

withering critique of the survey's methods. In a memo to OSHA, agency officials said that the survey design employed by [industry] "violated basic premises of epidemiology. NIOSH recommends to OSHA that these surveys be disregarded as credible scientific investigations. . . ."

An industry official said that the survey was admittedly a "quick and dirty summary" that was not meant to be a definitive study.

The industry group also recently submitted another report to OSHA, this one by Harold Imbus, the former medical director of Burlington Industries. Like the survey, the study concludes that brown lung disease is not as prevalent as predicted. According to OSHA scientists and the textile workers union, the study

has some serious drawbacks. Gore is expected to question industry and Imbus at length about the study at the upcoming hearing.

Another study that will add to the continuing controversy over the cotton dust standard is a recent byssinosis study by the World Health Organization. In contrast to the Academy's report, a committee of international scientists chaired by Merchant, examined virtually the same information and arrived at a different conclusion: chronic byssinosis is caused by cotton dust exposure.

It is difficult to speculate what weight OSHA is placing on any of the reports. OSHA's Martonik is vague but hints that the cotton dust standard may not change drastically. He said that the Academy report represents the best opinions in the

field but other reports must be considered as well. The industry survey, he said, provides "an indication of conditions, but is not a final analysis." Martonik said that OSHA has been concentrating its efforts more heavily on the nontextile segment of the industry and whether it should be regulated. Knitting, hosiery, and waste-processing factories are currently exempt from the cotton dust standards.

Nevertheless, many scientists and the labor union are nervous that OSHA plans to weaken the regulations that govern the textile industry. They note that President Reagan is keeping his promise to seek regulatory relief for industry and that OSHA administrator Thorne Auchter has been a good team player.

—MARJORIE SUN

Export Control Threat Disrupts Meeting

Participants at SPIE meeting scrambled to withdraw their papers upon learning that they may not have gotten proper clearances

By all accounts, the 26th annual technical symposium of the Society of Photo-Optical Instrumentation Engineers (SPIE) was a shambles. More than 2700 people from 25 countries, including the Soviet Union, attended the meeting, which was held at the end of August in San Diego. But at least 100 of the 700 papers listed in the program were withdrawn at the last minute by frightened and confused authors, acting in some cases under orders from their supervisors or contracting agencies, after the Department of Defense let it be known that some of the scheduled presentations might violate government export regulations. These regulations are designed to keep military-related high technology out of Soviet hands.

The incident is unprecedented and it is being perceived as the most dramatic example to date of Reagan Administration's determination to clamp down on technology transfer. Says Joseph Yaver, executive director of SPIE, "We've lost a few papers here and there but never anything of this magnitude." And the ramifications of the incident are widespread. Some members of SPIE are worried that their freedom to openly discuss their research is threatened and, according to Yaver, a number of members have withdrawn from the organization, reasoning that it is on the DOD's hit list. One large corporation requested that its

papers, which were presented at the conference, not be published in the conference proceedings. Other participants asked for refunds of their registration fees. "The whole fabric of our society is unraveling in our hands," Yaver moans. This episode, moreover, could have an adverse effect on other meetings where potentially sensitive technologies are discussed.

Government officials also are concerned. George Keyworth, the President's science adviser, put out a statement saying, "OSTP [the Office of Science and Technology Policy] wasn't involved but there obviously has to be some reconciliation between a legitimate concern for technology transfer and an unfettered pursuit of research, particularly in the international scientific community. I think the incident at the photo-optical conference was both unfortunate and ill-timed." A Pentagon official remarks, "The recent events could endanger the constructive efforts of many to foster a healthy DOD-university relationship." The incident comes just before a DOD-National Academy of Sciences panel is scheduled to release a report on technology transfer so it is seen by some observers to have occurred at a particularly inopportune time.

The SPIE incident, which was first brought to public attention by *Science*

News, which had a reporter at the meeting, began on Wednesday, 18 August—just 2½ days before the conference registration was to begin. A military officer appeared at the offices of the Pentagon's international security division carrying the SPIE program. He had only recently become aware of the program's contents and was concerned that defense-related technical information was scheduled to be presented. Most of the meeting participants were under contract to the Defense Department or were Defense Department employees—which meant that they were required to get Pentagon clearance before presenting papers at an international conference. The papers included presentations on reconnaissance, characterization of battlefields with electro-optical equipment, image processing, military applications of infrared technology, and fiber optics. Had all of these papers been cleared, the officer asked?

"We looked at the program," says a Pentagon official, "and we called in five or six experts on technology control. We agreed to a man that it was an extraordinarily bad situation." Most of the sensitive papers had not been submitted for clearance. The Pentagon then sent out messages to all DOD personnel and contractors who were scheduled to make presentations at the meeting saying that, if they were planning to discuss defense-related technical information and if they

had not gone through appropriate clearance procedures, they should do so. Failure to do so could constitute illegal export.

The Pentagon also sent several people to San Diego to convey the warning in person. At the same time, and independently, the Commerce Department sent what it says was a routine telegram to the conference organizers notifying them that Commerce's export control regulations might apply to the scheduled papers. After sending the telegram, Commerce learned that the conference met its criteria for an open meeting, meaning that anyone could attend and that all the papers would be published. It then attempted to reassure the conference participants through a State Department representative at the meeting. A Commerce Department official says, "I told the State Department to tell her [the representative] that as far as we were concerned, the conference is okay."

The result of the DOD and Commerce warnings was that the conference participants panicked. "We all flip-flopped around," Yaver recalls. "Half of us were already on airplanes when the whole thing started to come apart. We were dealing in real time and there were a lot of misunderstandings and overreaction to the DOD directive. People were afraid that if they didn't pull their papers they might be making a mistake."

Richard Wollensack, who is president of SPIE, concurs. The meeting was in disarray with "authors parading up the stairs to talk to strange people and get advice," he says. But the DOD advisers who were sent to the meeting did not have the authority to clear papers. Instead they asked if the work was sponsored by the Defense Department and, if so, was it properly cleared?

About a dozen authors sent their papers to the Pentagon for expedited clearance. Nearly all were told they could present their papers if they made a few modifications.

All parties agree, however, that some people overreacted and pulled papers that could have been presented. "When you work for the DOD or are a DOD contractor, their wish is your command," says Yaver. At least one Air Force contractor, Hajime Sakai of the University of Massachusetts, withdrew his papers even though his contract says nothing about getting a clearance. "The Air Force insisted that my papers go through clearance. I was told that I must not present my papers. The Pentagon sent people to monitor which papers were presented so I could not defy their authority," he says.

John Selby of Grumman Aerospace Corporation says that six out of eight scheduled papers to be presented in the session he chaired on "Infrared Backgrounds and Atmospheric Transmission" were pulled. All Navy personnel withdrew their papers. Yaver and Wollensack say that the total number of papers withdrawn is still being tabulated.

An Air Force official characterizes the situation as "out of control."

Why, if most of these authors were required to get Pentagon clearance, did they fail to do so and why did the DOD suddenly crack down on this meeting? Pentagon officials, SPIE officials, and conference participants agree that many researchers who failed to get proper clearances simply were ignorant of the DOD regulations. Many DOD employees, for example, get "clearances" from their local supervisors. Contractors get "clearances" from their companies. "The understanding we had is that there is an awful lot of business where a person had a paper scheduled and his boss approved it without doing anything other than sending it to the local public affairs official," a Pentagon spokesman says.

An Air Force official who deals with technology transfer characterizes the situation as "out of control. People are not following the proper procedures." There is no good excuse for this laxness, he says, because, "In the case of contractors, clearance requirements are written into the contract. In the case of DOD personnel, it is even more clear that they need clearances." This official speculates that the reason people have been bypassing Pentagon clearances is that, "Over the last several years, conferences and symposia like SPIE's have mushroomed. The SPIE conference was one of several like it just that week. As this grew out of control people started taking shortcuts."

Since the SPIE meeting was forcibly brought to the attention of Pentagon officials, it became something of a test case. On the one hand, it could be argued that the DOD was simply enforcing regulations that were already on the books. Yet, says a Pentagon scientist, the DOD's actions reflect the Reagan Administration's determination to clamp down on technology leaks to the Soviets.

Whether the SPIE meeting should

have been disrupted is debatable. A Pentagon official says, "we have been told by several SPIE members that they have been concerned for a number of years by the subjects presented at the annual meetings." At this meeting, the official says, there was a session on reconnaissance in which, "Soviet representatives were jumping up and taking photographs of every viewgraph. And some Japanese visitors told each other in Japanese that they couldn't believe the United States would let people talk about these subjects in a public meeting."

Yaver and Wollensack have a somewhat different view. Only four Soviets were present at the meeting, they say, and three of them spent nearly all their time at Sea World and Neiman-Marcus. "One of the sessions deemed very sensitive was airborne reconnaissance. During the presentations of the hot items, I was drinking coffee with two of the Russians and the other two were walking to the shopping center to spend their money," Wollensack recalls.

It is the Defense Department's contention, however, that whether or not SPIE members worry about technology transfer, the government does and there are regulations to be followed. But therein lies a hitch. If everyone who was supposed to get Pentagon clearances actually sought them, could the Pentagon even handle the work load? "Naughty question . . . naughty question," one official replied when asked. Currently, according to James Freeman of the public affairs office of the Pentagon, it takes 30 to 60 days to get a clearance. No one knows, however, what percentage of the papers that the Pentagon ought to see it is actually seeing.

"If suddenly we were to get 100 percent compliance we would be unable to cope with the work load. We would need some undetermined extra amount of people," says one Pentagon official. "Certainly anything in extremis can be done. It's a hell of a chore but we would do what would be necessary, I'm sure," says Freeman.

Pentagon officials now are trying to figure out exactly what it is they want to do and how they want to do it. They are meeting with SPIE officials, they are looking for ways to increase compliance with DOD clearance guidelines, and they are pondering the problem of how to handle the increased work load that would result from increased compliance. Says an Air Force official, "The DOD got everyone's attention—that's obvious. Now we have to get the DOD together and decide where we go from here."—GINA KOLATA