

## SNS Delayed But Moving

Construction of the Spallation Neutron Source (SNS), which commenced in December 1999 at the Department of Energy's (DOE) Oak Ridge National Laboratory, is proceeding on a delayed basis—but with greater certainty than project managers have known over the past two years.

Under the revised schedule, SNS will begin operations in July 2006, approximately six months later than planned. Total cost of the project has increased to \$1.44-billion, up \$80-million from the original estimate of \$1.36-billion.

For most of last year, the construction schedule for the SNS and perhaps even its existence were threatened by serious disagreements between DOE and Congress (see *MRS Bulletin*, August 1999, page 8).

Because of those disagreements, Congress eventually trimmed \$96-million from DOE's Fiscal Year 2000 request for the project—or 45% of the total amount requested. Legislators also imposed a set of seven conditions for DOE to meet before any of the remaining FY 2000 construction funds could be spent. Those conditions included:

- certification that “qualified individuals” occupied the senior project management positions;
- an independent review of DOE's cost baseline and project milestones for each of the major construction and technical system activities;
- legally-binding agreements specifying the duties and obligations of each of the five DOE laboratories participating in the project;
- a project management structure that integrates the staff of the collaborating laboratories under a single project director;
- official delegation by the DOE secretary of primary authority to the project director;
- certification from the DOE Comptroller General that any taxes or fees paid by the Federal government on the SNS to the State of Tennessee are no higher than they would be at any other state containing a DOE-operated national laboratory; and
- annual reports to Congress on the SNS project.

According to both DOE officials and Congressional sources, all seven of those conditions have been met. The perceived SNS management and organizational deficiencies were resolved with the installation of David Moncton as Executive Director in April 1999. Moncton—who moved to Oak Ridge from Argonne National Laboratory where he was responsible for building the Advanced Photon Source—has authority over all personnel working on the project,

including personnel at the other national laboratories.

Another roadblock was cleared away at year end with completion of the independent review of SNS. The review was conducted by Burns and Roe Enterprises, Inc., a New Jersey-based consulting firm hired by DOE. Burns and Roe reported, “The planned approach to executing the SNS project, as reflected by the baseline documents that support the FY 2000 Budget Request, is the most cost-effective approach to project completion.” It is “the correct approach,” the report continued. “Significant technical progress is being made [and] the overall concept is well developed and the physics and design details...are progressing well.”

While the consultants found DOE's December 2005 completion date for SNS to be “credible,” their conclusion was based on fulfillment of the FY 2000 budget request, hence, DOE's decision to extend the deadline by six months. The review also pointed out, however, that work on SNS still is not proceeding perfectly. According to Burns and Roe, “in some areas more work is required to implement and effectively utilize additional management controls [and] if these issues are not addressed in a timely fashion, then execution of the project within the defined technical, cost, and schedule baseline could be jeopardized.”

DOE has conducted an internal review in response to the Burns and Roe Recommendation. According to officials, it concluded that “project management systems are in place to support all aspects of SNS project management.” An additional management systems review was scheduled to begin in mid-March.

The action that cleared away the final Congressional objection to SNS was taken by the Tennessee state legislature last January. The state's tax structure utilizes 6% sales and use taxes instead of an income tax. Under previous Tennessee law, portions of the SNS project would have been liable for those taxes.

Exposure to Tennessee tax liability had troubled several key members of Congress, particularly House Science Committee Chair F. James Sensenbrenner, Jr. (R-Wis.), who insisted that the state grant SNS a tax waiver. At the beginning of the new legislative year, a tax-relief measure passed unanimously and was immediately signed by Tennessee Governor Don Sundquist. That action was followed by a statement of cautious support by Rep. Sensenbrenner, who thanked the Tennessee government for approving the tax relief measure, while

pledging “to continue aggressive oversight of the SNS project as it moves into the construction phase to ensure this scientific endeavor stays in the public's good graces and is able to deliver on possible scientific breakthroughs.”

On its new schedule, SNS construction activities should not be hampered by the \$96-million funding loss during FY 2000, according to Moncton. He said that construction delays during FY 1999 resulted in \$63-million in unspent revenues. With those funds, and the \$117-million that was authorized for FY 2000 construction, “our need for funding is matched by what is available,” Moncton said.

Moncton said that his first year in charge of SNS has been a challenge. “After the management problems at the start, it has taken time to get everybody working together and examining the technical concepts,” he said. Also, he said, “It was difficult to recruit people while there was trouble with Congress. The cost has been six months of delay.”

Now, according to Moncton, operations are proceeding more smoothly. “All the partner laboratories have been highly cooperative,” he said. On the political side, the disagreements have been resolved and sufficient funds are available—the result of nearly constant and often contentious discussions between DOE and Congress last year. Moncton describes the experience as “a little like making sausage—not a pretty process.”

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## Lieberman Leads Senate Effort to Urge Federal Support of Physical Sciences

On February 2, 13 senators led by Sen. Joseph I. Lieberman (D-Conn.) sent a letter to President Clinton urging for more federal support of science and technology (S&T). The letter calls for aggressive advocacy of S&T by the President and for the development of partnerships with Congress to develop stronger support for science.

The letter specifically delineates the critical role science and technology has played in creating the United States' high-tech economy, “The contributions of innovations such as fiber optic communications, high-speed microelectronics, advanced aerospace materials, and precision manufacturing techniques to our nation's productivity far outweigh traditional factors [contributing to economic growth].” □