



DEPARTMENT OF DEFENSE

# AUDIT REPORT

UTILIZATION OF THE WILLIAM LANGER  
JEWEL BEARING PLANT

No. 91-029

December 31, 1990

*Office of the  
Inspector General*





INSPECTOR GENERAL  
DEPARTMENT OF DEFENSE  
400 ARMY NAVY DRIVE  
ARLINGTON, VIRGINIA 22202-2884

December 31, 1990

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (PRODUCTION AND  
LOGISTICS)  
DIRECTOR, DEFENSE LOGISTICS AGENCY

SUBJECT: Audit Report on the Utilization of the William Langer  
Jewel Bearing Plant (Report No. 91-029)

This is our final report on the Utilization of the William Langer Jewel Bearing Plant. This audit was performed as part of an ongoing audit of Requirements for the National Defense Stockpile. The objectives of the audit were to evaluate the processes for determining the types, quantities, and quality of materials to be acquired for and retained in the National Defense Stockpile of Strategic and Critical Materials and to evaluate the internal controls used to ensure that procedures for making determinations were effectively applied. As part of the ongoing audit, we evaluated the utilization of the William Langer Jewel Bearing Plant (the Plant). Specifically, we evaluated how requirements were determined for jewel bearings manufactured by the Plant, the extent to which the jewel bearing manufacturing process relied on foreign sources for raw materials, and whether DoD requirements for dosimeters can be satisfied through the Plant. We also evaluated internal controls applicable to the audit objective. This report addresses only the utilization of the Plant. The overall requirements determination process for the National Defense Stockpile will be addressed in a separate report. We made the review of the Plant utilization from October 1989 through April 1990.

The audit showed that the Plant produced more jewel bearings than were needed for peacetime and contingency requirements and that to recover the costs of its operations, the Plant charged significantly higher prices than commercial vendors. Although justified as a domestic source of jewel bearings, the Plant has depended, for the nearly 30 years of its operation, on foreign sources for its input stock, referred to as blanks. The Plant received \$1 million in FY 1990 for equipment to produce blanks from raw materials; however, the Plant will continue to use foreign sources for the raw materials until a viable domestic source is developed. Our audit also showed that the Plant's dosimeter operation is a requirement of the Federal Emergency Management Agency and has no relation to the requirements of the National Defense Stockpile (the Stockpile) and thus far has not served any requirement of DoD. The results of the audit are summarized in the following paragraphs, and the details and audit recommendations are in Part II of this report.

The Plant produced more jewel bearings than were needed for peacetime and contingency requirements. Overproduction in peacetime resulted in an increasing number of jewel bearings being placed in the Stockpile for which requirements had not been substantiated. In addition, to recover the costs of its operations, the Plant charged significantly higher prices than commercial vendors (page 5).

The DoD is responsible for the Plant's dosimeter operations; however, the Plant does not support the DoD's requirements. The Federal Emergency Management Agency established the dosimeter operation to support its requirements for dosimeter pilot production only (page 11).

The audit identified internal control weaknesses as defined by Public Law 97-255, Office of Management and Budget Circular A-123, and DoD Directive 5010.38. The Plant did not comply with all provisions of the Federal Acquisition Regulation (FAR) regarding jewel bearings. We did not recommend that these weaknesses be corrected, because we concluded that the Plant was not needed for the production of jewel bearings and related items, and we recommended that the FAR provisions referred to above be eliminated. A copy of the final report will be provided to the senior official responsible for internal controls within the Office of the Secretary of Defense.

A draft of this report was provided to the addressees for comments on August 22, 1990. As of December 27, 1990, no comments were received from the addressees. Accordingly, this report is being published without management comments.

DoD Directive 7650.3 requires that all recommendations be resolved promptly. Therefore, all addressees are requested to provide comments. Comments should be provided within 60 days of the date of this report. As required by DoD Directive 7650.3, the comments must indicate concurrence or nonconcurrence in the finding and in each recommendation addressed to you. If you concur, describe the corrective actions taken or planned, the completion dates for actions already taken, and the estimated dates for completion of planned actions. If you nonconcur, you must state your specific reasons. If appropriate, you may propose alternative methods for accomplishing desired improvements.

If you nonconcur with the potential monetary benefits of \$9 million, identified in Appendix E, you must state the amount you nonconcur with and the basis for your nonconcurrence.

Recommendations and potential monetary benefits are subject to resolution in accordance with DoD Directive 7650.3 in the event of nonconcurrence or failure to comment. Comments are not required for the internal control weaknesses highlighted in Part I.

The courtesies extended to the audit staff are appreciated. If you have any questions on this audit, please contact Ms. Mary Lu Ugone on (703) 693-0317 (AUTOVON 223-0317) or Mr. Lloyd O'Daniel on (703) 693-0166 (AUTOVON 223-0166). A list of the audit team members is in Appendix G. The distribution of this report is shown in Appendix H.



Edward R. Jones  
Deputy Assistant Inspector General  
for Auditing

cc:  
Under Secretary of Defense for Acquisition  
Director, Defense Acquisition Regulatory Council



UTILIZATION OF THE WILLIAM LANGER JEWEL BEARING PLANT

TABLE OF CONTENTS

	<u>Page</u>
TRANSMITTAL MEMORANDUM/EXECUTIVE SUMMARY	i
PART I - INTRODUCTION	1
Background	1
Objectives and Scope	3
Internal Controls	4
Prior Audit Coverage	4
PART II - FINDINGS AND RECOMMENDATIONS	5
A. Production and Stockpiling of Jewel Bearings	5
B. Plant Dosimeter Operations	11
APPENDIX A - FY 1989 Sales for the William Langer Jewel Bearing Plant	15
APPENDIX B - Compliance with the Federal Acquisition Regulation	17
APPENDIX C - Federal Supply Groups That May Contain Jewel Bearings	19
APPENDIX D - Results of Sample Contracts Reviewed	21
APPENDIX E - Summary of Potential Monetary and Other Benefits Resulting from Audit	27
APPENDIX F - Activities Visited or Contacted	29
APPENDIX G - Audit Team Members	31
APPENDIX H - Final Report Distribution	33

Prepared by:  
Readiness and Operational  
Support Directorate  
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## UTILIZATION OF THE WILLIAM LANGER JEWEL BEARING PLANT

### PART I - INTRODUCTION

#### Background

The Strategic and Critical Materials Stock Piling Act ( U.S.C., title 50, section 98) mandates that a stock of strategic and critical materials be maintained to decrease dependence on foreign sources of supply in times of national emergency. Materials are designated as strategic and critical when there is a dangerous and costly reliance on imports of these materials during a national emergency. In accordance with the Strategic and Critical Materials Stockpiling Act, the Secretary of Defense is required to submit to Congress an annual report on requirements for stockpiling materials for which the United States is dependent on foreign sources. Jewel bearings were in critically short supply during World War II. In the 1950's they were added to the National Defense Stockpile (the Stockpile). Jewel bearings are the only finished items of stock in the Stockpile.

In October 1952, the U.S. Army established the William Langer Jewel Bearing Plant (the Plant), in Rolla, North Dakota, to relieve the United States of foreign dependency for jewel bearings. In 1957, responsibility for management of the Plant was transferred to the General Services Administration (GSA), and responsibility for policy and oversight was transferred to the Office of Emergency Preparedness, subsequently renamed the Federal Emergency Management Agency (the Agency). In August 1968, Public Law 90-469 authorized the operation of the Plant and the establishment of a separate fund under the direction and control of the Administrator of GSA for the operation of the Plant. Executive Order 12626, effective February 25, 1988, transferred management of the Stockpile from the GSA and the Agency to the Secretary of Defense. In September 1988, Public Law 100-440 transferred the Plant from GSA to the National Defense Stockpile Manager. The Secretary of Defense, through the Under Secretary of Defense for Acquisition, delegated responsibility for managing the Plant to the Defense Logistics Agency's National Defense Stockpile Center (the Center).

Since 1952, the Bulova Watch Company, Incorporated, a subsidiary of Lowes Corporation, Flushing, New York, has operated the Plant. It is the only facility that produces jewel bearings in the United States. The Plant has operated under various types of contractual arrangements since its inception. Currently, the Plant operates under a cost-plus-fixed-fee contract, effective through September 30, 1991, at an annual fee of \$99,000. The Plant, a single-story structure, is equipped with specialized



production equipment, high precision inspection apparatuses, a machine shop, and a tool room. The Plant employs about 140 contractor personnel and produces various types of jewel bearings and related items.

The Plant annually produces about 1.5 to 2 million jewel bearings and sells them at fixed prices to Government agencies, Government contractors and subcontractors, the Stockpile, and commercial customers. According to the Plant operators, additional shifts, if needed, could increase annual production to as much as 12 million jewel bearings.

Jewel bearings are used in watches, compasses, gauges, meters, indicators, scales, gyroscopes, and similar instruments. The bearings are used to minimize friction and wear between small moving parts, to withstand shock, and to support high bearing pressures. The raw material used to make jewel bearings is produced from a synthetic ruby and sapphire jewel material. The synthetic material is cut and ground into "blanks," which are then converted to finished jewel bearings. A jewel bearing is a component with a diameter ranging from .0008 inch to 1 inch. Related items are made of the same materials as jewel bearings, and have applications including fiber optic connectors and liquids metering.

The Plant procures blanks needed for manufacturing jewel bearings from foreign sources, primarily from Switzerland. A synthetic jewel material that could possibly be used to make blanks is produced in the United States, but at a much higher cost. The domestic material is not produced in a usable size for making blanks and needs to be specially cut. However, Stockpile officials believe that domestic sources can be used in case a national emergency should require increased production of jewel bearings.

In December 1969, the Office of Emergency Preparedness recommended that equipment be acquired to produce blanks at the Plant to eliminate reliance on foreign sources. The Plant has a limited capacity to produce blanks. In October 1989, the Center determined that \$1 million would be required to fully develop the Plant's capability to manufacture blanks. However, even if the blank-cutting equipment currently proposed were procured, the Plant could produce only about 2.5 million bearings per year without relying on foreign source material.

In November 1982, the contract with Bulova was modified to include the requirement for pilot production of a newly developed low-cost plastic dosimeter. A dosimeter is a precision instrument that measures the presence of ionizing radiation. Dosimeters are used in a wartime nuclear stressed environment to

measure the exposure of persons and equipment to radiation. In addition, dosimeters serve a similar purpose in peacetime in areas with the potential for exposure to radiation, such as nuclear powered ships and nuclear power plants. The Agency has a requirement for dosimeters to be used for civil defense purposes, while DoD has requirements for a wide range of dosimeters of various qualities and capabilities. As of December 1990, the Agency was still directing and funding developmental dosimeter efforts at the Plant. Additional information on the dosimeter operation is in Part II of this report.

### Objectives and Scope

An audit of Requirements for the National Defense Stockpile is still ongoing. The objectives of the audit are to evaluate the processes for determining the types, quantities, and quality of materials to be acquired for and retained in the National Defense Stockpile of Strategic and Critical Materials and to evaluate the internal controls used to ensure that procedures for making determinations were effectively applied. As part of the ongoing audit, we evaluated the utilization of the William Langer Jewel Bearing Plant (the Plant). Specifically, we evaluated how requirements were determined for jewel bearings manufactured by the Plant, the extent to which the jewel bearing manufacturing process relied on foreign sources for raw materials, and whether DoD requirements for dosimeters can be satisfied through the Plant. This report addresses only the utilization of the Plant. We did not evaluate the extent to which the manufacturing process relied on foreign-source items because of our conclusions concerning DoD's continued need for the Plant. The overall requirements determination process for the National Defense Stockpile will be addressed in a separate report.

We evaluated the utilization of the Plant for fiscal years 1987 through 1990 (ending April 20, 1990). We analyzed the Plant's sales for fiscal year 1989 to determine the extent to which customers purchased jewel bearings for DoD use and to identify the end-item applications. In addition, we reviewed the procedures used in fiscal years 1989 and 1990 by DoD managers for determining the types, quantities, and quality of jewel bearings to be stored in the Stockpile.

We reviewed 119 contracts at 25 purchasing offices to determine compliance with the Defense Federal Acquisition Regulation Supplement (DFARS) and the Federal Acquisition Regulation (FAR). The purchasing offices visited and the contracts reviewed were randomly selected using statistical sampling from the Defense Contract Action Data System (DD 350 database) for fiscal year 1989. A list of activities visited or contacted is provided in Appendix F.

This economy and efficiency audit was performed from October 2, 1989, through April 20, 1990, in accordance with auditing standards issued by the Comptroller General of the United States as implemented by the Inspector General, DoD, and accordingly included such tests of internal controls as were considered necessary.

### Internal Controls

We assessed the internal controls for utilization of the Plant as they applied to compliance with DFARS and FAR provisions, and we assessed the internal management controls for determining requirements for jewel bearings. We identified internal control weaknesses, as defined by Public Law 97-255, Office of Management and Budget Circular A-123, and DoD Directive 5010.38. The audit disclosed that the DFARS and FAR provisions were not complied with. Since we recommended that these provisions be deleted from the FAR (and by inference from the DFARS), we did not make any recommendations to correct internal control deficiencies. A copy of the final report will be provided to the senior official responsible for internal controls within the Office of the Secretary of Defense.

### Prior Audit Coverage

Office of the Assistant Inspector General for Auditing, DoD, Report No. 89-061, "Inventory Records of the National Defense Stockpile of Strategic and Critical Materials," March 27, 1989, evaluated the accuracy of the quantitative data in the Stockpile inventory records when management of the Stockpile was transferred to the Secretary of Defense in 1988. The report stated that Stockpile inventory records for jewel bearings valued at \$66 million were accurate. The report recommended actions to correct inventory problems. Management concurred with the finding and recommendations and took corrective action.

Office of the Assistant Inspector General for Auditing, DoD, Report No. 90-071, "The Financial Accounting and Reporting of the William Langer Jewel Bearing Plant," May 22, 1990, evaluated the financial management and the accuracy of financial reporting by the Plant for the jewel bearing and dosimeter operations. The report stated that the financial statements did not present fairly, in conformance with generally accepted accounting principles, the Plant's financial position as of June 4, 1989, or the results of its operations for the 46-month period then ended. The report recommended specific actions to correct the conditions disclosed. Management concurred with the findings and recommendations and indicated that all corrective actions would be completed by June 30, 1990.

## PART II - FINDINGS AND RECOMMENDATIONS

### A. Production and Stockpiling of Jewel Bearings

#### FINDING

The William Langer Jewel Bearing Plant (the Plant) produced more jewel bearings than were needed for peacetime and contingency requirements. In addition, the Plant charged significantly higher prices than commercial vendors in order to recover the costs of its operations. The rate of overproduction was increasing because production goals were not adjusted downward to reflect a pronounced decline in Government and commercial usage of mechanical, or analog, devices requiring jewel bearings. Procedures were not established to ensure that accurate qualitative and quantitative requirements were determined for jewel bearings that needed to be stored in the National Defense Stockpile (the Stockpile). Rather, production of types and quantities of bearings was scheduled largely to maintain the various skills of the work force. As a result, jewel bearings produced by the Plant and sold to the Stockpile in fiscal year 1989 for \$2 million might have been purchased from commercial vendors for a savings of about \$1.4 million. Also, there was no evidence, in terms of quantities and types, that the jewel bearings being sold to the Stockpile were needed.

#### DISCUSSION OF DETAILS

Background. Jewel bearings produced by the Plant are sold to customers for DoD, Government, or commercial use. Bearings not sold to current users are sold to the Stockpile. The table below shows sales to customers and the Stockpile and the total for fiscal years 1987 through 1989. The Stockpile plans to purchase 1.2 million jewel bearings valued at \$2.2 million in fiscal year 1990.

Jewel Bearing Sales to Customers and the Stockpile  
for Fiscal Years 1987 through 1989

<u>FY</u>	<u>Customer Sales</u>		<u>Stockpile Sales</u>		<u>Total Sales</u>		<u>Percentage of Dollar Sales to Stockpile</u>
	<u>Quantity</u>	<u>Dollars</u> (million)	<u>Quantity</u>	<u>Dollars</u> (million)	<u>Quantity</u>	<u>Dollars</u> (million)	
1987	716,513	\$1.6	683,255	\$1.1	1,399,768	\$2.7	40.7
1988	747,128	\$1.5	654,306	\$1.2	1,401,434	\$2.7	44.4
1989	555,417	\$1.3	998,200	\$2.0	1,553,617	\$3.3	60.6

The Plant uses prior year sales, availability of equipment, and maintenance of employee skills as factors in setting annual production levels. The Plant sets prices for jewel bearings to recover the cost of production. Jewel bearings are sold to the Stockpile at a 25-percent discount on the unit prices established for sales to other customers.

Sales to Customers. A trend of declining jewel bearing sales to DoD customers was projected by the Institute for Defense Analyses (IDA) in 1982. The IDA study, "DoD Needs for Jewel Bearings and Related Items," concluded that the use of jewel bearings had decreased and would continue to decrease. IDA projected that the demand for jewel bearings would fall from 1.1 million in 1982 to about 550,000 by 1987, and to about 367,000 by 1992. In reality, the demand for jewel bearings fell to about 550,000 in 1989 (see the table in the preceding paragraph), only slightly lower than the sharp decline that was predicted. IDA attributed the projected decline in jewel bearing use to a rapidly increasing preference in DoD for digital devices that do not require jewel bearings.

In 1989, a Federal working group organized by the Defense Logistics Agency (DLA), with representatives from DLA, OSD, and the Department of the Interior, compared jewel bearing sales for DoD (other than the Stockpile) use during two 10-year periods, 1970 to 1979 and 1980 to 1989. The working group found that annual customer sales averaged about 928,000 jewel bearings during the 1980's, or 30 percent less than the 1970's. As discussed later in this report, the results of this comparison were used as a basis to reduce the Stockpile goal for FY 1990.

To learn whether jewel bearings were being purchased from the Plant for DoD, Government, or commercial contracts, we sent questionnaires to the Plant's 52 fiscal year 1989 customers, who purchased a total of 555,417 jewel bearings. We requested the contract numbers for DoD contracts, quantities of jewel bearings used, and identity of the end-item uses. A list of customers, quantities purchased, and breakout between DoD and commercial sales, is shown in Appendix A.

We received responses from 41 of the 52 customers queried. The responses showed that 28 of the 41 respondents purchased 434,338 (78 percent) of 555,417 jewel bearings sold for use on end items bought on DoD contracts. Four additional customers responded that they had purchased 105,305 jewel bearings, but they did not specify whether the bearings were used on DoD, Government, or commercial contracts. The remaining nine respondents reported commercial purchases of 1,734 jewel bearings. The 11 customers who did not respond purchased a total of only 14,040 jewel bearings. The responses showed that most of

the Plant's sales were to DoD customers who were complying with the provisions of the FAR. Given the high percentage of purchases that were for DoD use, the FAR provision requiring use of the Plant's products on DoD contracts and the much higher prices paid by customers for the Plant's products (see discussion below), we concluded that the purchases for DoD use were "forced" and that most of the customers would have used other sources in an open market situation.

Sales to Stockpile. The 1989 "Report to Congress on National Defense Stockpile Requirements" contained a goal to stockpile 120 million jewel bearings. We found no analysis to support this goal. Of the 76 million jewel bearings then reported in storage, 52 million, or about 68 percent, were obsolete, according to a 1986 study made by the Defense National Stockpile Center (the Center).

The Stockpile goal for 1990 was established at 84 million, down 30 percent from the 1989 goal, based upon a Federal working group's finding that the Plant's average jewel bearing sales had decreased by 30 percent from the 1970's to the 1980's. The reduced Stockpile goal was reported in the OSD "Report to the Congress on National Defense Stockpile Requirements, 1990," which was in draft form when this audit was completed. The goal was meaningless as a factor in setting production quantities. The goal was not supported by demonstrated future requirements for specific quantities or types of products. However, the reduced goal for FY 1990 was still so high that, after allowing for obsolete quantities in inventory, it would take the Plant many years to meet the Stockpile goal at current production rates.

As stated above, customer purchases from the Plant in FY 1989 totaled 555,417 jewel bearings. This total compared to an average annual sale of 928,000 bearings experienced throughout the 1980's. As mentioned above, IDA had predicted in 1982 that sales in 1992 would fall to about 367,000. Based on past and projected trends of declining usage in DoD, and lacking any clear evidence of firm requirements, we concluded that the Stockpile goal is significantly overstated.

Stockpile officials believed that, in the event of a contingency, use of jewel bearings would increase; however, procedures for identifying the types, quantities, and specifications of jewel bearings that might be required in a contingency based on end-item application had not been established. We believe that procedures should be established for identifying jewel bearing requirements to preclude stockpiling jewel bearings that are not needed and to ensure that DoD contingency requirements can be met efficiently.

Commercial Alternatives. We compared the prices charged by the Plant for two types of jewel bearings to prices quoted to us by two firms that imported jewel bearings for resale. Our comparison showed that the prices charged by the Plant were significantly higher than the prices charged by the two firms. For example, the Plant charged 5 times more for an order of 500 jewel bearings of one specification than the highest commercial quote. Orders for 500 jewel bearings were fairly representative of the order size the Plant received from customers. For larger purchase quantities, the Plant's prices were 5 to 25 times higher. The Plant, which uses maintenance of employee skills as a key factor in setting annual production levels, priced its jewel bearings to recover the cost of production. The costs of goods sold for the 46-month period ended June 1989 showed that the Plant's operation was highly labor-intensive. Labor and labor-related expenses were \$11 million, or 87 percent of total expenses.

Other Plant Issues. As of December 1990, the Plant had a limited capability to produce blanks, the semi-finished materials from which jewel bearings are made. In December 1969, the Office of Emergency Preparedness recommended that equipment be acquired to produce blanks at the Plant to eliminate reliance on foreign sources. The equipment was not acquired; therefore, the Plant still has little capability to produce blanks.

The principal reason for the Plant's existence is to provide a domestic source of jewel bearing items, but without the capability to produce blanks, the Plant is not a domestically independent source. In 1989, the Center determined that a fully developed blank manufacturing capability would cost \$1 million to establish. By amendment to the FY 1990 Defense Appropriations Act, the Congress directed that \$1 million be provided to the Plant for maintenance and repair of equipment and facilities and for tooling. Other Procurement-Army funds, originally approved for the Army Materiel Command, were provided to the Plant by a Military Interdepartmental Purchase Request. According to Stockpile officials, equipment bought with these funds would enable the Plant to make 50,000 blanks per week or about 2.5 million blanks per year. The Plant would become self-sufficient in blank manufacturing while continuing to maintain current jewel bearing production quantities. However, this would provide for very limited surge capability in the event of mobilization. In addition, the raw synthetic materials needed for producing blanks still would have to be purchased from foreign sources until a viable domestic source could be developed.

FAR Requirement. The Federal Acquisition Regulation (FAR) requires that jewel bearings used in contract end items be purchased from the Plant. FAR, subpart 8.2, "Jewel Bearings and

Related Items," requires contracting officers to insert the clause, FAR section 52.208-1, "Required Sources for Jewel Bearings and Related Items," in solicitations and contracts for end items that may contain jewel bearings and that are in the Federal supply classes and groups listed in subpart 8.2. In addition, the FAR requires that the contracting officer insert FAR solicitation provision 52.208-2, "Jewel Bearings and Related Items Certificate," (the offeror certificate) in solicitations that contain FAR clause 52.208-1.

To determine compliance with FAR, subpart 8.2, we visited 25 purchasing offices and reviewed 119 contracts for Instruments and Laboratory Equipment, Federal Supply Group 66. The purchasing offices and contracts reviewed were selected from the Defense Contract Action Data System (DD 350 database) for fiscal year 1989. We found that not all provisions of the FAR were being complied with, as described in Appendix B. However, since we are recommending deletion of the FAR provisions requiring that the Plant's products be used for all DoD contracts, we are making no recommendations to strengthen internal controls intended to ensure compliance with these FAR provisions.

Conclusion. In the 1980's, the Plant's sales averaged 928,000 jewel bearings, down 30 percent from the preceding decade. By 1989, sales had fallen to only 555,417 bearings. Notwithstanding this downward trend in customer sales, the Plant's production continued unabated. Production quantities not sold to customers were sold to the Stockpile in ever-increasing quantities. The sales to the Stockpile occurred despite a Stockpile goal that was unsubstantiated at 120 million jewel bearings for fiscal year 1989, and remains unsubstantiated at a goal of 84 million for 1990. The majority of jewel bearings in the Stockpile are obsolete, yet more are being added without regard to the specific types, sizes, qualities, and end-item applications required by DoD users. Using the average annual usage level in the 1980's of 928,000, the proposed Stockpile goal of 84 million jewel bearings represents about 91 years of peacetime supply.

Considering the diminishing peacetime demand for jewel bearings, coupled with the unsubstantiated Stockpile goal, we concluded that the Plant's operational level is determined most heavily by the quantities of production needed to maintain the unique production skills of the Plant's employees. We believe by terminating the jewel bearing operations at the Plant and by purchasing jewel bearings for the Stockpile from commercial vendors, the DoD could save about \$1.4 million annually. Annual savings are based on current Stockpile sales volume. However, since sales to the Stockpile are primarily to absorb surplus Plant production, rather than to meet demonstrated requirements, we believe the actual savings would closely approximate the total of \$2 million currently being expended, plus the reduction in unit price paid for these bearings on current production and



repair contracts. In addition, by not expending the funds made available for the blank manufacturing equipment, a one-time cost of \$1 million in FY 1990 funds could be avoided (Appendix E).

#### **RECOMMENDATIONS FOR CORRECTIVE ACTION**

1. We recommend that the Deputy Assistant Secretary of Defense (Production Resources) discontinue operations at the William Langer Jewel Bearing Plant by:

a. Including a proposal in the Department of Defense Legislative Program to amend Public Law 90-469 to delete the requirement that DoD operate the Plant for producing jewel bearings and related items for Government use or for sale.

b. Establishing procedures for determining qualitative and quantitative requirements for jewel bearings to be stored in the Stockpile.

c. Procuring jewel bearings from commercial sources.

2. We recommend that the Deputy Assistant Secretary of Defense (Procurement), direct the Defense Acquisition Regulatory Council to propose that Federal Acquisition Regulation, subpart 8.2, and sections 52.208-1 and 52.208-2 be deleted.

3. We recommend that the Director, Defense Logistics Agency, pending a decision on Recommendation 1.a., defer obligation of funds provided by the Military Interdepartmental Purchase Request for the maintenance and repair of equipment and facilities and the purchase of tooling at the William Langer Jewel Bearing Plant.

#### **MANAGEMENT COMMENTS AND AUDIT RESPONSE**

As of the December 27, 1990, management comments had not been received. We request that the addressees provide comments on the final report.

## B. Plant Dosimeter Operations

### FINDING

The dosimeter operation at the William Langer Jewel Bearing Plant (the Plant) cannot be used for the full-scale production of dosimeters to meet the needs of the Department of Defense. The Federal Emergency Management Agency (the Agency) determined that the Plant's dosimeter operation would be for pilot production only. As a result, the Department of Defense is managing an operation that does not support the Department.

### DISCUSSION OF DETAILS

Background. In 1981, the Agency, which had oversight responsibility for the Plant at that time, realized that jewel bearing usage was declining and that personnel layoffs at the Plant would be necessary. An industry shift to electronic instrumentation had resulted in declining orders for jewel bearings, which increased the per-unit cost of operation and reduced employment.

The Agency decided to lease a building near the Plant for pilot production of dosimeters. The decision to establish the dosimeter operation as a part of the Plant operation was based on two factors; skills used to manufacture jewel bearings could also be applied to the dosimeter operation, and the declining demand for jewel bearings required that more reliance be placed on related items to keep the Plant viable.

In 1983, the Office of Stockpile Management of the General Services Administration (GSA) determined that dosimeters were jewel bearing related items and could be developed and pilot produced at the Plant by authority of Public Law 90-469, "William Langer Jewel Bearing Plant." The Agency established the dosimeter operation to support its National Civil Defense Program and to support the policy of protecting essential national security interests and of maintaining the Industrial Base Mobilization Programs of the United States. This policy, stated in a June 1981 letter from the Agency to GSA, requires that the availability of production capacity for the manufacture of jewel bearings and related items at the Plant be assured and that the United States be independent of foreign sources of supply for these items to the maximum extent possible.

Management responsibility for the operations at the Plant and the Stockpile was transferred to the Department of Defense in 1988. At that time, the contract for the operation of the Plant included the dosimeter operation. Dosimeter production is

directed and funded by the Agency through task orders that it places against the contract. Since management of the Plant has been transferred to the DoD, Agency task orders for dosimeters have to be approved by the Defense National Stockpile Center (the Center).

The DoD has requirements for dosimeters, which measure various levels of radiation. In a wartime nuclear stressed environment, dosimeters will be used to measure the exposure of persons and equipment to radiation. In both wartime and peacetime, DoD activities use dosimeters in areas where there is a potential for exposure to radiation, such as on nuclear powered ships and in shipyards that perform work on these ships.

The Naval Sea Systems Command purchased 10,000 dosimeters, manufactured at the Plant, at a cost of \$300,000. The dosimeters are to be used on a test basis to determine if they will fulfill Navy requirements. The Agency plans to use the dosimeters produced under a commercial production contract, that has not yet been awarded, to replace the pilot production models being tested by the Navy.

Dosimeter Operations. The building that houses the dosimeter operation is leased for a 10-year period ending September 1, 1993, at a total cost of \$1,469,520. The Agency funds the dosimeter operation through task orders placed against the contract. The task orders are for work to be done during a stated period of time. Monthly expenses for the operation average about \$58,000 for 19 full-time and 8 part-time employees. The part-time employees also work in the jewel bearing plant. The dosimeter operation produces about 2,000 units a month, at an average cost of approximately \$30.00 per unit.

Production Limitations. On March 14, 1983, citing Office of Management and Budget (OMB) Circular A-76, "Performance of Commercial Activities," the Dosimeter Corporation of America protested the Agency's decision to commence an in-house pilot production of dosimeters at the Plant. The protest stated ". . . the project is in violation of OMB Circular A-76 and an abrogation of the policies of the Administration and Congress with respect to private sector initiatives . . . ." The Agency's reviewing officer determined that pilot production was an essential step following the research and development cycle, that in-house pilot production was clearly advantageous to the Government and to the private sector, and that pilot production of dosimeters was justified and consistent with OMB Circular A-76. However, in testimony to Congress, the Agency stated that the dosimeter operation would not be used for mass production of dosimeters. The Agency further stated:

"Under rules provided in Defense Acquisition Regulation, Appendix G (32 C.F.R. Parts 1 to 39, "Avoidance of Organizational Conflicts of Interests"), the dosimeter plant and the Bulova Watch Company shall be barred from participating in the mass production of any items for which they have prepared specifications or systems engineering and technical direction or have partaken in the pilot production of such items."

The above statement does not necessarily bar DoD from using the facility to manufacture dosimeters to meet its own extensive needs. However, in the 2 years that DoD has operated the facility, it has elected not to challenge the Agency's statement regarding mass production. Therefore, the facility does not, and, according to current plans, will never serve any production role related to DoD's mission.

The dosimeter operation primarily benefits the Agency and the Plant. For the period April 15, 1986, to September 30, 1990, the Agency provided \$2,375,000 for dosimeter developmental efforts. The dosimeter operation should not be managed by the Center because the dosimeters are not required for the Stockpile, and the dosimeter operation is a requirement of the Agency. Since the dosimeter operation is directed and funded by the Agency, contractual responsibility for the dosimeter operation should be transferred to the Agency. The Agency could then make decisions for future operation of the dosimeter facility and the length of future operation, based on the Agency's need for the facility, unencumbered by a related obligation to help justify the continuation of the jewel bearing facility. We believe that continuation of the facility over a long term, particularly without the logistical support of the jewel bearing plant, would not prove cost-effective or useful.

#### RECOMMENDATION FOR CORRECTIVE ACTION

We recommend that the Deputy Assistant Secretary of Defense (Production Resources) include a proposal in the Department of Defense Legislative Program to amend Public Law 100-440 that will return management responsibility of the dosimeter operation at the William Langer Jewel Bearing Plant, to include contract award and administration, to the Federal Emergency Management Agency.

#### MANAGEMENT COMMENTS AND AUDIT RESPONSE

As of December 27, 1990, management comments had not been received. We request that the addressee provide comments on the final report.



**FY 1989 SALES**  
**FOR THE WILLIAM LANGER JEWEL BEARING PLANT**

<u>Purchaser</u>	<u>Item/Nomenclature</u>	<u>FY 1989 Jewel Bearing Purchase</u>	<u>Acquired for DoD</u>
A.M. Gatti, Incorporated	Mounter/Importer Gyros)	9,800	Yes
Aerosonic Corporation	Airspeed/Cabin Press/Altimeter	41,737	<u>1/</u>
Aid/R.C. Allen	Tachometer	14,772	Yes
Airpath Inst. Company <u>2/</u>		1,000	
Allied-Signal Aerospace	Flight Instrumentation	722	Yes
American Instruments <u>2/</u>		100	
Ametek Aerospace Products	Flight Instrumentation	1,654	<u>1/</u>
AMF	Military Stopwatches	80,640	Yes
B. Jon Vleck, Clockmaker	Repair Aircraft Clocks	200	Yes
Bayside Controls <u>2/</u>		3,450	
Bird Precision	Mounting Assemblies	18,087	<u>1/</u>
Bourns Instruments, Incorporated <u>2/</u>		960	
Brazilian Aeronautical Company	Repair-Aircraft Clocks	10	No
Chelsea Clock	8-Day Wind Clock	3,504	Yes
Chicago Dial	Dial Indicators	3,083	Yes
Clifton Precision	Dual Torque Indicators	8,393	Yes
Defense General Supply Center	Spare Parts-Repair Altimeters	804	Yes
Dresser Rand		15	No
Duffy Electronics & Manufacturing	Vane Assembly	6	Yes
FL Aerospace	Flight Instrumentation	1,350	Yes
G.V. Medical, Incorporated	Related Items	50	No
Garrett Hydraulics	Fuel Control	1,170	Yes
General Aero Products <u>2/</u>		20	
General Ruby & Sapphire	Mounter/Importer	100	Yes
Gulton Industries <u>2/</u>		2,060	
Helm International		20	No
Honeywell, Inc.	Guidance System	102	Yes
ITT Barton <u>2/</u>		1,750	
Jet Electronics & Technology	Flight Instrumentation	18,450	Yes
Kollsman Instruments Company	Altimeter	43,827	<u>1/</u>
Litton Systems	Assem-Encoder/Bracket/R-Plate	5,355	Yes
Litton Systems Canada Limited <u>2/</u>		3,670	
Moser Jewel Company	Mounter/Importer	4,279	Yes
MS Bellows	Jewel Housing/Bearing Assembly	2,388	Yes
NDT 1, Incorporated	Jewel Bearing Rad/Thrust	36	Yes
Newark Air Force Base	Gyroscope	100	Yes

**FY 1989 SALES**  
**FOR THE WILLIAM LANGER JEWEL BEARING PLANT (Continued)**

<u>Purchaser</u>	<u>Item/Nomenclature</u>	<u>FY 1989 Jewel Bearing Purchase</u>	<u>Acquired for DoD</u>
Northrop Corporation	Gyroscope and MX Hydraulic Unit	178,750	Yes
Penn Keystone Corporation <u>2/</u>		480	
Qmc Technologies, Incorporated	Repair Kollsman-Altimeter	350	Yes
Smiths Industries	Aircraft Instrumentation	69	No
Sparton Technology Incorporated <u>2/</u>		250	
SSE, Incorporated	Parachutist's Altimeter	19,950	Yes
Stocker & Yale	Compass, Magnetic	60,100	Yes
Sundstrand Data	Accelerometer/Bearing Balls	4,230	Yes
Swiss Jewel Company		1,150	No
Target Corporation		250	No
Texas Instruments, Incorporated	Guidance System	174	Yes
TR Moran Company, Incorporated		140	No
UNC Naval Products		30	No
Waltham Clock Company	Mechanical Aircraft Clocks	15,500	Yes
Weschler	Ship Part	30	Yes
Weston Instrument <u>2/</u>		300	

1/ The purchaser acquired jewel bearings from the William Langer Jewel Bearing Plant for DoD, Government, and commercial procurements.

2/ Did not respond to questionnaire.

## COMPLIANCE WITH THE FEDERAL ACQUISITION REGULATION

The DoD Federal Acquisition Regulation Supplement (DFARS) and the Federal Acquisition Regulation (FAR) require that jewel bearings used in contract end items be purchased from the William Langer Jewel Bearing Plant (the Plant). The FAR also requires that related items, i.e., any synthetic sapphire or ruby material other than jewel bearings, be acquired either from domestic manufacturers or from the Plant.

Required Sources. FAR, subpart 8.2, requires contracting officers to insert the clause, FAR, section 52.208-1, "Required Sources for Jewel Bearings and Related Items," in solicitations and contracts for end items that may contain jewel bearings and that are in the Federal supply classes and groups listed in subpart 8.2. Excepted are purchases less than \$25,000; items purchased and used outside the United States, its possessions, and Puerto Rico; or items that the contracting officer knows do not contain jewel bearings. The number and total dollar value of fiscal year 1989 contract transactions in Federal supply groups listed in the FAR are in Appendix C.

In addition, the FAR requires that the contracting officer insert FAR solicitation provision 52.208-2, "Jewel Bearings and Related Items Certificate," (the offeror certificate) in solicitations that contain FAR clause 52.208-1. The offeror certificate requires bidders to certify whether or not jewel bearings or related items will be incorporated into contract end items, to accept certain purchase requirements, and to attach an estimate of the jewel bearings and related items required.

We extracted and reviewed a sample of 119 contracts from a universe of 4,255 contracts within Federal Supply Group 66, "Instruments and Laboratory Equipment," to determine compliance with the FAR provisions on jewel bearings. A list of purchase offices, contracts, and audit results is shown in Appendix D. Our review showed that 77 of the 119 contracts contained FAR clause 52.208-1, and 69 of the 119 contracts contained the FAR offeror certificate. Further analysis showed that only 38 of the 69 contracts contained completed offeror certifications indicating whether jewel bearings were needed, as required by FAR, subpart 8.2.

Affirmative Offeror Certificate. FAR, subpart 8.2, requires the contracting officer to annotate the affirmative offeror certificate (certifies that jewel bearings are required) from a successful bidder with the number of the contract awarded to the offeror, the identification of the contract administration office cognizant of that contract, and the date of award. The FAR requires the contracting officer to forward a copy of the



COMPLIANCE WITH THE FEDERAL ACQUISITION  
REGULATION (Continued)

offeror certificate and the required attachment of the estimate of jewel bearings and related items to the Plant and to the cognizant contract administrator. FAR, subpart 8.2, also requires the Plant to compare the information received on the affirmative offeror certificate to actual jewel bearing purchases and to notify the contract administration office of any discrepancies.

The Plant reported to the National Defense Stockpile manager that it received 12 affirmative offeror certificates during fiscal year 1989. The Plant was able to provide us copies of only 9 of the 12 certificates. Seven of the nine certificates listed jewel bearing requirements totaling 1,793. Two certificates did not list the number of jewel bearings required.

The Plant did not compare affirmative offeror certificates to individual purchase orders received for jewel bearings or related items to verify that contractors were utilizing the Plant, because not all jewel bearing purchase orders identified a contract number or stated the intended use of the jewel bearings.

In Finding A, we recommended that provisions of the FAR requiring use of the Plant's products for all DoD contracts be deleted. Therefore, we made no recommendations to strengthen internal controls intended to ensure compliance with these FAR provisions.

**FEDERAL SUPPLY GROUPS THAT MAY CONTAIN JEWEL BEARINGS**

**Identified in Federal Acquisition Regulation, Subpart 8.2**

<u>Federal Supply Group</u>	<u>Total Contract Actions For FY 1989</u>	<u>Total Dollar Value For FY 1989 (\$000)</u>
12 Fire-Control Equipment	1,270	\$ 1,196,259
14 Guided Missiles	2,268	9,274,329
15 Aircraft, Airframe Structural Components	4,277	10,559,686
16 Aircraft Components and Accessories	4,942	2,768,140
18 Space Vehicles	202	1,259,242
23 Motor Vehicles and Motorcycles	624	1,755,436
25 Vehicular Equipment Components	1,319	702,311
42 Firefighting, Rescue, and Safety Equipment	505	229,772
52 Measuring Tools	54	4,129
58 Communications Equipment	7,908	10,246,164
59 Electrical and Electronic Equipment Components	5,278	1,360,558
63 Alarm and Signal Systems	219	27,897
65 Medical, Dental, and Veterinary Equipment and Supplies	2,976	476,125
66 Instruments and Laboratory Equipment	5,643	1,177,470
67 Photographic Equipment	617	59,768
69 Training Aids and Devices	808	553,177
	<u>38,910</u>	<u>\$41,650,463</u>



# RESULTS OF SAMPLE CONTRACTS REVIEWED

<u>DoD Purchasing Office</u>	<u>Contractor's Name</u>	<u>Contract Number</u>	<u>Contained Clause</u>	<u>Contained Offeror Certificate</u>
Defense General Supply Center Richmond, VA 23297-5000	3D Instruments, Incorporated	DLA400-89-C-2017	Y <u>1/</u>	Y
	Clark Brothers Instruments Company	DLA400-89-C-0601	Y	Y
	ITT Barton	DLA400-89-C-0206	Y	Y
	Pacific Scientific	DLA400-89-C-5349	Y	N <u>2/</u>
	Perma Cal Corporation	DLA400-89-C-0297	Y	Y
	Perma Cal Corporation	DLA400-89-C-1685	Y	Y
	Q.V.S., Incorporated	DLA400-89-C-1590	N	N
	Rosemount, Incorporated	DLA400-89-C-5415	N	Y
	Temp-Pro, Incorporated	DLA400-89-C-0959	Y	Y
	Weschler	DLA400-89-C-1973	Y	Y
<u>Army</u>				
21 Pine Bluff Arsenal Pine Bluff, AR 71601	CMS Research Corporation	DAAA03-88-R-0033	N	N
	Hewlett Packard Company	GS00F01988	N	N
	Waters Division of Millipore	GS00F01999	N	N
U.S. Army Communications and Electronics Command Materiel Readiness Command Procurement Directorate Fort Monmouth, NJ 07703	Dynamic Industries Corporation	DAAB07-89-C-H025	N	N
	Encore Industries, Incorporated	DAAB07-89-C-Q015	N	N
	Grumman Aerospace Corporation	DAAB07-89-C-N001	N	N
	Hewlett Packard Company	DAAB07-89-C-N180	N	N
	Wavetek RF Products, Incorporated	DAAB07-88-C-N280	N	N
	Wavetek, Incorporated	DAAB07-86-C-N087	N	N
	Plasma Technology	DAAB08-89-C-0003	N	N
	TENCOR Instruments, Incorporated	DAAB08-89-C-A061	N	N
U.S. Army Tank-Automotive Command, Warren, MI 48397-5000	Balzers Optical Group	DAAE07-89-C-0827	Y	N
	Pacific Scientific, Co.			
	Advance Technology Group	DAAE07-89-C-0682	N	N
	Phaostron Instrument & Electric Company	DAAE07-89-C-1153	Y	N
	Weston Instrument	DAAE07-89-C-0029	Y	N

RESULTS OF SAMPLE CONTRACTS REVIEWED (Continued)

<u>DoD Purchasing Office</u>	<u>Contractor's Name</u>	<u>Contract Number</u>	<u>Contained Clause</u>	<u>Contained Offeror Certificate</u>
U.S. Army Tank-Automotive Command (Continued)	Weston USA Division, Salatron Transducer	DAAE07-89-C-A003	Y	N
U.S. Army Missile Command Redstone Arsenal, AL 35809	HNU-Voland	DAAH01-89-C-0918	Y	N
	Lucas Weinschel, Incorporated	DAAH01-88-C-0747	Y	Y
	Opto Mechanic, Incorporated	DAAH01-89-C-0492	Y	Y
	Tectronix, Incorporated	DAAH01-89-D-0143	Y	Y
	Harris Technical Services Corporation	DAAH01-88-D-0175	Y	N
U.S. Aviation Systems Command	Canadian Commercial Corporation	DAJ09-89-D-0010	Y	N
	Chadwick-Nelnuth Company, Incorporated	DAAJ08-89-C-0279	N	N
	Consolidated Controls Corporation	DAAJ09-89-C-0722	N	Y
	Gulton Industries, Incorporated	DAAJ09-89-C-0987	Y	Y
	Jet Electronic & Technology, Incorporated	F09603-87-G-0874	Y	N
	Revere Aerospace, Incorporated	DAAJ09-89-C-0367	N	N
U.S. Army Materiels Technology Laboratory	J.M. Devine Company, Incorporated	DAAL04-89-C-0018	Y	N
405 Arsenal Street	MTS Systems Corporation	DAAL04-86-C-0074	Y	N
Watertown, MA 02171-0001	Zeamer Systems, Incorporated	DAAL04-89-C-0026	N	N
	Zymark Corporation	DAAL04-89-C-0033	Y	N
Brooke Army Medical Center	In-Tox Products	DADA11-89-C-0022	Y	N
Headquarters Building, 1029	Nichols Institute	DADA11-89-C-0047	Y	N
Room 309	Olympus Corporation	DADA11-89-C-0056	N	N
Fort Sam Houston, TX 78234				

RESULTS OF SAMPLE CONTRACTS REVIEWED (Continued)

<u>DoD Purchasing Office</u>	<u>Contractor's Name</u>	<u>Contract Number</u>	<u>Contained Clause</u>	<u>Contained Offeror Certificate</u>
U.S. Army Corps Of Engineers Custom House 2nd and Chestnut Street Philadelphia, PA 19106	Ross Laboratories, Incorporated	DACW61-89-C-0056	N	N
<u>Navy</u>				
Naval Sea Systems Command Command Evaluation and Review Washington, DC 20360	Bendix Oceanics, Incorporated Honeywell, Incorporated	N00024-89-C-6066 N00024-87-C-6052	Y Y	N N
Office Of Naval Research Arlington, VA 22217	Anorad Corporation Gould, Incorporated, Imaging & Graphic Division	N00014-89-C-6034 N00014-89-C-6017	N N	N N
U.S. Navy Aviation Supply Office 700 Robbins Avenue Philadelphia, PA 19111-5098	Grumman Aerospace Corporation Kollsman Instrument Company Teledyne Systems Company	N00383-88-G-M100 N00383-86-C-5620 N00383-89-G-M103	Y N Y	N N N
U.S. Navy Ships Parts Control Center 5450 Carlisle Pike P.O. Box 2020, Code 09a Mechanicsburg, PA 17055-0788	Boonton Electronics Corporation DQM 2000 Corporation Hewlett Packard Company Hewlett Packard Company IFR Systems, Incorporated John Fluke Manufacturing Company, Incorporated Optic Electronic Corporation Scientific Instruments, Incorporated Tektronix, Incorporated Tektronix, Incorporated Tektronix, Incorporated	N00104-89-C-M033 N00104-89-C-G258 N00104-88-D-D035 N00104-89-D-D008 N00104-88-D-D050 N00104-89-C-M034 N00104-89-C-N109 N00104-89-C-N183 N00104-88-D-D065 N00104-89-C-M081 N00104-89-C-M152	N N N N N N N N N N N	N N N N N N N N N N

RESULTS OF SAMPLE CONTRACTS REVIEWED (Continued)

<u>DoD Purchasing Office</u>	<u>Contractor's Name</u>	<u>Contract Number</u>	<u>Contained Clause</u>	<u>Contained Offeror Certificate</u>
U.S. Naval Weapons Support Center Crane, IN 47522-5000	Arbiter Systems	N00164-89-C-0115	Y	N
	Hewlett Packard Company	N00164-89-C-0175	Y	N
	John Fluke Manufacturing Company, Incorporated	N00164-88-D-0026	N	N
	Measurement Technology, Incorporated	N00164-89-C-0150	Y	N
	Scientific-Atlanta, Spectral Dynamics Division	N00164-89-C-0073	Y	Y
U.S. Naval Air Development Center, Code 00R Warminster, PA 18974	Gatan, Incorporated	N62269-89-C-0223	Y	N
	Precision Filters, Incorporated	N62269-89-C-0550	N	N
	Simpact Associates, Incorporated	N62269-89-C-0218	N	N
	Systems Control Technology, Incorporated	N62269-89-C-0369	N	N
	W.W. Gaertner Research, Incorporated	N62269-89-C-0220	N	N
Naval Supply Center Pensacola Pensacola, FL 32508-6200	Ball Corporation, Industrial Systems Division	N68860-89-C-0068	Y	N
	Dynamic Instruments, Incorporated	N68860-89-C-0043	Y	N
	Luxtron Corporation	N68860-89-C-0024	Y	N
	Mechanical Technology, Incorporated	N68860-89-C-0051	Y	N
	Optical Gaging Products Incorporated	N68860-89-C-0063	Y	N
<u>Air Force</u>				
Oklahoma City Air Logistics Center Tinker AFB, OK 73145-5320	Air Instro	F34601-89-C-1142	Y	Y
	Allen Aircraft Corporation, AAR Defense System	F34601-89-C-2491	Y	Y
	Barry Wright Corporation	F34601-89-C-1810	Y	N
	Boeing Military Airplanes	F34601-88-G-6646	Y	Y
	General Electric Company, Aircraft Instruments	F34601-89-C-1630	Y	N
	Gulton Industries, Incorporated	F34601-88-D-1126	Y	N

RESULTS OF SAMPLE CONTRACTS REVIEWED (Continued)

<u>DoD Purchasing Office</u>	<u>Contractor's Name</u>	<u>Contract Number</u>	<u>Contained Clause</u>	<u>Contained Offeror Certificate</u>
Oklahoma City Air Logistics Center (continued)	LITEF	F34601-87-G-0029	Y	Y
	MPC Products Corporation	F34601-88-C-2860	Y	Y
	Simmonds Precision, Instrument Systems Division	F34601-89-C-2481	Y	Y
	EG&G Washington Analytical Service Center	F34601-89-C-0619	Y	N
	Lear Siegles, Incorporated, Astronics Division	F34601-87-C-3035	Y	Y
San Antonio Air Logistics Center, Kelly Air Force Base (AFB), TX 78241-5000	Howell Instruments, Incorporated	F41608-89-C-1132	Y	Y
	Kidde, Incorporated-Fenwal Safety Systems Incorporated Division	F41608-89-C-1601	Y	Y
	Texas Aerospace Services Incorporated	F41608-86-D-0025	Y	Y
	Wavetek Microwave, Incorporated	F41608-89-C-0854	Y	N
	Duro-Sense Corporation	F41608-89-C-1985	Y	N
	Modern Machine Shop, Incorporated	F41608-89-C-0362	Y	Y
	Olympus Corporation	F41608-88-D-1772	Y	Y
	Staveley Instruments, Incorporated	F41608-89-C-1535	Y	N
	UMC Electronics Company	F41608-89-D-1737	Y	Y
	Amprobe Instruments Division of Core Industries	F41608-88-D-0384	Y	Y
	BriskHeat Corporation	F41608-88-C-4540	Y	N
	Genisco Technology Corporation, Transducer Products	F41608-88-C-4414	Y	Y
	QED, Incorporated	F41608-88-D-1983	Y	Y
	Rank Precision Industries, Incorporated	F41608-89-C-1243	Y	N
	Tektronix, Incorporated	F41608-87-D-0256	Y	Y
	Tektronix, Incorporated	F41608-88-C-4242	Y	N
	Tektronix, Incorporated	F41608-89-D-2120	Y	Y
	Wavetek, Incorporated	F41608-89-D-0930	Y	Y



RESULTS OF SAMPLE CONTRACTS REVIEWED (Continued)

<u>DoD Purchasing Office</u>	<u>Contractor's Name</u>	<u>Contract Number</u>	<u>Contained Clause</u>	<u>Contained Offeror Certificate</u>
San Antonio Air Logistics Center (Continued)	GMC-Allison Gas Turbine Division	F41608-87-G-0004	Y	Y
	Kollmorgen Corporation, Electro-Optical Division	F41608-89-C-0820	Y	N
	Tiernay Turbines	F41608-89-G-0030	Y	Y
Kirtland Contracting Center Kirtland AFB, NM 87117-6008	Coherent Medical	F29650-89-C-0042	Y	Y
	Hamamatsu Corporation	F29650-89-C-0030	N	N
	Mirror Electronics Company	F29650-89-C-0014	Y	N
	Tektronix, Incorporated	F29650-89-C-0013	N	Y
	Tektronix, Incorporated	F29650-89-C-0061	N	Y
Aeronautical Systems Division Wright-Patterson AFB, OH 45433	Calspan Corporation	F33657-88-C-0092	Y	N
	Honeywell, Incorporated	F33657-85-C-2157	Y	N
	Kearfott Guidance & Navigation Corporation	F33657-85-C-0056	Y	N
	Litton, Guidance & Control Systems	F33657-85-C-2158	Y	N

1/ Y = Yes

2/ N = No

SUMMARY OF POTENTIAL MONETARY AND OTHER  
BENEFITS RESULTING FROM AUDIT

<u>Recommendation Reference</u>	<u>Description of Benefit</u>	<u>Amount and/or Type of Benefit</u>
A.1.a. and A.1.c.	Economy and Efficiency. Cease production at facility. Procure from commercial sources.	Funds put to better use by the National Defense Stockpile Transaction fund of \$1 million for 9 months remaining in FY 1991, and \$1.4 million annually, totaling \$7 million for FY 1992 through FY 1996. We computed \$1.4 million in the following manner: To the FY 1989 Stockpile sales of \$2 million, we added the discount given by the Plant, \$500,000, to derive the undiscounted sales of \$2.5 million. We used \$2.5 million as the basis for determining the commercial price of \$625,000. (Stockpile prices are at least 4 times as much as commercial sources; one-fourth of \$2.5 million is \$625,000.)
A.1.b.	Internal Control. Identify jewel bearing requirements for storage in the National Defense Stockpile.	Monetary benefits are undeterminable because jewel bearing requirements have not been identified.
A.2.	Program Results. Delete Federal Acquisition Regulation, subpart 8.2, and sections 52.268-1 and 52.208-2.	Nonmonetary.
A.3.	Economy and Efficiency. Delete funds for blank manufacturing equipment.	Funds put to better use of \$1 million for FY 1990 for Appropriation 21 2035
B.	Program Results. Transfer the dosimeter operation to the Federal Emergency Management Agency.	Nonmonetary.



## ACTIVITIES VISITED OR CONTACTED

### Office of the Secretary of Defense

Assistant Secretary of Defense (Production and Logistics),  
Washington, DC

### Department of the Army

U.S. Army Corps of Engineers, Philadelphia, PA  
U.S. Army Communications and Electronics Command,  
Fort Monmouth, NJ  
U.S. Army Missile Command, Redstone Arsenal, AL  
U.S. Army Tank-Automotive Command, Warren, MI  
U.S. Aviation Systems Command, St. Louis, MO  
U.S. Army Materials Technology Laboratory, U.S. Army Materiel  
Command, Watertown, MA  
Brooke Army Medical Center, U.S. Army Health Services Command,  
Fort Sam Houston, TX  
Pine Bluff Arsenal, U.S. Army Armament, Munitions and  
Chemical Command, Pine Bluff, AR

### Department of the Navy

Office of the Chief of Naval Research, Arlington, VA  
Naval Sea Systems Command, Washington, DC  
Naval Supply Center Pensacola, Naval Supply Systems  
Command, Pensacola, FL  
U.S. Naval Air Development Center, Space and Naval  
Warfare Systems Command, Warminster, PA  
U.S. Naval Weapons Support Center, Naval Sea Systems  
Command, Crane, IN  
U.S. Navy Aviation Supply Office, Naval Supply  
Systems Command, Philadelphia, PA  
U.S. Navy Ships Parts Control Centers, Naval Supply  
Systems Command, Mechanicsburg, PA

### Department of the Air Force

Aeronautical Systems Division, Air Force Systems  
Command, Wright-Patterson Air Force Base (AFB), OH  
Kirtland Contracting Center, Air Force Systems Command, Kirtland  
AFB, NM  
Oklahoma City Air Logistics Center, Air Force Logistics  
Command, Tinker AFB, OK  
San Antonio Air Logistics Center, Air Force Logistics  
Command, Kelly AFB, TX

ACTIVITIES VISITED OR CONTACTED (Continued)

Defense Logistics Agency

Defense General Supply Center, Richmond, VA  
Defense National Stockpile Center, Arlington, VA  
National Defense Stockpile, Zone 1, New York, NY  
William Langer Jewel Bearing Plant, Rolla, ND

Non-DoD Activities

Department of Commerce, Washington, DC  
Department of the Interior, Bureau of Mines, Washington, DC  
Federal Emergency Management Agency, Washington, DC

### AUDIT TEAM MEMBERS

William F. Thomas, Director, Readiness and Operational Support  
Directorate  
Ron Porter, Deputy Director  
Mary Lu Ugone, Program Director  
Lloyd O'Daniel, Project Manager  
George Sechiel, Team Leader  
Phyllis Shepphard, Team Leader  
Lisa Evans, Auditor  
Ruth Dirschka, Auditor  
Margaret Thompson, Auditor



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Comptroller of the Department of Defense

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### Defense Agencies

Director, Defense Logistics Studies Information Exchange

### Non-DoD

#### Department of Commerce

Secretary of Commerce  
Office of Industrial Resource Administration

#### Department of the Interior

Secretary of the Interior  
Bureau of Mines

#### Federal Emergency Management Agency

Director, Federal Emergency Management Agency  
Associate Director for State and Local Programs and  
Support Directorate

Assistant Associate Director for Civil Defense  
Radiological Defense Branch

#### General Services Administration

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Chairman, Civilian Agency Acquisition Council  
Commissioner, Federal Property Resource Service

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U.S. General Accounting Office  
NSIAD Technical Information Center



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### Non-DoD (Continued)

#### Congressional Committees:

Senate Subcommittee on Defense, Committee on Appropriations  
Senate Committee on Armed Services  
Senate Committee on Governmental Affairs  
Senate Ranking Minority Member, Committee on Armed Services  
Senate Subcommittee on Defense Industry and Technology,  
Committee on Armed Services  
Senate Subcommittee on Mineral Resources Development and  
Production, Committee on Energy and Natural Resources  
Senate Committee on Select Indian Affairs  
House Committee on Appropriations  
House Subcommittee on Defense, Committee on Appropriations  
House Ranking Minority Member, Committee on Appropriations  
House Committee on Government Operations  
House Subcommittee on Legislation and National Security,  
Committee on Government Operation  
House Committee on Armed Services  
House Subcommittee on Seapower and Critical Materials,  
Committee on Armed Services  
House Subcommittee on Mining and Natural Resources,  
Committee on Interior and Insular Affairs

#### Other

Institute for Defense Analyses  
Loews Corporation  
Bulova Watch Company, Incorporated  
General Manager, William Langer Jewel Bearing Plant