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**Nuclear Safety and Health:  
Nonconforming Products Are  
A Governmentwide Problem**

*Statement of*  
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*Before the*  
**Committee on Governmental Affairs  
United States Senate**



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Mr. Chairman and Members of the Committee:

We appreciate the opportunity to discuss nonconforming products in the federal government. My testimony today is based on our October 1990 report, Nuclear Safety and Health: Counterfeit and Substandard Products Are a Governmentwide Concern

(GAO/RCED-91-6). The full extent of the use of nonconforming products is unknown. However, large and small companies, both foreign and domestic have sold nonconforming products, including counterfeit and substandard parts, to commercial nuclear power plants and federal agencies and their contractors. These nonconforming products can fail and result in death or injury, as well as additional costs to the government.

In summary, we found the following

- Nuclear utilities have installed nonconforming products in, or are suspected of having received them for, about 64 percent of the 113 domestic nuclear power plants. Such products include fasteners, steel, fuses, pumps, valves, and circuit breakers.
  
- Nonconforming products are a governmentwide problem. The Department of Defense (DOD), Department of Energy (DOE), Department of Transportation (DOT), Federal Aviation Administration (FAA), and National Aeronautics and Space

Administration (NASA) have found nonconforming products in weapons systems, submarines, aircraft, and the space shuttle.

- The Nuclear Regulatory Commission (NRC) is reducing its regulatory influence over the nuclear industry. For example, NRC delayed procurement inspections for at least one year and withdrew civil penalties against utilities.
  
- No governmentwide effort exists to address nonconforming products. The Office of Management and Budget (OMB) has not fulfilled its 1988 commitment to act as a clearinghouse for information on nonconforming products.
  
- Federal agencies could benefit from sharing information on nonconforming products. Incidents have occurred that illustrate the need for an information clearinghouse for these products. For instance, almost 5 years after DOD had identified certain vendors as suspect, utilities installed steel purchased from these companies in nuclear plant safety systems. NRC learned about the companies only after they were indicted for delivering nonconforming products to DOD.

NONCONFORMING PRODUCTS: A  
NUCLEAR INDUSTRY PROBLEM

We found that utilities have installed nonconforming parts, or are suspected of having received them for at least 72 of the 113 licensed domestic nuclear power plants. Utilities reported finding nonconforming fasteners--such as nuts, bolts, and screws--in 58 percent of the plants; some were installed in safety systems needed to shut down the reactor or mitigate an accident. Many other plants have or are suspected of having nonconforming pipe fittings and flanges, pumps, fuses, valves, valve replacement parts, and circuit breakers. According to NRC, a reduction in the number of suppliers, vendors' cost-cutting measures, and a heightened awareness of nonconforming parts have led to the increased detection of such products. The following examples illustrate the type of problems recently discovered in the nuclear industry.

In 1988, the utility that owns the Wolf Creek, Kansas, plant notified NRC that Planned Maintenance Systems of Mt. Vernon, Illinois, delivered fuses without performing required seismic, environmental, and other tests. NRC confirmed the allegation and determined that 10 other plants received the parts. Later, the company's president pleaded guilty to, in part, making false statements and claims regarding the fuses.

In another case, in May 1989, a federal grand jury indicted two companies on 27 counts of substituting commercial-grade for military-grade steel and fraudulently marking the substitutions as meeting DOD's specifications. The steel was used in Navy

submarines and surface ships. Subsequently, Virginia Power and General Public Utilities Nuclear Corporation found that steel they had purchased from the companies for the Surry and Oyster Creek nuclear plants, respectively, did not meet certain chemical and mechanical specifications.

NONCONFORMING PARTS ALSO  
A GOVERNMENTWIDE PROBLEM

To gain a governmentwide perspective on problems associated with nonconforming products, we contacted officials at five agencies, in addition to NRC. These agencies found nonconforming products, as well. For example, DOD found nonconforming products installed in military aircraft and ships. DOE found nonconforming circuit breakers in nuclear weapons production facilities. Also, DOT, including FAA, and NASA investigated cases of nonconforming fasteners in commercial aircraft and the space shuttle. I will briefly describe some problems that the agencies identified.

-- In 1988 the Defense Criminal Investigative Service reported that nonconforming products were frequently installed in systems important to the proper functioning of radar, sonar, and communications systems for aircraft, ships, and weapons. According to the Service, such product substitution could have an impact on the readiness of forces or the safety of personnel.

-- In 1989 DOD's Inspector General estimated that an Air Force logistics center paid more than \$100 million over a 2-year period for substandard spare parts for certain classes of guns, bearings, and hardware.

-- In 1989 DOE's Inspector General found two counterfeit circuit breakers at Rocky Flats, Colorado, where the agency recovers plutonium from retired weapons and scrap metal. The Inspector General found an additional 102 nonconforming circuit breakers at the Tonopah Test Range, Nevada, where DOE conducts underground weapons tests, and 12 at the Idaho National Engineering Laboratory, where DOE conducts research for the naval propulsion program. All 114 circuit breakers had been refurbished but sold to DOE as new products.

NRC IS DEFERRING ITS  
REGULATORY RESPONSIBILITY

Nuclear power is a complex and potentially hazardous technology; therefore, ensuring quality in the design, construction, and operation of these plants is essential for protecting public health and safety. Since 1970, utilities building and operating nuclear plants have been required to adopt quality assurance programs for structures, systems, and components that prevent or mitigate an accident.

Since 1985, NRC has found weaknesses in 12 of the 13 utilities' procurement and dedication programs it has reviewed. Dedication is a process by which commercial-grade parts are certified as suitable for use in nuclear power plant safety systems. NRC found that utilities did not have effective procedures to upgrade commercial-grade parts for safety-related uses. Some common weaknesses found were that utilities did not (1) verify that parts from unapproved vendors were of sufficient quality, (2) ensure that items purchased would function under all design conditions, and (3) show that replacement parts were identical to the ones being replaced. NRC took actions against eight utilities, including imposing civil penalties totaling \$275,000 against the five that operate the Crystal River (Florida), Farley (Alabama), Prairie Island (Minnesota), Trojan (Oregon), and Washington Nuclear (Washington) plants. Subsequently, NRC reduced its regulatory influence over the industry by withdrawing enforcement actions, including two civil penalties.

Although, over time, NRC staff has recognized that additional programmatic inspections would find more and similar violations, in March 1990 the staff recommended to the Commission that NRC suspend quality assurance program inspections for at least 1 year to give utilities time to implement industry guidelines concerning the use of commercial-grade products in nuclear power plants. Through its regular inspections, the staff plans to assess the utilities' progress in implementing the industry's program. After that, the

Commission will decide whether to reinstate the programmatic inspections.

NO GOVERNMENTWIDE EFFORT EXISTS  
TO ADDRESS NONCONFORMING PRODUCTS

Although nonconforming products are a governmentwide problem, OMB, which provides management leadership across the executive branch, has not aggressively pursued actions to address this concern. In 1988 OMB agreed to develop a plan for distributing information on nonconforming products. However, except for surveying federal agencies to determine the extent of the problem, OMB has not followed through on its commitment. A senior OMB official told us that the agency "lost direction" on this issue after a change in administrations and that OMB did not have the resources available to meet its commitment.

On behalf of the President's Council on Integrity and Efficiency (PCIE), in 1988 DOD's Inspector General undertook a survey of executive agencies to determine the scope of nonconforming parts problems in the federal government. In its July 1990 report on the survey, PCIE made the following observations:

- Product substitution presents a risk to many federal agencies. For example, 48 percent who responded said their agency experienced product substitution problems.



-- Most said product substitution affected their agency in more than one way. For example, about 50 percent of the respondents indicated that substituted products resulted in the need to pay for unexpected replacements or maintenance. Also, almost 33 percent said that such products adversely affected agency's missions, and 18 percent said that the products affected employees' health or safety.

-- Thirty-eight percent of the respondents reported product substitution problems with equipment and materials, such as fasteners.

Despite finding that product substitution was a concern to almost one-half of the 22 agencies surveyed, the report recommended further studies to determine whether a problem really exists.

BENEFITS WOULD BE DERIVED  
FROM SHARING INFORMATION

Realizing that nonconforming parts can cause accidents or significantly increase program costs, federal agencies have attempted to do what OMB agreed to do. For example, in January 1990 NASA hosted an interagency meeting to discuss a unified approach for exchanging information on problem parts and suppliers.

The meeting confirmed the need for greater exchange of information on such instances and a common system to transfer such information effectively. At that time, agency officials agreed to establish a working group on problem parts and suppliers and has held several additional meetings since then.

In addition to the efforts of the working group on problem parts and suppliers, the Defense Criminal Investigative Service convened a meeting in May 1990 with several federal investigative units to form a federal law enforcement interagency working group on product substitution fraud. The primary focus of the meeting was to devise a system for exchanging criminal investigative data on a governmentwide, real-time basis.

Federal agencies could reap substantial benefits from sharing information. Without such information, many years may elapse before agencies that identify problems with a company provide that information to other potential purchasers. We found, for example, that between November 1984 and 1987, DOD identified and disseminated information on four companies--two supplied steel and two supplied fasteners--that had delivered counterfeit and/or substandard products for Navy ships or that had serious problems with their inspection and quality assurance programs. Between March and July 1989, NRC learned that the companies had been indicted for delivering nonconforming products and only then warned

utilities that the companies were suspected of delivering the products to 66 nuclear power plants.

Centralized information on nonconforming products could also assist federal agencies' investigations of suspect vendors. Some agencies have started to combine their resources to investigate vendors suspected of selling common nonconforming products, such as fasteners. For example, in 1989 a joint investigation by the Defense Criminal Investigative Service, Air Force Office of Special Investigations, NASA's Inspector General, the Naval Investigative Service, and the Department of Transportation's Inspector General resulted in a 33-count indictment against Lawrence Engineering and Supply, Incorporated, its vice president, and its former quality control manager for delivering substandard fasteners for use in commercial aircraft, military hardware, and equipment for NASA's manned space flight programs, including the space shuttle. Subsequently, company officials pleaded guilty to five of the counts and were ordered to pay fines and restitution totaling \$625,000.

In another case, a joint investigation by NASA's Inspector General and NRC's Office of Investigations resulted in guilty pleas by the owners of California Circuit Breakers and ATS Circuit Breakers, Incorporated, to two felony counts of using counterfeit labels to falsely identify circuit breakers. NRC and NASA staff determined that the companies bought used circuit breakers,

reconditioned them, and sold them as new products. The utility that owns the Palo Verde, Arizona, plant had installed the circuit breakers. In April 1990, the U.S. District Court ordered the circuit breaker companies to pay over \$1.3 million to Palo Verde's owners to cover costs of shutting down the plant and removing the potentially dangerous parts.

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Mr. Chairman, nonconforming products, including substandard and counterfeit parts, have been found in systems critical to the proper functioning of nuclear power plants, commercial and military aircraft, naval ships, weapons systems, and the space shuttle. Accidents caused by the failure of such products could have devastating effects including death or injuries and serious economic consequences.

Despite the potential adverse health, safety, and financial effects from purchasing and using nonconforming products, the full extent of the problem is not known. OMB agreed to coordinate federal agencies' efforts concerning such products, but OMB has not followed through on its commitment. Also, PCIE's report recommended further study and analysis to determine whether reported product substitution really is a problem. In our view, a more aggressive approach is needed. Investigations conducted by the six agencies and resulting convictions obtained by the

Department of Justice support the need for an aggressive, governmentwide approach to help eliminate the problem of nonconforming products.

In our view also, a better approach is needed to ensure that federal agencies work together effectively to receive and disseminate information about such products. A centralized information exchange system may not stop the proliferation of nonconforming products throughout the federal government or nuclear utilities but would provide purchasers with information to help make informed decisions about potential suppliers and products. OMB has the authority to develop a plan of action and decide on the most effective, appropriate, and cost-beneficial mechanism to help resolve the problem of nonconforming products.

In response to our recommendation that the Director, OMB, develop an action plan, designate a lead agency to implement the plan, and develop a computerized information exchange system, OMB published a proposed policy letter in the Federal Register on February 1, 1991. The letter establishes policies and procedures for using a governmentwide system for exchanging information among agencies about nonconforming products and materials acquired under federal contracts.

We hope our views on nonconforming products have been useful to the Committee. We would be pleased to respond to any questions you or the members of the Committee may have.