Job losses loom in NASA restructuring plan

Washington. Scientists employed by the US National Aeronautics and Space Administration (NASA) would find themselves working for government-funded science 'institutes' under a restructuring plan unveiled by Daniel Goldin, NASA's administrator, last week.

The institutes, whose shape has been under review for several months (see *Nature* 374, 107; 1995), would be run by universities, consortia or private companies. Goldin says he does not expect the move to save money. But he says it will lead to "much stronger science for NASA" by leading to an increased use of peer review and greater cooperation with academic and industry scientists.

The proposed science institutes are only part of a wide-ranging restructuring of the agency that has been drawn up over the past year. Among other changes, the space shuttle would be turned over to a single contractor, with an eye to eventual privatization.

Overall, says Goldin, between 25,000 and 30,000 government and contractor employees will lose their jobs, although no centres will be closed and no major projects terminated. The scaling-back is the result of reduced NASA budget projections published by the White House in January.

The science institutes would be carved out of existing programmes at the agency's 11 centres, and would use existing NASA facilities; Goldin has ruled out any new "brick and mortar". The Ames Research Center near San Francisco, for example, would house a new institute for astrobiology, and the Johnson Space Center near Houston will have institutes for biomedical and planetary science.

An atmospheric science institute will be set up at the Langley Research Center in Virginia, one devoted to microgravity and space power at the Lewis Research Center

in Cleveland, and one for hydrology and other science at the Marshall Space Flight Center in Alabama.

The Goddard Space Flight Center in the Maryland suburbs of Washington DC will remain the agency's main centre for Earth science, physics and astronomy. The Jet Propulsion Laboratory in Pasadena, California will retain primary responsibility for Solar System exploration.

According to Goldin, planning is already under way for the first institute — the space biomedical research centre at Johnson — and the head of a team being set up to oversee the transition from NASA's current biomedical science operations should be named by next week. Potential operators for the new institute include the Texas Medical Center.

Goldin said the agency will go slowly in setting up the institutes, using Johnson as a pilot project. He and France Cordova, NASA's chief scientist, have been holding meetings with university deans, state governors and other officials, looking for potential institute sponsors. Cordova says she already has "a portfolio a couple of inches thick" of letters expressing interest in cooperating with NASA.

Even though many details still have to be worked out, Cordova hopes one or two institutes will be in place by 1997. Last week she met science directors from the NASA centres to begin working out the details of how the institutes will be opened to competition for sponsors, how the contractual status of

NASA scientists will be organized, and other administrative matters.

Cordova says the institutes will involve a "more diverse, larger community" than NASA science laboratories do at present. "We're not trying to shape the institutes in NASA's image," she says.

In general, the idea of setting up privatized science institutes has been welcomed by the space science community. Anneila Sargent of the California Institute of Technology, who chairs NASA's science advisory committee, admits that some NASA science positions will be lost in the shuffle. But she says that considering the inevitability of cuts at the agency, "space science came out [of the restructuring] rather well".

Nevertheless, NASA's problems may be far from over. No sooner had Goldin announced the plan last week than he was fending off yet another attack on his budget from Congress. Further deep cuts proposed by the House of Representatives (see *Nature*, 375, 168; 1995) would have a "devastating effect on NASA centres and programmes", he warned, and would almost certainly lead to the closure of centres and cancellation of projects.

One likely victim is the agency's Earth Observing System (EOS) satellite programme, which many Republicans see as little more than Vice President Al Gore's pet environmental project, and which has been drastically cut in the House budget plan.

An internal NASA memorandum being circulated in Washington last week speculated that, if the space agency had to meet the new House targets, "the common [EOS] spacecraft procurement could be slid to accommodate the funding profile," and the programme's sophisticated data distribution system "could be cancelled or completely restructured".

Tony Reichhardt

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Goldin: promises 'much stronger science'.

NIH will reallocate research funding to support DNA sequencing

Washington. Harold Varmus, the director of the US National Institutes of Health (NIH), said last week that he proposes to use the discretion he has been given by Congress in allocating a small amount of NIH funds to support new research initiatives in three areas; developing DNA sequencing technology, preparing a map of the rat genome and techniques for small-angle X-ray scattering and spectroscopy.

Following the first meeting of a panel of experts he has set up to advise him on priorities in gene therapy research, Varmus said that, in the light of impending budget cuts under discussion in Congress, "we can't infuse huge sums of money into any new programme". But, he added, "I can move money around".

At the same meeting, Francis Collins,

director of NIH's National Center for Human Genome Research, made a plea for the development of mechanisms for funding imaginative research on new potential vectors for gene therapy. "Perhaps we need to try some completely new virus, rather than taking small, incremental steps," he said. "There are too many reasons not to always take a safe approach."

The conclusions of the panel, set up explicitly to assess NIH's investment in research in gene therapy, are expected to influence how Varmus allocates a discretionary fund amounting to 1 per cent of the total NIH budget that was authorized by Congress in its appropriations for the fiscal year 1995, which begins on 1 October. At present, NIH spends \$135 million a year on extramural research in gene therapy, and

\$61 million on its intramural programme.

The advisory panel, co-chaired by Stuart Orkin of Harvard Medical School in Boston and Arno Motulsky of the University of Washington in Seattle, heard about many promises, but few effective long-term therapies, in the quest to move gene therapy out of the laboratory and into the clinic. Several participants at last week's meeting said that current difficulties suggest more basic research may be needed before large-scale clinical trials are launched.

Their comments were prompted by the fact that, although many gene therapy protocols have yielded promising results in the early stages, these are often overshadowed by lacklustre or inconsistent results in clinical trials.

According to Collins, one major hurdle to

Review proposes shift in US cancer funding

Washington. Sharp cuts in the share of research funds allocated to the intramural programme at the US National Cancer Institute (NCI) have been recommended by a panel of prominent cancer researchers. The recommendations are likely to become a blueprint for retrenchment.

The 12-member panel of university researchers has also proposed reshuffling the contents of NCI's four divisions — each of which is responsible for both intramural and extramural research on different facets of cancer biology and treatment — into two divisions, one for intramural and the other for extramural research.

Both conclusions have emerged from seven months of deliberations, and were presented last week by the panel's two chairmen, Paul Calabresi of Brown University in Providence, Rhode Island, and J. Michael Bishop of the University of California, San Francisco, to a meeting of the National Cancer Advisory Board (NCAB) on 16 May. (The full text of the panel's report will be released in mid-June.)

Other recommendations include: strengthening peer review and strategic planning of NCI's intramural research, and spinning off a significant portion of its AIDS research to sharpen the focus on cancer.

At present, NCI channels 18 per cent of its \$2-billion annual budget into its intramural programme. But, according to Bishop, that proportion increases to a massive 25 per cent when money spent on research contracts that directly support the intramural programme is included.

The latter level of support contrasts starkly with the average intramural spending of 11.3 per cent across the whole of the NIH. The panel agreed that "no single site should have such a large fraction of the federal investment in cancer research," says Bishop.

work, says director

developing safe and reliable gene therapies is the lack of suitable vectors for introducing genes into cells. "Think about how the modern day bicycle evolved from the Victorian era model," said Collins. "The basic structure was flawed — it needed a major overhaul. With gene therapy we may be arguing about the number of spokes that should be in each wheel, rather than whether we have the ideal basic design in place."

Collins said he hoped the panel "will encourage people to take chances" in working on novel vectors. Varmus, who has previously expressed concern that gene therapy may be promising more that it can deliver in the near future, told the panel that "maybe we need to let basic research percolate a bit before moving too quickly into large-scale clinical trials".

Nancy Touchette

The scrutiny comes at a difficult time in NCI's history. Harold Varmus, director of NIH, and the then NCI director Samuel Broder convened the panel late last summer in response to the call from another advisory committee for a review of the intramural programmes at each NIH institute.

Meanwhile, several senior NCI officials, including Broder (who has expressed his own unhappiness at proposals to reduce the intramural programmes), have resigned and their positions remain unfilled — although Broder's position is expected to be filled in the near future by Richard Klausner, a cell biologist at NIH.

Moreover, changes in healthcare financing are making the conduct of clinical research more difficult, as health maintenance organizations are increasingly reluctant to refer patients to the relatively more expensive hospitals where research is being carried out. And budget pressures in Congress are adding to the problem.

In this context, most researchers are likely to support the panel's conclusions, if only because they have become resigned to shrinking budgets. "If you start with the agenda that NCI must be pruned, these kinds of recommendations are appropriate," says Robert Gallo, chief of the NCI Labora-

tory of Tumor Cell Biology.

Bruce Chabner, who left his position as director of NCI's Division of Cancer Treatment in April and is now at Harvard University and Massachusetts General Hospital, says that although he does not agree with everything in the plan, "it is a reasonable attempt to reorganize the institute".

But Chabner adds that the plan's ultimate success "will depend on the people hired to execute it and the budget they are given". One concern among NCI staff is that a greater centralization of its work into two divisions could make both more vulnerable to budget cuts. Another is that any significant reduction in intramural research spending could inevitably lead to job losses among researchers at the institute.

Expressing its own form of caution, the NCAB unanimously voted to accept the panel's report "in spirit" — but reserved judgement on the details of each specific proposal. Barbara Rimer, of Duke University Medical School in Durham, North Carolina, who chairs the advisory board, said that the panel members had produced a "brilliant and comprehensive report", but that it is now up to the institute — and in particular its new director — to implement it.

Robert Taylor

NIH backers pledge last-ditch stand

Washington. A small but influential group of moderate Republican senators have launched a bid to save the National Institutes of Health (NIH) from proposed budget cuts which, according to NIH director Harold Varmus, could slash the success rate for grant applicants next year from 24 per cent to "between 6 and 12 per cent".

"We may fail, but at least we'll die with our boots on," said Mark Hatfield (Republican, Oregon), chair of the Senate appropriations committee, last week. Hatfield was pledging his opposition to cuts of at least 10 per cent in NIH's \$11.3 billion budget which were proposed two weeks ago by the rival Senate budget committee, chaired by Pete Domenici.

On Monday, Hatfield was trying to draft an amendment to the Senate budget resolution which would win the Senate's approval for a bid to fully restore proposed NIH cuts of \$7.7 billion over the next five years. The amendment would specify alternative targets.

Most of the 46 Democrat senators were likely to support the amendment. But Hatfield needed the support of at least 5 Republicans if the amendment was to pass. He was expected to get the support of two leading Senators who chair committees with oversight of NIH — Arlen

Specter (Republican, Pennsylvania) and Nancy Kassebaum (Republican, Kansas) — but other Republicans were proving difficult to recruit.

Biomedical lobbyists, aware of the possibility of defeat, have been playing down the significance of the vote, noting further opportunities to restore NIH funding cuts will arise later in the budget process.

At a hearing last week of the Labor, Health and Human Services and Education appropriations subcommittee, chaired by Specter, Varmus and his team of institute directors were asked to produce brief 'sound-bite' length assessments of the impact that such a cut would have.

In response, Varmus said the cut would cause the success rate of grant applicants to collapse. But Specter appeared impatient with the NIH team and what he interpreted as their failure to express their plight in sufficiently bald terms.

Although most members of the panel were sympathetic to NIH, Herb Kohl (Democrat, Wisconsin) called on Varmus to "eliminate inefficiencies" at NIH. For example, Kohl wanted to know why it had 700 people working for the director's office, and why the budget of the National Library of Medicine has expanded by \$35 million.

Colin Macilwain