ship council to coordinate national ocean sciences policy.

Each idea was received warmly by those in attendance. Although Weldon ruled out any significant increase in funding, he told *Science* after the hearing that "the time is right, and now I'm in a position to force [the Navy] to open up these resources to the widest possible audience." Indeed, testimony from Admiral Jeremy Boorda, the chief of naval operations, suggested that the service has already heard his message.

Boorda endorsed the continued release of formerly classified satellite information (*Science*, 3 November 1995, p. 727), and announced that "I promise in future budgets to keep funding [for ocean sciences] at least at current levels." The Navy has decided to operate a fleet of eight research vessels, he said, a figure that's "down from where we once were [12 ships] but higher than the [original downsizing plan]."

As head of the agency experiencing the most financial pressure, NOAA head James Baker testified about the agency's scaled-back plan to modernize its aging 24-ship fleet—which some legislators want to scuttle. The plan, now under White House review, calls for reducing the fleet through a combination of government, industry, and academic vessels "that will give us the most cost-effective way to go to sea." Its price tag, Baker added, "is less than half" the $1.9 billion proposed in 1993 (*Science*, 8 July 1994, p. 176). The agency is also completing a report requested last fall by the Senate on the impact of decommissioning or sharply reducing the size of the fleet.

Even so, Baker's words did little to disarm Representative Dana Rohrabacher (R–CA), chair of the House environmental panel that co-sponsored the hearing and one of the agency's harshest critics. "Isn't there some way the Navy can provide you with some help so that we don't have to have a NOAA fleet?" he asked in one of the few sour notes sounded at the hearing.

For Watkins, the hearing was an opening move in his bid to give the field the visibility and popular support now enjoyed by the nation's space science programs. "The papers are filled with stories about colliding nebula and dark matter," he fumed at one point. "But none of that is going to help us solve problems here on Earth." Several legislators echoed his complaint, with Weldon griping that ocean science "has taken a back seat" to space in the science committee and throughout Congress.

In the meantime, Weldon hopes to increase federal-private partnerships in ocean science. Earlier in the week he traveled to Newport, Rhode Island, for the first of a series of field hearings with academic and industrial researchers. A second hearing this spring in Washington will pave the way for legislation, he says, adding that the House leadership and even the vice president's office have endorsed his efforts. "It's nice to have bipartisan support for something," commented one senior Democratic House aide. "We haven't seen too much of that lately."

–Jeffrey Mervis

ENERGY RESEARCH

Panel Would Close Princeton Reactor

A panel of fusion experts has reluctantly concluded that, if there's no increase in the fusion budget, the Department of Energy (DOE) should close a record-setting fusion reactor so that the United States can remain part of an international fusion experiment. The recommendation has won tentative support from DOE officials, who say it is unrealistic to expect more money.

The review was requested by DOE managers after Congress slashed the department's current magnetic fusion budget from $366 million to $244 million. In 6 weeks, says Michael Knotek of the Battelle Pacific Northwest Laboratory, who led the review for the Fusion Energy Advisory Committee, "a really frantic effort" among a small team of academic and industry officials cobbled together consensus on a restructured program (*Science*, 19 January, p. 282). The team preferred the highest of its four funding options—$275 million a year—but it devoted most of its attention to maintaining a budget of $250 million.

At $250 million, Knotek's team said, DOE should halt operations next year at the Tokamak Fusion Test Reactor (TFTR) at the Princeton Plasma Physics Laboratory, which in 1994 achieved a record output of fusion power. Part of the savings should be used to maintain U.S. participation in the first phase of the International Thermonuclear Experimental Reactor (ITER) at current levels, the panel said, and DOE should also increase spending on plasma science and tokamak alternatives. TFTR had been slated to shut down last year in preparation for a new facility, the Tokamak Physics Experiment, but those plans were canceled when TPX was scrapped.

If the budget falls significantly below $250 million, Knotek warned, "we would have a very serious conflict" that would damage both the U.S. domestic program and its international commitments. That level of funding, says Marshall Rosenbluth, a committee member and physicist at the University of California, San Diego, "would tear the program to pieces" and force the United States to renegotiate its ITER design agreement with its European, Russian, and Japanese partners. In addition to forcing the closure of TFTR, a smaller budget would likely also shut other domestic facilities.

"If we decouple from ITER, it's an irreversible act. We would be adrift."

—Michael Knotek

But some say the panel has overestimated what could be accomplished with $250 million. The figure does not take into account an estimated $13 million to terminate TFTR, says DOE fusion chief Anne Davies. She also warned the panel that a proposal to save money by cutting DOE's fusion office in Washington might not help bench scientists around the country.

Martha Krebs, who is in charge of DOE's energy research office, says that "the recommendations, particularly at the $250 million level, are something that can be supported and defended" given budget constraints. And Knotek insists that the tilt toward ITER at the expense of the domestic program is a necessary move. "If we decouple from ITER, it's an irreversible act," he warned. "We would be adrift."

However, critics believe that shutting down the Princeton facility to preserve a U.S. role in ITER, which may not be completed for well over a decade, would be a dangerous gamble. "That's a leap of faith [in ITER]," says committee member J. R. Thompson, an aerospace manager and a former Princeton and National Aeronautics and Space Administration official. And Joseph Gavin, former president of Grumman Aerospace, blasted DOE and the fusion community for accepting the severe budget constraints in the first place. "A national asset is going to slip away from us if this panel doesn't stand up," Gavin warned. Gavin and Thompson voted against accepting the report's conclusions, but the remainder of the 15-person panel approved the results.

Knotek says the new plan will give fusion supporters the ammunition to fight off further cuts to the program, although he acknowledged that the community's lobbying attempts in the past have proved "less than dismal." The next step for DOE is to sell the Administration and Congress on a 1997 fusion budget that is small enough to be seen as fiscally responsible but large enough to keep the U.S. program intact.

–Andrew Lawler