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R. L. Allen
Part II

DECISION

THE COMPTROLLER GENERAL
OF THE UNITED STATES
WASHINGTON, D.C. 20548

FILE: B-188408 DATE: February 16, 1978

MATTER OF: American Air Filter Co., Inc.

DIGEST:

Contract modification which substitutes diesel for gasoline engines, thereby increasing unit price by 29 percent, substantially extending time for delivery, and resulting in other significant changes to original contract requirements is outside scope of original contract, and Government's new requirements should have been obtained through competition. GAO recommends that agency consider practicability of terminating contract for convenience of Government and competitively soliciting its requirement for diesel heaters.

This protest filed by American Air Filter Co., Inc. (AAF) essentially raises two issues. The first is whether the Defense Logistics Agency (DLA) awarded a contract to the Davey Compressor Company (Davey) with the intention of later changing the contract requirements. The second is whether the supplemental agreement between DLA and Davey which modified the contract was outside the scope of the original contract. In view of our decision on the second question, we need not consider the first.

On October 25, 1976, in accordance with a purchase request from the Air Force, DLA awarded Davey Contract No. DSA700-77-C-8013, to supply, over a three year period, a base quantity of 2,400 and an option quantity not to exceed 2,400 portable heaters (Heaters, Engine and Shelter, Ground Portable, type H-1, Class I in accordance with Military Specification MIL-H-4607B, as amended). Specification MIL-H-4607B, as originally incorporated in the contract, called for a heater using a gasoline engine as the prime mover and gasoline as the fuel for the heater's combustor.

The Air Force states that after award of the contract to Davey it became aware of commercially available diesel engines suitable for use with the heater. The Air Force then commenced negotiations with Davey to supply diesel engined and fired heaters, rather than the ones specified under the contract. On August 25, 1977, Davey and DLA entered into a supplemental agreeement to require the diesel engine.

AAF argues that the modification so materially altered the original contract that under the applicable statutes and regulations a new competition was required.

We have consistently held that contract modifications, whether they be unilaterally ordered by the Government or agreed upon by the contracting parties and incorporated into a supplemental agreement, are primarily the responsibility of the contracting agency. However, we have also held that if the contract as changed is materially different from the contract for which competition was held, the contract should be terminated and the new requirement competed, unless a noncompetitive procurement is justifiable. See 50 Comp. Gen. 540 (1971).

It is not always easy to determine whether a changed contract is materially different from the competed contract. However, the decisions of the Court of Claims relating to cardinal changes offer some guidance. (While a cardinal change results from the unilateral action of the Government and the change in this case resulted from the mutual agreement of the parties, the Court of Claims decisions are useful here, since they provide the standards for determining whether the changed contract is essentially the same as the original.) For example, in Air-A-Plane Corporation v. United States, 408 F.2d 1030 (1969), the court stated:

> "The basic standard, as the court has put it, is whether the modified job 'was essentially the same work as the parties bargained for when the contract was awarded. Plaintiff has no right to complain if the project it ultimately

> constructed was essentially the same as the one it contracted to construct.' Conversely, there is a cardinal change if the ordered deviations 'altered the nature of the thing to be constructed'. [citations omitted] Our opinions have cautioned that the problem 'is a matter of degree varying from one contract to another' and can be resolved only 'by considering the totality of the change and this requires recourse to its magnitude as well as its quality.' [citations omitted] There is no exact formula * * *. Each case must be analyzed on its own facts and in light of its own circumstances, giving just consideration to the magnitude and quality of the changes ordered and their cumulative effect upon the project as a whole."

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> "In the judicial proceedings on the [illegible] of cardinal change, the standards should be those already established by the court . . . In applying these criteria, the parties should offer evidence on and the commissioner should find (so far as practicable) the number of changes, the number of parts of the smoke generator, the parts changed and those left unchanged, the effect of the changes on the unchanged parts, the character of the changes, the timing of the changes, and the extent of the engineering, research, and development plaintiff had to do."

Thus, the question before us is whether the original purpose or nature of the contract has been so substantially changed by the modification that the contract for which competition was held and the contract to be performed are essentially different.

AAF states that a diesel powered and fired heater, in contrast to a gasoline powered and fired heater, has never been built. AAF maintains this alone sufficiently

demonstrates that a drastic change has been made to the original contract. AAF states this change will affect not only the engine, but also the heat exchanger and the combustor. (The engine, also called the prime mover, powers the heater; the combustor is the chamber in which the burning diesel fuel generates heat; and the heat exchanger is the chamber adjacent to the combustor where the air is heated.)

Specifically, AAF points out (and Davey and DLA acknowledge) that substituting a diesel for a gasoline engine, in addition to changing the fuel and substantially increasing the heater's weight, necessitates still other changes in the specification in order to compensate for the inherent difficulty in starting diesel engines in cold weather. Thus, the original requirement that gasoline engines be manually startable had to be rescinded. Moreover a starter, generator, voltage regulator, associated wiring and controls, engine shrouding, and, possibly, a spark igniter must be added to the heater so that the diesel engine can be used in arctic conditions.

In addition, AAF points out that the change from gasoline to diesel fuel requires the use of a substantially different heat exchanger. AAF states that because of the burning properties of diesel fuel as compared to gasoline, the heat exchanger has to be substantially larger to accommodate effectively the larger volume of air and diesel fuel which is be required for diesel fuel to equal the burning efficiency of gasoline.

AAF further points out that the combustor will have to be substantially different from one burning gasoline exclusively. It is not disputed that gasoline can burn despite substantial differences in the fuel-to-air ratio, and that diesel fuel requires a nearly constant ratio. Thus, when given the wide operating range of the heater, the heater will require a sophisticated fuel control which, as yet, does not exist. Additionally, AAF notes that diesel fuel is significantly more difficult to vaporize than gasoline and that an air compressor not required on gasoline heaters will be needed on the diesel fueled heaters.

The agency's reply is simply that the contract contains performance type specifications. The agency states that some contractors, like Davey, have never produced even gasoline heaters and would be required to design and develop a heater meeting even the original contract criteria.

According to the contracting agency although diesel engines have not been used as a prime mover before, they are commercially available items which, from an operational standpoint, are interchangeable with electric motors or gasoline engines. Moreover, Davey maintains that the electric starter components are off-the-shelf, commercially available items and the spark igniter it will use is not significantly different from that contemplated under its original gasoline engine heater.

With respect to the heat exchanger, Davey disagrees with AAF and states that it will not require a larger heat exchanger because its design allows equivalent amounts of diesel fuel and gasoline to be burned with the same volume of air.

The combustor design, according to Davey, requires no original research. Davey concedes that the fuel nozzle design is the most significant variation from the original heater, but contends that an air compressor will not be necessary for atomizing the diesel fuel for burning. In any event, Davey does not consider the nozzle redesign to be significant to the contract as a whole.

Finally, whether or not the requisite fuel control exists, Davey states that it intends to supply one that will allow the heater to meet the performance specification.

However, we think, that the comments recorded at the post-award conference of January 13-16, 1977, evidence the clear recognition of the magnitude of the change. The Government's conference minutes in pertinent part, are as follows:

> "12. * * * Because of the very important technical changes being made, the Con-

tractor's previous work is about wasted and there was no use to make a milestone chart before. He will now enter a new design phase and the production chart will develop as a result of new decisions.

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"15. A discussion was held regarding delivery dates for all CLIN's [contract line items] under the contract. All of the original dates are no longer realistic or valid. The deliveries will be re-established and re-formed * * *.

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"37. As a direct result of the major technical changes incorporated into the units, the FAT [First Article Test] and production units will be delayed substantially * * *.

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"41. The technical changes will have a significant impact on price * * *. The contractor furnished *** [an estimate] * * * of about $900 - $1,000 a unit."

While the Government maintains that the parties to the conference were speaking in generalities and that the above statements are not dispositive of the question, we believe these minutes clearly demonstrate that both Davey and the Government believed the proposed changes to the contract would significantly alter the original contract. The minutes clearly state that "Davey's previous work is about wasted", "the original [delivery] dates are no longer realistic", the technical changes are "major" and the "impact on price [is] significant."

We also note that the contract originally required delivery of the initial quantity within 300 days of date of award. The contract was modified approximately 10 months

after award and the time for delivering the initial quantity was extended to 300 days from the date of the modification.

With regard to the contract price, the contract modification provides that the price for the heaters will be increased from $2,366.00 to $3,069.96 per unit, which is an increase of approximately 29 percent.

Thus, the modification to the contract to require a diesel powered and fired heater necessitated, inter alia, the following changes:

1. The substitution of a diesel engine for a gasoline engine.
2. A substantial increase in the weight of the heater.
3. The addition of an electrical starting system.
4. The design of a new fuel control.
5. The redesigning of the combustor nozzle.
6. The alteration of various performance characteristics.
7. An increase in the unit price by approximately 29 percent.
8. The approximate doubling of the delivery time.

It is our view that the magnitude of the technical changes, and their overall impact on the price and delivery provisions compels the conclusion that the contract, as modified, is so different from the contract for which competition was held, that the Government should have solicited new proposals for its modified requirement.

In reaching our conclusion, we considered Keco Industries, Inc. v. United States, 364 F.2d 836 (Ct.Cl. 1966), which was cited by the agency. There, the court held that a change order converting 100 gasoline to 100 electric driven refrigeration units was not outside the contract. The contractor had been awarded four contracts to produce 270 refrigeration units of which 170 were to be electric driven and 100 gasoline driven. The only differences in the four contracts were in the price and specifications for the 100 gasoline driven units. The evidence there established the only significant difference

resulting from the change was in the power units and the overall dimensions of the two types of refrigerators but most basic parts were the same. In denying Keco's breach of contract claim, the court noted the contractor was geared to production of electric driven units and had not produced any gasoline driven units. We find it significant that in this case the original contract called only for the production of gasoline engines and did not contemplate the production of diesel engines. Thus, we think the court's finding that the change in Keco did not constitute a breach of contract is not controlling under the circumstances here.

Accordingly, we recommend that DLA consider the practicability of terminating the contract for the convenience of the Government and competitively soliciting its requirements for diesel heaters. In this connection, should DLA determine that it would not be advantageous to the Government to terminate the existing contract, we request that DLA report to us the basis of its decision.

A this decision contains a recommendation for corrective action, it is being transmitted by letters of today to the congressional committees named in section 236 of the Legislative Reorganization Act of 1970, 31 U.S.C. § 1176 (1970). This statute requires written statements by the agency involved to the House and Senate Committees on Appropriations, the House Committee on Government Operations and the Senate Committee on Governmental Affairs concerning the actions taken with respect to our recommendation.

F. J. Kelly

Deputy Comptroller General
of the United States