning and building of new, advanced nuclear energy facilities.

Gen IV scaled back

While GNEP would mean a vast increase in fuel cycle work in FY 2007, the administration's adoption of the program's mission means changes in priorities for other current DOE civilian nuclear work. The sharpest cutback would be on the Generation IV Nuclear Energy Systems Initiative, the research and development of more advanced reactors and fuels. The program, which would be centered on a very high

temperature gas-cooled reactor (VHTR) to be built at the Idaho National Laboratory (INL), would get 42 percent less funding in FY 2007 than it has in FY 2006, down to $31.4 million from $54.5 million. The DOE attributed the decrease to "a change in focus to emphasize . . . near-term deployment of new nuclear plants and enhanced waste minimization efforts."

The Nuclear Hydrogen Initiative, which has been envisioned as maturing in about the same time frame as Generation IV and probably using a Gen-IV reactor design, would also get less money in FY 2007 than in FY 2006, although still more than twice what it had in FY 2005. The DOE attributes the change (to $18.7 million, from $24.8 million) to reduced development costs for the S-I thermochemical and high-temperature electrolysis hydrogen production methods, with construction ending and testing to begin.

Nuclear Power 2010 would receive $54 million, and while this is a drop of more than $11 million from the FY 2006 appropriation, it is only $2 million less than the DOE had requested for FY 2006, and the extra funding provided by Congress will lead to some carryover funding into FY 2007. The program shares costs with industry on projects intended to demonstrate the process for new reactor licensing, such as construction/operating license (COL) applications and reactor design certification. The DOE refers to "later than planned project starts" as a reason for a reduced funding need. Whether this refers to expected delays in COL applications by the NP 2010 participants, Dominion Generation and NuStart Energy, was not stated. The DOE does specifically request $1.8 million to develop regulations, criteria, and administration of "standby support," or risk insurance, for COL applicants.

Also notable is a 15 percent reduction in facilities management funding for INL, which the DOE said was a result of "higher priorities," presumably to projects not based at INL. The facility has been unified and renamed as part of a DOE effort to make it a world leader in nuclear R&D, but the line item in FY 2007 will be $95.3 million, down from $112.7 million in FY 2006. One project being deferred is work on the Gas Test Loop, as a result of what the DOE called "technical difficulties."

Yucca Mountain

The budget request for Civilian Radioactive Waste Management (CRWM)—the DOE's office in charge of the proposed Yucca Mountain high-level waste repository—for FY 2007 is $544.5 million, which is $49.5 million, or 10 percent, more than the FY 2006 appropriation. The CRWM program aims to fulfill the federal government's responsibility for the permanent geologic disposal of spent nuclear fuel and high-level radioactive waste resulting from both civilian and defense atomic energy activities. The FY 2007 budget request includes $67.8 million for the development of transportation infrastructure such as rail lines, casks, and rail cars and for establishing a long-term procurement plan for transportation activities.

The Yucca Mountain program's work in FY 2007 will include the design of a canister handling facility and the development of a canister to be used for the transportation, aging, and disposal (TAD) of spent fuel, both of which support the DOE's new "clean/canisterized" approach (*NN,* Dec. 2005, p. 52). Waste package design will continue in FY 2007, along with the development of several prototype waste packages for testing and site safety upgrades. The DOE indicated that the design of Yucca Mountain's fuel handling facility has been slowed for FY 2007 in order to focus on the design and development of the TAD canister.

Science and fusion

The DOE's Office of Science budget request is $4101.7 million for FY 2007, an increase of $505.3 million, or 14 percent, from the FY 2006 appropriation. The Science program funds investments in basic research that the DOE says are critical to the success of its missions in national security and energy security; the advancement of the frontiers of knowledge in the physical sciences and areas of biological, environmental, and computational sciences; and the provision of world-class research facilities.

The increase being sought for the Office of Science is part of the American Competitiveness Initiative, which President Bush mentioned in his State of the Union address and involves activities to be overseen by a variety of government agencies to provide greater emphasis in such areas as math and science education. The DOE has stated that the Office of Science is on a path to doubling its funding by 2016.

ENERGY SUPPLY AND CONSERVATION, OFFICE OF NUCLEAR ENERGY, SCIENCE AND TECHNOLOGY
APPROPRIATION SUMMARY BY PROGRAM (DOLLARS IN THOUSANDS)

Discretionary Summary By Appropriation	FY 2005 Current Appropriation	FY 2006 Original Appropriation	FY 2006 Adjustments	FY 2006 Current Appropriation	FY 2007 Request
Energy Supply and Conservation					
University Reactor Infrastructure and Education Assistance	23 810	27 000	-270	26 730	0
Research and Development					
Nuclear Energy Plant Optimization	2412	0	+0	0	0
Nuclear Energy Research Initiative	2416	0	+0	0	0
Nuclear Power 2010	49 605	66 000	-660	65 340	54 031
Generation IV Nuclear Energy Systems Initiative	38 828	55 000	-550	54 450	31 436
Nuclear Hydrogen Initiative	8682	25 000	-250	24 750	18 665
Advanced Fuel Cycle Initiative	66 407	80 000	-800	79 200	243 000
Total, Research and Development	**168 350**	**226 000**	**-2260**	**223 740**	**347 132**
Infrastructure					
Radiological Facilities Management	68 563	54 595	-546	54 049	49 722
Idaho Facilities Management	122 320	113 862	-1139	112 723	95 290
Idaho Sitewide Safeguards and Security	58 103	75 008	-720	74 288	0
Total, Infrastructure	**248 986**	**243 465**	**-2405**	**241 060**	**145 012**
Spent Nuclear Fuel Management	6681	0	+0	0	0
Program Direction	60 076	61 109	-611	60 498	67 608
Transfer from State Department	14 000	0	+0	0	0
Subtotal, Energy Supply and Conservation	**521 903**	**557 574**	**-5546**	**552 028**	**559 752**
Use of Prior-Year Balances	-4217	0	+0	0	0
Funding from Other Defense	-114 347	-123 873	+1209	-122 664	0
Funding from Naval Reactors	-10 000	-13 500	+135	-13 365	0
Total, Energy Supply and Conservation	**393 339**	**420 201**	**-4202**	**415 999**	**559 752**

For FY 2007, the DOE has generally managed to find the increased funding necessary to support the International Thermonuclear Experimental Reactor (ITER) project as it moves into the construction phase without undermining existing domestic projects in magnetic confinement fusion. A slight decrease is planned for the National Compact Stellarator Experiment as it moves closer to completion and construction-related expenses are lower. Overall, domestic fusion research facilities (DIII-D, Alcator C-Mod, and the National Spherical Torus Experiment) get an extra $4.2 million, but $6.7 million in domestic science and enabling R&D programs is being redirected to support ITER.

The funding breakdown for other programs under the Office of Science is as follows:

■ The Basic Energy Sciences program (with an FY 2007 request of $1421 million) conducts research and builds and operates user facilities to expand scientific foundations for new and improved energy technologies and to understand and mitigate the environmental impacts of energy use. The requested funding would support research on nanoscale science (+$50.9 million) and the Hydrogen Fuel Initiative (+$17.5 million). It also would fund the first full year of operations of the Spallation Neutron Source at Oak Ridge National Laboratory (+$99.7 million) and provide research and development, along with project engineering and design, for the National Synchrotron Light Source II project (+$45 million).

■ The Advanced Scientific Computing Research program ($318.7 million) conducts mathematics and computing research and delivers state-of-the-art computational and networking capabilities to scientists across the United States. In FY 2007, the funding request is increased for computational partnerships with other programs (+$10.5 million) and for the Leadership Computing Facilities at ORNL and Argonne National Laboratory (+$48.8 million). Funding for the DOE's National Energy Research Scientific Computing Center would also increase (+$17.3 million), in part to enhance capacity.

■ The High Energy Physics program ($775.1 million) conducts basic research to explore the laws of nature governing the most basic constituents of matter and the forces binding them. The program participated in the construction of the international Large Hadron Collider ($3.2 million); the DOE has said that it will continue its participation in the collider's research program. Increased funding is also provided for the International Linear Collider (+$30 million) to support a leadership role by the United States in the international R&D program. New project engineering and design funding for the Electron Neutrino Appearance Detector project (+$10.3 million) is also requested.

■ The Nuclear Physics program ($454 million) supports research to provide new insights and knowledge of the structure and interaction of atomic nuclei and the primary forces and particles of nature in nuclear matter. Operations of the Relativistic Heavy Ion Collider at Brookhaven National Laboratory would be resumed under FY 2007 funding (+$30.2 million). Funding also is requested for project engineering and design for upgrading the 12-GeV Continuous Electron Beam Accelerator Facility at the Thomas Jefferson National Accelerator facilities (+$7 million).

■ The Workforce Development for Teachers and Scientists program ($11 million) provides a continuum of educational opportunities to the nation's students and teachers of science, technology, engineering, and mathematics. Under the FY 2007 budget request, the Laboratory Science Teacher Professional Development program is increased by $3.8 million, primarily for the support of additional middle school teachers.

Environmental management

The DOE asked for a 12 percent reduction for its Environmental Management (EM) program in FY 2007, largely because cleanup work at Rocky Flats has ended. The request of $5828 million is $762 million less than what was received in the FY 2006 appropriation.

The EM program conducts the cleanup of the environmental legacy from 50 years of nuclear weapons production and government-sponsored nuclear energy research at sites across the United States. The cleanup includes the safe management and disposition of nuclear materials and spent nuclear fuel, the treatment and disposal of high-level and other radioactive wastes, the remediation of contaminated soil and groundwater, and the decontamination and decommissioning (D&D) of contaminated facilities.

By site breakdown, the funding requests are as follows:

■ Brookhaven National Laboratory, $28.3 million, primarily for D&D activities for the Graphite Research Reactor and High Flux Beam Reactor.

■ Hanford Site/Richland, $917.4 million, to support spent fuel disposition at K Basins and the River Corridor Project. Funds also would be used for the disposition of contaminated buildings and the remediation of contaminants along the Columbia River and for safely maintaining the Plutonium Finishing Plant and the Fast Flux Test Facility. This amount includes $77.8 million for safeguards and security activities.

■ Hanford Site/River Protection, $964.1 million, part of which ($690 million) would be used to ramp up the construction of key components of the Waste Treatment and Immobilization Plant, and the remainder to continue the safe management of underground tanks and waste retrievals from single-shell tanks.

■ Idaho National Laboratory, $519.6 million, for the Advanced Mixed Waste Treatment Project to support shipments of transuranic waste to the Waste Isolation Pilot Plant; to support the construction of the Sodium Bearing Waste Facility to treat tank waste; and to continue the D&D of reactors and retrievals of buried waste and other remediation activities.

■ Oak Ridge Reservation, $494.2 million, to support the cleanup of Oak Ridge National Laboratory, Y-12, and the East Tennessee Technology Park (ETTP), including the processing of transuranic waste, remediation activities, and D&D of facilities. An increase in the funding request for ETTP reflects progress on the critical path to closure. It includes $22.9 million for safeguards and security at ETTP.

■ Paducah Gaseous Diffusion Plant, $140.5 million, to provide for the continuing cleanup at Paducah, including the completion of scrap metal removal. The request would also fund the ongoing construction of the Depleted Uranium Hexafluoride Conversion facility, along with the storage of cylinders pending conversion, and includes $8.7 million for safeguards and security.

■ Portsmouth Gaseous Diffusion Plant ($239.2 million), to continue the transition of the Gaseous Diffusion Plant to D&D and the ongoing cleanup at the Portsmouth site. It would also support the procurement of on-site treatment to address problematic waste streams and fund the ongoing construction of the Depleted Uranium Hexafluoride Conversion facility, along with the storage of cylinders pending conversion. The request includes $15.6 million for safeguards and security.

■ Savannah River Site, $1248 million, to support the ongoing stabilization of nuclear materials, including funding for container surveillance capability to support on-site consolidated storage of plutonium in the site's K-Area. It also would provide for the management and disposition of tank wastes, including funding for the design and construction of the Salt Waste Processing Facility to address technical issues, as well as remediation activities to meet compliance requirements. The request includes $163.6 million for safeguards and security, an increase that supports additional protective force personnel and upgrades to the K-Area complex to support the on-site consolidation of the Savannah River Site's nuclear materials.

■ Waste Isolation Pilot Plant, $217.6 million, to support transuranic waste disposal operations and complex-wide integration, including the first full year of remote-handled waste disposal. It would include $4.3 million for safeguards and security.

Continued

■ West Valley Demonstration Project, $75 million, to support continuing decommissioning activities, the preparation of an environmental impact statement for decommissioning and long-term stewardship, and maintaining the safe storage of high-level waste canisters and transuranic waste. It includes $1.6 million for safeguards and security.

■ Closure Sites, $322.2 million, representing a cutback in funding of almost $700 million, which reflects the accelerated completion of the cleanup and closure of several significant sites, including Rocky Flats, in Colorado, and Fernald and Columbus, in Ohio. Post-closure responsibilities for these sites are being transferred to the DOE's Office of Legacy Management in FY 2007. The request includes $1.2 million for safeguards and security at Fernald.

■ National Nuclear Security Administration (NNSA) sites, $231.5 million, to support the ongoing cleanup of legacy waste and contamination at Los Alamos National Laboratory, the Nevada Test Site, the Pantex Plant, and Lawrence Livermore Site 300. The request would increase funding to begin active cleanup at the Separations Process Research Unit and would decrease funding for Los Alamos, which reflects a shift in strategy to address groundwater concerns and includes an increase to begin facility decontamination and demolition in Technical Area 21.

■ Other Sites, $97.9 million, to support remediation activities at the Moab site ($22.8 million), including the expansion of groundwater remedial actions. The funding provides for technical support and complex-wide initiatives at DOE headquarters and supports ongoing decommissioning at Argonne National Laboratory and remediation at the Energy Technology Engineering Center.

Legacy management

The FY 2007 budget request for the DOE's legacy management programs is $201 million, an increase of $123.2 million or 158 percent from the FY 2006 appropriation. The large increase, according to the DOE, reflects the transfer of cleanup sites completed by the agency's Environmental Management office to its Legacy Management office, which is responsible for long-term stewardship activities at sites where active remediation has been completed. These activities include groundwater monitoring, the administration of post-closure contractor pensions, and benefits and records management.

As part of the funding request, $18.4 million would go toward approximately 80 sites for long-term surveillance and maintenance, their active cleanup having been completed. Most of these sites are associated with the federal Uranium Mill Tailings Radiation Control Act and the Formerly Utilized Sites Remedial Action Program.

Another $26.5 million would go toward 14 other sites where active cleanup also has been completed. The funds would be used for monitoring and continuing long-term treatment activities.

In addition, $19.1 million would go toward the transfer of post-closure responsibilities and funding for long-term surveillance and maintenance activities at the cleanup sites at Rocky Flats, in Colorado, Fernald, in Ohio, and in Nevada.

NNSA activities

The DOE's NNSA has asked for $1726.2 million for defense nuclear nonproliferation activities in FY 2007. The request is $111.4 million (or 7 percent) above the FY 2006 appropriation. The request includes $638 million for fissile materials disposition in the United States and Russia, which is the amount needed for the construction of facilities to convert weapons-grade plutonium into fuel for nuclear reactors. The request also includes $283 million to fulfill the Bratislava Agreement between the United States and Russia.

In addition, the request provides $675 million as an American commitment to the Global Partnership program to address nonproliferation, disarmament, counterterrorism, and nuclear safety issues.

The request would also continue NNSA's Fissile Materials Disposition program by providing $289.5 million for the federal government's MOX fuel fabrication facility at the Savannah River Site, in South Carolina, since 2007 would be a peak construction year, according to the DOE.

The FY 2007 budget also includes a request for the NNSA's weapons activities. The request is for $6407.9 million, an increase of $38.3 million, or 0.6 percent, from the FY 2006 appropriation. The funding would continue to meet ongoing requirements of various programs dealing with the nuclear weapons stockpile and its surveillance, annual assessment, and life extension efforts.—*Rick Michal and E. Michael Blake*

NRC BUDGET

$776.6 million sought; new reactors expected

The Nuclear Regulatory Commission's budget request for fiscal year 2007 totals $776.6 million, a $35-million increase from the amount being provided in FY 2006, and $75 million more than the original request for FY 2006. The expectation of applications for construction/operating licenses (COL) for new power reactors—which would begin to arrive at roughly the end of FY 2007—has prompted a $48-million increase for reactor safety, while the expected delay in the application for a high-level waste repository at Yucca Mountain, in Nevada, leads to a reduction of $13 million in the request for the nuclear materials and waste safety program.

In general, the processing and review of a license application by the NRC should be covered by the fee paid by the applicant, but in order for the NRC to be prepared for COL applications (perhaps for 15 reactors by 2008), the agency must hire and train enough personnel before the applications arrive. Money must be spent on this during FY 2007, before the bulk of application fees have been paid, so that amount is in the current budget request.

The share of the NRC budget request from general revenue, through congressional appropriation, would rise from about 10 percent in FY 2006 to about 13.9 percent in the FY 2007 request. The share to be covered by user fees would remain at 80 percent, as it was last year, but the amount to be requested in FY 2007 from the Nuclear Waste Fund is $41 million, down from the $69 million sought for FY 2006, because of reduced demand in FY 2007 to cover activities related to Yucca Mountain.

The FY 2007 request is not only more than 10 percent greater than the amount originally requested for FY 2006, it is about 4.7 percent more than the NRC's actual FY 2006 appropriation. Reactor licensing would be funded at $341.3 million, up $38.5 million (12.7 percent) from FY 2006. The other activity within the nuclear reactor safety category, reactor inspection, would receive $222 million, a more modest $9.6 million (4.5 percent) increase, which could be accounted for by inflation, the expected return to service of Browns Ferry-1 in 2007, or both.

There is expected to be only one formal, additional activity connected with new reactors in FY 2007: the review of an early site permit request for Southern Nuclear's Vogtle plant in Georgia. All other applications connected with new reactors are currently expected to take place after September 2007. (Exactly when during 2007 Areva will apply for certification of its EPR reactor design is not yet known.) There are, however, financial demands placed on the NRC long before applications are submitted, and these demands are passed along to the potential applicants. The NRC and the companies exploring new reactor licensing are already establishing project codes and tracking billable hours while they go through pre-application activities. Such activities are also fairly well established in design certification, with both the EPR and the South African Pebble Bed Modular Reactor design receiving NRC attention that will require compensation.

Small decreases are planned in four of

SUMMARY OF NUCLEAR REGULATORY COMMISSION BUDGET AUTHORITY BY MAJOR PROGRAMS
(DOLLARS IN THOUSANDS)

Summary	FY 2005 Enacted		FY 2006 Estimated Full Cost		FY 2007 Full Cost		Change From FY 2006	
	$	FTE*	$	FTE	$	FTE	$	FTE
Reactor Licensing	261 126	1128	302 776	1249	341 275	1292	38 499	43
Reactor Inspection	183 410	1013	212 398	1067	222 038	1080	9640	13
Nuclear Reactor Safety	**444 536**	**2141**	**515 174**	**2316**	**563 313**	**2372**	**48 139**	**56**
Fuel Facilities	37 247	200	40 072	197	37 613	180	-2459	-17
Nuclear Materials Users	64 282	330	80 102	339	74 260	337	-5842	-2
High-Level Waste Repository	68 498	163	45 657	132	40 982	115	-4675	-17
Decommissioning and Low-Level Waste	23 195	112	27 408	123	25 707	119	-1701	-4
Spent Fuel Storage and Transportation	23 992	115	24 791	115	26 535	116	1744	1
Nuclear Materials and Waste Safety	**217 214**	**920**	**218 030**	**906**	**205 097**	**867**	**-12 933**	**-39**
Subtotal	**661 750**	**3061**	**733 204**	**3222**	**768 410**	**3239**	**35 206**	**17**
Inspector General	7512	47	8308	49	8144	49	-164	0
Total	**669 262**	**3108**	**741 512**	**3271**	**776 554**	**3288**	**35 042**	**17**
Reimbursable FTE		21		23		21	0	-2
Total	**669 262**	**3129**	**741 512**	**3294**	**776 554**	**3309**	**35 042**	**15**

* FTE indicates full-time equivalent employees

the five activities in the category of nuclear materials and waste safety, which as a whole would be funded at $205 million, compared with $218 million in FY 2006 (a 6 percent drop). The amount requested for work related to Yucca Mountain ($41 million) is 10 percent lower than the FY 2006 amount, which was itself about one-third lower than the FY 2005 appropriation. Fuel facilities ($37.6 million), nuclear materials user regulation ($74 million), and decommissioning and low-level waste ($25.7 million) would be 6 to 7 percent lower in FY 2007 than in FY 2006. Spent fuel storage and transportation is the only activity in this group to seek an increase, from $24.8 million to $26.5 million, a 7 percent increase.

Separately from all other NRC functions—because it must be able to work impartially, with no consideration of whether an action would favor or injure licensees, stakeholders, or the agency itself—the Office of Inspector General would be funded at $8.1 million, down 2 percent from FY 2006, but above the levels for FY 2005 and earlier.—*E. Michael Blake* NN