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PROCUREMENT, LOGISTICS,  
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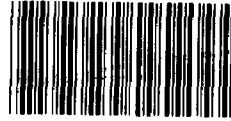
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RELEASED

MAY 19, 1982

The Honorable Charles F. Dougherty  
House of Representatives



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Dear Mr. Dougherty:

Subject: Review of Costs to Close the Frankford Arsenal  
(PLRD-82-53)

In your July 16, 1980, letter, you asked us to audit the costs associated with the closing of the Frankford Arsenal in Philadelphia, Pennsylvania. You were concerned that such costs far exceed the original estimate of \$29 million (one-time costs of \$33 million less one-time savings of \$4 million).

In our April 1981 meeting with you and Army officials, we were provided with the Army's estimate of costs to close the Frankford Arsenal through fiscal year 1981. As agreed, we reviewed the reliability of the estimates. In addition, you asked us to review why the Army incurred costs to paint buildings at Frankford that may eventually be demolished.

SCOPE OF WORK

In reviewing the Army's cost estimates, we were able to verify the accuracy of some of the costs. We also found that supporting data for other costs were not available since financial records, dating back to fiscal year 1976, had been destroyed or could not be located. Where financial records were not available, we attempted to test the validity of the costs by relying on other sources of information, such as budget documents and interviews of Army officials. We also found that certain costs (e.g., recruiting and training costs) could not be verified because the Frankford Arsenal closure and the armament community realignment occurred at the same time and costs were commingled.

REVIEW RESULTS

The Army estimates that the costs to close the Frankford Arsenal will total \$66 million--\$50 million to discontinue operations and \$16 million for other installations to take over previous Frankford missions. On the basis of our review of the support for the Army's estimate, we believe that the

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\$66 million estimate is reasonable. However, caretaker costs will increase the \$66 million estimate about \$700,000 annually until Frankford is disposed of.

The increased costs to close Frankford are primarily attributable to (1) an unanticipated operating loss caused by a slippage in the dates of personnel transfers and separations (\$17 million), (2) unanticipated decontamination costs (\$9 million), and (3) increased caretaker costs (\$7 million).

The Army decided to paint some of the buildings at Frankford because the General Services Administration (GSA) said the Army would have to certify that the property could be conveyed later without restrictions before GSA would accept the Frankford Arsenal as excess property. GSA did not specify what needed to be done as a prerequisite for the certification. The Army decided it would have to partially paint some of the buildings' interior before it could provide GSA with such a certification.

The buildings' interior were painted to cover surfaces contaminated with heavy metal deposits (e.g., lead-based paint). Painting was more economical than covering the surface with panel-type materials or demolishing the buildings. However, painting may not have eliminated the potential hazard since the paint was applied from the floor to a height of 6 feet. The surface above this level is peeling and flaking and falling to the floor. The Army said they tried to get GSA to accept Frankford without painting the buildings' interior, but GSA would not agree. (See p. 12.)

We believe the decision to paint the buildings was premature. Given the condition of the buildings, future occupants may want to repaint the interior or they may want to accept the unpainted buildings if they are going to be used for industrial purposes again.

The Army originally estimated annual savings of almost \$22 million from closing the Frankford Arsenal. We could not validate the savings because the Army's records were incomplete. But, we did find that savings were reduced by about \$7 million since 505 fewer civilian personnel positions were eliminated than were originally estimated. The Army claims these savings were realized and appeared elsewhere in the realignment of the permanent community, but we could not verify this. (See p. 13.)

The enclosure contains details on the results of our review of the increases in certain cost elements, savings items questioned, and reasons for painting certain buildings.

As agreed with your Office, we did not obtain written comments from the Army on matters discussed in this report. However, we did

discuss the report with Army officials at the U.S. Army Armament Materiel Readiness Command and the headquarters of the Department of the Army. We also discussed the report with representatives of GSA. Army and GSA generally agreed with our findings and their comments have been included where appropriate.

As arranged with your Office, unless you publicly announce its contents early, we will make no further distribution for 3 days from the date of the report. At that time, we will send copies to the Chairmen of the Senate and House Committees on Armed Services and on Appropriations, the Secretaries of Defense and the Army, and the Administrator of General Services.

Sincerely yours,



Donald J. Horan  
Director

Enclosure

ESTIMATED COST TO CLOSE THE FRANKFORD ARSENAL

On November 22, 1974, the Secretary of Defense announced the closure of the Army's Frankford Arsenal, Philadelphia, Pennsylvania, as one of numerous base realignment actions to be completed by the end of fiscal year 1977. At the time, Frankford was one of several Army armament installations.

The Army estimated that closing Frankford would save almost \$22 million annually, would require a one-time cost of \$33 million, and would provide a one-time saving of \$4 million. But, the Frankford closure schedule and costs were subsequently affected by an Army plan, announced in December 1975, to establish a U.S. Army Armament Development Center and an Armament Logistics Command. The Army's reorganization, administrative delays, and incomplete cost estimates increased Frankford Arsenal closing costs to about \$66 million, compared to the Army's original estimate of \$33 million. In addition, the Government will incur annual caretaker costs of about \$0.7 million until Frankford is disposed of.

The following table shows the major cost categories of the Army's original estimate and its estimated costs through fiscal year 1981.

<u>Cost category and where incurred</u>	<u>Costs</u>		
	<u>Original estimate</u>	<u>Estimate through Sept. 30, 1981</u>	<u>Variance</u>
----- (000 omitted) -----			
Frankford (note a):			
Operating loss	\$ -	\$16,880	\$16,880
Nonproductive labor	-	955	955
Decontamination	-	9,353	9,353
Caretaker activity	1,562	8,841	7,279
Terminal leave	-	1,012	1,012
Personnel relocation	5,073	1,704	-3,369
Severance pay	3,608	1,851	-1,757
Plant clearance	<u>8,624</u>	<u>9,477</u>	<u>853</u>
Total	<u>18,867</u>	<u>50,073</u>	<u>31,206</u>
Other Army activities (note b):			
Facilities construction	9,119	8,048	-1,071
Alterations	-	502	502
Equipment installation	2,473	4,914	2,441
New equipment	-	644	644
Internal relocations	914	75	-839
Recruiting	1,039	1,039	-
Training	<u>1,063</u>	<u>1,063</u>	<u>-</u>
Total	<u>14,608</u>	<u>16,285</u>	<u>1,677</u>
Total	<u>\$33,475</u>	<u>\$66,358</u>	<u>\$32,883</u>

a/These categories are discussed in detail starting on p. 6.

b/These categories are discussed in detail starting on p. 9.

OBJECTIVES, SCOPE, AND METHODOLOGY

Our objectives were to review the Army's latest cost estimates for the Frankford Arsenal closure and determine the reasons for variances from the original estimates. We also reviewed the Army's decision to paint certain buildings. We reviewed the Army's cost data and tested and reconstructed certain costs to verify their accuracy and completeness. However, since closure costs first occurred in fiscal year 1976, many financial support documents had been destroyed or could not be located. We therefore had to rely on other sources, such as budget documents and discussions with Army representatives, to test the validity of the cost data. In addition, certain costs, such as recruiting and training costs, could not be determined because the Frankford closure and the realignment of the armament community occurred at the same time and costs for Frankford were not separately identified.

We made our review primarily at the U.S. Army Armament Materiel Readiness Command, Rock Island, Illinois, where closure cost data was maintained. In addition, we visited the U.S. Army Armament Research and Development Command, Dover, New Jersey, which received many of Frankford's missions. We also visited the Frankford Arsenal Caretaker Activity, Philadelphia, Pennsylvania, to examine painting of buildings and other completed decontamination work. We discussed the decontamination work with officials of the following activities:

- U.S. Army Materiel Development and Readiness Command, Alexandria, Virginia.
- U.S. Army Toxic and Hazardous Materials Agency, Aberdeen Proving Ground, Maryland (project office for decontamination work done at Frankford).
- General Services Administration, Washington, D.C. (agency responsible for disposing of Frankford facilities).

CLOSURE COSTS AT FRANKFORD ARSENAL

During the period of closure of Frankford, when functions and personnel were to be gradually phased out or transferred, the Army incurred an unanticipated operating loss and nonproductive labor costs of nearly \$18 million. These costs are attributed to delays in personnel transfers and separations. Further, the Army incurred over \$9 million in unanticipated decontamination costs. Finally, delays associated with decontamination and plant clearance increased expenditures for caretaker activities to almost \$9 million.

Extensive personnel separation delays

The Army's original plan was to close Frankford effective June 30, 1977. With a change in the close of the fiscal year, this date was extended to September 30, 1977. All Frankford personnel transfers and terminations generally took place by September 30, 1977. Personnel remaining after this date were needed for plant clearance and the caretaker activity. However, additional costs were incurred because of the extensive delays in personnel separations prior to the closure date, as shown below.

<u>Date</u>	<u>Personnel strength</u>		
	<u>Planned</u>	<u>Actual</u>	<u>Difference</u>
June 30, 1976	1,652	2,667	1,015
June 30, 1977	69	944	875

The following events delayed separating Frankford personnel:

<u>Period</u>	<u>Reasons for delay</u>
July 8 - September 1, 1975	Two-month moratorium on closure activities because of lawsuits by the employees' union and the city of Philadelphia.
October 1 - December 2, 1975	Delay by Army because of armament community reorganization.
May 10 - September 3, 1976	Additional delay because of Army reorganization.
October 1, 1976 - March 20, 1977	Army awaited Civil Service review of personnel actions concerning the reorganization.
March 21 - September 30, 1977	New notices given to employees separating or transferring and personnel transferring to Dover had to be phased in because of delays in preparing facilities to accommodate personnel and equipment.

Because of these delays, approximately 1,000 personnel remained at Frankford for a year longer (June 1976 - June 1977) than the Army had originally planned.

Operating loss and nonproductive labor

Frankford overhead labor costs did not decline at the rate planned by the Army, resulting in an operating loss of

approximately \$17 million. Also, direct labor personnel were kept on at Frankford longer than planned, causing about an additional \$1 million in nonproductive labor.

Frankford Arsenal operated as an Army Industrial Fund (AIF) activity. Operating costs are usually recovered from customers receiving goods or services. During Frankford's closure, labor costs continued at levels that were not recovered through customer payments. This caused the operating loss.

The operating loss and nonproductive labor costs were incurred during fiscal years 1976 and 1977. Effective September 30, 1977, the Frankford AIF account was closed and subsequent labor costs were charged to the caretaker activity and plant clearance accounts. Because charges to operating loss and nonproductive labor accounts were made several years ago, disbursement documents have been destroyed. Accordingly, our review of these costs was limited to an examination of funding documents and discussions with Army officials associated with the closure.

#### Army comments and our evaluation

The Army said that the \$17 million operating loss should not be included as part of the cost to close the Frankford Arsenal. The Army said the costs were caused by the unanticipated delay in closing Frankford. Because of the requirements of industrial fund accounting procedures, the Army said these costs were charged to Frankford, whereas they should have been charged to the customers who received the products and services produced by the Frankford employees at that time. Thus, the Army said these were not additional costs to the Army, but costs incorrectly charged to the Frankford Arsenal.

The Army, not GAO, classified the \$17 million operating loss as part of the Frankford closure. The Army did not furnish any data to support its claim that the costs were incorrectly classified. Without supporting data, we were unable to verify what the Army said and to specifically identify what the Frankford employees were doing at this time. If employees were performing functions related to the closure, such as inventorying and packing equipment, or if they were unoccupied because of the closure delay, then we believe the costs were properly charged to the closure. If, however, the personnel were producing products and services that would normally be reimbursed by Army customers, then the costs were incorrectly classified.

#### Decontamination costs

The original Frankford closure cost estimate did not include costs for decontamination. However, the Army paid about \$9.4

million for all activities and studies associated with the decontamination and cleanup of the arsenal. Estimates escalated from \$233,000 in 1975, to \$825,000 in 1976, and to \$5 million in 1977.

In March 1978 the Army awarded a \$600,000 contract for a study to determine which areas needed decontamination and cleanup. Bidders for the decontamination and cleanup contract used the study to prepare their proposals. On September 21, 1979, the Army signed a \$6,302,187 contract for decontaminating the arsenal. Work was completed in November 1980 at a cost of \$8,273,722. There were additional decontamination costs for surveys and equipment cleanup.

Our October 1980 report 1/ noted that an unexpected increase of radiological waste caused most of the decontamination cost increase. The report said that, according to the Army, the increase in waste volume was caused mainly by the following:

- The estimates of radiologically contaminated waste were based on a study which failed to identify all areas of decontamination.
- The Nuclear Regulatory Commission did not have established limits or guidelines covering radiological soil contamination.

#### Caretaker activities

The Army's original estimate of costs for caretaker activities for the 15-month period (October 1977 to December 1978) was \$1.6 million. Frankford was converted to a caretaker activity at the start of fiscal year 1978. As of September 30, 1981, the arsenal was still a caretaker activity and caretaker activity costs were estimated to be \$8.8 million. Delays in removing the arsenal's equipment and in decontaminating the facilities extended the caretaker period and contributed to the cost increase.

The Army estimates caretaker costs for fiscal year 1982 to be \$0.7 million. This cost will decrease or increase depending on how quickly GSA can dispose of the Frankford facility.

#### Terminal leave

No costs were included in the original estimate for terminal leave--accrued annual leave due to an employee upon separation

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1/"Review of the Costs Related to the Decontamination Contract for the Frankford Arsenal" (LCD-81-11, Oct. 24, 1980).



from Federal service. At an AIF activity, annual leave is a cost accrued to customer accounts. Terminal leave costs of about \$1 million were accrued after September 30, 1977, when the AIF was closed out at Frankford. Additional terminal leave costs were probably incurred prior to this date and charged to operating loss and nonproductive labor, but were not separately identified.

#### Personnel relocation

The Army's original estimate for personnel relocations was \$5.1 million. The actual costs were about \$1.7 million. According to Army officials, fewer Frankford personnel actually relocated than originally estimated.

#### Severance pay

The Army's original estimate for severance pay was \$3.6 million. The actual cost was approximately \$1.9 million. An Army official could not explain the reasons for the difference, except possibly that the length of service or salary of personnel who received severance pay was different than originally expected.

#### Plant clearance

The original cost estimate for packing, crating, handling, and moving the Frankford equipment was \$8.6 million. The actual cost incurred was about \$9.5 million. Plant clearance costs increased because of changes in equipment destinations and delays in moving equipment.

#### COSTS INCURRED AT OTHER ACTIVITIES BECAUSE OF FRANKFORD ARSENAL CLOSURE

In its original estimate, the Army projected that \$14.6 million would be incurred at other activities as a result of the Frankford closure. Because a major realignment of the Army's armament community was occurring at the same time as the Frankford closure, costs for the realignment and the Frankford closure became commingled. Without separate records for actual costs, the Army tried to estimate actual costs applicable to the Frankford closure. In some cases the Army used the original estimates as actual costs.

Our analysis of Army cost data indicated that about \$16.3 million were incurred at other activities because of Frankford's closure. Most of the costs were incurred at the U.S. Army Armament Research and Development Command (ARADCOM), Dover, New Jersey, the gaining activity for many of Frankford's missions.

#### Facilities construction

In its 1974 study, the Army estimated that facilities construction at other installations, because of the Frankford closure,

would cost more than \$9 million. But as indicated above, construction costs attributable to the Frankford Arsenal closure were not separately identified. All of this construction occurred at ARADCOM. Through discussion with Army representatives knowledgeable of the construction work at Dover, we estimate that \$8 million of construction costs at Dover were for new buildings and for renovation of existing buildings to accommodate personnel and equipment to carry out functions transferred from the Frankford Arsenal. Of this total, \$5.5 million was estimated to be the cost of transferred Frankford functions in buildings that also contained other functions. The remaining \$2.5 million involved construction projects in buildings containing only transferred Frankford functions.

#### Alterations

An estimated \$0.5 million was used to alter facilities--\$0.4 million at Rock Island, Illinois, and \$0.1 million at Dover, New Jersey. Alterations are minor construction costs financed locally by the activity's operating budget.

#### Equipment installation

The majority of Frankford's mission-related equipment was shipped to Dover, New Jersey. It cost an estimated \$4.9 million to install. About \$4.7 million was readily identified with Frankford equipment, while about \$0.2 million was estimated by determining percentages of installation costs attributable to Frankford equipment and equipment from other sources.

#### New equipment

ARADCOM purchased about \$0.6 million of new equipment for transferred Frankford missions; this was installed at Dover. According to an Army official, the equipment was purchased to replace items that could not be moved or were uneconomical to move.

#### Internal relocations

ARADCOM incurred an estimated \$75,000 in general reorganization costs at Dover because of the Frankford closure. The cost covered minor equipment expenses, including procurement, movement, and installation, not accounted for in the other cost elements.

#### Recruiting and training

The actual recruiting and training costs associated with filling Frankford positions transferred to other activities were not identified by the Army. In the absence of data, we used the

Army's original estimate of \$2.1 million for recruiting and training.

PAINTING OF FRANKFORD ARSENAL  
BUILDINGS' INTERIOR

The Federal Property Management Regulations, issued by GSA, contain requirements for the decontamination of real property planned for disposal. The Regulations require all Federal agencies proposing to transfer real property to GSA for disposal to submit to GSA, with their report of excess, information on any contamination or other health and safety hazards. In some instances, prior to accepting the property, GSA also requires a certification that the property is free of these hazards and may later be conveyed by GSA without restriction.

GSA required that the Army certify that the Frankford property could be available for unrestricted use when GSA disposed of it. The Army's interpretation of the requirement led to the painting of certain Frankford buildings' interior, in addition to performing explosive and radiological decontamination. The painting was to cover surfaces containing heavy metal residues (e.g., lead-based paint).

Army decontamination criteria were developed specifically for the Frankford buildings' interior. The criteria stated that after the buildings were cleaned, the surfaces contaminated with heavy metals should be repainted or covered with materials, such as hard-board, plywood, plaster, dry wall, or other suitable materials. Painting was selected because it was less costly.

Although the Army planned to decontaminate and paint some buildings, the city of Philadelphia, which planned to acquire portions of the arsenal, requested that the Army demolish buildings the city did not plan to use. The Army compared decontamination and demolition costs and found that it would cost an additional \$1.8 million and take another 4 months if they were to demolish the buildings rather than decontaminate them. Since the city did not provide the funds for demolition, the Army chose to only decontaminate the buildings. The painting portion of the decontamination work cost the Army \$0.4 million.

The contaminated interior walls of some buildings were painted from the floor to a height of 6 feet. The Army reasoned that, by painting only a portion of the surface, it would save money and eliminate any health hazards if the building were to be occupied by children.

During our tour of the Frankford buildings, we inspected interior walls and found some instances where the old paint

above the newly painted area was flaking and falling to the floor. Thus, partial painting did not seem to correct the concern of a possible hazard. The interior building appearances were such that any future tenants would probably do additional cleaning, including painting, prior to occupying the buildings.

We believe that painting certain Frankford buildings only partially eliminated a possible hazard. Because of partial painting and the uncertain disposition of the arsenal, we believe the painting work was at least premature and may not have been necessary and was a questionable expenditure of funds.

#### Army comments and our evaluation

The Army said that it partially painted the interior of some Frankford buildings because of a GSA requirement to decontaminate the installation so that it could be conveyed for unrestricted use. The Army said it tried to convince GSA to accept the installation without painting and offered to do the painting later if that became necessary, but GSA would not accept these conditions. The Army said that regulations and procedures should be changed so that properties like Frankford could be decontaminated to industrial use only instead of unrestricted use.

We did not evaluate the effectiveness of the decontamination measures used by the Army at Frankford, except that we believe the way the Army painted the walls in some Frankford buildings did not appear to correct the problem. The Federal Property Management Regulations place responsibility for decontamination on holding agencies. This seems appropriate since the holding agency should be in the best position to know how the property has been used and what would be needed to decontaminate it. We have not assessed the appropriateness of revising regulations and procedures to permit property decontamination to a level less than unrestricted use. Proper evaluation of such a change would require work beyond the scope of this one property disposal. However, we intend to include this in future work we have planned on real property disposal.

#### ANNUAL SAVINGS FROM CLOSING FRANKFORD ARSENAL REDUCED

Annual savings identified with closing Frankford were reduced by about \$7.1 million because 505 fewer civilian personnel positions were eliminated than were originally estimated. In the Army's original savings computation, it estimated that 1,781 Frankford personnel positions would be eliminated. However, because the armament community reorganization occurred at the same time as the Frankford closure, only 1,276 positions were eliminated.

A GAO report, <sup>1/</sup> which reviewed the original savings estimate for salaries and fringe benefits for the 1,781 personnel, showed savings of approximately \$25 million, as illustrated below.

Estimated Annual Recurring Savings

	<u>Army</u>	<u>GAO</u>	<u>Difference</u>
	------(000 omitted)-----		
Civilian personnel	\$26,530	\$25,032	-\$1,498
Military personnel	422	295	-127
Other (supplies, utilities, equipment, operating costs, etc.)	<u>9,430</u>	<u>10,506</u>	<u>1,076</u>
	36,382	35,833	-549
Offset for contracting	<u>-15,342</u>	<u>-15,342</u>	<u>-</u>
Arsenal savings	21,040	20,491	-549
Tenant activity savings	<u>791</u>	<u>-</u>	<u>-791</u>
Total	<u>\$21,831</u>	<u>\$20,491</u>	<u>-\$1,340</u>

Savings for 1,276 positions are approximately \$17.9 million, about \$7.1 million below the original estimate. The \$7.1 million difference in personnel savings reduced total savings from closing Frankford (as originally adjusted by GAO) to about \$13.4 million annually.

The Army has not computed the actual savings resulting from the Frankford closing, and therefore, we are unable to verify other elements of the original savings computation.

Army comments and our evaluation

The Army agreed that fewer positions were eliminated at Frankford than originally estimated because the Frankford closure became a part of the larger realignment of the armament community. The Army also said that positions not eliminated at Frankford were eliminated at other armament installations and, thus, the total savings to the Army remained the same. Because of the absence of supporting data, we were not able to verify this.

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<sup>1/</sup>"Examination of the Announced Closure of Frankford Arsenal"  
(LCD-76-305, Sept. 23, 1975).