



Comptroller General
of the United States

15712

Washington, D.C. 20548

Decision

Matter of: Moore Heating & Plumbing, Inc.

File: B-255015

Date: February 1, 1994

Raymond Moore for the protester,
Timothy A. Beyland, Department of the Air Force, for the
agency.

Peter A. Iannicelli, Esq., and Michael R. Golden, Esq.,
Office of the General Counsel, GAO, participated in the
preparation of the decision.

DIGEST

Protest that specifications requiring installation of a shallow concrete trench steam system without permitting, as an option, the use of a direct buried underground system, are overly restrictive of competition is denied, where the agency has reasonable bases for the restriction based on its considerable past experience with both types of systems that it is easier, faster, and cheaper to repair a shallow concrete trench system.

DECISION

Moore Heating & Plumbing, Inc. protests that the specifications in invitation for bids (IFB) No. F23606-93-B0010, issued by the Department of the Air Force for a project involving installation of an underground heat distribution system, unduly restrict competition.

We deny the protest.

During the past 6 years, the Air Force has replaced more than 6 miles of above-ground steam lines at Whiteman Air Force Base with steam lines set underground in shallow concrete trenches. Issued on August 23, 1993, the present IFB solicited bids for demolishing an additional 750 linear feet of above-ground steam lines serving the base hospital and replacing those pipes with a shallow concrete trench steam system. Moore protests that the IFB is overly restrictive in requiring installation of a shallow concrete

trench steam distribution system¹ with removable lids without permitting, as an option, installation of a direct buried heat distribution system.² Moore argues that the IFB should be amended to allow bids based upon installation of direct buried systems.

Agencies are required to specify their needs in a manner designed to promote full and open competition and to include restrictive requirements only to the extent necessary to satisfy their minimum needs. Moore Heating & Plumbing, Inc., B-246740, Apr. 1, 1992, 92-1 CPD ¶ 333, reconsidered and affirmed in Moore Heating & Plumbing, Inc.--Recon., B-246740.2, July 22, 1992, 92-2 CPD ¶ 37; Johnson Controls, Inc., B-243605, Aug. 1, 1991, 91-2 CPD ¶ 112. The contracting agency, which is most familiar with its needs and how best to fulfill them, must make the determination as to what its minimum needs are in the first instance, and we will not question that determination unless it has no reasonable basis. Id.

The agency reports that it gave serious consideration to allowing bids based upon installation of direct buried systems before determining that only a shallow concrete trench steam system would meet its minimum needs. The Air Force states that there are a number of reasons why a shallow concrete trench steam system is necessary, including the following:³

¹A shallow concrete trench system uses a buried concrete trench that holds the steam and condensate pipes. The steam and condensate pipes are suspended in hangers off of the trench floor to prevent contact with water, and the trench is sloped to drain away any water that may enter it.

²A direct buried system consists of steam and condensate pipes with insulation that are installed within another larger pipe that is buried directly in the ground. The outer pipe is designed to prevent water from entering and coming into contact with the steam and condensate pipes.

³The agency also provided a life-cycle cost analysis purportedly showing that shallow concrete trench systems are preferable to direct buried systems. However, we previously held that the Air Force could not properly rely upon this exact same life-cycle cost analysis to exclude all types of direct buried systems, because the analysis compared only one manufacturer's direct buried system--a steel conduit design--to the shallow concrete trench system. See Moore Heating & Plumbing, Inc., B-247417, June 2, 1992, 92-1 CPD ¶ 483. Here, again the life cycle cost analysis did not compare the costs of the protester's proposed system--a

(continued...)

1. Direct buried systems installed at Whiteman Air Force Base in the past were "miserable failures." The base's past experiences with both types of systems showed that it is easier, faster and less expensive to maintain and to make repairs to a shallow concrete trench system than to a direct buried system.

2. The steam lines required in the present IFB will serve the base hospital. Due to the critical nature of the hospital's services, the Air Force requires installation of the most reliable system--a shallow concrete trench system--to minimize interruptions in service.

3. The Whiteman Air Force Base master plan calls for replacing all steam lines and installing new steam lines in shallow concrete trenches. Under the plan, more than 6 miles of steam lines, representing approximately 90 percent of the base's steam distribution system, have been replaced using shallow concrete trench systems. The agency states that maintenance and system expansion will be easier if the additional 750 feet of steam lines procured here are compatible with the existing system.

4. A shallow trench system is preferable because its removable concrete trench covers also serve as sidewalks between buildings on the base.

5. It is easier to detect installation defects and, therefore, to enforce warranties in shallow concrete trench systems than in direct buried systems.

6. Direct buried systems pose a greater threat to the environment because the pipes are in direct contact with the ground and can leak chemical additives directly into the surrounding soil and groundwater if a leak occurs.

7. Direct buried steam lines pose a greater threat to safety. Any water that leaks into the surrounding soil may cause flooding which would freeze in winter, creating hazardous conditions for pedestrians and vehicles. Similarly, any steam that escapes could be dense enough to create hazardous driving conditions.

In response, the protester argues that the agency's past experiences at Whiteman Air Force Base are irrelevant because this experience was not with the U.S. Polycon direct buried system that the protester would provide. The

³(...continued)

fiberglass conduit design manufactured by U.S. Polycon Corporation--to the costs of a shallow concrete trench system.

protester states that the Air Force's argument that maintenance and repair of a direct buried system is more difficult, time consuming and expensive is misleading, because the U.S. Polycon system it would provide never requires maintenance of underground pipes and, if properly installed, should not require repairs. In this connection, the protester states that maintenance and repairs of shallow concrete trench systems require a substantial investment in equipment needed to lift the heavy covers; therefore, since the U.S. Polycon direct buried system never needs repair or maintenance to underground pipes, the Air Force should consider the savings in equipment and maintenance/repair personnel associated with installation of a U.S. Polycon system.

In addition, the protester states that its direct buried system is compatible with the shallow concrete trench type system (i.e., it can be connected to the existing system) and, if desired, can be installed with a sidewalk directly above it. Moore also contends that, since a properly installed direct buried underground system is designed to prevent water or steam from escaping the pipes, its direct buried system poses no threat to pedestrian or vehicular traffic or to the environment.

We are not persuaded by the protester's assertion that the agency's previous experience with direct buried heat distribution systems is irrelevant because a U.S. Polycon system was never installed at Whiteman Air Force Base. Whether a direct buried system is made by U.S. Polycon or some other manufacturer, all such heat distribution systems share the same general design characteristic of having steam and condensate pipes enclosed within a larger pipe that is buried directly in the ground. Thus, repairs made to any brand of direct buried system require the agency to excavate a significant amount of soil at the suspected site of the leak. On the other hand, shallow concrete trench systems are designed so that leaks can be located by lifting up the cover at the site of a suspected leak. The agency reports that it has had much experience with both types of heat distribution systems, and its experience has been that repairs are easier and less costly to make on a shallow trench system than on a direct buried system. We think it was legitimate for the Air Force to consider its past experiences repairing direct buried systems insofar as repairs to all such systems, including U.S. Polycon's, would require excavation and would therefore involve similar difficulties and some common costs.

The Air Force reports that it has had great difficulty locating leaks in direct buried systems at Whiteman Air Force Base, often having to excavate at several different

locations along a steam line before the leak was found.⁴ The Air Force explains that before it can excavate to repair a direct buried system, it must have representatives of public utilities search for and mark the location of utility lines (for example, gas lines) so that they will not be damaged and that waiting for the utilities' representatives to locate the lines can consume considerable time. Then, after excavation with power equipment has gotten within a few feet of the direct buried heat distribution line, further excavation must be done by hand to avoid damaging the heat distribution line. If the leak is not found when the pipes are exposed, then the pipe must be reburied and the process begun anew further along the line. The Air Force points out that in the winter, when the greatest demand is placed upon the heat distribution system, the ground is frequently frozen, making excavation all the more difficult. Even when the ground is not frozen, the Air Force reports that escaping steam and water often cause the ground to become very muddy, exacerbating already difficult repair conditions.

The agency reports that with a shallow concrete trench system, there generally is no need to locate utility lines since repair crews need only lift the cover on top of the trench to examine the lines for leaks and no excavation is required. The agency states that, because it already has about 6 miles of steam lines in shallow trenches, it has all the equipment necessary and its repair crews are well trained to repair those lines. The same equipment would be used to excavate above a direct buried system, but the Air Force states that its repair crews would have to be trained in repair of direct buried lines and perhaps additional repair personnel would have to be added to the crews. Additionally, because no excavation is required with a shallow concrete trench system, there are no problems associated with frozen or muddy ground.

In its report, the agency provided an Air Force engineer's estimate that locating and repairing a leak in a direct buried system would take about 600 man-hours while similar repairs on a shallow trench system would take only 40 man-hours. While the protester claims that the pipes in the direct buried system it would provide would never need maintenance or repairs, the claim is self-serving, unsupported, and exactly contrary to the agency's prior experience with other direct buried systems. Moreover, the protester has provided nothing to refute the agency's

⁴The Air Force explains that leaking steam will not necessarily escape from the system at the location of the defect in the pipe, but rather, may travel along the outer pipe some distance before escaping into the ground.

engineer's estimate. Consequently, Moore's bare assertion that its system would never need maintenance or repairs does not render unreasonable the Air Force's position, based upon its own experience with both types of systems, that a shallow concrete trench system is preferable regarding repairs. See Moore Heating & Plumbing, Inc., supra.

In sum, we believe the Air Force reasonably drew upon its considerable past experience with both direct buried and shallow concrete trench systems in determining that repairs to the latter would be faster, easier and cheaper. Because this portion of the heat distribution system will serve the base hospital, finding and repairing leaks to steam lines quickly is essential so as not to disrupt the hospital's critical services. Moreover, since the shallow concrete trench system at Whiteman Air Force Base is 90 percent complete, and because base repair crews are well trained in repairing the existing 6-mile steam line system, completing the system with the same shallow concrete trench design is not unreasonable.⁵ In these circumstances, there is no basis to question the agency's determination that only a shallow concrete trench system would meet its minimum needs and there is no showing that such determination was overly restrictive of competition.⁶

The protest is denied.

Ronald Berger
 for Robert P. Murphy
 Acting General Counsel

⁵In view of our finding that the agency's determination to restrict the procurement is amply supported by the first three reasons articulated by the Air Force, it is unnecessary to consider the four remaining reasons.

⁶Regarding the level of competition, we note that the agency proceeded with bid opening despite the filing of the protest and received four bids.