

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

B-176538 (1)

JAN 12 1973

Sterling Cole, Esquire  
1737 H Street, N.W.  
Washington, D.C. 20005

Dear Mr. Cole:

We refer to your memorandum of October 26, 1972, and prior correspondence, protesting on behalf of the Space Research Corporation (SRC) against the award of a cost-plus-fixed-fee contract to Terraspace, Inc., for the fabrication and testing of a water cannon under Federal Railroad Administration, Department of Transportation, request for proposals No. DOT-FR-200-2.

It is your contention that the Administrator of the Federal Railroad Administration, the source selection authority for this procurement, improperly determined that the award of the contract to Terraspace was most advantageous, price and other factors considered. You urge that the contract be canceled and an award made to SRC. From our review of the record before us and for the reasons discussed below, we must conclude that there is no basis for our Office to interpose a legal objection to the award.

The subject request for proposals was a resolicitation of the requirement. The initial solicitation, we are advised, was cancelled because of a need to revise and update the specifications. We understand that SRC and Terraspace submitted proposals in response to the initial solicitation, and both were determined to be technically acceptable.

Both firms submitted timely technical and price proposals in response to the instant solicitation and were again determined to be technically acceptable. The proposals of two other responding firms were determined to be unacceptable and not susceptible of being made acceptable without substantial revisions, and ultimately their proposals were rejected.

In accordance with DOT Notice 4200.6, Source Selection, the technical proposals were initially referred to a technical evaluation team for review in light of the evaluation criteria and weights set forth in the request for proposals. On May 5, 1972, the technical evaluation team transmitted

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its findings to the Source Evaluation Board (SEB) for its consideration. Out of a possible 100 points, the team reported a score of 90 for Terraspace and a score of 81 for SRC. Its report contained the following narrative, identifying the strengths and uncertainties of the proposals:

"Space Research Corporation (SRC) Proposal as submitted more than adequately considers the technical aspects of this program. SRC is a large research organization and has extensive facilities for manufacturing and modifying, as required, the water cannon. Proposal recognizes some of the uncertainties or possible problem areas in the water cannon design and recommends possible solutions. The importance of quality control and thorough water cannon examination during the test phase was described. Adequate consultants will be utilized to review the Terrapak unit design modifications and field test program. While it is noted that SRC has no experience with continuous water jets or pulsed water cannons, it does have reliable experience with light gas guns and large caliber weapons. Based on the proposal, it appears that SRC is not familiar with all the terminology commonly used in water cannon technology. \* \* \* The technical Evaluation Panel questioned whether SRC had the experience in drilling exponential holes or in designing the rotary broaches and other tools required for fabrication of the water cannon nozzle. SRC proposed field testing locally in Vermont, but did not address the cold weather winter operation and associated freeze-up problems. \* \* \*

"Terraspace, Inc. The technical evaluation team found the Terraspace proposal to be the best qualified of all the proposals submitted. Terraspace, being the original designers of the water cannon, has a distinct advantage in fabrication, operation, testing, as well as in making any design changes which may be necessary. The Terraspace technical team is well qualified to perform this program. Dr. W. C. Cooley, the proposed project manager, is the most knowledgeable hydrodynamicist in the U. S. on water cannon design and development. Furthermore, Terraspace has established close collaboration with the Soviet scientists who have developed water cannons and the basic design criteria and calculations for the nozzle. Terraspace also has the advantage of fabricating and testing a

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pulsed water cannon for the U. S. Bureau of Mines. \* \* \* The proposal has identified many areas where the design and test instrumentation can and must be modified to improve performance and cost. \* \* \* All machine work on the water cannon design fabrication is to be subcontracted by Terraspace and competitive bids will be solicited wherever possible. This approach should permit difficult components (i.e. nozzle) to be fabricated by the best qualified supplier. However, outside procurement might present schedule and quality control problems. In addition, minor modifications to the design will require outside assistance from local machine shop facilities. The lack of in-house machine shop facilities at Terraspace might likewise cause some program delays. Terraspace will utilize consulting services for the modifications to the Terrapak unit."

In addition to the technical evaluation report, the SEB considered the following cost-plus-fixed-fee proposals: Terraspace - \$174,148; SRC - \$135,668.

The interim report of the SEB to the Source Selection Official (SSO) was issued on May 11, 1972. It was concluded therein that, after considering a price analysis and the technical evaluation of each proposal, only the proposals of Terraspace and SRC were within the competitive range. With respect to Terraspace and SRC proposals the Board made the following comments:

- "1. Dr. William Cooley of Terraspace is the only known technical person in the U. S. with experience in high pressure water cannons. He has gotten this experience through a contract with the Bureau of Mines for a laboratory model, through exchange of information with Russian scientists who have built the only full size water cannon known, and through work of his own with ExoTech, Inc. His experience is far above the total experience of Space Research Corp., and its consultants.
- "2. The Space Research quarry test program raises some questions because the schedule calls for testing in the winter, and for this to be accomplished in Vermont may be a serious problem.

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But Space Research also has an uncertainty in that they stated if technical problems are encountered, the cost will have to be renegotiated. This means no provision has been made for normal development difficulties.

- "3. Space Research has a good record of performance with other government agencies and appears to have excellent facilities.
- "4. The Terraspace proposal to subcontract the machining and fabrication introduces some uncertainty since the quality of the subcontractors will be all important in the quality of the final product."

The Board, therefore, recommended discussions with both offerors to clear up these uncertainties. The SSO concurred in this recommendation. Discussions were held with SRC at its plant. Based upon its review of the Department of Transportation water cannon report and Russian data, SRC did not foresee any major problems in manufacturing and testing of the cannon. The report on these discussions noted that the SRC program allocated resources only for the basic task and for the specific problems identified in the proposal. If major problems were encountered, SRC would need additional funds and time to complete the production. SRC explained how it planned to fabricate an exponential nozzle and indicated that a Department of Defense quality control approved inspector was at its plant and could be used for the procurement. The locations and methods to be employed for testing during the winter were also outlined by SRC. Finally, the report noted that the proposed project manager was located in Canada and would visit the SRC plant one or two days a week to direct the program. A review of Terraspace's financial capabilities was made and these were found acceptable.

With this additional information before it, the SEB submitted its source selection report on June 12, 1972. The following portions of the SEB's report are pertinent to our consideration:

"We have no question \* \* \* that (1) the two offerors have a complete understanding of the requirements, and (2) that each fully recognizes the competitive pressures and has submitted a competitive price. Consequently, no useful purpose would be served by negotiations.

"The SEB has come to the following conclusions concerning the two offerors:

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"Terraspace is proposing to utilize personnel with greater pertinent technical background than Space Research personnel. It is noted that the program manager of Space Research works out of the Montreal technical office and plans to visit the North Troy Aeroballistic Laboratory one or two days a week where the water cannon will be fabricated and tested. A full time engineering aid or technician at the laboratory will be utilized by Space Research to communicate daily status reports to the program manager. The Terraspace program manager and engineers will work directly at their development laboratory.

"Terraspace has experience in the design, fabrication and testing of water cannons through (1) the direct experience of its President, Dr. Cooley, the only known high pressure water cannon technical person in the U. S., (2) through contracts for designing, fabricating and testing a similar laboratory model for the Bureau of Mines, and (3) through the experience gained in the preparation of the design drawings and specifications for this proposed work, furnished to FRA by Terraspace under Contract DOT-FR-00017. Space Research does not have comparable background or experience. The closest related work by Space Research is with light gas guns and large caliber weapons.

"The final technical rating of Terraspace was higher than that of Space Research. Terraspace's technical understanding of water cannon programs is superior to Space Research's. Both firms, nonetheless, were considered to be capable of performing the work.

"Space Research has complete manufacturing facilities with minor exceptions, where Terraspace does not. It will be necessary for Terraspace to subcontract all of the components for this R&D water cannon program.

"Terraspace is in a very marginal financial position, and while it is the opinion of the audit member of the SEB that they can survive through the period of the proposed contract, they must be viewed as a serious risk in this area. Space Research has no financial difficulties.

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"-Space Research has submitted a CFFF proposal of \$155,668, while Terraspace has submitted a CFFF proposal of \$174,148. Space Research's program is success oriented and estimated costs do not include any significant contingency funds to resolve any design or test problems that may be encountered. It is the SEB opinion that the probabilities of cost overruns and delays would be greater for Space Research, which does not have direct water cannon experience and has provided no contingency, than it would be for Terraspace.

"-The SEB is of the opinion that, except for the question of financial solvency, the probability of obtaining a successful water cannon program is greater from Terraspace than from Space Research."

The SEB made no recommendation to the Administrator as to which firm should receive the award. It did note that it considered the difference in the cost proposals to be insignificant and expressed the view that from this standpoint the Administrator could properly select either source. Further, in the SEB's opinion the choice facing the Administrator was between "a marginally financed company which has the greater experience, technical expertise, and probability of success, and a solvent company with complete facilities but without comparable background in the water cannon program which we are purchasing."

In ultimately deciding to award the contract to Terraspace, the Administrator in his report to our Office advises that:

"As the Source Selection Official, I chose Terraspace over SRC because I felt that their prior experience and superior technical rating outweighed the price differential of the two estimated cost proposals. In my opinion, the probability of obtaining a successful water cannon is greater from Terraspace than from Space Research."

Initially, it is SRC's contention that the SSO failed to accord controlling significance to the fact that the "price of SRC was 10% less than Terraspace." However, as the Administrator points out, we have recognized that in the context of negotiated cost-reimbursement-type research and development contracts, proposed cost or price is not necessarily controlling in

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determining which proposal is most advantageous to the Government. 50 Comp. Gen. 739,744 (1971), citing B-170374, March 3, 1971; B-165471, January 24, 1969. See, also, section 1-3.805-2 of the Federal Procurement Regulations (FPR), which provides in pertinent part that:

"The award of cost reimbursement type contracts primarily on the basis of estimated costs may encourage the submission of unrealistically low estimates and increase the likelihood of cost overruns. The cost estimate is important to determine the prospective contractor's understanding of the project and ability to organize and perform the contract. \* \* \* Beyond this, however, the primary consideration in determining to whom the award shall be made is: which contractor can perform the contract in a manner most advantageous to the Government."

From the record and as indicated in the various evaluation reports, it is clear that both cost proposals were considered to be in the same range and the approximately \$19,500 difference in the estimated prices of Terraspace and SRC cost proposals was considered insignificant. In this connection, we do not understand the observation that there was greater likelihood of an overrun under the SRC proposal to mean that there would be no possibility of an overrun if the Terraspace proposal were accepted. In our view, the observation essentially reflects an expression of the greater credibility placed on the Terraspace cost proposal. This expression was based on the judgment that potential development risks in terms of cost impact were not as well accounted for in the SRC proposal as they were in the Terraspace proposal. While this judgment is disputed, the record before us does not afford a basis for taking exception to the contracting agency's assessment of what the ultimate actual cost to the Government might be. In any event, even if we were to assume that the contracting agency should have placed greater credibility on SRC's estimate of the ultimate cost of the contract, this fact would not be decisive. For, as we have indicated, in a procurement of this nature, the contracting agency may properly select a technically superior and higher priced proposal over a lower rated and lower priced proposal. And, from the record, it is clear that the technical excellence of Terraspace's proposal vis-a-vis SRC's proposal was the basis for award.

At this point, we must emphasize that determinations relative to the technical evaluation of proposals are within the discretionary authority of the contracting agency and in the absence of a clear showing of an arbitrary abuse of discretion, our Office will not interpose a legal objection. 48 Comp. Gen. 314,318 (1968); B-174799, June 30, 1972; B-173367, September 28, 1971.

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Review of the technical evaluation team's report indicates that the difference between the SRC and Terraspace technical scores is founded primarily on the team's assessment of the proposals in light of the fourth evaluation criterion, "Types of scientific, technical or engineering talent and levels of effort proposed to devote to the work," and the sixth evaluation criterion, "Past experience in similar technical areas or with comparable projects." Together these criteria accounted for 55 of the 100 technical points possible. The differences perceived in these two areas ultimately furnished the basis for the award to Terraspace.

You have questioned the correctness of the differences discerned and relied upon under each criterion. With respect to the fourth criterion, you contend that the claims made for Terraspace's personnel at the expense of SRC are clearly ill-founded and unfair. You maintain that SRC has well-recognized experts in the field of fluid mechanics of which hydrodynamics is but a minor branch. As we view the record, the contracting agency did not, as you suggest, discount the expertise of SRC's team. Indeed, the scoring of the technical evaluation precludes an inference of this nature. Moreover, we are not in a position, on the record, to conclude that the contracting agency's decision to emphasize Terraspace's expertise in the specific area of hydrodynamics is unreasonable. Similarly, and contrary to your contention, the contracting agency could properly accord greater weight in assessing prior experience under the fourth evaluation criterion to the more directly pertinent experience of Terraspace in the development of water cannon. See, e.g., B-174799, June 30, 1972; B-173427, March 14, 1972.

Finally, you question Terraspace's responsibility. Specifically, you maintain in your letter of August 31, 1972, that it is beyond comprehension that Terraspace "with only a few technicians, no assets, no capital, little or no experience, no laboratories and no equipment is superior to SRC with ample capital, laboratories and equipment, scores of technicians, a decade of experience and other valuable factors." The contracting agency did examine the financial capability of Terraspace and found that satisfactory financial arrangements had been made. It also found that Terraspace's proposed subcontracting arrangements were sufficient to insure timely performance and that its own facilities were adequate. We note that this latter review was based substantially on the prior analysis conducted under the original solicitation. While from the record we have some reservation about the thoroughness of the investigation undertaken by the Federal Railroad Administration we do



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not believe there is a sufficient basis to warrant legal objection to the contracting agency's determination of the responsibility of the contractor. We are, however, by letter of today bringing this matter to the attention of the Secretary of Transportation.

Very truly yours,

R.F.KELLER

[Deputy Comptroller General  
of the United States