NIH Grants: Better Late Than Never?

Call it creative accounting if you're feeling charitable—or check kiting on a grand scale if you're not—but the National Institutes of Health (NIH) may have to employ some suspect (to scientists) budgetary practices if it is to find a way to keep $400 million of its 1992 budget from adding to the 1992 federal deficit. That's what the Administration, with Congress's blessing, seems to be telling it to do. And, right now, it looks as if NIH will be able to achieve this feat only by delaying the award of a substantial fraction of this year's research grants until the end of September 1992.

The problem is a direct result of the Budget Enforcement Act that Congress and the White House worked out last year to try to hold down federal spending. That act sets targets for federal obligations (the amount of money government agencies commit to spend—for example by awarding grants and contracts) and outlays (the total value of the checks the agencies actually write in a particular year). Outlays are especially crucial for calculating the federal deficit, because the deficit doesn't grow until the money is withdrawn from the Treasury.

Now, the straightforward way to bring down outlays—and thus reduce the deficit—is to cut budgets. A more roundabout, and politically easier, way is to put off the day of reckoning. And that's what the Administration and Congress have told NIH to do. When the White House proposed its $8.8-billion budget for NIH, it slipped in a little clause that went through unnoticed. NIH was directed to refrain from obligating $400 million of its 1992 budget until September 19, 1992, just 12 days before the end of the fiscal year. The idea was that the money would actually be spent in fiscal year 1993. No problem, thought NIH officials. "That's the normal obligation pattern," says Leamon M. Lee, director of the division of financial management. The amount is less than 5% of NIH's total budget, and some spending is always approved near the end of the fiscal year. But what Lee didn't realize—and he says neither did the House of Representatives when it agreed to this clause in its version of the NIH appropriation bill—is that the White House intended this to be $400 million over and above NIH's normal spending pattern. The Senate went a step further, delaying until 30 September the date the $400 million could be obligated.

NIH will delay spending on research grants "because it is the largest base of funding and has the highest degree of flexibility for the timing of disbursements," wrote John D. Mahoney, associate administrator for administration, in a 10 October letter to the House and Senate appropriations subcommittees that have responsibility for NIH. NIH officials had considered delaying only new grants but decided that would be too disruptive. They also ruled out delaying non-competing renewals, since that would require a complex adjustment to award dates.

1992 GRANTS BUDGET

	ORIGINAL PLAN			NEW PLAN		
	New grants	Competing grants	Total	New grants	Competing grants	Total
1st Qrtr	91	282	373	0	0	0
2nd Qrtr	733	405	1138	477	463	940
3rd Qrtr	833	688	1521	738	703	1441
4th Qrtr	1542	1211	2753	910	614	1524
SUB TOTAL	3199	2586	5785	2125	1780	3905
Sep 30	0	0	0	1074	806	1880
TOTAL	3199	2586	5785	3199	2586	5785

According to its plan, NIH will award 5785 new and competing grants in 1992, as it said it would, but nearly 2000 won't be approved until the last day of the year (see table). This plan could be shelved if the House and Senate decide during their conference on the appropriations bill this week that they want to achieve the savings a different way, but NIH officials say they are not expecting that to happen.

And how, you might ask, will Congress and the White House deal with the additional $400 million that will inevitably be charged against the 1993 deficit totals? Well, there's always 1994. ■ JOSEPH PALCA

Rescoping a Hubble Mainstay

Given the Hubble Space Telescope's flawed primary mirror, jittery solar panels, and failure-ridden gyros, it's no surprise that there's been some rethinking of a long-planned upgrade in the telescope's instrumentation. Engineers designing a replacement for the telescope's workhorse instrument—the Wide Field/Planetary Camera (WFPC), responsible for sky surveys and observations of planets and nearby stars—are taking the recent failures to heart and modifying the design to make it more robust. But because they are doing so on a budget crimped by the need for other fixes, they are also simplifying the instrument, making observations slower.

Planning of WFPC II began even before the Hubble was launched in April 1990. The idea was to upgrade the telescope's instrumentation as improved components became available. Originally the replacement camera was to be fitted with eight charge coupled devices (CCDs), semiconductor light detectors 600,000,000 times more sensitive than the human eye. After the flaw in the telescope's mirror became evident, corrective optics also joined the list of modifications.

The original WFPC II design, notes Ed Weiler, Hubble program manager at NASA, lacked any means of fine-tuning the CCDs' position after engineers aligned them on the ground—a feat requiring 10 times more precision than for WFPC I. In the face of mounting bad news from Hubble, he says, the WFPC II team decided not to trust such engineering bravado. Instead, each of the camera's CCDs will have its own ceramic actuator, which subtly changes its length in response to electrical stimulation. The actuators should be capable of precisely tilting the CCDs to counter shifts due to such factors as aging or temperature fluctuations.

A second design change was forced on the engineers as unanticipated fixes ate into the overall Hubble budget: As *The Washington Post* reported last week, they cut the number of CCDs from eight to four. Three will be devoted to wide-field studies and one to high resolution research. The optimum design of WFPC would include 8 CCDs equipped with the actuators, notes John Trauger of the Jet Propulsion Laboratory and the principal investigator of WFPC II. But that deluxe WFPC II, besides costing too much, might not have been ready in time for the late 1993 or early 1994 shuttle mission to overhaul the Hubble. "We'll save $5 million to $10 million dollars and at least 6 months," says Weiler.

In Trauger's assessment, "the effect on science [of the new downscaled WFPC II] is primarily one of efficiency." Roughly speaking, he says, typical observations might take 25% longer, some requiring two slightly offset exposures rather than one. Hardest hit will be certain sky surveys: Since the "rescoped" WFPC II will have a smaller field of view, the chance of bypassing interesting objects increases. Still, Weiler thinks the sacrifice is small. With four finely adjustable CCDs, "the science we want to do will take a little longer but the risk of failure will decrease," he says. ■ IVAN AMATO