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Comptroller General
of the United States
Washington, D.C. 20548

Decision

Matter of: Hewlett-Packard Company

File: B-245408

Date: January 6, 1992

William S. Weisberg, Esq., Barton, Mountain & Tolle, for the protester.
Gregory H. Petkoff, Esq., Department of the Air Force, for the agency.
Robert C. Arsenoff, Esq., and John Brosnan, Esq., Office of the General Counsel, GAO, participated in preparation of the decision.

DIGEST

Protest alleging that a vibration test of generators was not performed in a manner consistent with established testing specification is denied where test was performed within frequency displacement limits established in the specification and, where choices in the manner in which the test was performed were permitted by the specification, the agency reasonably exercised its judgment in making those choices.

DECISION

Hewlett-Packard Company (HP) protests the rejection of its offer under request for proposals (RFP) No. F41608-91-R-39541, issued by the Air Force for synthesized sweep signal generators to be used in a variety of military aircraft. The protester alleges that a sample generator submitted with its offer was tested in an improper manner.

We deny the protest.

The RFP incorporated Commercial Item Description (CID) No. 104.2, which described the Air Force's minimum essential requirements for the generators as well as the criteria for sample evaluations. Testing of samples was to be conducted in accordance with Military Test Specification (MIL-T) No. 28800D, which, among other things, provided for a vibration test.[1] The vibration test--during which an

[1]Offerors were permitted to submit Recommended Test Procedures (RTP) for their own equipment which would be used if consistent with MIL-T No. 28800D; HP did not submit any such procedures.

operating sample generator was shaken on a testing device--was performed for the Air Force by the Southwest Research Institute (SRI) and the results were reviewed by agency engineers. HP's offer was rejected as technically unacceptable because its sample was found to have critical operational failures as a result of the vibration test.[2] The actual failures at issue in the protest concern the separation of the blade/hub unit from the shaft in the cooling fan unit.

HP argues that the SRI vibration test was improperly performed outside the limits established by MIL-T 28800D which provide, in the protester's view, that the maximum peak-to-peak displacement to which the samples are to be subjected is 0.33 mm (0.013 inches). The protester bases its conclusion on independent tests that it commissioned which it says demonstrate that, when a generator is affixed to the testing table with only one bar as was done by SRI, there is additional stress induced to the sample and the "bounce" experienced in the generator, as measured by an accelerometer mounted on the back of the unit, is approximately 4.85 times the maximum value permitted by the testing specification. The protester states that the generator should be affixed by two bars. Further, HP points out that SRI only attached an accelerometer to the front of the sample generator to monitor frequency displacement. Thus, the protester concludes that the failure experienced in its sample was the result of excessive displacement and not because of any inherent problem with its design or construction.

The Air Force reports that SRI tested the sample in accordance with the requirements of MIL-T 28800D, and argues that if HP had wanted it to use other procedures to test its generators, the protester could have submitted an RTP with its offer. The agency explains that the 0.33 mm limit in the testing specification for peak-to-peak displacement refers to the total distance traveled by the testing table, as measured by an input accelerometer placed on the table itself (rather than the item being tested), and as controlled by the test operator. The SRI test results indicate that this vibration input was measured at no greater than 0.33 mm during the testing of HP's sample. The agency further explains that a response accelerometer, placed on the unit being tested, measures how the instrument responds to a given level of vibration ("resonance"). As the Air Force notes, the test item is intended to be placed at a "resonance" level and, according to the testing

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[2]The HP unit experienced three operational failures during testing, two of which concerned the vibration testing. Pursuant to the CID, three failures required rejection of the sample.

specification itself, this is achieved when the vibration of the item is more than twice the vibration of the testing table (0.33 mm X 2, or at least 0.66 mm). Accordingly, the agency finds no merit to the protester's argument that excessive readings on HP's response accelerometer necessarily means that SRI's input to the testing table exceeded the limits of MIL-T 28800D.

The agency also points out that the test specification does not specify a particular means of attaching the sample to the test device (except to state that it must be securely fastened), and that the one-bar method of attachment--which has been repeatedly used for a number of years and which was consistently applied to all samples submitted under the RFP--represents its best engineering judgment as to how to affix sample generators because it closely reflects the actual stresses which the units will undergo in flight. The agency's engineers state that the two-bar method, urged by HP, would artificially provide support for the unit being tested which would not be present in flight.

Finally, the agency points out that MIL-T 28800D does not specify where to place response accelerometers during testing and states that it chose the front panel of the units being tested because, in its judgment, a principal purpose of the test is to examine the functionality of critical controls which are located in the front and because this is where most failures traditionally occur.

The contracting agency which is most familiar with its needs and how best to fulfill them must make the determination as to its needs in the first instance. Similarly, it must determine the type and amount of testing necessary to ensure a particular product will meet those stated needs. Those determinations, which include the manner in which testing is to be performed, must be reasonable. See Barrier-Wear, B-240563, Nov. 23, 1990, 90-2 CPD ¶ 421. The fact that another laboratory test conducted by a protester produces different results does not itself mean that the agency's judgments concerning its testing methods are unreasonable. Id.

Our review of the test results fails to disclose any variation from the requirements of the specification. The one-bar method of attaching samples to the testing device is clearly permitted by MIL-T-28800D, and the agency has offered a reasonable explanation as to why one connecting bar rather than two more accurately simulates the conditions under which the generators are to be used and avoids providing the sample with artificial support. HP has provided no substantive response to this explanation.

The appendices to the test report provided by SRI state that displacement during the testing of HP's sample was 0.013 inches (i.e., 0.33 mm), the test limit prescribed in the specification.[3] The Air Force engineers state, and there is nothing in the evaluation record to indicate otherwise, that this frequency displacement was strictly controlled throughout the conduct of the vibration test.

While the protester argues that accelerometers should have been placed at both the front and rear of the unit to be tested, the precise placement of accelerometers during testing was not specified in the testing specification. The agency has offered a reasonable explanation as to why placement at the front panel is appropriate since this is the location of controls which are to be stressed as a principal purpose of the vibration test. It also notes that its test methodology was consistent with all offerors' samples and none but HP's experienced problems during the vibration test. Under these circumstances, and in the absence of a specific requirement concerning the placement of the accelerometers, and in view of the fact that HP could have requested alternate testing procedures for its unit, but did not, we have no legal basis upon which to interfere with the agency's technical judgment in this matter. Constantine N. Polites & Co., B-239389, Aug. 16, 1990, 90-2 CPD ¶ 132.

The protest is denied.

for James F. Hinchman
General Counsel

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[3]The protester's reported test results do not appear to have a direct bearing on whether SRI's tests were conducted in accordance with the testing specification. The Air Force explains, and the specification indicates, the 0.33 mm maximum peak-to-peak displacement criterion relates to the movement of the testing table, as controlled by the operator, and the purpose of the vibration test is to achieve a resonant vibration in the unit being tested at least twice that of 0.33 mm. In other words, the fact that the sample experience higher than 0.33 mm displacement is not inconsistent with the testing specification.