Russian and CIA officials—for 15 August in Fairbanks, Alaska.

Others have already climbed aboard the Arctic bandwagon. For example, Charles Hollister, senior scientist and vice president at the Woods Hole Oceanographic Institution, brought together U.S., Russian, and Canadian scientists in a planning session in July. Their aim is to organize a meeting of all the major research groups testing the Arctic waters next June to discuss existing data and lay out a strategy for additional research. This may be more fruitful, says Hollister, than the approach that some Europeans have taken—"throwing rocks at the Russians" for their misdeeds.

Hugh Livingston, a Woods Hole researcher who has been using traces of radioactivity to follow ocean currents for more than a decade, has begun drawing up a list of Russians to invite. He will go to St. Petersburg in September to meet Russians who have been investigating the Kosmolets accident and hopes scientists who may have monitored radiation near Soviet military installations—those who have never before been allowed to attend scientific meetings in the West—will now be willing to open up.

A radioactive irony. Livingston would like to compare his own results with measurements made closer to the source of contamination. He says he and colleagues in Scandinavia have seen no significant contamination coming from the Russian Arctic toward Europe. What they have observed, ironically, is British radioactive pollution moving toward Russia. Most of Livingston's work has focused on a plume of radioactive isotopes spilled into the ocean from Britain's Sellafield nuclear fuel processing plant. It winds up around Britain, past Norway, and into the Barents Sea. It also makes its way westward across the Atlantic into the deep waters off the United States. Livingston says he and the Danes have also noticed a few anomalous high readings of tritium and strontium-90, along with an occasional, rare "spike" of cobalt-60. Previously, these oddities have been written off as fallout from bomb tests. Now, Livingston says, it's just possible they could have come from waste dumps and submarine reactors in the Arctic.

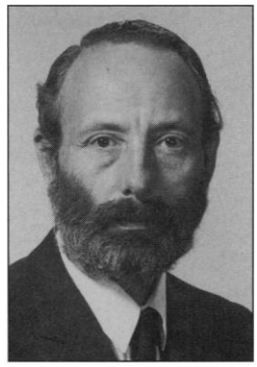
The levels of radioactivity flowing from Britain are low, Livingston hastens to add, less than 30 Becquerels per cubic meter—far below anyone's level of concern. But there is an irony in the fact that Sellafield's plume appears far larger than Novaya Zemlya's, if all those reactors have actually been dumped there. It just goes to show, says Hollister—an expert on techniques for burying nuclear waste under the seabed—that deepsea burial may be a good idea. That's not exactly the message Greenpeace hoped to send when it publicized the Soviet dumping.

–Eliot Marshall

PEER REVIEW

An NSF Survey Rattles Some Nerves

If you're one of the 978 scientists who served on a peer review panel for the National Science Foundation (NSF) in 1991, you may recently have received a questionnaire about the proposals you read, inquiring just how friendly you were with the authors. It's part of a broad, new investigation of peer review being run for Congress by the General Accounting Office (GAO). And some of the people who were asked to participate—like Eugene Davidson, chairman of biochemistry and molecular biology at the Georgetown University Medical Center in Washington, D.C.—are uneasy about how Congress might use the results.



"Science is not football." Eugene Davidson.

Davidson worries that GAO doesn't understand how agencies like NSF review proposals. As a result, he frets, they've produced a survey that could easily be misinterpreted to give science a black eye. He fears the responses may be cited as proof that an "old boy network" runs the system, as some politicians claim. (For an in-depth discussion of other conflicts of interest in science, see page 616.)

Last month, Davidson sent a letter of protest to Senator John Glenn (D–OH), chairman of the committee on governmental affairs, which requested the GAO inquiry. The questionnaire, Davidson wrote, is "seriously flawed," reflecting "considerable ignorance on the part of GAO regarding the operation of the peer-review system." In a warning that sounds like a preemptive strike at GAO's credibility, Davidson warned that "any conclusions arising from the use of information" in the survey "are likely to be incorrect." The peer-review mechanism at NSF, he noted, is "not perfect" but should be carefully treated because it "enjoys the respect of the scientific community."

Glenn hasn't responded, but one of his staffers admits that there's been "some misplaced nervousness" about the GAO survey, based on an irrational fear that Congress is out to create "another David Baltimore [case]." In fact, "there's no hidden agenda," says Glenn staffer David Plocher, who is watching over the project temporarily. The GAO inquiry is merely a follow-on to an earlier audit of reviewing practices at NSF and several other agencies, he says. (The original audit grew out of an infamous case at NSF involving the anthropologist Jon Kalb, who lost a grant, possibly because peer reviewers were influenced by malicious rumors spread by his competitors.) Glenn's staffer says: "We have every confidence in GAO's ability" to do the work fairly. "We understand how the system works," adds Patrick Grasso, the GAO official responsible for the project.

Still, the wording of the GAO's questions makes Davidson skeptical. For example, he told *Science* that he was put off by GAO's apparent assumption that every member of a panel reads all the proposals submitted to it. In fact, the work is divided up so that members only see proposals that fall within their area of expertise. (Davidson had not read either of the two proposals GAO asked him about.) And he saw a similar naivete in a question asking respondents to rank a colleague's reputation, offering the choices: "Top five nationally," "Not in the top five but probably in the top 20," and "Not in the top 20 nationally." Davidson's tart reply: "Science is not football. We do not conduct a weekly survey to identify the top 20 in our business."

The query that really set Davidson back, however, reads: "Before your review of this proposal, were you and the principal investigator sufficiently acquainted that if you passed each other on the street, you would be expected to stop and chat for at least a few minutes?" Davidson responds that most people in the same field get to know each other, but "I can easily foresee a positive answer...being used as evidence of an old boy network"—which would not be fair. To avoid bias in the questionnaire, says Davidson, "you really need [help from] someone with inside knowledge of the field" being surveyed.

Grasso concedes that "sometimes the files we relied on for the survey didn't reflect every detail" accurately. But he says the survey was vetted by an expert committee before it was sent out. And he thinks Davidson's anxieties are unwarranted. GAO has received only a few critical responses from the 300 inquiries it sent out, Grasso says, though he is not ready to discuss statistics at this point. The final report, which will examine peer review practices at NSF, the National Endowment for the Humanities, and the National Institutes of Health, probably won't be published until early 1993.

In any case, such worries are to be expected, says Dan Rodriguez, the GAO staffer who is running the project: "These are hard questions to ask, and people don't want to answer them." But he promises: "We are going to be very, very careful about interpreting" the answers, erring "on the side of conservatism in every instance."

–Eliot Marshall