

**Impacts of H.R. 2764, the Consolidated Appropriations Act, 2008 on DOE's Office of Science Programs**  
(In order of decreasing percent impact)

**The Office of Science Research Programs**

**Fusion Energy Sciences (FES); -\$141,302,000 (33.0% below FY 2008 President's Request)**

- **Terminations of construction projects and MIEs:**
  - U.S. Contributions to ITER MIE Project cut to \$0
    - U.S. defaults on its commitments contained in the international ITER Joint Implementing Agreement (entered into force October 2007)
    - U.S. loses credibility as partner in large-scale international research projects
- **Layoffs or increases to workforce:**
  - Reduction of the U.S. ITER Project Office (ORNL) to a minimum level and layoffs of up to 40 at ORNL, PPPL, SRL, and LANL.

**Basic Energy Sciences (BES); -\$228,595,000 (15.3% below FY 2008 President's Request).**

- **Closures of current facilities:**
  - The Intense Pulsed Neutron Source (ANL) is closed immediately and permanently.
- **Stretch out of construction projects and MIEs and impacts to cost and schedule:**
  - The National Synchrotron Light Source-II (BNL) reduction of 33% below FY 2008 President's Request may impact readiness for Critical Decision 3. The BNL project team is assessing impacts to cost and schedule.
  - The Advanced Light Source User Support Building (LBNL) reduction of 70% below FY 2008 President's Request will delay the project by more than one year. The LBNL project team is assessing impacts to cost.
  - Instrument projects for the Spallation Neutron Source (ORNL) and the Linac Coherent Light Source Ultrafast Science (SLAC) are reduced 40% below FY 2008 President's Request, delaying completions by at least one year.
- **Ongoing research program impacts:**
  - BES research programs will be nearly flat funded with FY 2007, resulting in reductions in effort due to inflation.
- **Operating facility impacts:**
  - Operations at all remaining BES facilities (synchrotron light sources, neutron scattering centers, and nanoscale science research centers) will be reduced up to 20% below FY 2008 President's Request.
- **Impacts to new programs to be initiated in FY 2008:**
  - No funding for any new research initiatives in the use-inspired energy research. More than 700 proposals, already peer reviewed, have been declined.
- **Layoffs or increases to workforce:**
  - Approximately 50 permanent Ph.D.s, 30 postdoctoral fellows, and 20 students will be lost from on-going research programs.
  - The new research initiatives would have supported about 400 permanent Ph.D.s, 120 postdoctoral fellows, and 240 students.

**High Energy Physics (HEP); -\$93,921,000 (12.0% below FY 2008 President's Request)**

- **Closures of current facilities:**
  - Stanford Linear Accelerator Center (SLAC) B-factory operations terminated prematurely in FY 2008 (3 months of FY 2008 operations versus planned 10 months)
- **Stretch out of construction projects and MIEs and impacts to cost and schedule:**
  - NOvA and Minerva projects (FNAL) delayed (impact on cost and schedule not known)
- **Ongoing research program impacts:**
  - International Linear Collider (ILC) and Superconducting Radio Frequency cavity research and development reduced by \$65,000,000: loss of U.S. leadership role, putting FNAL in jeopardy as a potential site for the multi-billion dollar facility.
- **Layoffs or increases to workforce:**
  - Loss of support for 340 Engineering/Technical/Administrative; 100 permanent Ph.D.s; 10 postdoctoral fellows, and 10 graduate students. (Estimated RIFs at SLAC of ~ 250 FTEs and at FNAL of ~ 200 FTEs.) FNAL plans to institute a "rolling furlough" of two days each month of leave without pay for all FNAL employees.

**Nuclear Physics (NP); -\$38,593,000 (8.2% below FY 2008 President's Request)**

- **Stretch out of construction projects and MIEs and impacts to cost and schedule:**
  - Funding for the PHENIX Forward Vertex Detector and the PHENIX Nose Cone Calorimeter at RHIC (both international collaborations) is reduced and the schedules are delayed by one year.
  - Funding for the Gamma Ray Energy Tracking Array is reduced, with a cost increase of ~\$100,000.
  - Funding for the joint DOE/NSF neutron Electric Dipole Moment Experiment MIE is reduced, with a cost increase of ~\$100,000.
- **Ongoing research program impacts:**
  - Planned growth for research efforts are slowed for the Fundamental Neutron Physics beamline at SNS, the Heavy Ion Program at LHC, and R&D related to the facility for Rare Isotope Beams.
- **Operating facility impacts:**
  - Relativistic Heavy Ion Collider (BNL) operations are reduced from 30 to 13 weeks.
  - Continuous Electron Beam Accelerator Facility (TJNAF) operations are reduced from 34 to 24 weeks. The 6 GeV science program is not completed prior to the shutdown for the implementation of the 12 GeV CEBAF Upgrade Project.
  - Argonne Tandem Linear Accelerator (ANL) and the Holifield Radioactive Ion Beam Facility (ORNL) are reduced. Efficiency improvements are deferred.
- **Impacts to new programs to be initiated in FY 2008:**
  - Support for the Advanced Fuel Cycle initiative and theoretical topical collaborations are deferred, with the loss of approximately 10 new awards involving 10 permanent Ph.D.s, 10 postdoctoral associates, and 10 graduate students.
- **Layoffs or increases to workforce:**
  - Loss of support across the program results in reductions of 5-8 permanent Ph.D.s, 5-10 postdoctoral fellows, 5-10 students, and 15-20 operations, support and indirect personnel.

**Biological and Environmental Research (BER); +\$12,500,000 (2.4% above FY 2008 President's Request)**

- **Impacts to new programs to be initiated in FY 2008:**
  - Radiochemistry and Imaging is increased \$16.5M to restore support for ongoing work.
- **Layoffs or increases to workforce:**
  - Gain of support for 30 permanent Ph.D.s, 11 postdoctoral fellows, and 6 students.

**Advanced Scientific Computing Research (ASCR); +\$10,975,000 (3.2% above FY 2008 President's Request)**

- **Ongoing research program impacts:**
  - ASCR assumes NNSA portion of DARPA's High Performance Computing Systems program.
  - ASCR manages an earmark of \$7,437,500 (not included in the above +\$10,975,000) for a joint SC/NNSA Institute for Advanced Architectures and Algorithms at SNL with ORNL participation.

**Other Office of Science Activities**

**Workforce Development for Teachers and Scientists (WDTS); -\$2,956,000 (26.9% below FY 2008 President's Request)**

- **Ongoing program impacts:**
  - Funding for evaluation will be reduced and no funding for workforce studies.
- **Impacts to new programs to be initiated in FY 2008:**
  - No new middle or high school teachers will be added to the DOE Academies Creating Teacher Scientists at national laboratories.

**Science Laboratories Infrastructure (SLI); -\$14,095,000 (17.9% below FY 2008 President's Request)**

- **Terminations of construction projects and MIEs:**
  - Building Electrical Services Upgrade project (ANL) is cancelled.
- **Stretch out of construction projects and MIEs and impacts to cost and schedule:**
  - Renovation Science Laboratory, Phase I, project (BNL) delayed one year.

**Science Program Direction (SCPD); -\$7,155,000 (3.9% below FY 2008 President's Request)**

- **Ongoing program impacts:**
  - Delays in hiring while under the continuing resolution have created sufficient cost savings to absorb this impact.

**Safeguard and Security (S&S); -\$646,000 (0.9% below FY 2008 President's Request)**

- **Ongoing program impacts:**

- This reduced allocation will impact Cyber Security tests and evaluations to implement the new national security system requirements and slow certification of unclassified systems.