GAO

Briefing Report to the Honorable David R. Obey, House of Representatives

February 1987

WORKER PROTECTION

Selected National Institute for Occupational Safety and Health Activities

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GAO

United States
General Accounting Office
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Human Resources Division

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February 23, 1987

The Honorable David R. Obey
House of Representatives

Dear Mr. Obey:

In response to your request, we reviewed selected activities of the National Institute for Occupational Safety and Health (NIOSH). As discussed with your office, we agreed to provide you with information on the following activities.

-- Changes in NIOSH's administrative staff since its headquarters moved from Rockville, Maryland, to Atlanta, Georgia, in 1981.

-- NIOSH's efforts to fund a program for notifying individual workers of their potential exposure to health hazards in the workplace.

-- NIOSH's use of $1,500,000 in fiscal year 1984 and $750,000 in fiscal year 1985 to expand its industry-wide study activities as the Congress intended.

-- The length of time selected agencies of the Department of Health and Human Services--NIOSH, the National Center for Toxicological Research (NCTR), and the National Institute for Environmental Health Sciences (NIEHS)--took to review, and approve for publication, reports and articles on their research activities.

We made our review between July 1985 and November 1986. We did our audit work at NIOSH offices in Atlanta, Georgia; Cincinnati, Ohio; and Morgantown, West Virginia, and at NCTR's and NIEHS's locations in Jefferson, Arkansas, and Research Triangle Park, North Carolina, respectively.

In evaluating administrative staffing, industry-wide studies' funding, and time frames for approving technical reports and journal articles for publication, we relied extensively on NIOSH-furnished information. In our opinion, precise information on staffing, industry-wide studies, and reports approved for publication was not essential; therefore, we did not assess the reliability of the systems producing these data.

The results of our review are summarized below and discussed in more detail in this briefing report.

CHANGES IN NIOSH'S ADMINISTRATIVE STAFF

Following the relocation of NIOSH's headquarters to Atlanta in 1981, the percentage of NIOSH staff dedicated to administrative activities declined. The decline varied depending on the method used to measure it. For example, NIOSH's analysis, which was based on the number of staff assigned to its organizational units that performed such administrative activities as travel, procurement, and evaluation functions, showed that its administrative staff decreased from 21 percent in 1981 to 16 percent in 1985.

Other methods of analyzing NIOSH's administrative staffing also showed declines. For example, using Office of Personnel Management definitions of administrative and clerical staff and occupational series and salary rates, NIOSH's administrative staff decreased from 37 percent in 1981 to 34 percent in 1985. Another example, based on NIOSH project plan information, showed that NIOSH staff years allocated to administrative functions decreased from 35 percent in 1983 (1981 and 1982 data were not available) to 23 percent in 1985. (See p. 8.)

STATUS OF NIOSH'S EFFORTS TO FUND AN INDIVIDUAL WORKER NOTIFICATION PROGRAM

NIOSH provides general notification of workplace hazards to employers, employee representatives, union officials, and state and federal agencies. NIOSH also provides results of medical examinations directly to those individuals that it has examined. However, NIOSH usually does not notify individual workers who its studies indicate were potentially exposed to health hazards in the workplace.

NIOSH had submitted budget requests, but had not received funds for a program to notify 200,000 to 250,000 workers it believes may be at risk as a result of their exposure to workplace health hazards. For fiscal year 1985, NIOSH's request was not funded because Centers for Disease Control (CDC) priorities for an individual worker notification program were low relative to other NIOSH and CDC programs. For fiscal year 1986, NIOSH's request was not approved because Public Health Service officials raised ethical, social, economic, and legal issues surrounding worker notification.

In May 1986, NIOSH's Board of Scientific Counselors reviewed and approved a NIOSH proposal that contained criteria for

determining which individuals should be notified and which methodology should be used to notify these individuals. According to NIOSH officials, as of November 1986, NIOSH was in the process of identifying these individuals. NIOSH also requested supplemental funding to support individual worker notification efforts in fiscal year 1987. However, CDC officials subsequently notified NIOSH that this effort could not be funded because funds were needed for fiscal year 1987 federal salary increases and for benefits under the new federal employee retirement system. (See p. 10.)

NIOSH'S USE OF FUNDS FOR INDUSTRY-WIDE STUDIES

Based on the legislative histories of the Department of Health and Human Services' fiscal years 1984 and 1985 appropriations, the Congress wanted NIOSH to expand its industry-wide studies activities by $1,500,000 and $750,000, respectively. Because NIOSH did not specifically account for these "targeted" funds, we could not determine if NIOSH used these targeted funds to expand its industry-wide studies activities in fiscal years 1984 and 1985.

NIOSH does not account for funds by type of study conducted (e.g., industry-wide study), nor does it accumulate actual cost data for individual research projects. NIOSH officials (1) identified the industry-wide studies that they said NIOSH funded with the targeted funds and (2) estimated the costs of these projects. However, we could not verify that these were the studies that were funded with the targeted funds. According to NIOSH officials, the industry-wide studies branch received over 50 percent of the funds targeted to expand industry-wide studies in fiscal years 1984 and 1985. (See p. 15.)

DATA TO MEASURE TIME FRAMES FOR REPORT PROCESSING UNAVAILABLE

Before approving research reports and journal articles for publication, NIOSH, NCTR, and NIEHS subjected them to a series of reviews by supervisors, internal and/or external peer reviewers, agency directors, and other agency officials. We attempted to measure the time each agency took to process its reports through publication. However, because these agencies did not always record dates when report preparation began or when products were submitted to various review levels, we could not measure total report processing time for these agencies' products.

This briefing report contains information on differences between these agencies' report processes and on the time frames each agency took to process its products from the time it submitted them for peer review to the time they were approved for publication. We noted that there were delays in publishing NIOSH technical reports in fiscal years 1984 and 1985 because NIOSH researchers did not, at the appropriate time, obtain department approval to publish their research results. In addition, approval of a NIOSH report on benzene, about which your office specifically expressed interest, took about 7 months, about 2 months longer than other technical reports of the same type. This was because of the significance of the research and because NIOSH's benzene reports had been intensely critiqued in the past, according to a NIOSH official. (See p. 19.)

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As requested by your office, we did not obtain formal comments on a draft of this briefing report. However, we did discuss our facts with the NIOSH Director and key NIOSH officials and incorporated their comments where appropriate. Unless you publicly announce its contents earlier, we plan no further distribution of this briefing report until 30 days after its issue date. At that time we will send copies to the Secretary of Health and Human Services and other interested parties and will make copies available to others on request.

Should you need additional information on the contents of this document, please call me on 275-5451.

Sincerely yours,

Franklin A. Curtis

Franklin A. Curtis
Associate Director

Contents

ABBREVIATIONS

CDC	Centers for Disease Control
DBBS	Division of Biomedical and Behavioral Science
DPSE	Division of Physical Sciences and Engineering
DRDS	Division of Respiratory Diseases Studies
DSHEFS	Division of Surveillance, Hazard Evaluation, and Field Studies
DSR	Division of Safety Research
GAO	General Accounting Office
HHS	Department of Health and Human Services
NCTR	National Center for Toxicological Research
NIEHS	National Institute of Environmental Health Services
NIOSH	National Institute for Occupational Safety and Health
OPM	Office of Personnel Management
PHS	Public Health Service

WORKER PROTECTION:

SELECTED NATIONAL INSTITUTE FOR

OCCUPATIONAL SAFETY AND HEALTH ACTIVITIES

The National Institute for Occupational Safety and Health (NIOSH) is one of six centers at the Centers for Disease Control (CDC) responsible for safeguarding the health of Americans by controlling and preventing disease. CDC is one of six Public Health Service (PHS) agencies within the Department of Health and Human Services (HHS). In 1981, NIOSH headquarters was relocated from Rockville, Maryland, to the CDC complex in Atlanta, Georgia. NIOSH's scientific divisions are located in Cincinnati, Ohio, and Morgantown, West Virginia. In fiscal years 1984 and 1985, NIOSH's appropriations were $65.9 and $65.3 million, respectively. Its budgeted staffing was 773 positions in both years.

NIOSH is responsible for identifying occupational safety and health hazards, developing ways to prevent or eliminate workplace hazards, and conducting educational and training programs for individuals responsible for preventing these hazards. To meet these objectives, NIOSH conducts laboratory investigations, field surveys, and epidemiologic studies on occupational safety and health hazards. Based on findings from such activities, it recommends standards to the Department of Labor's Occupational Safety and Health Administration and Mine Safety and Health Administration for consideration in regulating workplace conditions to protect workers.

OBJECTIVES, SCOPE, AND METHODOLOGY

Representative David Obey asked us to review and report on selected NIOSH activities. Based on later discussions with his office, we agreed to:

-- Identify changes in NIOSH's administrative staffing patterns since its headquarters was relocated to Atlanta in 1981.

-- Determine the status of NIOSH efforts to fund a program for notifying individual workers of potential exposure to hazardous substances in the workplace.

-- Determine if NIOSH expanded its industry-wide studies activities by $1.5 million in fiscal year 1984 and $750,000 in fiscal year 1985.

-- Determine the processes involved and the length of time NIOSH took to review, and approve for publication, reports and articles on its research activities and

develop similar data for reports approved by the National Center for Toxicological Research (NCTR) and the National Institute of Environmental Health Sciences (NIEHS). We also agreed to determine the status of NIOSH's report on benzene research.

NCTR is responsible for assessing hazards of chemical effects on human health; improving the methodology for toxicological assessments; improving the understanding of relationships between routes and doses of exposure to potentially hazardous substances; and facilitating the assessment of human risk from environmental hazards. To meet these objectives, NCTR reports on a variety of research activities, including studies on laboratory animals. NCTR, located in Jefferson, Arkansas, was created in 1971 and placed under the control of HHS's Food and Drug Administration. In fiscal years 1984 and 1985, NCTR's annual budget was $21.6 million, with an authorized personnel level of about 295 employees.

In 1969, NIEHS was established within the National Institutes of Health. NIEHS is the principal federal agency for basic biomedical research on the health effects of environmental agents. Its mission is to conduct and support research and training on how human health is adversely affected by the environment. To do this, NIEHS reports on a broad range of scientific studies, including cellular biology, genetics, pathology, and epidemiology. NIEHS is located in Research Triangle Park, North Carolina. In fiscal years 1984 and 1985, NIEHS's operating budget was $180 and $194 million, respectively, and its authorized staffing level was 696 and 670, respectively.

Our review was performed between July 1985 and November 1986. We reviewed NIOSH's activities at its offices in Atlanta, Georgia; Cincinnati, Ohio; and Morgantown, West Virginia, and NIEHS and NCTR activities at their facilities in Research Triangle Park, North Carolina, and Jefferson, Arkansas, respectively. In analyzing NIOSH staffing patterns, industry-wide studies funding, and time frames for completing report reviews, we relied extensively on NIOSH-furnished information on the numbers of personnel, industry-wide study projects, and reports. Because data on these activities were, in our opinion, not essential to evaluate them, we did not verify the accuracy or assess the reliability of the systems producing these data. We also reviewed NIOSH accounting and program records, including budget requests, program plans, scientific studies, and other documents, and interviewed appropriate HHS officials.

We used three methods to analyze NIOSH's administrative staff and to identify the percentage of NIOSH staff assigned to activities of a scientific nature. First, we used NIOSH's method for determining its administrative staff, which was based on the total number of staff assigned to NIOSH organizational

units that performed such administrative functions as travel, procurement, and evaluation activities. Next, we used Office of Personnel Management (OPM) definitions of administrative and clerical job classifications to identify administrative staff from lists of NIOSH personnel. Finally, we determined NIOSH's administrative staffing patterns using fiscal years 1983-85 NIOSH project plans, which contained estimates of the staff years required to administer NIOSH activities. Because NIOSH did not maintain similar plans before fiscal year 1983, we could not use this method to determine NIOSH's administrative staff year estimates before it relocated its headquarters activities to Atlanta in 1981.

To determine the types of processing steps involved in preparing research reports and the length of time NIOSH, NCTR, and NIEHS took to review and approve research reports for publication, we identified those agencies' reports that were (1) subjected to either an internal or external peer review and (2) published in fiscal years 1984 or 1985. For NIOSH, 3 criteria documents, 10 technical reports, and 384 journal articles met the above criteria. For NCTR and NIEHS, 103 and 31 technical reports, respectively, met this criteria. To obtain an understanding of these agencies' report processing activities, we discussed these activities with agency officials. Our efforts to measure time frames for processing these reports were, for the most part, unsuccessful because the agencies did not generally keep track of the dates that certain report processing steps occurred.

In addition to the NIOSH products mentioned above, we obtained summary information on other types of products published by NIOSH and data on NIOSH report processing activities as they relate to a not yet published study on benzene.

As requested by the Congressman's office, we did not obtain written comments on a draft of this briefing report. We did, however, discuss our facts with NIOSH's Director and other key officials. In addition, we did not assess the reliability of NIOSH's systems that produced data on personnel, industry-wide studies, and scientific and technical reports. Except as noted, our work was performed in accordance with generally accepted government auditing standards.

CHANGES IN NIOSH'S ADMINISTRATIVE STAFF

Between May 1981 (when NIOSH transferred its headquarters from Rockville to Atlanta) and September 1985, NIOSH's administrative staff as a percentage of total staff decreased. This decrease was about 5 percent using NIOSH's method for identifying administrative staff. At the request of the Congressman's office, we also analyzed NIOSH's administrative staff using two other methods.

Based on OPM occupational series classifications, NIOSH's administrative staff decreased by 3 percent between 1981 and 1985; based on NIOSH's project plan data, staff years dedicated to administrative activities decreased by 12 percent between 1983 and 1985.

NIOSH's Staff Assigned to Organizations Performing Administrative Activities

In July 1984, NIOSH reported to the Chairman, Subcommittee on the Departments of Labor, Health and Human Services, Education and Related Agencies, House Committee on Appropriations, that 16 percent of its 773 budgeted positions were devoted to administrative management in fiscal year 1984. HHS, in a March 1985 report to the Subcommittee, compared this 16 percent figure with 20 percent of NIOSH's 932 positions in fiscal year 1980.

According to NIOSH's assistant executive officer, these percentages were based on the number of positions that NIOSH had allocated to the Office of the Director, the Office of Program Planning and Evaluation, the Office of Extramural Coordination and Special Projects, and the Offices of Administrative Services (Atlanta, Cincinnati, and Morgantown). This official considered these units as the ones that performed administrative duties and that therefore all personnel assigned to them were administrative. Conversely, all NIOSH employees not assigned to the above units were considered scientific personnel, irrespective of their specific duties and responsibilities. Using NIOSH's method, we computed the following changes in NIOSH's administrative positions by organizational units.

In May 1981, 178 of 835 of NIOSH's budgeted positions (21 percent) were in the above mentioned offices; in September 1985, 124 of 773 budgeted positions (16 percent) were in these offices.

NIOSH Administrative Staff Using OPM Personnel Classification System

According to an OPM personnel specialist, each federal white collar occupational series and grade can be grouped into one of five broad categories (Professional, Administrative, Technical, Clerical, or Other) for purposes of statistical work-force analysis.

In analyzing NIOSH's staff using OPM's groupings, the percentage of NIOSH staff in administrative and clerical job classifications decreased from 37 to 34 percent between May 1981 and September 1985. We combined administrative (i.e., program analysts, contract specialists, administrative officers) and clerical (i.e., clerk-typists, secretaries, mail clerks)

groups. In May 1981, 328 of 883 (37 percent) full- and part-time NIOSH employees were in this group. In September 1985, 270 of 787 (34 percent) NIOSH employees were either administrative or clerical personnel. Between 1981 and 1985 the percentage of NIOSH staff considered to be in OPM's "professional" group (e.g., division directors, branch chiefs, industrial hygienists, and chemists) increased from 50 to 53 percent.

Staff Years Allocated to NIOSH's Administrative Projects

Finally, we analyzed NIOSH's administrative staffing based on information in NIOSH's annual project plans for fiscal years 1983-85. These plans included information on NIOSH's administrative activities and provided the estimated number of staff years allocated to conducting them. Based on information in the 1983-85 plans and discussions with NIOSH's assistant executive officer, the percentages of administrative staff years to total budgeted staff years were 35, 26, and 23 percent, respectively--ranging from 269 of 773 staff years in fiscal year 1983 to 176.9 of 773 staff years in fiscal year 1985.

NIOSH EFFORTS TO FUND AN INDIVIDUAL WORKER NOTIFICATION PROGRAM

For fiscal years 1985 and 1986, NIOSH proposed projects to individually notify an estimated 200,000 to 250,000 workers who its studies had indicated were potentially exposed to workplace health hazards. A proposal was not funded in fiscal year 1985 because CDC and NIOSH ranked the project too low in priority relative to their other programs. A similar proposal was not funded in fiscal year 1986 because PHS officials raised ethical, social, economic, and legal issues about the worker notification program. In May 1986, NIOSH's Board of Scientific Counselors approved NIOSH's criteria for identifying which individuals should be notified and the methodology for notifying them. In November 1986, NIOSH submitted a request to CDC for supplemental funds in fiscal year 1987 to support individual worker notification efforts. According to NIOSH's assistant executive officer, CDC could not fund this request because funds were needed for fiscal year 1987 federal salary increases and for benefits under the new federal employee retirement system.

NIOSH Worker Notification Policy

NIOSH conducts a wide range of workplace safety and health research that sometimes indicates workers were exposed to health hazards. Its policy for notifying workers of such exposure varies depending on the study performed and information collected. For example, results of studies such as health hazard

evaluations[1] are usually posted at worksites and provided to employers, employee representatives, union officials, appropriate federal and state agencies, and other requesters. If not posted at worksites, the results are provided directly to individuals, according to NIOSH officials. In cases where NIOSH has medically examined individuals during a study, examination results are provided directly to these individuals and to their designated health care provider.

NIOSH has not notified individual workers of the results of certain epidemiological studies. According to NIOSH documents proposing a worker notification project, NIOSH has identified 66 studies involving between 200,000 and 250,000 workers who were potentially exposed to workplace health hazards and who were not individually notified of their exposure.

In February 1982, the HHS Office of General Counsel concluded that NIOSH had no legal responsibility to individually notify workers of potential exposure to health hazards in workplaces. On the other hand, a CDC Ethics Advisory Committee, in a December 1983 draft report, concluded that NIOSH had an ethical obligation to provide individual worker notification, particularly when NIOSH is the exclusive holder of clear evidence showing cause-effect relationships between exposure and health risk.

Past Worker Notification Efforts

In 1977, NIOSH submitted a report entitled Practical Problems and Policy Issues Arising From Exposures to Hazardous Chemicals and Physical Agents in the Workplace to the Senate Committee on Human Resources. Since that time, NIOSH has initiated several individual worker notification efforts.

In 1979, NIOSH's Division of Surveillance, Hazard Evaluations, and Field Studies (DSHEFS) completed a pilot study on the feasibility of notifying workers who had potentially been exposed to workplace hazards. NIOSH selected 55 workers for notification. Workers' medical records were submitted to NIOSH pursuant to provisions of the Occupational Safety and Health Administration's regulations on 13 carcinogens (29 C.F.R. Part 1910.10). NIOSH sent letters to these workers advising them of possible exposure to a carcinogen. No medical surveillance or follow-up was planned. Forty-nine percent of those who presumably received a letter responded by asking NIOSH to send medical

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[1]Health hazard evaluations are on-site investigations conducted by NIOSH in response to requests by employees, employers, or other interested parties for assistance in determining the toxic effects of chemical, biological, or physical agents that are found in the workplace.

information to their physician. NIOSH later learned, through a telephone survey, that none of the workers contacted their physician.

In 1980, NIOSH began a major pilot study to (1) evaluate problems inherent in notifying individual workers of their potential health risks and (2) identify criteria and develop a conceptual model for subsequent notification efforts. NIOSH selected for study 1,385 workers in Augusta, Georgia, who were exposed to a potent bladder carcinogen, beta-naphthylamine. NIOSH believed 1,094 of the workers were alive and attempted to notify them by mail of their potential risks. NIOSH estimated that 849 workers actually received notification. Working with state and local health departments, a local medical college, and a community action group, NIOSH established a bladder cancer screening and education program in which 655 of the workers participated.

During the study, 14 cases of bladder cancer were found. These included 7 cases detected during the study (4 through screening and 3 from death certificates), and 7 detected and treated independently of the study. Based on their experience with this study, NIOSH concluded that individual worker notification is merely a first step of a long, complex process. They concluded that individual worker notification can be achieved, but it should be accompanied by information, medical surveillance, and support programs for potential victims and sometimes their families.

Low Funding Priority

As part of its fiscal year 1985 budget request, NIOSH asked for $1.75 million to initiate a program to inform about 238,000 workers of their potential exposure to toxic substances in the workplace. NIOSH identified these workers in 66 epidemiological studies involving 257 workplaces. Under this proposal, NIOSH intended to send letters to individual workers informing them of their risk and giving them a hotline number to call for counseling. However, because of the low NIOSH funding priority for the proposal, it was not funded.

NIOSH ranked this program 8th among 12 new initiatives it wanted to fund in fiscal year 1985. CDC's policy and planning committee ranked this program 30th of 58 new initiatives. CDC's program and planning director told us that the proposed individual worker notification program was important, but it could not compete with higher priority NIOSH research projects. NIOSH's Director told us that individual worker notification is an important project for NIOSH, but that is not to say that it exceeds the importance of NIOSH's research programs.

Unresolved Policy Questions

According to CDC's program and planning director, NIOSH requested $2.3 million for fiscal year 1986 for an individual worker notification program. With these funds, NIOSH intended to (1) complete 5 worker notification pilot projects and (2) notify workers identified in 23 of the previously mentioned 66 epidemiological studies.

NIOSH ranked the program 1st among 11 new initiatives for which it requested fiscal year 1986 funds. CDC's program planning committee rated the project second among four NIOSH projects. CDC forwarded this proposal to PHS for approval. The CDC program and planning director told us that PHS's Office of Health Planning and Evaluation raised questions about proposed funding for this project, causing it to be deferred. According to the deputy director, Office of Health Planning and Evaluation, the following ethical, social, economic, and legal questions needed to be answered before implementing a program to notify individual workers:

-- Has there been sufficient internal and external review of the ethical obligation to notify workers?

-- Have the social ramifications of notifying workers of a potential compromise to their health from exposure to a detrimental environmental substance been identified?

-- Have the economic consequences to the agency, the individual, and society as a whole been assessed? Does it make any difference that in NIOSH's 1980 Augusta pilot notification program, more than $300 million in litigation claims were reportedly filed against the companies involved?

-- Is NIOSH legally responsible for notifying workers of potential hazards in the workplace? Although HHS counsel concluded in 1982 that NIOSH is not, PHS recognized that this is a developing area of law.

Worker Notification Plans Evolving

NIOSH's plans to notify individual workers are evolving. Since 1977, NIOSH has developed several plans aimed at notification, but they have not been finalized. According to the NIOSH Director, the difficulty is in determining whom to notify and how. More recently, NIOSH has developed scientific criteria for identifying these workers, designed a feasible method to notify them, and requested its Board of Scientific Counselors to review these criteria and methods.

In May 1986, the Board of Scientific Counselors approved NIOSH's proposed criteria for selecting the right individuals for notification and the methodology for notifying them. As of November 1986, NIOSH was identifying individuals who should be notified. NIOSH had submitted a request to CDC for supplemental funding in fiscal year 1987 to notify these individuals. However, according to NIOSH's assistant executive officer, CDC could not fund this request because funds were needed for fiscal year 1987 federal salary increases and for benefits under the new federal employee retirement system.

Proposed Legislation to Improve Worker Notification

Two bills were introduced in the 99th Congress to improve worker notification efforts. In February 1985, the Chairman of the Subcommittee on Health and Safety, House Committee on Education and Labor, introduced a bill (H.R. 1309) that would establish a system for identifying, notifying, and preventing illness and death among workers who have an increased or high risk of occupational disease. During November 1985 hearings, NIOSH's Director, testifying on behalf of HHS, stated that although NIOSH shares the worker notification concerns of the bill's sponsor, HHS and NIOSH did not support the bill. The Director said that NIOSH could proceed with a worker notification program without additional legislation.

Other reasons given by the NIOSH Director for not pursuing legislation for this program included the following: (1) the proposed legislation was much broader and more complex than any notification program envisioned by HHS at that time, (2) it would require NIOSH to divert research resources from mandated responsibilities to conduct studies for the sole purpose of identifying workers at risk, and (3) it would increase the cost of NIOSH notification efforts considerably. Additionally, in November 1985, the acting assistant attorney general testified that, because tort liability could well amount to hundreds of millions, if not billions, of dollars and add thousands of new lawsuits to the already burgeoning tort dockets of the federal courts, the Department of Justice strongly opposed the bill.

In February 1986, S. 2050 was introduced. This proposed legislation would establish a low-cost system for identifying, notifying, and monitoring workers who are at risk of exposure to health hazards in the workplace.

At the end of the 99th Congress, neither bill had passed. In January 1987, the Chairman of the Subcommittee on Health and Safety introduced H.R. 162. This bill, if enacted, will create a program that will provide for notifying individual workers of their exposure to health hazards in the workplace.

NIOSH USE OF FUNDS TARGETED FOR INDUSTRY-WIDE STUDIES

Legislative histories for HHS's fiscal years 1984 and 1985 appropriation acts indicated that the Congress wanted NIOSH to expand its industry-wide study[2] activities by $1,500,000 and $750,000, respectively. NIOSH officials identified the projects on which these "targeted" funds were expended. However, because NIOSH neither accounted for funds based on the type of study conducted (industry-wide) nor accumulated information that would show the total costs of an individual research project, we were unable to verify whether NIOSH actually expanded its industry-wide study activities in fiscal years 1984 and 1985 by the amounts that the Congress intended.

According to the Conference Report on the 1984 HHS appropriation (H. Rept. 98-422), the House and Senate conferees agreed that a $1.5 million increase in research funds for NIOSH should be used for industry-wide studies. For fiscal year 1985, the conference report (H. Rept. 98-1132) indicated that $750,000 of a $1,500,000 increase in NIOSH's budget was for long-term industry-wide studies. The HHS appropriation acts for these years did not specifically earmark funds for such studies.

According to the NIOSH Director and other NIOSH officials, five NIOSH divisions used the "targeted" fiscal years 1984 and 1985 funds on a total of 17 studies. Because NIOSH's accounting system did not keep track of its use of funds based on type of study conducted, NIOSH officials classified which of its studies were industry-wide studies and then estimated the costs of each study. Neither we nor NIOSH could document from NIOSH's accounting records that the "targeted" funds expanded NIOSH's industry-wide study activities. We noted that 10 of the 17 studies that NIOSH identified as industry-wide studies funded with the 1984 and 1985 "targeted" funds had started before fiscal year 1984.

Reported Use of Targeted Funds

According to the NIOSH Director, several NIOSH organizational units, including its industry-wide studies branch, conducted research projects classified as industry-wide studies. NIOSH officials identified the following five divisions and two state agencies that conducted the 17 industry-wide studies using the fiscal years 1984 and 1985 funds "targeted" by the Congress:

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[2]An industry-wide study is designed to determine health and safety conditions associated with specific occupations and/or workplace environments. The results of such research are intended to be used to protect workers throughout one or more industries.

(1) Division of Respiratory Diseases Studies (DRDS), (2) Division of Safety Research (DSR), (3) Division of Biomedical and Behavioral Science (DBBS), (4) DSHEFS, (5) Division of Physical Sciences and Engineering (DPSE), and (6) state agencies in Nebraska and Utah. The industry-wide studies branch is part of DSHEFS.

Table 1.1 contains information on projects NIOSH funded with fiscal year 1984 targeted funds.

Table 1.1: Industry-wide Studies Funded With Targeted Funds (Fiscal Year 1984)[a]

Project	Organization conducting study	Year project started	Estimated funding
National Occupational Health Survey for Mining	DRDS	1969	$ 400,000
Safety and Automated Manufacturing	DSR	1980	90,000
Office Workers and Video Display Terminals	DBBS	1981	150,000
Medical, Biometric, and Industrial Hygiene Studies of Emerging Problems	DSHEFS	1979	760,000
State Cooperative Agreements for Industry-wide Studies	Nebraska and Utah	1984	100,000
Total			$1,500,000

[a]NIOSH had reported the above information to Congressman Obey in September 1984.

Source: NIOSH.

Table 1.2 contains information on projects NIOSH funded with fiscal year 1985 targeted funds.

Table 1.2: Industry-wide Studies Funded With Targeted Funds (Fiscal Year 1985)

Project	NIOSH division conducting study	Year project started	Estimated funding
Semen Analysis Longitudinal and Field Studies	DBBS	1984	$154,501
Chronic Stress in Office Workers	DBBS	1980	110,409
Epidemiologic Study of RF Heater Operators	DBBS	1984	62,440
Asbestos Removal Control Technology Assessment	DPSE	1984	3,751
Epidemiological Review of Cotton Mills	DRDS	1984	69,195
Uranium Miners	DSHEFS	1982	87,388
Epidemiological Methods Development	DSHEFS	1984	69,841
Sentinel Health Event Follow-back Study	DSHEFS	1983	41,533
Industrial Hygiene Characterization of Grain Fumigators	DSHEFS	1984	
Mortality and Industrial Study of Formaldehyde	DSHEFS	1980	74,156
Ethylene Oxide Mortality Study	DSHEFS	1982	122,662
Update of Cohort Mortality Studies	DSHEFS	1982	58,222
Total			$854,098

Source: NIOSH.

Information on the costs for each of the industry-wide studies listed in tables 1.1 and 1.2 can only be estimated because NIOSH did not keep track of the amount of staff time charged to each study. Based on NIOSH accounting records, NIOSH personnel costs are charged to a central account. NIOSH's Director and other officials told us that for each study, NIOSH estimated the study's personnel costs based on the cost per

full-time equivalent staff and the number of researchers assigned to a particular study. However, because researchers were almost always involved in more than one study at a time and because they did not charge their time to a specific study, only estimates of the time spent on a selected industry-wide study can be made.

NIOSH accounting records contain information on such nonpersonnel costs as contracts, travel, and supplies for each study conducted. For example in fiscal year 1985, about 42 percent of the estimated costs for the industry-wide studies identified in table 1.2 were nonpersonnel costs.

According to NIOSH officials, funds "targeted" for industry-wide studies in fiscal years 1984 and 1985 were combined with other funds received for NIOSH research, and without the additional "targeted" funds provided by the Congress in fiscal years 1984 and 1985, some industry-wide studies may have been terminated or reduced in scope.

According to the deputy director of DSHEFS, of the funds targeted for industry-wide studies, the industry-wide studies branch in DSHEFS received an estimated $760,000, or 52 percent of the fiscal year 1984 targeted funds, and about 453,800, or 53 percent of the fiscal year 1985 targeted funds. (See table 1.3.) The Director of NIOSH told us that targeted funds were not distributed solely to the industry-wide studies branch; other NIOSH units also performed such studies. He said the various units that performed industry-wide studies competed for funding.

Table 1.3: Percentage Distribution of Targeted Funds for Industry-wide Studies

Organizational unit	Fiscal year 1984	1985
	---(percent)---	
DSHEFS industry-wide studies branch	50.7	53.1
DRDS	26.7	8.1
DBBS	10.0	38.3
DSR	6.0	-
DPSE	-	0.5
State agencies	6.6	-
Total	100.0	100.0

DATA TO MEASURE TIME FRAMES FOR REPORT PROCESSING UNAVAILABLE

NIOSH, NCTR, and NIEHS prepare various articles and reports on their research activities. For example, in fiscal years 1984 and 1985, NIOSH prepared such reports as criteria documents, journal articles, and technical reports; NCTR and NIEHS each prepared technical reports. Before approving these types of reports for publication,[3] each agency generally subjected them to a series of reviews by supervisors, internal and/or external peers, agency directors, and other agency officials. These reviews generally focused on testing the scientific and technical accuracy of research findings to assure quality reports.

We attempted to measure the length of time each of these agencies took to process their reports through publication. However, because NIOSH, NCTR, and NIEHS did not always record such dates as the beginning of report preparation or the submission of draft products to the various review levels, we could not measure report processing time frames for these agencies' products. Information that was generally available included when each of these agencies submitted their reports for either internal or external peer review and when these reports were submitted for publication.

We reviewed the following NIOSH, NCTR, and NIEHS products, published in fiscal years 1984 and 1985, that were subjected to some type of internal or external peer review:

-- NIOSH products included 3 criteria documents, 10 technical reports, and a random sample of 92 of 384 journal articles.

-- NCTR and NIEHS products included 103 and 31 technical reports, respectively.

Based on our review of the above, we identified (1) variations in these agencies' report review processes and (2) delays in getting some NIOSH reports published because NIOSH researchers did not obtain HHS approval at the appropriate time. We also obtained information on the length of time NIOSH took to review and approve an article on benzene research. According to NIOSH officials, because of the significance of the benzene research findings and because its benzene research has been intensely critiqued, NIOSH took about 7 months to review and approve this article before submitting it for publication. This

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[3]In many cases, the agencies are not responsible for publishing these reports. Reports are often submitted to scientific journals for publication; these journals also review the reports and articles before agreeing to publish them.

was about 2 months longer than it took to review and approve for publication other journal articles.

Variations in Report Review Processes

In reviewing NIOSH, NCTR, and NIEHS report processing activities, we identified the following key processing steps that each agency used in reviewing and approving reports for publication.

Table 1.4: Key Report Review Steps at NIOSH, NCTR, and NIEHS

Review processing step[a]	NIOSH	NCTR	NIEHS
Initial report draft completed	x	x	x
Supervisory review	x	x	
Division approval		x	
Division approval of peer review members	x		
Internal peer review	x	x	x
External peer review	x		x
Division approval	x		
Agency director approval	x	x	x
Submission for publication	x	x	x

[a]Some processing steps included multiple review-type functions before the report could be submitted to the next step. For example, at NCTR, data audit and quality reviews were performed concurrently with internal peer review. At NIOSH, directorate level reviews included reviews by senior advisory staff and writer/editors.

NIOSH, NCTR, and NIEHS processed their reports sequentially through the above review steps. The agencies did not always follow the same steps. Even where similar steps existed, they were not always performed at the same point in the process. Some examples of the differences were:

-- NIOSH and NCTR initial report reviews were performed by immediate supervisors, such as section or branch chiefs. NIEHS's first level review was by an internal peer review group.

-- Both NIOSH and NIEHS used internal and external peer reviews. NIOSH reports received concurrent peer review. NIEHS internal and external peer reviews were conducted sequentially. NCTR did not submit its reports to an external peer review.

-- NCTR and NIEHS processed reports through a data audit or quality review step. NIOSH did not formalize this function as a separate step. Instead, data audit activities

were taken care of during reviews within its divisions. At NCTR and NIEHS, the sequence of such reviews was different. NCTR began its quality review activities concurrently with its internal peer review. NIEHS sometimes started its data audit before the report was drafted and continued it through the internal peer review step.

-- Both NIOSH and NCTR processed reports through a division director for review and approval. NIOSH division directors usually approved the selection of peer review members and withheld their approval of a report until after internal and external peer review processes were completed. NCTR division directors approved reports before they were submitted for internal peer review. NIEHS did not process its reports through a division director for approval.

In addition to variations between agencies, NIOSH's review and approval process varied by report type. NIOSH produced at least the following nine different types of reports during fiscal years 1984 and 1985.

-- Criteria documents recommending standards to the Department of Labor for protecting the health and safety of workers.

-- Journal articles presenting findings and methodology on NIOSH research.

-- Technical reports, which are essentially the same as technical journal articles, but are too extensive for publication in a scientific journal.

-- Current intelligence bulletins transmitting information on newly discovered or little known occupational hazards.

-- NIOSH alerts presenting new findings for preventing occupational and safety hazards.

-- Health hazard evaluation reports presenting study findings and recommendations for controlling specific occupational health and safety hazards.

-- Morbidity and mortality weekly report articles presenting information on (1) work-related illnesses or injuries, (2) measures for preventing such injuries, and (3) other sources of data on the illness or injury discussed in the article.

-- Regulatory responses responding to Department of Labor requests for information.

-- Book chapters presenting findings on occupational safety and health research studies.

Generally, NIOSH subjected each of these reports to a supervisory and division director review before publication. However, only criteria documents, technical reports, and journal articles were subjected to reviews by internal or external peers.

According to NIOSH procedures, reports that potentially affected NIOSH policy for occupational safety and health and reports on sensitive issues are to be reviewed and approved by NIOSH's Director. Division directors often approved for publication reports that did not affect NIOSH policy for occupational safety and health or address sensitive issues. Typically, these included health hazard evaluation reports and book chapters. Division directors generally approved other reports, such as journal articles, when they did not affect NIOSH policy.

Report Processing Dates Not Always Documented

Because NIOSH, NCTR, and NIEHS did not document, for every report, each of the dates that they processed their reports through the various review and approval steps identified in table 1.4, we could not accurately measure time frames it took these agencies to submit their reports for peer review. The length of time between submission of reports for peer review and approval for publication was generally available.

In measuring the processing time from when NIOSH, NCTR, and NIEHS submitted reports for peer review and when reports were submitted for publication, we selected reports that these agencies subjected to an internal or external peer review.

For the NIOSH products reviewed, we found:

-- NIOSH took an average of 47 months to submit for publication the three criteria documents that were published in fiscal years 1984 and 1985. According to NIOSH officials, one of the reasons for this high average was that NIOSH suspended report processing for about 42 months for one of these documents. This suspension occurred because the NIOSH division that conducted the research was reorganized and relocated twice before the document was approved for publication. Total time for processing this report after it was submitted for internal peer review was 77 months.

-- For 66 of the 92 journal articles and for the 10 technical reports where information was available, NIOSH took an average of 4 and 25 months, respectively, to submit these reports for publication after they had been submitted for peer review. According to a NIOSH official, the average number of months for approving technical reports for publication was relatively high because NIOSH researchers who were responsible for these reports did not request HHS approval to publish their research results until after they completed their research. Normally, NIOSH researchers obtain this approval before their research is completed. The NIOSH director averaged about 2 months to review and approve technical reports for publication. For the 6 technical reports reviewed by the Director, the average length of time from submission of the report to the Director to submission of the report for publication was 17 months. Four of the 10 technical reports and 85 of the 92 journal articles were not reviewed and approved by the Director because they did not contain information on issues or concerns that would potentially affect NIOSH's policy on occupational safety and health.

Different Process Used to Review and Approve NIOSH's Benzene Article

NIOSH's review and approval process for its technical journal article on benzene was different from the process normally followed for journal articles. The division director reviewed and approved this article before subjecting it to peer review. Such articles are normally approved by division directors after peer review. In addition, the agency director's office, rather than the division director, coordinated the peer review process for the benzene article.

According to the NIOSH assistant executive officer, the NIOSH Director's staff coordinated the peer review process for the benzene report because of the significance of, and broad interest in, benzene research. The official said NIOSH officials expected the benzene research to receive intensive scrutiny, and they wanted to be sure the report could withstand any criticism. The purpose of NIOSH's benzene research was to quantitatively assess the association between benzene and leukemia. To do so, NIOSH examined the mortality rate of a group of workers who were believed to have been exposed to benzene.

The time required to process the benzene article through the NIOSH Director's office exceeded the averages for technical journal articles published during fiscal years 1984 and 1985. It required 7 months between report submission to the Director and submission for publication, which was 2 months longer than

the average for other journal articles submitted to the Director. According to the deputy director for the NIOSH division that performed the benzene research, the report required longer to clear the review process because of concerns about the accuracy of information on the level of benzene to which the workers had been exposed.

NIOSH approved the benzene article for publication in August 1985. According to the deputy director of the division that produced the benzene article, it was submitted to a medical journal for publication in September 1985. Research was initiated in September 1983 and completed in January 1985. The report was initially submitted to the NIOSH Director for approval in February 1985. The article was revised and resubmitted to the Director in July and again in August. The Director approved the report on August 13, 1985. As of February 4, 1987, the benzene report had not been published in a scientific or medical journal.

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