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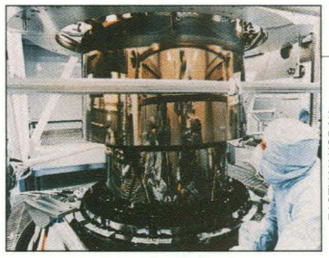

EASTMAN KODAK

Nail-biter. Last pair of AXAF mirrors is lowered into place.

Moment of Truth for X-ray Telescope

High-energy astronomers are waiting with bated breath as a NASA team prepares to check the focus of what's billed as the most powerful x-ray telescope ever, a 2300-kilogram cluster of mirrors to be sent into orbit in 1998. The moment of truth will come in just a few days.

The $2 billion Advanced X-ray Astrophysics Facility (AXAF), a high-energy companion to the Hubble Space Telescope, consists of four pairs of cone-shaped glass mirrors nested one inside the other. X-rays from distant objects will pass through the wide end, ricochet off the mirrors, and focus on a plane 10 meters away. AXAF is expected to image quasars, black holes, and other objects 10 times better than any other x-ray telescope—assuming it's as sharp as its designers predict.

And that prediction is riding on some delicate craftsmanship. AXAF's builders were reminded just how delicate it is in September, as engineers in a clean room at Eastman-Kodak Co. in upstate New York were fastening the mirrors to a graphite base with epoxy: They found they could turn on the lights—eight flourescent bulbs 3 meters away—for only a few minutes at a time. Otherwise the lights heated the air, changing its index of refraction and causing lasers to misread the mirrors' positions. "Body heat's a relevant factor" too, as well as drafts from open doors, says Harvey Tananbaum of the Harvard-Smithsonian Center for Astrophysics, who watched the operation.

This week AXAF is being flown to NASA's Marshall Space Flight Center in Alabama, where engineers will shine a beam of x-rays through the mirrors from 500 meters away. About 90% of the reflected rays should fall within a circle 50 micrometers across. "I don't expect any major surprises," says Martin Weisskopf, chief scientist for AXAF. Tananbaum doesn't either, but he adds: "If we were 100% sure, we wouldn't test it, would we?"

Cancer Board Leaders Chosen

There's a new kid on the block in health policy—the National Cancer Policy Board (NCPB), a 20-member group based at the National Research Council (NRC). Last week, two cancer experts agreed to lead the panel: Peter Howley, chair of pathology at Harvard Medical School, will be its chair, and Joseph Simone, executive director of cancer care programs at Huntsman Cancer Institute in Salt Lake City, will be vice chair.

The panel was created at the behest of Richard Klausner, head of the National Cancer Institute (NCI), who says he wants "a neutral forum" where stakeholders can hammer out a cohesive strategy for fighting cancer. Howley was unavailable for comment, but Simone told *Science* he sees the NCPB as filling a gap. Existing NCI advisory boards mainly deal only with research policy, but this group, which will include cancer survivors and policy-makers, will cover many topics. "NCI doesn't feel comfortable getting into societal issues" such as the economics of medicine or cancer services, says Simone. The NRC sent out 300 letters last week soliciting nominations to fill out the board.

RAC Gets New Lease

When Harold Varmus, head of the National Institutes of Health (NIH), proposed last summer to do away with a 15-year-old advisory panel on gene therapy, he didn't anticipate much fuss. But the public response to NIH's plan to abolish the Recombinant DNA Advisory Committee was surprising. NIH received 71 comments, two-thirds opposed to ending RAC. The result: Varmus announced last week that the board will continue, but with two key changes. Membership will drop from 25 to 15, and RAC will be allowed to comment on—not approve—proposed experiments. The RAC itself will discuss the plan on 9 December.

Ward Valley Scientists Threatened With Suit

The final studies needed to pave the way for opening a low-level nuclear waste site in Ward Valley, California, are on hold after the firm that is to run the site threatened to sue scientists planning to conduct the research.

The decade-long public debate over Ward Valley seemed to die down last year after a National Research Council (NRC) panel concluded it was unlikely that radionuclides would leak from the site into the water table. But the panel also recommended more tests on how fast tritium left from nuclear tests decades ago was moving through local soil (*Science*, 15 March, p. 1488). The Department of Interior (DOI), which now owns the site, asked Nevada hydrogeology contractors Scott Tyler and Martin Mifflin, who were on the NRC panel, to collect soil samples, and Lawrence Livermore National Lab was to analyze them.

As reported last week in the *Los Angeles Times*, however, lawyers for US Ecology Inc., the firm hired by the state to run Ward Valley, sent letters to Tyler and Mifflin calling the requested studies "stonewalling." The firm said it has already invested $60 million in the site, and warned Mifflin: "Should you continue your participation ... please do so based on the knowledge that US Ecology intends to seek compensation from any persons or entities whose conduct wrongfully injures its interests in this matter." As a result, says Mifflin, "I'm not sure whether there will be a contract or not [to conduct the research]."

Since receiving the 30 September letters, Mifflin and Tyler have been negotiating with DOI to be indemnified. A DOI spokesperson says that's proving difficult because "the government just doesn't do that [indemnify contractors]." But DOI is awaiting word from the Justice Department, which would handle its legal role, on some arrangement that might protect the scientists.

NSF Drafts New Guidelines for Proposal Reviews

When it comes to judging the 30,000 grant proposals it receives each year, the National Science Foundation (NSF) is hoping that less is more. Next month NSF plans to unveil new draft guidelines for peer review that would ask reviewers to apply a shorter, clearer list of criteria.

NSF now asks reviewers to think about four yardsticks when they assess a proposal: the competence of the researchers, the idea's scientific merit, its utility or relevance, and its effect on the scientific infrastructure. The new guidelines, however, would have reviewers consider just two things—the quality of the proposed research and its likely impact. The latter could involve everything from mentoring minority students to developing new technologies.

"We're still in the business of picking the best research by the best people," says NSF director Neal Lane. But by streamlining the criteria, which were last revised in 1981, NSF officials hope reviewers will express their feelings more clearly and program managers will be better able to assess proposals. Reviewers had a particularly tough time with the question of the relevance and utility of the research, says Lane. "As a result, they tended to ignore it. We want to get away from such a narrow interpretation [of] possible impacts."

The draft guidelines will be unveiled on NSF's home page—http://www.nsf.gov—and e-mailed comments are encouraged. NSF hopes to issue final guidelines next spring.