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Report to the Chairman and Ranking Minority Member, Committee on Government Operations, House of Representatives

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DEPOT MAINTENANCE

Planned Transfer of Industrial Plant Equipment From Seneca Army Depot

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National Security and
International Affairs Division

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November 6, 1992

The Honorable John Conyers, Jr.
Chairman
The Honorable Frank Horton
Ranking Minority Member
Committee on Government Operations
House of Representatives

As requested, we reviewed the Department of Defense's (DOD) plans to remove the industrial plant equipment maintenance and special weapons storage missions from the Seneca Army Depot, Romulus, New York. The results of our work on the special weapons storage mission will be conveyed to you in a separate report.

This report addresses DOD's decision to transfer Seneca's industrial plant equipment mission to the Defense Logistics Agency (DLA). It also provides an account of the review process leading to DOD's decision. Specifically, we assessed the rationale and evidence used to support the transfer. Because of your concerns regarding the appropriateness of DOD's decision process, DOD agreed to postpone the transfer until we completed our review.

Results in Brief

As part of its depot consolidation effort, DOD decided to transfer Seneca's industrial plant equipment maintenance and rebuild work load to DLA's Defense Industrial Plant Equipment Center facility at Mechanicsburg, Pennsylvania. DOD believed that Mechanicsburg's costs for maintaining and rebuilding industrial plant equipment were less than Seneca's.

Our analysis showed that DOD's cost comparison was incomplete and inaccurate and that rebuild costs at both facilities were actually very close. However, we believe the industrial plant equipment maintenance mission should be consolidated at Mechanicsburg because:

- Mechanicsburg has both greater rebuild capability than Seneca and excess plant capacity. It also has the plant capacity to absorb Seneca's work load, whereas Seneca does not have the plant capacity to absorb Mechanicsburg's. An ongoing $1.9 million construction project at Mechanicsburg will further enhance its capabilities. The quality of the work performed was not a factor in our decision since customers of both facilities indicated general satisfaction with the current work performed. Also, the need for both facilities is questionable since the work load for

rebuilding industrial plant equipment is expected to decline over the next few years.

- Savings could be achieved by consolidating the work load at one facility. We estimate that the transfer of Seneca's industrial plant equipment mission to Mechanicsburg could save DOD up to $1.9 million a year and that DOD could begin to realize these savings in less than 2 years.

Background

In 1964, DOD assigned the Defense Supply Agency, now DLA, oversight responsibility for the management and maintenance of the military services' industrial plant equipment. In 1990, DLA had three industrial plant equipment maintenance and rebuild facilities—Stockton, California; Mechanicsburg, Pennsylvania; and Columbus, Ohio. Industrial plant equipment includes metal-working machinery such as lathes; milling, drilling, and boring machines; gear-cutting machines; planers and shapers; and welding equipment. (App. I provides photographs of some of the equipment involved.)

In October 1974, the Army initiated a project to modernize much of the industrial plant equipment used for ammunition production. Army officials determined that rebuilding the equipment in-house would be faster than sending it out to private contractors to be rebuilt and more economical than purchasing new equipment. To accomplish this, the Army established its own facility at Seneca Army Depot. Although the Army's demand for extensive equipment modernization diminished within a few years, it has continued to use the Seneca facility to maintain and rebuild industrial plant equipment.

In early 1990, DLA and the Army studied DOD's need for four industrial plant equipment rebuild facilities. They determined that there was an insufficient maintenance work load to warrant four facilities and consequently decided that the Columbus facility should be closed and its work load transferred to Stockton and Mechanicsburg. DLA also recommended that the Seneca facility be closed and its work load transferred to Mechanicsburg. However, the Army disagreed, preferring to retain its own industrial plant equipment maintenance facility and stating that the savings projected by DLA as a result of transferring Seneca's work load would not materialize. No agreement was reached at that time, and the Seneca industrial plant equipment mission remained in place.

DLA and Military Services Were Unable to Agree on Industrial Plant Equipment Consolidation

DOD's June 1991 decision to transfer Seneca's work load to DLA was the result of a year-long effort to identify ways to reduce overall depot costs by consolidating facilities.[1] In June 1990, DOD established the Defense Depot Maintenance Council to identify ways to reduce depot costs through better management and consolidation. In July 1990, the Council designated an industrial plant equipment review group led by DLA with representatives also from the Army, Navy, Air Force, and Marine Corps. This group was responsible for continuing DLA's and the Army's earlier work on industrial plant equipment management and exploring the possibility of further consolidation of facilities. The Council expected the review group to resolve the differences between DLA's and the Army's industrial plant equipment studies completed in early 1990.

The resulting DLA-led group report, dated January 30, 1991, advocated centralizing all industrial plant equipment acquisition and maintenance under DLA. It also acknowledged that the service representatives opposed this in favor of managing their own industrial plant equipment. Although the report was intended for signature by the chairman and the military service representatives on the Council, the service representatives refused to sign the report and instead prepared a separate report that recommended eliminating DLA's functions and decentralizing industrial plant equipment management to the service level. All but one of the service representatives signed this report, but it was never officially submitted to the Council.

DLA review group representatives told us that they advocated consolidating industrial plant equipment management under DLA because the agency is officially chartered by DOD to oversee the industrial plant equipment program. In addition, they believed consolidation under DLA would reduce administrative costs and improve program management. Service representatives within the review group told us that during group meetings they had expressed a preference for the services managing their own industrial plant equipment and for retaining Seneca Army Depot as a maintenance facility. They maintained that each service knew best what industrial plant equipment it needed, that individual service needs were different, and that consolidating equipment purchases and repair under DLA would increase administrative costs rather than decreasing them. They believed that their views were not given adequate consideration by the DLA

[1]The scope of our review was limited to DOD's decision regarding the management of industrial plant equipment maintenance. We did not assess DLA's or the services' recommendations regarding overall industrial plant equipment management, which includes other aspects of industrial plant equipment management such as procurement and Defense Industrial Reserve operations.

officials heading the review group and its four subgroups. Service review group members told us that DLA officials appeared to have a preset agenda before the meetings began. They said this agenda did not include alternatives to DLA becoming DOD's sole industrial plant equipment manager.

DOD officials working with the Council told us that they saw the service representatives' report and were aware of the dissenting views. However, they did not consider this report in evaluating this issue since it was not formally forwarded to DOD by the services. They told us they considered the chairman's report the only official report.

DOD Attempted to Resolve the Consolidation Issue With a Six-Item Cost Comparison

In February 1991, the Under Secretaries of the military services attempted to finally resolve the disagreement between the Army and DLA by recommending, in the Joint Services Business Plan, a comparison of Seneca's and Mechanicsburg's rebuild costs for six Army industrial plant equipment items. The Assistant Secretary of Defense (Production and Logistics) approved the Joint Services Business Plan and agreed that if Seneca's costs were lower, it would retain its industrial plant equipment rebuild mission; and if Mechanicsburg's costs were lower, Seneca's work would be transferred to DLA.

DOD officials told us that the Council expected it would be able to make a decision, based on the results of the six-item cost comparison, during early June 1991. DLA and the Army conducted this comparison during April and May 1991. Six machines were selected for which Seneca and Mechanicsburg would prepare estimates for typical rebuilds based solely on labor costs. Their comparison indicated that Mechanicsburg's labor costs were 36 percent lower than Seneca's, and DOD subsequently decided to transfer Seneca's work to Mechanicsburg.

Also, in April 1991, believing that the Joint Services Business Plan had called for a more in-depth economic analysis of rebuild costs, the Army contracted with The Analytical Sciences Corporation, an independent private consulting firm, to prepare an analysis and comparison of overall industrial plant equipment rebuild costs at both sites. The Army expected the consultant's final report to be issued by the end of July 1991.

At the Council's June 12, 1991, meeting, only the results of the six-item cost comparison were available. A DOD official told us that some Council members were aware that the Army consultant's final report might be

available within a couple of months and that it might provide a more thorough cost analysis than the six-item cost comparison. However, the Council was anxious to resolve the issue. Believing that a decision on the industrial plant equipment maintenance issue was already overdue and wanting to curtail any further expenditure of resources, the Council recommended that Seneca's work load be transferred to DLA based primarily on the results of the six-item cost comparison. DOD subsequently decided to implement the Council's recommendation.

Six-Item Cost Comparison Provided Inadequate Information for Decisionmakers

Although we agree with DOD's decision to consolidate at Mechanicsburg, our evaluation of the six-item cost comparison found that this method of comparison provided incomplete and inaccurate information to the decisionmakers and was an inadequate method of comparing overall rebuild costs at the two sites. First, Seneca and Mechanicsburg officials interpreted the request for a labor-only cost estimate differently and thus their methods for calculating labor hours were inconsistent. Second, since Seneca included expenses in its hourly labor rate that Mechanicsburg did not, Seneca's labor costs appeared much higher than Mechanicsburg's. Appendix II provides the rebuild cost estimates submitted for the six items.

Both sites were instructed to calculate only the cost of labor for the six items (i.e., excluding material costs). In its estimate, Seneca eliminated the labor hours it would normally include for machining parts in-house, contending that these hours were actually material costs. This resulted in a 12-percent reduction in the number of labor hours Seneca officials would normally estimate for a rebuild. Mechanicsburg, on the other hand, included in-house machining hours in its estimate, but cut its usual labor hour estimates by about 30 percent. Mechanicsburg officials told us that they reduced their normal estimates because they were expecting ongoing plant improvements to increase productivity and reduce labor hours.

The methods for calculating hourly costs at both sites were inconsistent, making Mechanicsburg appear much less expensive. As a tenant of the Navy Ships Parts Control Center, DLA's Mechanicsburg facility included only base operating costs directly associated with its mission. Its hourly rates are lower because Seneca's rebuild mission, as a host mission at the Seneca Army Depot, included a portion of all base operating costs not directly associated with any specific depot mission. Seneca's cost estimates for the six items included these additional costs and this increased its reported hourly labor rate by more than $11 an hour. Since DOD would have to pay these costs at Seneca even if the rebuild mission was

eliminated, they are not actual rebuild costs and therefore should not be included in a comparison of the two sites.

Rebuild Costs at Seneca and Mechanicsburg Are Comparable

Our analysis of both facilities' rebuild costs indicated that they are actually very close. To compare actual hourly maintenance costs, we recalculated the hourly labor rates at both sites so that they included similar expenses. Our calculations included wage rates, leave and benefit expenses, and overhead expenses that were directly identifiable to the maintenance missions. Our analysis, based on fiscal year 1991 data, showed no significant difference in the two sites' hourly labor expenses.[2] The results of our labor cost analysis generally agree with those of The Analytical Sciences Corporation.[3] Its analysis compared fiscal year 1990 hourly expenses at the two sites and also found no significant difference in hourly labor costs.

DLA's Mechanicsburg Plant Facility Has Greater Capability Than Seneca's

DLA's Mechanicsburg facility is better able to accommodate a consolidation of industrial plant equipment maintenance. Mechanicsburg currently can accommodate a work load of up to 339 machines, while Seneca can accommodate only 105. Mechanicsburg's larger number and greater variety of machine tools gives it better machining capability than Seneca. Greater floor space at Mechanicsburg also allows it to accommodate very large pieces of equipment. An ongoing $1.9 million construction project at Mechanicsburg, which is scheduled for completion in late 1992, will provide work space for an additional 176 machines as well as greater environmental protection and specially constructed rooms for machine disassembly, evaluation, cleaning, paint stripping, and painting. Appendix III provides additional information comparing the Mechanicsburg and Seneca facilities.

DLA has sufficient plant capacity at Mechanicsburg to assume Seneca's current work load of approximately 40 machines. Mechanicsburg normally has a work load of about 200 machines. Moreover, when Mechanicsburg completed the work load transferred from DLA's Columbus facility, additional work space and staff became available. Seneca's plant capacity

[2]We estimated that fiscal year 1991 hourly rebuild costs were $37 at Mechanicsburg and $35.70 at Seneca. However, variables used in calculating these estimates could cause changes larger than the $1.30 difference between them.

[3]The Analytical Sciences Corporation, TR-6329-121 "U.S. Army Industrial Plant Equipment Rebuild Analysis," August 1991.

of 105 machines, however, would not allow it to assume Mechanicsburg's work load of 200 machines.

DOD officials predict that the maintenance work load for industrial plant equipment will gradually be reduced, since a substantial portion of the work load consists of rebuilding machines from a declining Defense Industrial Reserve,[4] and the military services seem to have less and less need for this equipment. These officials told us that since Mechanicsburg has adequate capacity and staff to accommodate its and Seneca's work load, it should have no difficulty meeting its customers' future needs without additional resources.

Transfer Could Result in Savings of Up to $1.9 Million a Year

On the basis of fiscal year 1991 costs, we estimate that the transfer of Seneca's work load to Mechanicsburg could result in savings of up to $1.9 million a year and possibly more. As a result of the transfer, Seneca would no longer incur base operating costs of $373,000 directly associated with industrial plant equipment maintenance activities. Any additional savings are dependent on DLA's ability to absorb an increased rebuild workload without incurring additional (1) overhead costs for administration, maintenance shop supervisors, and mid-level managers or (2) direct labor costs.

DLA officials told us that although at least some increases in Mechanicsburg's work load will occur, Seneca's overhead costs will not be transferred to Mechanicsburg, and direct labor cost increases are expected to be minimal. These officials anticipate rescheduling the current Mechanicsburg and Seneca work loads so that no additional staff will be needed and the overall work load can be accommodated in existing DLA plant facilities. They said that since most of Mechanicsburg's overhead is calculated based on its staff level and the size of its work area, any increases in overhead costs are expected to be minimal.

We believe DLA may be able to save up to an additional $1,515,824 in Seneca overhead costs, allowing total savings of up to $1.9 million per year. Maintenance shop supervisors and mid-level managers are already in place at Mechanicsburg, and no additional hirings are planned. We also noted that Mechanicsburg's overhead costs did not increase when DLA's Columbus facility was closed and much of its workload transferred to Mechanicsburg.

[4]The Defense Industrial Reserve is a general reserve of inactive industrial manufacturing equipment selected by the Secretary of Defense for retention for national defense or other emergency use.

We could not determine whether or to what extent DLA might realize any direct labor savings. Seneca direct labor costs totalled $2,128,380 in 1991. Any direct labor savings are heavily dependent on how much additional work load Mechanicsburg can absorb without increasing direct labor costs. Mechanicsburg's ability to accommodate much additional work load without also incurring additional direct labor costs is uncertain. Also, the size of DLA's workload and subsequent costs are subject to substantial change depending on (1) the amount of rebuild and repair work needed to maintain the Defense Industrial Reserve and (2) the amount of work Mechanicsburg receives from its own customers as well as Seneca's. Overall savings would also be offset to the degree that former Seneca customers either (1) contract with private firms for rebuild work rather than with DLA or (2) purchase new equipment rather than having older equipment rebuilt or repaired.

Our estimate of annual savings resulting from the consolidation is greater than The Analytical Sciences Corporation's estimate of $346,000 per year, primarily because their methodology assumed that an increased work load at Mechanicsburg would proportionately increase both labor and overhead costs. We found no evidence that the consolidation of Seneca's work load at DLA would necessarily result in a proportional increase in costs at Mechanicsburg.

The cost of transferring Seneca's work load to Mechanicsburg is estimated to run as high as $3,672,000. This includes an estimated cost of $372,000 to transfer the actual equipment in process and a maximum cost of $3.3 million to terminate or relocate Seneca's 100 industrial plant equipment employees. With annual savings of $1.9 million, the costs to transfer the work load could be recovered in less than 2 years.

Quality of Mechanicsburg and Seneca Rebuild Programs Appears Comparable

Seneca officials told us that they believed retaining Seneca would help ensure a high quality of work through competition between DLA and Army facilities. However, DOD officials told us that the quality of the current work performed by Seneca and Mechanicsburg was comparable and therefore not a factor in the decision.

We found evidence of problems with some of the work performed by Mechanicsburg or its subcontractors, particularly in the mid-1980s. But DOD officials and DLA customers told us that DLA's program has since improved. Our interviews with Seneca and DLA customers indicated general satisfaction with the current work performed by each. Some Seneca

customers told us they had been previously dissatisfied with DLA's work. Seneca appeared more innovative in developing rebuild program improvements, such as offering warranties on its work and initiating the Maintenance Float Program. This program involves rebuilding commonly used machines in anticipation of customer needs, thus minimizing the time lost by customers while awaiting repairs. DLA subsequently developed similar programs.

Agency Comments

DOD concurred with our findings. DOD's written comments are reprinted in their entirety in appendix IV.

Scope and Methodology

We reviewed the process DOD used to make its decision to transfer Seneca's industrial plant equipment rebuild work load to DLA's Mechanicsburg facility and evaluated the quality of the information available to the decisionmakers. In addition, we independently compared both sites' rebuild facilities and costs.

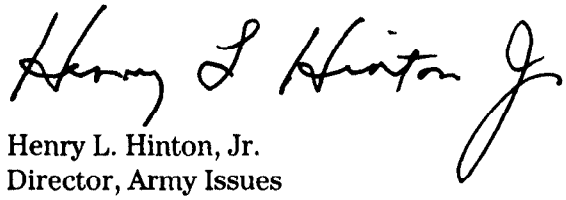
To conduct our review, we interviewed officials, reviewed documents, and received briefings during our visits to DLA headquarters, Alexandria, Virginia; Defense Industrial Plant Equipment Center headquarters, Memphis, Tennessee; the DLA rebuild and storage facility, Mechanicsburg, Pennsylvania; Army Materiel Command headquarters, Alexandria, Virginia; the Army Material Command's Industrial Engineering Activity, Rock Island, Illinois; Depot Systems Command headquarters, Chambersburg, Pennsylvania; and Seneca Army Depot, Romulus, New York. We conducted telephone interviews with officials from the Navy, Army, Air Force, and Marine Corps who participated on the Defense Depot Maintenance Council's industrial plant equipment review group. We also discussed work quality with 18 customers of Seneca's and/or Mechanicsburg's industrial plant equipment rebuild programs.

We performed our work from August 1991 to September 1992 in accordance with generally accepted government auditing standards.

Unless you publicly announce its contents earlier, we plan no further distribution of this report for 15 days. At that time, we will send copies to the Chairmen of the Senate Committee on Governmental Affairs and the House and Senate Committees on Appropriations and on Armed Services; the Secretaries of Defense, the Army, the Navy, and the Air Force; and the

Director of the Defense Logistics Agency. We will also make copies available to others on request.

Please contact me at (202) 275-4141 if you or your staff have any questions concerning this report. Major contributors to this report are listed in appendix V.



Henry L. Hinton, Jr.
Director, Army Issues

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Abbreviations

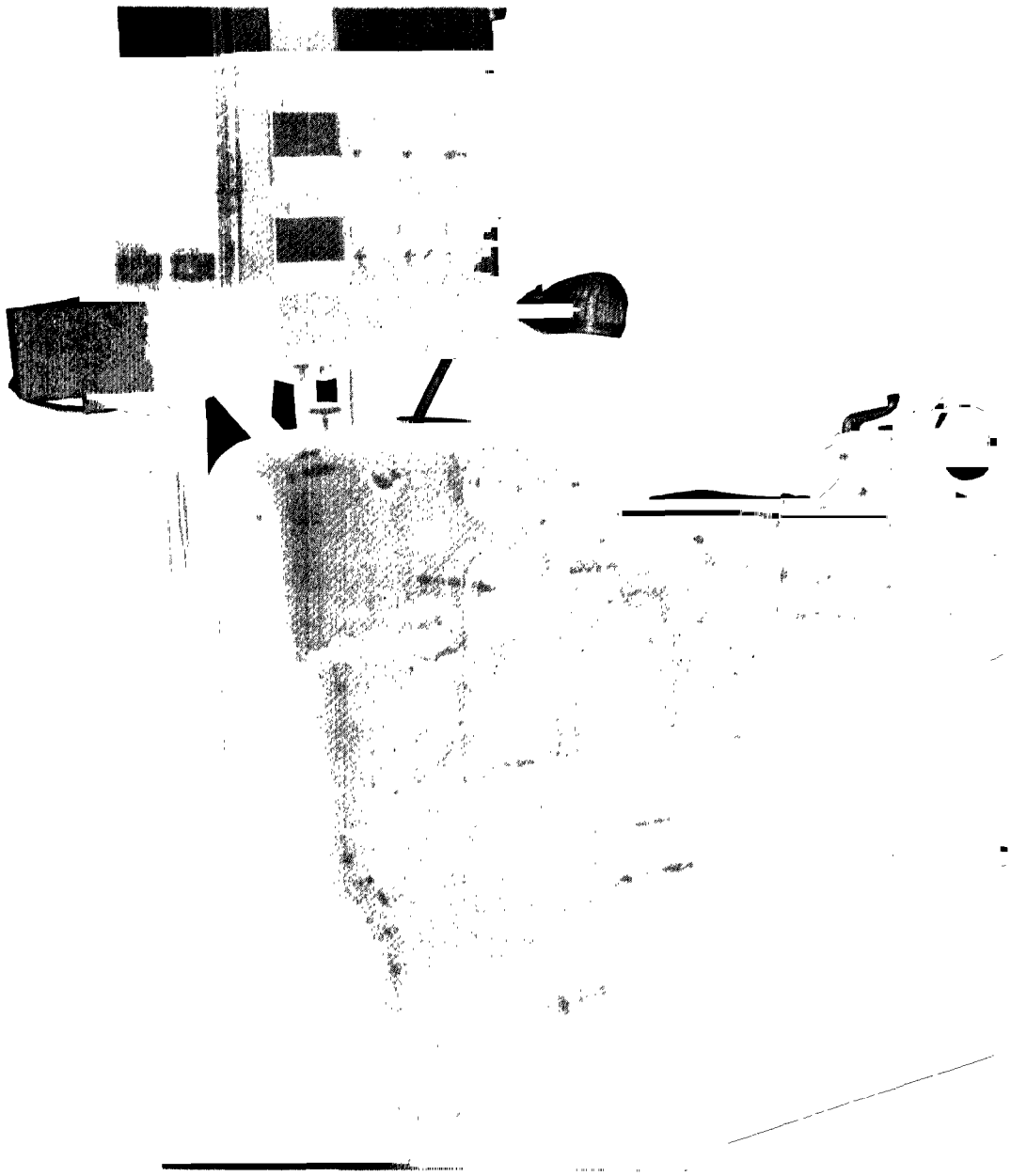
DLA	Defense Logistics Agency
DOD	Department of Defense
GAO	General Accounting Office

Examples of Types of Industrial Plant Equipment Repaired and Rebuilt by the Defense Logistics Agency and the Seneca Army Depot

Figure I.1: Bullard Vertical Turret Lathe

Source: U.S. Army.

Figure I.2: Monarch EE Lathe



Source: U.S. Army.

Rebuild Figures Presented in the Six-Item Cost Comparison

Item	Seneca Army Depot	Defense Logistics Agency, Mechanicsburg Facility[a]
Verticle Turret Lathe, Bullard Model - Cutmaster 36		
Labor hours	2,045	1,900
Hourly rate	$48.97	$32.02
Estimated cost	$100,144	$60,830
Radial Arm Drill, Carlton Machine Tool, Model 3A		
Labor hours	620	600
Hourly rate	$48.97	$32.02
Estimated cost	$30,361	$19,210
Gear Shaper, Smith & Mills, Model 20 Standard		
Labor hours	850	750
Hourly rate	$48.97	$32.02
Estimated cost	$41,625	$24,012
Grinder, Universal, Landis Machine Tool, Model CH		
Labor hours	882	759
Hourly rate	$48.97	$32.02
Estimated cost	$43,192	$24,301
Monarch 10 Inch Model EE, Precision Toolmaker's Lathe		
Labor hours	433	500
Hourly rate	$48.97	$32.02
Estimated cost	$21,205	$16,008
Lapping Machine, Crane Packing Co., Model 24		
Labor hours	170	360
Hourly rate	$48.97	$32.02
Estimated cost	$8,325	$11,525
Total hours	**5,000**	**4,869**
Total labor costs	**$244,852**	**$155,886**

[a]Actual estimated cost reported by DLA is shown, but calculation is different due to rounding of hourly costs.

Comparison of Defense Industrial Plant Equipment Center, Mechanicsburg, and Seneca Army Depot's Industrial Plant Equipment Rebuild Facilities

	Defense Logistics Agency, Mechanicsburg Facility	Seneca Army Depot
Physical plant characteristics		
Square feet of shop space	261,800	98,856
Number of work bays[a]	50 (94)	63
Maximum crane capability (tons)	50	25
Machining capability (expressed in number of machine tools)	81	40
Number of machines each site can repair at once[a]	339 (515)	105
Machines completed in fiscal year 1990[b]	238	50
Total staff on board devoted to rebuild	182	100

[a]Capacity available after completion of military construction project at Mechanicsburg is shown in brackets.

[b]Fiscal year 1990 data was used instead of 1991 data because 1991 data from Mechanicsburg also included partially completed machines transferred from Columbus, Ohio. Therefore, it was more equitable to use fiscal year 1990 data.

Comments From the Department of Defense

ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301-8000

PRODUCTION AND
LOGISTICS

September 1, 1992

Mr. Richard Davis
Director, Army Issues Group
National Security and International
Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Davis:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report entitled--"DEPOT MAINTENANCE: Planned Transfer of Industrial Plant Equipment Mission from Seneca Army Depot," dated July 29, 1992 (GAO Code 393470/OSD Case 8938A).

The DoD concurs with the GAO draft report. The overall GAO conclusion supported the Defense Depot Maintenance Council decision to shift the Industrial Plant Equipment depot maintenance mission and associated workloads from Seneca Army Depot to the Defense Logistics Agency.

The Department appreciates the opportunity to comment on the draft report.

Sincerely,

Colin McMillan

Colin McMillan

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