

ful materials is partly flawed because there is no assurance of a long-term commitment by government or industry to fund this research. The report examines three possible strategies that policy-makers may face in trying to shape a sustained and coordinated superconductivity R&D program:

■ A business-as-usual approach where DOD pursues processing methods for superconductors to support specialized defense applications. DOE's research would be carried out through its ten national laboratories. The ultimate success of DOE's work, however, would hinge on close ties with industry and the university sector. The federal government would also seek to ease antitrust limits on joint research efforts, enhance intellectual property rights, and encourage more private sector investment.

■ A more "aggressive" course would increase support for NSF-funded research, establish a working group on commercialization of high-temperature superconductors research. Industry, the university sector, and the government agencies would be represented on this working group which, in addition to shaping a consensus on the R&D agenda, would oversee funding for multi-company research groups.

■ Alternatively, the government could establish a federal technology agency or a cabinet-level department of science. Superconductor research might fare better and be more focused because the organizations would centralize many fragmented federal science and technology development efforts.

While making no recommendation, OTA says a reliance on existing federal approaches is likely to result in the United States winning on the science front and losing on the commercial front. Creating a new federal technology or science agency is not likely to be effective either because it cannot be organized quickly enough to mold an effective strategy for pursuing high-temperature superconductor R&D.

Beyond the federal research sector, there is a need to get industry to conduct more long-term research and technology development programs. Government assistance will be required, according to the report, but should be less than 50% of any given undertaking.

Perhaps most importantly, OTA says a way must be found "to stimulate industry to use the results in a timely fashion." American firms need to be looking at ways to use high-temperature superconductors and to consider small applications as a way of gaining experience. Right now, says OTA, too many firms are taking a wait-and-see approach and could find themselves ill-equipped to compete.

■ MARK CRAWFORD

Dispute Over NIH Firing Heats Up

What began as a substantive tussle over the way the National Institutes of Health (NIH) purchases its laboratory supplies has become a catfight over the fate of a senior scientist. Edwin Becker, a researcher and former top administrator at the NIH campus, was stripped of his command as associate director of the office of research services in April amid allegations of waste and mismanagement in the procurement system (*Science*, 13 May, p. 869). Now, Administration officials want to prevent Becker from resuming his research career at NIH.

The antagonists battling over Becker's future are James Wyngaarden, director of NIH, and Richard Kusserow, the inspector general of NIH's parent agency, the Department of Health and Human Services (HHS). Kusserow claims that Becker's alleged mismanagement resulted in a loss of more than \$100 million, a figure that is hotly contested by Becker and senior administrators at NIH.

Wyngaarden has agreed that the decentralized purchasing system at NIH needs to be tightened and that greater savings should be sought. Toward that end, Wyngaarden was ordered to remove Becker from his administrative post and has been instructed to implement a corrective action plan. But Wyngaarden is fighting to retain Becker as a scientist at NIH, where the 58-year-old researcher has spent the last 32 years building a reputation in the field of nuclear magnetic resonance. Kusserow wants Becker banished from NIH forever.

Since this is Washington, the weapons of choice are the searing memorandum and the vigorous response, all duly photocopied, annotated, and widely distributed around the NIH campus, where the whole affair continues to raise hackles.

In a 3 June memorandum to Robert Windom, the assistant secretary for health at HHS, Kusserow was insistent that Becker be reassigned outside NIH. Why not let Becker stay on at his lab? "We view this as unacceptable because the associate director should clearly bear the primary responsibility for waste and mismanagement in purchasing and because another position at NIH may appear to be a reward."

Says S. Anthony McCann, assistant secretary in charge of management and budget at HHS: "NIH is essentially protecting one of its own in a way that is not appropriate." Becker's fate is now in Windom's hands.

In a 10 June letter to Windom in response to Kusserow's volley, Wyngaarden writes that removing Becker from NIH is "inappropriately harsh and effectively denies him the opportunity to resume his scientific career."

Wyngaarden continues: "The proposal to deny a scientist the opportunity to return to his research for administrative reasons has caused great apprehension among the scientists about the desirability of a research career within the Federal bureaucracy."

No matter. Kusserow seems prepared to play hardball. In a section of his memo entitled "Chronology of Problems with Dr. Becker," Kusserow says that his office is investigating a list of allegations concerning Becker, including accusations that Becker issued sole-source contracts in return for gifts, violated equal opportunity rules, and "coerced procurement personnel to permit his fellow scientists to buy whatever they want, at whatever price."

Becker says that these allegations come from an anonymous letter sent to the inspector general's office. In comments on Kusserow's memo circulated around NIH, Becker responds: "There is no substance to any of them. Placing such unsubstantiated allegations in a memorandum of this sort appears to be highly irresponsible." Wyngaarden agrees: "It's dirty pool." As for the specific charges against Becker, Wyngaarden says: "They've been all over NIH and haven't found a thing on Ted. . . . He's as straight as an arrow."

The investigation has had, however, one consequence. During its recent plunge into the affairs of Becker, the inspector general's office discovered that Wyngaarden himself was not personally signing the forms used by NIH to document cash or in-kind payments to researchers who attend conferences or give seminars in exchange for travel reimbursement. In the past, another administrator simply reviewed the forms and passed them along to Wyngaarden's office, where they were signed by rubber stamp. No more. Wyngaarden must sign each one personally. "There are ten on my desk right now," says Wyngaarden. How many forms are out there? Wyngaarden did not know exactly. "It might be quite a vast number." Score at least one for Kusserow.

■ WILLIAM BOOTH