CHINESE ACADEMY OF SCIENCES

Reform Shatters 'Iron Rice Bowl'

BEIJING—As many as half of the 49,000 researchers in the Chinese Academy of Sciences (CAS) could lose their jobs under a plan to modernize operations and lower the cost of doing business. The changes will shrink the academy's current roster of 123 institutes by more than one-third and replace lifetime employment agreements with a system of short-term, renewable contracts.

Speaking at the annual CAS working conference held here earlier this month, President Lu Yongxiang said the restructuring is intended to break the "iron rice bowl," a Chinese term meaning a lifelong guarantee of employment and living subsidies under a planned economy. "By the end of 1999, we hope to keep 80 selected research institutes and employ scientists and engineers by contract only, the way most industrialized countries do," he said.

The new policy, Lu's first major initiative since the 55-year-old mechanical engineer took office in July (*Science*, 8 August 1997, p. 761), is aimed at making CAS more fit to compete for government funding. One goal is to reduce the burden of providing for retirees as well as for those still on the job. Already, some institutes have created housing and pension funds with money deducted from workers' wages, and younger researchers have been encouraged to buy pension insurance from private companies.

The new contract system will be introduced gradually, beginning with employees hired in the last 2 years. People will compete for positions, and those who do not retain their slots will be offered other work or be given reduced salaries until they find another job. "We should not be too harsh on them, since they have made their contributions to the development of the institute and CAS," says Lu Dadao, director of the CAS Geography Institute in Beijing. Du Kangzhuang, assistant director of the CAS Dynamics Institute, one of 18 pilot sites for the reforms, expects the process to take into account the needs of the workers. "Once a fairly complete social security system is available, some 100 or 200 more people in the institute may be transferred to other posts," he says.

New direction. CAS's Lu Yongxiang to end lifetime employment guarantee.

The new policy is aiming at improving the overall quality of CAS institutes, beginning with a self-assessment to identify strengths in basic or applied research or in technology transfer. Each institute will then submit a long-term plan, and those earning the highest marks in each area will continue to receive CAS funding. Others will be urged to seek support from other sources, including local governments and private industry. During the transition, institute budgets will be frozen, and any additional state money will go for bonuses to reward outstanding performance or to support new projects.

Wang Dexi, a senior chemist at the CAS Chemistry Institute, says the reorganization is "long overdue. Those who are competitive are not afraid of the reform." Although his institute was not part of the pilot project, he says, it has begun to attract support from other government sources. With the reform in sight, Wang says, he's now taking the next step—contracts from local enterprises. "Except for my salary," he notes, "my goal is not to get any money for research from CAS or other government sources."

CAS officials admit that the changes may be disruptive but say that today's economic conditions leave them with no choice. "We have lagged behind the country's transition from planned economy to market economy," says Wu Lebin from the CAS news office. "By carrying out these reform measures, we hope to increase work efficiency and make the best use of our financial resources."

–Li Hui

Li Hui is a reporter for China Features *in Beijing.*

ITER

Partners Will Rethink Fusion Project

The search for cheaper versions of a massive fusion project will begin next month, when partners in the $10 billion International Thermonuclear Experimental Reactor (ITER) meet to discuss the project's fate. The impending decision to consider cost-saving alternatives to the current design, revealed last week by U.S. fusion officials and confirmed by ITER director Robert Aymar, marks a major shift in direction for the troubled program.

The proposed doughnut-shaped reactor is designed to contain a self-sustaining thermonuclear burn that could lead to advances in plasma science and eventually fusion power plants. But budget constraints among the four partners—Europe, Japan, the United States, and Russia—recently forced postponement of construction by 3 years. That delay has sparked widespread concern about the project's future, particularly among U.S. researchers (*Science*, 2 January, p. 20).

U.S. Department of Energy (DOE) officials said on 22 January that the partners, after weeks of intense discussions, have informally agreed to set up a panel to examine less expensive designs while keeping the partnership intact. The decision is expected to be ratified in mid-February in San Diego. "It's a done deal," says Anne Davies, DOE fusion chief. The partners plan to consider "broader options" and appoint a panel to examine how to reduce costs, Davies told a DOE advisory committee last week. "It's a very small number of words, but a crucial change," she said about the pending agreement.

Aymar confirmed the plan to examine cost-saving measures. He said one way to save money would be to abandon some technological advances, including those favored by the United States. "The only way to reduce ITER's design cost is by cutting some of the objectives," he added. He estimated, however, that the changes would trim the price by no more than $1 billion or $2 billion.

European officials declined to comment. "There is no official position yet, though I've heard rumors," says Regis Saison, a spokesperson for the European fusion program based in Brussels. But he warns that cutting ITER's costs will inevitably mean creating a less capable machine. "Then the question is whether it could still be called ITER," he adds.

Japanese officials are equally circumspect. "It's been assumed that a discussion of streamlining would probably come up at the ITER meeting in February in San Diego," says Masaharu Shiozaki, deputy director of the Science and Technology Agency's Office of Fusion Energy. "But at this point, I don't think we know what kind of agreement might result."

However, U.S. officials aren't waiting. Charles Baker, the U.S. home team leader and an engineer at the University of California, San Diego, will begin gathering input from the U.S. fusion community in late February and hopes to finish by July. The timing, Davies says, "is going to be tight, and [the review] is going to be intense."

–Andrew Lawler

With reporting by Dennis Normile in Tokyo.