BROOKHAVEN REACTOR

Panel Favors Restart Option

The floor of the experimental hall at Brookhaven National Laboratory's High-Flux Beam Reactor (HFBR) has a fresh coat of green paint, and the facility looks like it's ready for business. But the sprucing up is an act of faith. Last week, a task force of experts from the Department of Energy (DOE) unveiled a plan that would get the troubled reactor back up and running within 2 years. There are, however, no guarantees that the reactor will ever be used again by researchers.

> **"There's the possibility of a path forward."**
> **—Pat Dehmer**

When the 32-year-old facility closed last fall for maintenance, it was expected to reopen within a few months. But the discovery of a tritium leak in January outraged groups from the surrounding community on Long Island, and the reactor has remained closed with no timetable to restart it. Moreover, Brookhaven's woes deepened in April when Energy Secretary Federico Peña canceled the lab operator's contract (*Science*, 9 May, p. 890).

To help it determine HFBR's fate, DOE asked its 19-member Basic Energy Sciences Advisory Committee—chaired by John Stringer, applied research director at the Electronic Power Research Institute in Palo Alto, California—to recommend by 1 October whether the reactor should be restarted or abandoned. DOE also told the panel to keep in mind that there is little extra money in the budget to cover unanticipated costs. At a meeting last week, the panel gave its preliminary stamp of approval to a DOE task force plan to reopen the facility, which serves as one of the nation's premier centers for the use of neutrons to probe the structure of matter. DOE officials are heartened by the turn of events. "There's the possibility of a path forward," says Pat Dehmer, who directs DOE's basic energy sciences division.

The DOE task force—which consists of experts from DOE headquarters and laboratories—reviewed three options that had been developed by Brookhaven. It told the advisory committee that it endorsed the option to restart the reactor after a lengthy review of its environmental impact, with an eye on eventually doubling its power to 60 megawatts. The task force praised the plan's "sound and reasonable" cost estimates and schedule, including an annual budget of $23 million for 2 years, which would climb to $26 million in 2002, to repair and refit the reactor and its facilities.

Those costs fall within the $26 million budgeted for annual operations and equipment before the shutdown. But the task force also noted that the lab's success in reaching out to the community "will be essential" for whichever option is chosen. Dehmer says it would take 18 months to fix the tritium leak and ready the HFBR, but 24 months to complete the environmental paperwork. The work could probably be done in tandem, she adds.

The task force rejected as "highly questionable" an option to resume operating the reactor at 30 megawatts using existing environmental documentation. It added that the cost of the third option, to decontaminate and decommission the facility, is too uncertain to make it viable.

The advisory committee supports the task force assessment. "There's no disagreement," says Linda Horton, a materials scientist at Oak Ridge National Laboratory in Tennessee who serves on the panel. But even a thumbs-up from the committee does not guarantee the reactor's future. Peña wants widespread community involvement in the discussion about the HFBR restart. While Horton says she and other panel members support this approach, she adds that "it could complicate matters."

Winning support from Long Island community activists won't be helped by another mishap last week. The day before the advisory panel gathered outside Washington, Brookhaven officials said they found unexpectedly high levels of tritium over a 2-day period in its sewage-treatment plant. "Someone dumped some tritium in the system," said Peter Bond, Brookhaven's interim director. Although the levels were low and the source was unknown, the episode again puts a spotlight on the lab's handling of tritium waste and heightens the concern of residents in the heavily populated region surrounding the lab.

The HFBR's closure has been a significant blow to U.S. neutron researchers already reeling from the cancellation 2 years ago of the proposed Advanced Neutron Source and delays in upgrading existing facilities. With this in mind, Dehmer says she would like to begin some of the initial restart work this fall. But Peña is not likely to make a formal decision until January. "The secretary recognizes the goal and importance of Brookhaven research" in the neutron field, says Martha Krebs, director of DOE energy research. But she warned the panel that "we have no expectation of doing better than flat dollars beyond 1999" and added that an agreement among scientists to reopen the reactor is not enough to make it happen. Says Krebs: "We need the help of this community to sort through the issues of restart."

–Andrew Lawler

CHINA

Engineer to Head Chinese Academy

BEIJING—A 55-year-old mechanical engineer has been named president of the Chinese Academy of Sciences (CAS). Lu Yongxiang will be the youngest president in the history of the academy, founded in 1949, which employs 49,000 scientists and engineers at 123 research institutions that span the natural sciences.

Because he is an engineer rather than a basic scientist, Lu is a controversial choice for the top science post. But Lu has won converts with his administrative skills and strong sense of duty during a 3-year rise through the academy's upper echelon. He served as president of Zhejiang University from 1988 to 1995.

The appointment, announced on 25 July by the Chinese State Council, is widely seen as marking a new era for CAS that will focus on partnerships with industry and playing a greater role in boosting economic development. "It's an important symbol of what the academy must do," says an official with the Chinese embassy in Washington. "CAS will still carry out basic research, but it must select only the best."

Lu succeeds Zhou Guangzhao, who recently was named president of the China Association of Science and Technology. He is expected to build on Zhou's efforts to pull the academy out of financial straits, stemming from a loss of government support, by finding outside sources of income. Topping his agenda will be cultivation of young scientists and increasing CAS ties and cooperation with government ministries, research institutions unaffiliated with CAS, universities, and industry, according to CAS's news office.

Trained in mechanical engineering, Lu has worked in the field of fluid drive and control. He was elected a member of CAS in 1991 and became a member of the Chinese Academy of Engineering (CAE) in 1993.

Lu's appointment was welcomed by many of his colleagues. "He is a man of action and has strong organizing ability. These qualify him for the position," says renowned materials scientist Shi Changxu, who is also vice president of CAE and a member of both CAS and CAE. He Zuoxiu, a theoretical physicist and a member of CAS, says Lu has shown a willingness to pay attention to basic research as well as new technologies.

–Li Hui

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