once a year. Questionable cases should be passed up the chain of command to the university president or, better, to a standing committee. Those at odds with the rules "must be handled expeditiously and conclusively," the AAMC panel believes, and "all decisions must be documented."

The AAHC goes further, saying that "significant" financial or other relationships, if they raise a potential conflict of interest, should be "fully and accurately disclosed in all speeches, writing, advertising, public communications, or collegial discussions" of sponsored research.

These guidelines are new, but others like them have been in existence at major universities for some time—and "honored in the breach," according to C. Kristina Gunsalus, associate vice chancellor for research at the University of Illinois at Champaign. The way to make principles work, Gunsalus says, is to develop a reporting system that will win faculty cooperation and actually do the tedious job of screening and reading the disclosure forms. You must look for trouble, as she does, because "it is extremely difficult for the most honest and upright of scholars to acknowledge their own conflicts for what they are."

Representative Weiss says that while he "applauds" the AAMC and AAHC for developing conflict-of-interest guidelines, they do not go far enough. He favors "strong minimum standards for all research institutions." Unless everyone plays by the same rules, Weiss says, "universities that make serious efforts to minimize conflicts of interest could be at a disadvantage in recruiting scientists who enjoy lucrative financial relationships with the private sector."

The consensus among those who actively manage faculty conflicts is that one must begin with written forms. They are "the only thing that everybody agrees is absolutely essential," says John Lombardi, the former provost at Johns Hopkins, now president of the University of Florida at Gainesville. "If you actually disclose and write down the relationships you have, the conflict of interest is much easier to discern."

Lombardi finds that 95% of the cases turn out to be fine. But "5% are very difficult because they skirt the borders of a conflict of interest. Then you have to do what rule-makers don't like to do: you have to exercise judgment."

Both Gunsalus and Lombardi say that when the system works well, it encourages the faculty to venture out into the commercial world, because the responsibility for error—if something goes wrong—falls squarely on the official who gave approval and not on the individual researcher.

■ ELIOT MARSHALL

Pork in a Medical Wrapping

It seems like the kind of bargain Congress would find irresistible: For a mere $20 to $30 million, a defunct government research reactor in Idaho could be turned into a state-of-the-art facility to pioneer a technique for treating deadly brain cancer and melanoma. But when Senator James McClure (R) and Representative Richard Stallings (D)—both not so coincidentally from Idaho—recently tried to persuade the appropriations committees to stuff some money into the Department of Energy's (DOE) budget to convert the reactor, researchers around the country cried foul.

The reason: three other institutions—Brookhaven National Laboratory, the Massachusetts Institute of Technology, and Georgia Institute of Technology—have similar facilities that could provide the same kind of treatment at little or no additional expense to the government. Worse, researchers affiliated with some of these facilities fear that their federal R&D support could be cut if the Idaho center is shoehorned into the fiscal 1991 budget. Moreover, 2 years ago, a panel convened by the National Cancer Institute recommended against converting the Idaho reactor until a peer-reviewed research program had been developed for the facility.

In other words, the McClure-Stallings move is being viewed as another grade A example of congressional pork-barreling. "They are doing something highly unethical" in attempting to bypass peer review, charges Robert G. A. Zamenhof, the head of medical imaging physics at the New England Medical Center.

McClure and Stallings want to convert the reactor to a facility for a treatment known as boron neutron capture therapy, which entails injecting boron compounds into the blood stream and bombarding the tumor with low-energy neutrons. When a boron atom captures a neutron, it emits a burst of radiation that kills surrounding cells. While the technique holds potential for treating tumors that have been resistant to conventional radiation therapy, the efficacy of several candidate boron compounds is still being studied in animal tests.

Because the therapy has not yet been tested in humans, Ralph G. Fairchild of Brookhaven argues that it is premature to convert the reactor to a medical facility. But Ronald V. Dorn, principal investigator for Idaho Nuclear Engineering Laboratory's boron neutron capture research program, says that results from tests on dogs and reports of clinical results from Japan demonstrate that the technology is very promising. He argues that conversion of the Idaho reactor, which is known as the Power Burst Facility, is warranted now in light of these results.

McClure makes an even stronger claim: because the reactor, located at the DOE's Idaho laboratory, is more powerful than the other machines, he says it would be better for treating "typical, deep-seated human [brain] tumors."

Not so, says Zamenhof. Both the Brookhaven and MIT reactors are capable of delivering neutrons to the required depth of approximately 7 centimeters, he says. The only apparent advantage that the Idaho reactor has is its ability to deliver therapy more quickly and in a single dose. But Zamenhof and Fairchild say this is not important. Neutron treatments, they point out, most likely will be broken down into four to six sessions to limit damage to healthy tissues. Each treatment would take 6 to 15 minutes on the MIT and Brookhaven reactors and a few minutes at Idaho.

Officials in DOE's Office of Health and Environmental Research have deferred making a decision to convert the reactor in large part because of a 1988 National Cancer Institute assessment of the neutron therapy capture research program. The reviewers advised DOE then to keep the reactor in a "standby condition for a period not to exceed 5 years pending the development of a peer-reviewed, highly meritorious [boron neutron capture therapy] research program" at the Idaho facility. The NCI group also expressed strong doubts about the suitability of using Idaho as a site for clinical trials because of its remote location. As *Science* was going to press, DOE's Health and Environmental Research Advisory Committee was expected to make a similar recommendation against converting the Idaho reactor at this time.

Unless Congress overrides these recommendations and forces DOE to convert the reactor, the machine will probably remain in limbo. The department had wanted to shut the reactor down and decontaminate the site in 1985 when it finished an R&D program on nuclear fuel rods. But Congress forced the Administration to keep the facility on standby—at a cost of about $3 million a year.

■ MARK CRAWFORD