



United States General Accounting Office
Washington, DC 20548

National Security and
International Affairs Division

B-285332

May 12, 2000

The Honorable Rick Santorum
United States Senate

Subject: Defense Acquisitions: Medium Tactical Vehicle Replacement
Contract Issues

Dear Senator Santorum:

In response to your March 29, 2000, letter, we reviewed issues related to the Army's Medium Tactical Vehicle Replacement contract award. The U. S. Army Tank-automotive and Armaments Command awarded the truck production contract on February 1, 1999, to the Oshkosh Truck Corporation. These trucks will replace the Marine Corps' existing medium tactical truck. Caterpillar, Inc., is the subcontractor for the truck's engine. The contract included an option for an engine prelubrication system, which lubricates engine parts prior to engine start-up. The Army exercised the option for \$4.4 million on February 12, 1999, and Oshkosh selected Engine Lubrication Systems, which manufactures its prelubrication system under the trademark name "Pre-Luber". Soon after, the Army decided to delete the engine prelubrication requirement.

Your letter asked us to report on (1) whether the Pre-Luber offers significant savings in maintenance and repair costs in comparison to the awarded engine without the Pre-Luber and (2) whether the contract was administered fairly, lawfully, and economically. You also expressed concern that the lubrication system on the Caterpillar engine may infringe on the patent held by Engine Lubrication Systems.

**PRE/POST START ENGINE
LUBRICATION SYSTEMS**

Automotive industry literature indicates that pre/post-start engine lubrication systems can reduce wear and tear of engine parts and thus operating costs. However, an Army break-even analysis of the Pre-Luber system concluded that while there would be savings, the up-front investment cost outweighed the savings benefit.

According to industry literature, starting an engine when oil has not been distributed to engine parts, such as after an engine has been turned off or in extreme climatic conditions, is referred to as a dry start. Industry sources estimate that as much as

50 to 90 percent of engine wear can be attributed to dry starts. Pre/post-start engine lubrication systems pump oil to critical internal engine parts prior to engine start-up or after engine shutdown. According to industry literature, less wear on engine parts results, and operating costs are reduced.

After the Command awarded the contract, the program office started a review of all contract options. Subsequently, the program office conducted a break-even analysis for adding the Pre-Luber. The May 17, 1999 analysis compared the total investment cost of adding the Pre-Luber (based on the price in the contract) to total expected annual replacement cost (based on component failure rates experienced on similar systems). The analysis showed that the Pre-Luber would reduce maintenance and repair costs, but it would take 62.5 years to recover the investment. Since the trucks would have an expected useful life of 22 years, the Command concluded that the cost of adding the Pre-Luber outweighed the benefit. As discussed with your office, we did not assess the program office's analysis or attempt to identify and quantify potential savings.

CONTRACT ADMINISTRATION

The Army's decision to exercise the option for the prelubrication system and subsequently delete the requirement and cancel the option is within the Army's contracting authority. Because Oshkosh Truck Corporation had already begun work related to the option, the Command agreed to pay \$6,142 for the company's costs incurred prior to cancellation of the option.

The truck replacement contract was awarded to Oshkosh Truck Corporation on February 1, 1999. Oshkosh selected Caterpillar, Inc., as a subcontractor, to provide the engine. The request for proposal and resultant contract included an option for an engine prelubrication system. Oshkosh chose the Pre-Luber manufactured by Engine Lubrication Systems as the source for the option. The Command had 60 days from contract award to exercise the option. On February 12, 1999, the Command modified the contract to exercise the option for the prelubrication system. Prior to exercising the option, the program manager's office began a reevaluation of all contract options but had not completed it before the option was exercised. According to Command officials, their engineers determined that the Caterpillar engine already had a prestart lubrication system that would meet program requirements. Additionally, Caterpillar's tests of the engine demonstrated that it would perform well beyond the program requirement for service life between truck overhauls.

On June 21, 1999, the Command issued a stop work order to Oshkosh for work related to the prelubrication system. The Command and Oshkosh agreed that \$6,142.03 was fair and reasonable compensation for Oshkosh's efforts for the option prior to the stop work order. On March 14, 2000, the Command modified the contract to formally delete the requirement and the option.

PATENT INFRINGEMENT ISSUES

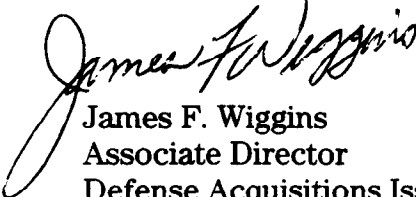
Possible trademark or patent infringement is a legal matter to be resolved between the relevant parties. However, in response to your concern, the following information is presented for clarification purposes.

- The request for proposal and resultant contract included an option for an engine prelubrication system but did not require a specific manufacturer or trade name. Oshkosh chose the Pre-Luber manufactured by Engine Lubrication Systems as the source for the option.
- Engine Lubrication Systems does not own the patent for the lubrication system that it manufactures under the Pre-Luber trademark. The patent is owned by Lubrication Research, Inc., of Carlsbad, California, and is licensed to Engine Lubrication Systems.
- Only the Oshkosh Truck Corporation has a contractual relationship with Engine Lubrication Systems and Caterpillar, Inc. The Tank-automotive and Armaments Command would not be a relevant party in the resolution of a patent infringement dispute.

The information contained in this letter is based on our discussions with Army contracting and program management officials and review of contract documents and industry literature. Tank-automotive and Armaments Command officials reviewed the information in this letter and agreed with its accuracy. On May 1, 2000, we briefed this information to your staff. We conducted our review from April through May 2000 in accordance with generally accepted government auditing standards.

If you or your staff have any further questions regarding this matter, please call me on (202) 512-4841.

Sincerely yours,


James F. Wiggins
Associate Director
Defense Acquisitions Issues

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