United States General Accounting Office

GAO

Report to the Honorable
Max Baucus, U.S. Senate

March 1989

PROCUREMENT

Partial Set-Asides for Domestic Bulk Fuel by Defense Fuel Supply Center

GAO/NSIAD-89-112

GAO

United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

B-230556

March 23, 1989

The Honorable Max Baucus
United States Senate

Dear Senator Baucus:

This is in response to your January 11, 1988, request for a review of the Defense Fuel Supply Center's (DFSC) fuel procurement under set-aside provisions of the Small Business Act and the Federal Acquisition Regulation (FAR). You especially asked us to determine whether DFSC's actions are consistent with the intent of the Small Business Act and other legislation in that DFSC's standard procedures force small businesses to compete with large businesses and do not limit a portion of DFSC's competition to only small businesses. The specific solicitation[1] and contracts cited in your request involve domestic bulk procurement of jet fuel, including JP-4, from both large and small businesses under partial set-aside procedures.

Results in Brief

Based on our review of DFSC's small business partial set-aside procedures, we believe that the procedures are consistent with applicable federal procurement and small business laws and regulations. The overall objective is to insure that small businesses receive, at a reasonable price, a fair proportion of the government's contracts. There is no requirement that small businesses compete only against other small businesses in establishing prices for partial set-asides. Since 1960, DFSC has operated under an approved deviation to the standard FAR partial set-aside procedures due to the special circumstances related to domestic bulk fuel purchases. In our review of fiscal year 1987 contract awards, we observed that DFSC has (1) set small business participation goals as required and (2) exercised its authority under the deviation in accordance with federal law and regulation. DFSC fell slightly short of its fiscal year 1987 small business participation goal. Nonetheless, it awarded about 22 percent of the volume of domestic bulk fuel contracts to small businesses, which represent about 6 percent of the refining capacity for the entire petroleum industry.

[1]Inland/West Coast solicitation number DLA600-87-R-0161.

Set-Aside Law and Regulation

The Small Business Act [15 U.S.C. 631 et. seq.] is designed to protect the economic interests of small business concerns and ". . . to insure that a fair proportion of the total purchases and contracts or subcontracts for property and services for the government is placed with small business enterprises . . ." [15 U.S.C. 631 (a)]. This policy objective is also stated in the Armed Services Procurement Act [10 U.S.C. 2301(b)], which governs military acquisitions. The laws and implementing federal regulations do not specify the proportion of government contract awards that would constitute a "fair proportion," but do require agencies to establish goals for small business participation in contracts of $25,000 or greater.

In promoting the Small Business Act's "fair proportion" policy, both the act and FAR give executive agencies broad authority to award contracts to small businesses on a set-aside basis, including both total and partial set-asides [15 U.S.C. 644 (a) and FAR part 19.5]. However, the Small Business Act also provides that an agency may not award a contract to a small business if the agency's cost would exceed a fair market price. Neither provisions of the Small Business Act nor the implementing FAR require that small businesses compete only against other small businesses in setting the price for the small business partial set-asides.

Your letter referenced the Small Business Act's requirement that small businesses,". . . shall have the maximum practical opportunity to participate in the performance of contracts let by any federal agency . . ." [15 U.S.C. 637(d)]. This section is intended to insure that small businesses receive subcontracts under federal prime contracts the government has already awarded. This section is not applicable to the award of federal prime contracts like the DFSC contracts.

Regulations and DFSC Practice in Using Set-Asides

FAR provides for two types of set-asides, total and partial. In a total set-aside, the entire amount of an individual or class of acquisitions is reserved for exclusive small business participation. This is done when the contracting officer determines that there is a reasonable expectation for competition between at least two small businesses and that contracts can be awarded at reasonable prices.

In a partial set-aside, only a portion of an individual or class of acquisitions is reserved exclusively for small business participation when a total set-aside is not appropriate. Any contracts awarded to small businesses must be made only at reasonable prices.

Under the standard FAR partial set-aside procedures, the requirement is divided into two portions. They include a set-aside portion reserved exclusively for small business and a non-set-aside portion open to all. The contract for the non-set-aside portion is awarded first, using normal contracting procedures. After all awards have been made on the non-set-aside portion, the contracting officer negotiates with eligible small businesses on the set-aside portion. The set-aside portion will be awarded at the highest unit price in the contract for the non-set-aside portion.

With an approved deviation from FAR,[2] DFSC uses special procedures for partial set-asides on its domestic procurement of bulk petroleum products like JP-4. DFSC contends that these procedures are necessary to accommodate the partial small business set-asides in this procurement environment. Because DFSC's fuel requirements are so large that no one supplier can provide all the fuel needed, DFSC is required to make multiple awards. Since a small business potentially might not be able to supply the required set-aside quantities at a particular location, DFSC procedures ensure that bulk fuel requirements can be satisfied without the need to recompete should a small business be unable to meet the requirements.

Approved Deviation

Since about 1960, DFSC has received formal approval to deviate from the standard partial set-aside procedures. DFSC believes that its procedures ensure that awards to small businesses are made at prices that are fair and reasonable to the government and small business. DFSC also believes that under its procedures small businesses receive an equal or higher price than they would have received if the standard FAR procedures were used. Further, DFSC told us that small businesses receive a fair proportion of its domestic bulk fuel awards.

Under its special procedures, DFSC first requests offers from all suppliers, including both large and small business firms, for the needs of all Department of Defense (DOD) locations in the particular geographic area, as if there were no set-asides. Using the bid evaluation model, which will be explained later, DFSC calculates the prices for bulk fuels at the various locations in the region. The calculated prices represent the prices DFSC would have to pay if there were no set-aside. DFSC then offers small businesses an opportunity to accept or reject the set-aside portions at

[2]FAR allows the granting of deviations when necessary to meet an agency's specific needs and requirements.

the calculated prices. If DFSC's offer is rejected, the amount set-aside is offered to other sellers at that location to avoid any resolicitation.

DFSC has stated that its deviation procedure results in small businesses receiving set-aside prices that are equal to or higher than the prices that small businesses would have received if the standard FAR procedures were used. This is because of the unique nature of the petroleum refining industry, in which the price of bulk petroleum products may increase in proportion to incremental increases in quantity. Suppliers therefore submit offers in quantity increments at successively higher prices. This is in contrast to most other industries, where prices will often drop as more products are produced. Our analysis of DFSC's supporting documentation confirms this to be the case.

Another advantage to the special procedures is that DFSC can cover its requirements without resoliciting if eligible small businesses are unable to satisfy the set-aside requirement. Should this occur, the unawarded portion of the set-aside can be dissolved, and awards can be made to other businesses for the quantities involved. This avoids increased administrative costs and delays that could result in supply disruption if DFSC were to follow the standard FAR partial set-aside procedure.

In May 1987, the Defense Acquisition Regulatory Council granted DFSC the latest deviation for the 3-year period—April 1987 through May 1990.

Bid Evaluation Model

DFSC makes two major bulk fuel purchases each year to provide the fuels, including jet fuel, needed at about 300 military locations in the United States. The fuels are purchased using multiple contract awards based on a geographical division of the country—Inland/West Coast and East/Gulf Coast. To select that combination of awards which will fill the government's product requirements at the overall least laid-down cost,[3] DFSC uses a computerized bid evaluation model it developed with the Navy and IBM in 1961.

The bid evaluation model is needed because of the numerous unique factors related to purchasing bulk fuel. For example, on the Inland/West Coast purchase, these factors include

[3]Laid-down cost is the cost of the petroleum product plus all associated costs of transporting that product from the supplier to the ultimate user.

- large quantities of fuel needed (about 2 billion gallons);
- small unit price differentials measured to six decimal places;
- large number of locations requiring fuel (about 300);
- large number of potential suppliers (sometimes more than 50) who may condition their offers with various limitations and restrictions; and
- various transportation costs involving multiple shipping source and destination points with multiple methods of shipping (pipeline, ship, barge, rail, and truck).

DFSC uses the computer model to compare all the possible combinations in determining the overall least cost pattern of awards at the laid-down cost. DFSC uses this model because usual procedures of awarding contracts only on the basis of the lowest product price may not necessarily provide the least total cost pattern of awards unless transportation costs are considered.

Small Business Participation in DFSC Procurements

During fiscal year 1987, DFSC reported that it procured about $4.2 billion in petroleum, other fuel products, and related services, of which small businesses received about 27 percent. The DFSC goal for fiscal year 1987 was about 29 percent

For fiscal year 1988, DFSC's small business participation goal was about 21 percent. According to DFSC, a major factor for the decline in small business participation has been the large reduction in the number of operable small refineries. Between 1980 and 1987, 101 small refineries ceased operations.

For fiscal year 1987, DFSC reported procurements of domestic bulk fuels, delivered for use at about 300 bases in the United States, amounted to $2.5 billion, or about 60 percent of the total DFSC procurements. The small refineries that might compete for the set-aside portion of DFSC bulk fuel awards had about 6 percent of the refining capacity for the industry. In fiscal year 1987, DFSC awarded about 22 percent of its bulk fuels volume to small refineries.

With respect to the domestic bulk fuel program, DFSC awarded contracts to 24 small businesses[4] for $433 million (18 percent) and 27 large businesses for $2.037 billion (82 percent) in fiscal year 1987.

[4]Of these 24, 19 were refineries and 5 were dealers.

Practices of Other Agencies on Small Business Partial Set-Aside Procurements

Officials of the Defense Acquisition Regulatory Council and Civil Agency Acquisition Council told us that they had no record of any agency, other than DFSC, that had been granted a deviation to the FAR procedures on small business partial set-asides.

Conclusions

Based on our review of DFSC's small business partial set-aside procedures for domestic bulk fuel procurement, we believe that DFSC's procedures are consistent with applicable federal procurement and small business laws and regulations. DFSC's procedures have been formally approved as a deviation from FAR due to the special circumstances related to bulk fuel purchases. The procedures provide for the establishment of prices by open competition among both large and small firms. Small businesses receive an equal or higher price for their fuel than under the standard FAR partial set-aside procedures, and receive about 18 percent of the value of DFSC's domestic bulk fuel contracts. We believe this is consistent with the Small Business Act's overall objective that small businesses receive, at a reasonable price, a fair proportion of the government's contracts. This conclusion is also consistent with our prior position expressed in 1971 on DFSC's special procedures, which were substantially similar to its existing procedures. (See B-168576(2), April 28, 1971, and B-171289, April 28, 1971.)

Agency and Other Comments

DOD's Director, Office of Small Business and Disadvantaged Business Utilization, concurred in our findings. The U.S. Small Business Administration, Deputy Associate Administrator for Procurement Assistance, reviewed the report and had no significant comments to offer. We also requested comments from the attorney who directed your attention to this issue and who represents the Montana firm that was unsuccessful in competing for DFSC bulk JP-4 fuel contracts. He expressed a number of concerns about the report draft. The attorney's comments and our responses are in appendix I.

Objectives, Scope, and Methodology

The objectives of our review were to determine whether DFSC's procedures and practices for its domestic bulk fuel program were consistent with applicable federal laws and regulations and supported the government's policy that small businesses receive a fair proportion of government purchases and contracts.

To determine whether DFSC's small business partial set-aside procurement procedures conformed with applicable federal laws and regulations, we reviewed DFSC's procedures and other records showing how procurements are made under the domestic bulk fuel program. We compared the DFSC procedures to the requirements in federal laws and regulations. We examined the

- Small Business Act and related provisions of other government procurement statutes that govern set-aside procurements;
- legislative history of the statutes;
- implementing FAR and the Defense Supplement to FAR; and
- court and administrative agencies' decisions, including Comptroller General decisions, interpreting the applicable statutes and regulations.

We also reviewed the deviation from the FAR granted by the Defense Acquisition Regulatory Council to DFSC for its bulk fuel procurements and DFSC's justifications for the deviation.

In examining the opportunity for small businesses to participate in DFSC's procurements, we reviewed data on DFSC's small business participation goals and accomplishments and industry data on the capacities of large and small refineries, which would influence the ability of small refiners to participate in the government's fuels procurements. We also analyzed a major fiscal year 1987 procurement of JP-4 jet fuel to determine the effect of DFSC bulk fuel partial set-aside procurement procedures and practices on the participation of small businesses.

Because DFSC uses a bid evaluation computer model for evaluating offers from bulk fuel suppliers, we assessed the model's general credibility. Our assessment of the bid evaluation model's general credibility included reviewing the model's structure and discussing model formulation, the mechanics of operation, and the model's general use with DFSC personnel concerned with development and use of the model. We also held discussions with personnel of Ketron Management Science, Inc., which provides the computer software for operating the model. We also reviewed the testing and analysis performed by Defense Logistics Agency personnel to assure that the model performs as intended. We did not attempt to verify the accuracy of all the model's assumptions or its data.

We also examined the small business partial set-aside practices of six other major DOD buying activities. These buying activities included: Defense Logistics Agency supply centers (Defense General Supply

Center in Richmond, Virginia; the Defense Industrial Supply Center and Defense Personnel Support Center in Philadelphia, Pennsylvania); the Navy's Aviation Supply Office in Philadelphia, Pennsylvania; the Army's Communications-Electronics Command at Ft. Monmouth, New Jersey; and the Air Force's Military Airlift Command at Scott Air Force Base, Illinois. We interviewed procurement officials at these buying activities and examined documents relating to set-aside procurements.

Our review was performed between March 1988 and January 1989 in accordance with generally accepted government auditing standards.

As agreed with your Office, we are sending copies of this report to the Chairmen, House and Senate Committees on Small Businesses , House and Senate Committees on Armed Services, House and Senate Committees on Appropriations, Senate Committee on Governmental Affairs, and House Committee on Government Operations and the Secretary of Defense. Copies will be made available to others upon request.

Staff members who made major contributions to this report are listed in appendix II.

Sincerely yours,

Paul F. Math
Director, Research, Development,
Acquisition, and Procurement Issues

Contents

Abbreviations

DFSC	Defense Fuel Supply Center
DOD	Department of Defense
FAR	Federal Acquisition Regulation

Attorney's Comments and Our Evaluation

We provided a draft of this report for review and comment to the attorney who directed your attention to this issue and who also represents a Montana firm that was unsuccessful in competing for DFSC bulk JP-4 fuel contracts. The attorney's January 5, 1989, letter to us contained three principal concerns and 13 specific comments. This appendix presents each of those concerns and comments followed by our response. For convenience, under each of the 13 specific comments we quote the actual language of our draft report followed by the attorney's comment and our response.

Principal Concern Number 1

"Small businesses used in this report need to be defined and distinguished. In computing statistics as to small business participation, it needs to be clearly shown that in contracts awarded to small businesses whether they are: eligible small businesses under the Small Business Act [15 U.S.C. 631 et seq.] and regulations promulgated to implement same; and how many small businesses meeting the above requirements were awarded contracts under the Partial Set-Aside program."

Our Response

Small businesses used in our report are those conforming to the definitions promulgated by the Small Business Administration. Not all small businesses meeting those definitions are eligible for set-aside awards. They are, however, included as part of DFSC's overall small business participation rate. Some small businesses participating in DFSC's program are regular dealers and not refiners. The regular dealers who are supplied by large refiners are not eligible for set-aside awards. Small refiners referred to in our report are eligible for set-asides.

Principal Concern Number 2

"The computer model allegedly used by DFSC appears at times to be a mere convenience to be used to negotiate with the bidders. We have personally experienced practices employed by DFSC which are not consistent with the solicitations or of the description and purpose of your computer model."

Our Response

DFSC's use of its computerized bid evaluation model is more than a convenience. A large number of calculations and analyses are necessary to arrive at a "minimum cost solution." This is caused by the many locations requiring fuel, the large volume of fuel to be procured, the number and complexity of offers submitted, and the variety of transportation modes and cost factors to be considered. DFSC believes, and we agree, that the bid evaluation is an extremely complex problem, and one which is impossible to solve manually.

Principal Concern Number 3

"Little or no independent investigation of why it is necessary for this agency to be the only agency which has been granted a deviation to the FAR procedures on small business partial set-asides. Others in industry should be interviewed questioning the reasoning for such special procedures. I strongly believe that before you issue your final report, this should be clearly investigated rather than accepting DFSC's explanation at face value."

Our Response

The deviation granted to DFSC has been reviewed and approved by the Defense Acquisition Regulatory Council. We also found the arguments advanced by DFSC in favor of the deviation to be persuasive. We are aware of no other agency that purchases this large quantity of bulk fuels for distribution to many different locations. This procurement situation is unique and the rules adopted by DFSC appear to us to be both justified and reasonable. As noted by DFSC, the deviation allows DFSC to establish set-aside prices at or above those which would have been established under the normal partial set-aside rules.

Specific Comment Number 1

Our draft report stated: "Nonetheless, it awarded about 22 percent of the volume of domestic bulk fuel contracts to small businesses, which represent about 6 percent of the refining capacity for the entire petroleum industry."

Specific comment number 1 states: "This statement is somewhat misleading. There may be small businesses awarded contracts, but a number of these 'small businesses' do not qualify as eligible small businesses under the Small Business Act and regulations. Before this letter is finalized it should be broken down into eligible set-aside small business awards and small business unrestricted awards."

Our Response

This data is for small business refiners that are eligible for set-aside awards under the act and implementing regulations. The 22 percent covers all DFSC bulk fuel awards for fiscal year 1987.

Specific Comment Number 2

Our draft report stated: "Neither provisions of the Small Business Act nor the implementing FAR require that small businesses compete only against other small businesses in setting the price for the small business partial set-asides."

Specific comment number 2 states: "This may be technically true, but this statement simply ignores the fact that in most federal agencies of the federal government, small business competes against small business. This should be spelled out in the letter."

Our Response

We have neither ignored nor do we disagree with the attorney's general hypothesis that, under normal circumstances, most federal agencies appropriately decide to use total set-aside instead of partial set-aside procedures. A total set-aside is reserved for the exclusive award to small business because the total required amount of product or service can be provided by small business. Therefore, under total set-aside procedures, small business does compete against small business. However, because the military domestic bulk fuel requirements are so large that no single supplier—large or small—could fill them, we do not share the attorney's belief that this category of procurement is comparable to normal circumstances.

DFSC has the legal authority to decide which procedure to use and decided to use partial set-aside procedures rather than total set-aside procedures for domestic bulk fuel procurements. DFSC does not use total set-asides for bulk fuels because it does not believe that awards will be made at fair and reasonable prices if certain sites are made total set-asides.

DFSC officials told us that under the current DFSC partial set-aside method, small businesses keep their offered prices low to be competitive. DFSC believes small businesses will attempt to set a higher price on a total set-aside where competition is restricted only to other small businesses. DFSC officials also said that if DFSC were to create a total set-aside for each user site, then the small businesses adjacent to or near the user sites would raise their prices knowing that their transportation costs would be low in comparison to more distant competing small businesses. On DFSC's present partial set-aside program, a small business must consider every other refinery and dealer when preparing its offer. DFSC's partial set-aside procedures do allow eligible small businesses the opportunity to accept the set-aside quantities at the established set-aside prices.

A small business's offered price on an individual total set-aside might only be a few cents a gallon higher than the price offered in the tougher competitive arena of partial set-asides. However, DFSC officials believe that even a small price increase could be unfair and unreasonable to the government. Furthermore, DFSC officials contend that because of the large number of gallons procured the additional cost to the government would be significant. For these reasons DFSC has concluded that it is not in the government's best interests to establish total set-asides for each government user site.

To illustrate the importance of small changes in unit prices, DFSC uses a 6-place decimal for offered prices in its bid evaluation model. DFSC considers a 1-cent-a-gallon price change to be significant because it translates into about a $30-million change in the total cost of bulk fuel purchased. DFSC cited an example where DFSC's JP-4 match price was $0.518005 a gallon. However,the offered price from an unsuccessful small business offeror was $0.666160 a gallon. This $0.148115-a-gallon price differential was considered excessive by DFSC.

Specific Comment Number 3

Our draft report stated: "Under the standard FAR partial set-aside procedures, the requirement is divided into two portions. They include a set-aside portion which is reserved exclusively for small business and a non-set-aside portion which is open to all. The contract for the non-set-aside portion is awarded first, using normal contracting procedures. After all awards have been made on the non-set-aside portion, the contracting officer negotiates with eligible small businesses on the set-aside portion. The set-aside portion will be awarded at the highest unit price in the contract for the non-set-aside portion."

Specific comment number 3 states: "Such procedure seriously impairs or limits small business participation. By establishing the price in the non-set-aside portion with large and small businesses alike, the large businesses will be able to offer a lower price, thus making it difficult for normal small businesses to compete. This procedure may be legal, but it violates, in our view, the intent and spirit of the Small Business Act."

Our Response

The attorney's comment appears to challenge the normal FAR procedures for partial set-asides. We are not aware of any court cases or prior decisions by our Office which have held that FAR governing partial set-aside procedures violate the intent and spirit of the Small Business Act. We have found no reason in our present review to question the propriety of the normal FAR procedures for partial set-asides.

Specific Comment Number 4

Our draft report stated: "With an approved deviation from FAR,[1] DFSC uses special procedures for partial set-asides on its domestic procurement of bulk petroleum products like JP-4. DFSC contends that these procedures are necessary to accommodate the partial small business set-asides in this procurement environment. Because DFSC's fuel requirements are so large that no one supplier can provide all the fuel needed, DFSC is required to make multiple awards. Since a small business potentially might not be able to supply the required set-aside quantities at a particular location, DFSC procedures ensure that bulk fuel requirements can be satisfied without the need to recompete should a small business be unable to meet the requirements."

Specific comment number 4 states: "This is an admission that normal procedures are not followed and a deviation is necessary. DFSC's reasoning is questioned for requesting such a deviation: '. . . a small business may not be able to supply set-aside quantities at a particular location.' Experience has shown that if a small business is unable to meet the requirements, the effort necessary to award the remaining fuel requirements is at a minimum. Perhaps DFSC should consider lowering the set-aside portion from the 50% range to a figure which would enable small businesses to compete against small businesses, and at the same time this will eliminate the need to 'deviate' from standard FAR procedures."

Our Response

Not only must an eligible small business be able to supply the quantity of fuels required, it must also do this at the established set-aside prices. Although DFSC's procedures allow small businesses the opportunity to provide set-aside quantities at the established prices, there is no guarantee that eligible small businesses would agree to provide the quantities at those prices. In the specific case the attorney brought to our attention, the problem was that the eligible small business was not willing to accept the set-aside price, not necessarily that it could not provide the required quantities. Under both the normal FAR procedures and DFSC's partial set-aside procedures, the prices paid by the government must not exceed a fair market price. There simply is no guarantee that small businesses will receive awards at the prices they desire.

[1] FAR allows the granting of deviations when necessary to meet an agency's specific needs and requirements.

Specific Comment Number 5

Our draft report stated: "DFSC also believes that under its procedures small businesses receive an equal or higher price than they would have received if the standard FAR procedures were used."

Specific comment number 5 states: "This statement is challenged. If GAO accepts such a statement it should detail DFSC's reasons for such a statement."

Our Response

The set-aside prices established under DFSC's procedures are based on the prices the government would otherwise have had to pay if there had been no set-aside fuel quantities. This aspect of DFSC's procedure is somewhat more advantageous to small businesses than normal FAR procedures for partial set-asides.

To illustrate, DFSC constructed this simplified hypothetical example of a purchase of fuel by DFSC. DFSC's example makes the following assumptions:

- the total DFSC requirement is for 100 gallons at one location;
- no single supplier, large or small, can furnish the entire 100 gallons;
- the first 50 gallons is the unrestricted quantity open to both large and small suppliers;
- the second 50 gallons is the small business set-aside portion; and
- transportation costs are excluded for simplification.

The following hypothetical offers are received:

Large business A offers	30 gallons at $0.50 a gallon
Large business B offers	20 gallons at $0.51 a gallon
Large business C offers	30 gallons at $0.52 a gallon
Large business D offers	20 gallons at $0.53 a gallon
Small business Z offers	50 gallons at $0.56 a gallon
Total offered	150 gallons

The prices offered by these firms, in ascending order necessary to fill the 100-gallon requirement, are shown in table I.1.

Table I.1: Example of Initial Government Price Analysis Based on Lowest Price Offers

	First 50 gallons	Second 50 gallons
Large business A	30 gallons at $0.50	•
Large business B	20 gallons at $0.51	•
Large business C	•	30 gallons at $0.52
Large business D	•	20 gallons at $0.53

Without a set-aside, small business Z would be an unsuccessful offeror at its price of $0.56 a gallon.

If DFSC were to use the standard FAR procedures (rather than its approved deviation to the FAR) to establish a set-aside price, DFSC would now be required to offer small business Z an opportunity to submit a price based on the highest price awarded for any part of the unrestricted portion (the first 50 gallons). In this example, the highest price accepted for any part of the first 50 gallons (unrestricted quantity) is $0.51 a gallon. Small business Z would be given an opportunity to sell any or all of the set-aside quantity (second 50 gallons) if it agrees to sell at the price of $0.51 a gallon. If small business Z agrees, the resulting government purchase would be as indicated in table I.2.

Table I.2: Example of FAR Calculation

Business	Unrestricted quantity (first 50 gallons)	Set-aside quantity (second 50 gallons)
Large business A	30 gallons at $0.50	•
Large business B	20 gallons at $0.51	•
Small business Z	•	50 gallons at $0.51

However, DFSC's set-aside match price, derived under DFSC's approved deviation to the FAR, is $0.524 a gallon, which is the weighted average price of the lowest offers on the second 50 gallons:

	(30 gallons) x ($0.52 a gallon) =	$15.60
	(20 gallons) x ($0.53 a gallon) =	$10.60
Total	50 gallons -	$26.20

The DFSC weighted average match price is $26.20 divided by 50 gallons or $0.524 a gallon.

Under DFSC's approved FAR deviation procedure, small business Z would be given an opportunity to match the weighted average price of $0.524 a gallon. If small business Z agreed to sell its 50 gallons at $0.524 a gallon, the resulting government purchase price would be as shown in table I.3.

Table I.3: Example of DFSC Set-Aside Calculation

Business	Unrestricted quantity (first 50 gallons)	Set-aside quantity (second 50 gallons)
Large business A	30 gallons at $0.50	•
Large business B	20 gallons at $0.51	•
Small business Z	•	50 gallons at $0.524

In DFSC's example, the weighted average match price of $0.524 a gallon for the second 50 gallons under the DFSC procedure is higher than the price of $0.51 a gallon derived under the standard FAR procedure. The DFSC procedure permits a small business to match the original weighted average price of $0.524 as if there were no set-aside. Prices may either be weight averaged to offer the small business a single price calculated as above ($0.524 in table I.3) or, on rare occasions, it may be offered to small businesses as separate increments (in this example, small business Z may be given the option to supply 30 gallons at $0.52 and/or 20 gallons at $0.53).

This example shows that under DFSC's approved partial set-aside procedures, a small business may receive an equal or higher price than it would have received under standard FAR procedures for partial set-asides.

Our detailed analysis of the offers and awards of JP-4 jet fuel on DFSC's Inland/West Coast solicitation for fiscal year 1987 showed that small businesses were quite competitive with large firms for JP-4 fuel and that the partial set-aside program in this case had a relatively small effect on the amounts awarded to small businesses.

Our analysis shows that this bulk fuel procurement involved an estimated requirement for 1,882,781,000 gallons of JP-4 jet fuel at 192 locations. Small businesses won 209,780,000 non-set-aside JP-4 gallons in full competition with both large and small businesses. Small businesses also were awarded 275,832,000 set-aside gallons, 196,894,000 gallons at small businesses' prices and 78,938,000 at match prices using DFSC's procedures. Thus, small businesses won most of their awards by submitting lower bids than their competitors, which included both large and small businesses. (See table I.4.)

Of the 485,612,000 gallons awarded to small businesses, 364,637,000 gallons were awarded to small refiners (about 75 percent) and 120,975,000 gallons were awarded to regular small business dealers (about 25 percent).

Table I.4: Gallons of JP-4 Fuel Awarded for Inland/West Coast—Fiscal Year 1987

Small business	Gallons	Percent
Small business in full competition	209,780,000	12
Set-aside to small business at their prices	196,894,000	10
Set-aside to small business at DFSC's "match" prices	78,938,000	4
Total small business	**485,612,000**	**26**
Large business	1,400,269,000	74
Total	**1,885,881,000**	**100**

DFSC's records show that 17 out of 21 large businesses that offered JP-4 received awards for 1,400,269,000 gallons of JP-4. Twelve of 18 small businesses that offered JP-4 received awards for 485,612,000 gallons of JP-4. The small business awards amounted to $250,389,261, or 26 percent of the JP-4 contract award dollars and 26 percent of the gallons awarded on this procurement.

Specific Comment Number 6

Our draft report stated: "Further, DFSC told us that small businesses receive a fair proportion of its domestic bulk fuel awards."

Specific comment number 6 states: "What is a fair proportion? Are the small businesses qualified receiving an award under the partial set-aside program, or are they simply small businesses not qualifying under the Small Business Act, such as Western Petroleum?"

Our Response

A fair proportion is a judgment based on all the facts. Considering such facts as: the overall proportion of awards DFSC presently makes to small businesses; the relative capacities of large and small refineries; and the competitive showing by small businesses as noted by our detailed analysis of JP-4 jet fuel awards on the Inland/West Coast solicitation, we believe that DFSC's practices are not in conflict with the government policy that small businesses receive a fair proportion of the government's contracts.

In the case of Western Petroleum, this is a small business that does not qualify for set-asides since it is supplied by a large firm. Our analysis showed that Western Petroleum's award of JP-4 jet fuel under the Inland/West Coast solicitation for fiscal year 1987 was not based on its receiving any set-aside preference.

Specific Comment Number 7

Our draft report stated: "DFSC has stated that its deviation procedure results in small businesses receiving set-aside prices that are equal to or higher than the prices that small businesses would have received if the standard FAR procedures were used. This is because of the unique nature of the petroleum refining industry, in which the price of bulk petroleum products may increase in proportion to incremental increases in quantity. Suppliers therefore submit offers in quantity increments at successively higher prices. This is in contrast to most other industries, where prices will often drop as more products are produced. Our analysis of DFSC's supporting documentation confirms this to be the case."

Specific comment number 7 states: "This is no more than 'loss leader' bidding whereby the first lowest incremental bid price dictates whether small businesses can match this bid normally made by large refiners, or unqualified small businesses, a fact DFSC will be hard pressed to refute."

Our Response

We are not in a position to evaluate the motivation of the bidders on bulk fuel contracts. As noted in table I.4, eligible small firms are able to match the set-aside prices for bulk fuel awards in many cases.

According to DFSC officials, the petroleum industry is unique in the processing of its raw material—crude oil. They said that an important ingredient in a barrel of crude oil is naphtha. The proportion of naphtha to other chemicals in a barrel of crude oil varies depending on the origin of that crude oil. Certain fuels, like JP-4 jet fuel, require a higher naphtha content than other fuels, like home heating oil. However, the more naphtha that is extracted from a barrel of crude oil for JP-4, the less naphtha that remains in that barrel for other products such as home heating oil. The less naphtha that remains in the barrel for use in other products, the lower the quality and price of those other products. Therefore, a refiner must balance producing fuels requiring high naphtha content against fuels requiring low naphtha content. If a refiner chooses to create as much JP-4 as possible, then the other products may contain very little naphtha and may be more difficult to sell. A refiner must balance its production costs and selling prices among the various types of products (jet fuel, automobile gasoline, home heating fuel, kerosene, and other distillates).

According to DFSC officials, it is not possible to produce one barrel of JP-4 jet fuel from one barrel of crude oil. A barrel of crude oil might produce a third of a barrel of JP-4 leaving two thirds of a barrel to be used for other products which require less naphtha. The problem for a refiner of crude oil is to find buyers for each of the products and to balance the selling prices so that an overall profit is made. When the government increases its procurement of JP-4, the refiner must find buyers for the increasing quantities of other products. If the price must be reduced on other products in order to sell them, the refiner may increase its price on the JP-4 to offset the losses on the other products to stay in business.

According to DFSC officials, DOD only purchases about 3 percent of the total bulk fuels sold in the United States and that most refiners must be competitive in the commercial bulk fuels market to survive. This means that a refiner selling JP-4 to the government must be able to sell the other 70 percent of that refined barrel of crude oil to purchasers who need other petroleum products. It should be noted that in recent years, due to the falling price of crude oil, the high cost of production, and the world-wide excess of oil on the market, about 100 refiners in the United States have been unable to efficiently refine and sell all their products and have gone out of business.

Specific Comment Number 8

Our draft report stated: "Another advantage to the special procedures is that DFSC can cover its requirements without resoliciting if eligible small businesses are unable to satisfy the set-aside requirement. Should this occur, the unawarded portion of the set-aside can be dissolved, and awards can be made to other businesses for the quantities involved. This avoids increased administrative costs and delays which could result in supply disruption if DFSC were to follow the standard FAR partial set-aside procedure."

Specific comment number 8 states: "Disagree. See previous comments."

Our Response

See our previous response to principal concern number 2 and specific comments numbers 3 and 4.

Specific Comment Number 9

Our draft report stated: "DFSC uses the computer model to compare all the possible combinations in determining the overall least cost pattern of awards at the laid-down cost. DFSC uses this model because usual procedures of awarding contracts only on the basis of the lowest product price may not necessarily provide the least total cost pattern of awards unless transportation costs are considered."

Specific comment number 9 states: "There is no challenge to DFSC's objective in using the computer. However, in practice we have found that use of the computer is questionable. In fact, in the last procurement, DFSC personnel contacted my client on two separate occasions telling us what price they were 'shooting for' and our last and final bid should be in this range. We think GAO should look into this practice."

Our Response

DFSC uses contracting by negotiation rather than sealed bid procedures because, under FAR, this permits flexibility in regard to discussions concerning price, transportation, and other factors. In contracting by negotiation, the government issues a request for proposal and the prospective contractors submit their offers in the form of proposals. Unlike sealed bidding, proposals can either be accepted immediately without discussion to create a binding contract or treated as a bargaining tool.

The contracting officer evaluates proposals using the factors specified in the request for proposal.

The contracting officer then conducts discussions with all responsible offerors. Bargaining—in the sense of discussion, persuasion, alteration of initial assumptions and positions, and give and take—may apply to price, schedule, technical requirements, type of contract, or other terms of a proposed contract. The content and extent of the discussions is a matter for the contracting officer's judgment, based on the particular facts of each acquisition. The contracting officer controls the discussions, advises an offeror of deficiencies in its proposal so that the offeror is given an opportunity to satisfy the government's requirements, attempts to resolve any uncertainties concerning the technical proposal, and provides the offeror a reasonable opportunity to submit any cost or price, or technical or other revisions to its proposal that may result from the discussions.

However, the contracting officer cannot engage in auction techniques such as indicating to an offeror a price that it must meet to obtain further consideration or advising an offeror of its price standing relative to another offeror. It is permissible to inform an offeror that its cost or price is considered by the government to be too high or unrealistic.

Upon completion of discussions, the contracting officer issues to all offerors still within the competitive range a request for best and final offers and notifies them that discussions are concluded. After receipt of best and final offers, the contracting officer should not reopen discussions unless it is clearly in the government's interest to do so. Following evaluation of the best and final offers, the contracting officer selects that source whose best and final offer is most advantageous to the government considering only price and other factors included in the solicitation.

According to DFSC officials, DFSC adopted the negotiation method for its bulk fuels procurement because this method offered the following advantages over the sealed bid method:

- DFSC could negotiate with the offerors in regard to transportation methods and costs, quantity price breaks, and other unique circumstances for each offeror.
- DFSC can inform each offeror if its price is perceived to be too high without violating the FAR prohibition on price auctioning.

DFSC uses market analysis performed by its own market analysis group and uses petroleum industry data to establish the competitive range for bulk fuel prices.

DFSC officials told us that after negotiations are completed and the best and final offers are submitted, DFSC inputs the best and final offers into the computerized bid evaluation model. Using the best and final price offers and known transportation costs, the bid evaluation model computes a "laid-down" price for each government site. In addition, the computer model determines set-aside match prices to be offered to small businesses.

DFSC officials told us that the bid evaluation model is run several times because small disadvantaged businesses must be offered set-asides first. After small disadvantaged businesses accept or reject their set-asides, the acceptances are input into the model. The bid evaluation model must then be run again and all the previously computed prices other than those awarded to the small disadvantaged businesses may change. Then small businesses (other than disadvantaged) are offered set-asides at the match prices and the acceptances are input into the model. The model must be run again to produce a final run with the acceptances of the large businesses. The model is rerun until all contracts are awarded.

Specific Comment Number 10

Our draft report stated: "Officials of the Defense Acquisition Regulation Council and Civil Agency Acquisition Council told us that they had no record of any agency, other than DFSC, that had been granted a deviation to the FAR procedures on small business partial set-asides."

Specific comment number 10 states: "This appears to be why Senator Baucus asked GAO to look into the matter in the first place."

Our Response

See our response to principal concern number 3. We also examined the small business partial set-aside practices of six other major DOD buying activities.[2] We found that these activities followed the FAR in regard to partial set-asides. All firms (large and small) competed for the non-set-aside quantities and the highest unit price(s) awarded on those quantities were used as the set-aside price(s) for the set-aside negotiations with small businesses. Based on fiscal year 1987 data in the Federal Procurement Data System,[3] these six buying activities had about $130 million in small business partial set-aside procurements or about 71 percent of the total non-DFSC partial set-aside actions reported by DOD on individual procurement action reports for fiscal year 1987.

Specific Comment Number 11

Our draft report stated: "Based on our review of DFSC's small business partial set-aside procedures for domestic bulk fuel procurement, we believe that DFSC's procedures comply and are consistent with applicable federal and small business laws and regulations. DFSC's procedures have been formally approved as a deviation from FAR due to the special circumstances related to bulk fuel purchases. The procedures provide for the establishment of prices by open competition among both large and small firms."

Specific comment number 11 states: "Such 'special circumstances' are questioned, and GAO should inquire into such circumstances with private industry to determine if they are necessary. Are they so special that they warrant this agency being the only one asking for and receiving a deviation from FAR procedures?"

[2] These buying activities included: Defense Logistics Agency supply centers (Defense General Supply Center in Richmond, Virginia the Defense Industrial Supply Center and Defense Personnel Support Center in Philadelphia, Pennsylvania); the Navy's Aviation Supply Office in Philadelphia, Pennsylvania; the Army's Communications-Electronics Command at Ft. Monmouth, New Jersey; and the Air Force's Military Airlift Command at Scott Air Force Base, Illinois.

[3] We made our selection from data on contract actions of over $25,000 as reported on individual procurement action reports (DD 350s) for fiscal year 1987.

Our Response

We are not aware of any other government agency procurement program that would be comparable to DFSC's purchases of bulk fuels.

Specific Comment Number 12

Our draft report stated: "Small businesses receive an equal or higher price for their fuel than under the standard FAR partial set-aside procedures, and receive about 18 percent of the value of DFSC's domestic bulk fuel contracts. We believe this is consistent with the Small Business Act's overall objective that small businesses receive, at a reasonable price, a fair proportion of the government's contracts. This conclusion is also consistent with our prior position expressed in 1971 on DFSC's special procedures, which were substantially similar to its existing procedures. (See B-168576(2), April 28, 1971, and B-171289, April 28, 1971.)"

Specific comment number 12 states: "Insert after 'businesses' the words 'meeting the requirements of the Small Business Act and regulations.' "

Our Response

Our general reference to small businesses was merely to reflect the overall objective of the Small Business Act. It is not necessary to insert the suggested words for this purpose.

Specific Comment Number 13

Our draft report stated: "The objectives of our review were to determine whether DFSC's procedures and practices for its domestic bulk fuel program were consistent with applicable federal laws and regulations and supported the government's policy that small businesses receive a fair proportion of government purchases and contracts."

Specific comment number 13 states: "Insert after 'businesses' the words 'meeting the requirements of the Small Business Act and regulations should.'"

Our Response

See our response to specific comment number 12.

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