



Highlights of [GAO-08-641](#), a report to the Subcommittee on Investigations and Oversight, Committee on Science and Technology, House of Representatives

## Why GAO Did This Study

The Department of Energy (DOE) has long suffered from contract and management oversight weaknesses. Since 1990 DOE contract management has been on GAO's list of programs at high risk for fraud, waste, abuse, and mismanagement. In 2003 DOE's Office of Science (Science) unveiled its 20-year plan to acquire and upgrade potentially costly research facilities. In light of DOE's history and the potential cost of this ambitious plan, GAO was asked to examine Science's project management performance. GAO determined (1) the extent to which Science has managed its projects within cost and schedule targets, (2) the factors affecting project management performance, and (3) challenges that may affect Science's future performance. GAO reviewed DOE and Science's project management guidance and 42 selected Science projects and also interviewed DOE and laboratory officials.

## What GAO Recommends

GAO recommends that DOE (1) consider adopting, department-wide, selected practices from Science's independent project reviews and (2) review and strengthen, as appropriate, DOE's departmentwide project management guidance to ensure that each project's technical goals are clearly defined.

DOE generally agreed with these recommendations.

To view the full product, including the scope and methodology, click on [GAO-08-641](#). For more information, contact Gene Aloise at (202) 512-3841 or [aloisee@gao.gov](mailto:aloisee@gao.gov).

## DEPARTMENT OF ENERGY

### Office of Science Has Kept Majority of Projects within Budget and on Schedule, but Funding and Other Challenges May Grow

#### What GAO Found

Of the 42 projects GAO reviewed that were completed by Science or under way from fiscal years 2003 through 2007, more than two-thirds were completed or being carried out according to original cost and schedule targets. Of the 27 projects that were completed during this period, 24 were completed within the original committed cost. Science also largely succeeded in achieving its original committed schedules, with 21 of the 27 projects completed on or ahead of time. Two of Science's completed projects were both over cost and late. Fifteen of the 42 projects reviewed were still under way in February 2008. Nine of these 15 projects appeared to be on track to meet their cost and schedule targets; the rest were likely to be completed over cost, late, or both.

Science's ability to generally achieve projects' original cost and schedule targets is due in part to factors often considered fundamental to effective project management: leadership commitment to meeting cost and schedule targets; appropriate management and technical expertise; and disciplined, rigorous implementation of project management policies. Science's frequent independent reviews, in particular, were cited by DOE officials as a key reason for Science's project management performance. To achieve cost or schedule targets, Science also trimmed selected components from some projects, a practice that has sometimes raised concerns. Specifically, DOE's Office of Engineering and Construction Management, which develops DOE's project management policy, and DOE's Inspector General have expressed the concern that changes in scope may not always preserve a project's technical goals. Construction Management officials told GAO that if a project's technical goals are not detailed enough, it can be difficult to determine the effects of changes in scope. They are therefore considering clarifying project management guidance regarding this issue, perhaps by 2009.

Given forecasts of increasingly constrained discretionary spending, plus a workforce fast approaching retirement, Science is likely to face two primary challenges to maintaining future performance: budgetary and market uncertainties, and a shrinking pool of qualified project management and technical expertise. First, achieving targets could become more difficult for Science as future federal budget constraints interrupt anticipated flows of funding to projects already under way or labor and commodity prices rise unexpectedly. Several projects GAO reviewed exceeded or will exceed their cost targets because expected funding did not materialize or prices increased after cost and schedule targets had been established. Second, finding knowledgeable staff to lead and carry out projects may become harder, since an estimated 21 percent to 43 percent of Science's engineers, scientists, and contract specialists will become eligible for retirement within the next 5 years. Similar large-scale retirements are expected at Science's contractor laboratories. Science will need to remain diligent to ensure future success in the face of these potentially intensifying challenges.