NIF will focus a cluster of lasers on a pellet of hydrogen fuel in an effort to achieve a mini–thermonuclear explosion. The facility also is a vital part of the $4-billion-a-year federal "stockpile stewardship" program to maintain U.S. nuclear readiness during the nuclear-weapons test ban. NIF is "overkill," contends NRDC physicist Thomas Cochran, because DOE's weapons-readiness goals can be achieved with existing technology. He adds that additional experiments should be done to show that NIF will work (*Science*, 28 February, p. 1252).

In their suit, the NRDC and two California-based groups—Tri-Valley Citizens Against a Radioactive Environment in Livermore and the Western States Legal Foundation in Oakland—demanded that DOE be barred from using the report because the deliberations of the academy panel violated FACA. They also argued that the panel, called the Inertial Confinement Fusion (ICF) committee, was not balanced because it included many members with ties to Lawrence Livermore or DOE's fusion program, and should be dissolved.

U.S. District Judge Robert Friedman's preliminary injunction, issued on 3 March, stated that the committee proceedings violated FACA and ordered that no more DOE money be spent on the report until after a formal hearing. Friedman declined to block the report's release, saying that would raise concerns about stifling free speech. NAS expects to release the report to the public this week using its own funds.

DOE inertial fusion research director David Crandall told the judge that the ruling will not halt the NIF project, which already has passed several scientific and technical reviews. Cochran, however, points out that at a committee meeting last August, DOE officials said the report was needed for their final decision-making. Asserts Cochran, "This demonstrates the report was all window dressing to politically prop up the decision" to go ahead with construction.

The case also has put the ICF committee, headed by California Institute of Technology physicist Steven Koonin—who has declined to comment—in a tight spot. The panel was formed to provide advice on NIF over several years. But because DOE funding has been frozen, says Colglazier, the panel is "in abeyance" until "this crazy situation" is "rectified."

Judge Friedman must now hold a hearing on the NIF case, but a decision from the appeals court on whether to rehear the January FACA case may come out sooner, shifting the focus of the fight back to the animal-rights case. In the interim, says Colglazier, the academy is examining how it might provide advice "under the constraints [of FACA]."

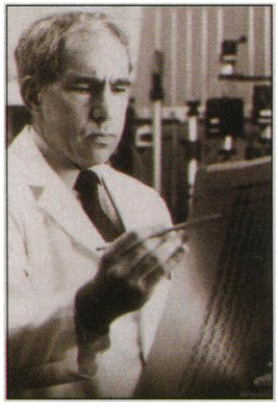
–Jocelyn Kaiser

BIOETHICS

Panel Approves Gene Trial for 'Normals'

The panel that for more than a decade has vetted ethical and safety issues in U.S. human gene-therapy research—the Recombinant DNA Advisory Committee (RAC) of the National Institutes of Health (NIH)—ended its role as gatekeeper with a bang last week, grilling a researcher who had proposed a clinical trial that would inject engineered genes for the first time into normal, healthy volunteers. RAC's final act as safety enforcer also gave a preview of how it might handle the new role that NIH director Harold Varmus has envisioned for the committee. Last year, Varmus decided that the Food and Drug Administration (FDA) alone should regulate gene therapy and that RAC should become a forum for debates on ethical issues (*Science*, 29 November 1996, p. 1453).

In a contentious meeting, RAC scrutinized the safety and scientific justification of a proposal by Ron Crystal of New York Hospital–Cornell Medical Center to study how the immune systems of healthy individuals would respond to engineered genes. RAC ended the review by voting to approve the proposal, but also raised the question of whether the decision might open the way to other experiments in healthy people seeking "health enhancement."



Bronchoscopy, anyone? Ron Crystal plans to test adenovirus vector on volunteers.

Crystal, a former NIH staffer, was among the first clinicians to try using gene therapy to treat cystic fibrosis; now, he's investigating therapies for colon cancer and other diseases. To test an adenovirus vector used in cystic-fibrosis therapy, he had proposed injecting a version of the vector carrying an active bacterial gene into the skin of 20 to 25 healthy adults. In addition to collecting skin biopsies and blood samples, Crystal proposed using an invasive procedure called a bronchoscopy to look for effects in lung tissue. Crystal also proposed paying each volunteer $900.

Crystal seemed annoyed by RAC's interrogation on 6 March as he paced back and forth in front of the committee, explaining the rationale for his trial. At one point, he sputtered that he was "baffled" by the questions RAC was lobbing at him. "We just want to do some science with gene-therapy vectors," Crystal said, arguing that "gene therapy is no different from any other drug," except for the slight risk of introducing new genes to germ cells.

Committee members had approved several other research protocols in December and January without demur, but singled out Crystal's proposal for public review for two reasons. Some felt it had violated review procedures because Crystal had failed to obtain prior approval for the use of an adenovirus vector from his local biosafety committee. Crystal explained in letters to the RAC that this and other procedural lapses were "misunderstandings and/or miscommunications"—the result of confusion during "the holiday season" when the submission was prepared. The RAC also homed in on Crystal's proposal, however, because it seemed to raise important ethical issues.

Although the adenovirus vector proposed for his study has been given before to colon cancer patients, injecting it into normal volunteers is "unprecedented," claimed RAC member Karen Rothenberg, an attorney and ethicist at the University of Maryland School of Law. Other panel members, such as R. Scott McIvor, director of the Institute of Human Genetics at the University of Minnesota, Minneapolis, and pathologist Bratin Saha of Emory University in Atlanta, questioned the need for lung bronchoscopies, which often are painful. The $900 payments also raised eyebrows, with one RAC member calling the sum "coercive."

Crystal said the risk of inducing long-lived genetic changes in the volunteers was slight. He also said his clinic has performed 5000 safe bronchoscopies, and that the payments being offered were standard. As for benefits, Crystal asserted that the data would be invaluable, providing a base line for later trials with cystic fibrosis patients.

In an interview, Crystal claimed that his appearance before the committee was "voluntary" because he had obtained approval for the trial from the FDA 6 weeks earlier. RAC nonetheless asked for some changes before voting that the trial go forward.

Still, the hearing left the RAC with issues to chew over in its new role as an ethics forum. After hearing testimony from three bioethics experts, the RAC members recommended that NIH fund policy conferences this year to examine the use of healthy volunteers and the use of gene therapy for health enhancement. NIH's director of science policy planning, Lana Skirboll, says Varmus is considering "some ideas of his own" on gene therapy and will decide soon how RAC might cooperate with FDA to resolve ethical issues.

–Eliot Marshall