



**Comptroller General
of the United States**

Washington, D.C. 20548

Decision

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Matter of: Martin Marietta Corporation

File: B-259823.4

Date: July 3, 1995

Thomas J. Madden, Esq., Jerome S. Gabig, Jr., Esq., and Charles R. Marvin, Jr., Esq., Venable, Baetjer, Howard & Civiletti, for the protester.

Rand L. Allen, Esq., James J. Gildea, Esq., Phillip H. Harrington, Esq., David A. Vogel, Esq., and Paul A. Misener, Esq., Wiley, Rein & Fielding, for Westinghouse Electric Corporation, an interested party.

Wayne Wenzel, Esq., Shauna D. Russell, Esq., and Diane K. Townsend, Esq., Naval Sea Systems Command, for the agency.

David A. Ashen, Esq. and John M. Melody, Esq., Office of the General Counsel, GAO, participated in the preparation of the decision.

DIGEST

1. Protest against agency determination that proposed sonar system is compliant with specification requirement for 360-degree coverage is denied where it appears from record that, although a matter of some uncertainty and considerable technical dispute, 360-degree coverage is at least theoretically possible and protester offers no conclusive evidence to the contrary.

2. Protest that agency improperly failed to disclose vital information concerning acceptability of glass reinforced plastic (fiberglass) sonar dome proposed by protester in prior stage of development process and proposed again in current stage is denied where record does not establish that agency possessed superior, vital knowledge concerning fundamental acceptability of fiberglass dome prior to receipt of proposals for current stage; agency did not view fiberglass dome as unacceptable until after receipt of proposals, protester was aware that fiberglass is an inferior material for sonar domes, and protester knew or should have known of need to maximize sonar effectiveness.

DECISION

Martin Marietta Corporation (MMC) protests the Naval Sea Systems Command's (NAVSEA) exercise of a competitive, down-select option under Westinghouse Electric Corporation (WEC) contract No. N00024-92-C-6223, for the demonstration and validation (D&V) phase for the United States/United Kingdom Joint Cooperative

Project for Surface Ship Torpedo Defense (SSTD). MMC challenges the evaluation of proposals and argues that it was misled into offering a technical approach found to be unacceptable.¹

We deny the protest.

The SSTD joint project seeks to combine equipment and technologies into a system that can successfully detect and defend against torpedo threats to surface ships. The contemplated system consists of three major operational functions or subsystems: (1) the Detection, Classification and Localization subsystem, which provides the sonar data and associated subfunctions needed to detect, classify and localize torpedo threats; (2) the Combat Control subsystem, which performs multi-sensor data fusion, threat evaluation, fire control solution generation, engagement scheduling, countermeasure employment, and command display and control; and (3) the Material Countermeasures subsystem, which utilizes towed or expendable countermeasures to divert threat torpedoes from their intended target or to inflict incapacitating physical damage to them.

The Memorandum of Understanding establishing the SSTD Joint Cooperative Project provided for a four-phase SSTD development and production program: (1) Concept Evaluation, in which a feasibility study would be conducted; (2) D&V, in which contractors would conduct design tradeoff studies, develop a preliminary design, and produce advanced development models (ADM) in areas of high technical risk to validate the design approach; (3) Engineering and Manufacturing Development (EMD) (also called Full Scale Development); and (4) Production.

During the Concept Evaluation phase, a request for proposals (RFP)-- No. N00024-90-R-6066(Q)--was issued to solicit proposals for the D&V phase. Proposals were received from consortia led by WEC, MMC, and General Electric Aerospace Corporation. The agency reports that due to concerns over program risk having nothing to do with the content of the proposals received, but instead reflecting the complexity of the effort and the advanced technology required, it was determined that additional risk analysis was required prior to entering into the D&V phase. Consequently, the RFP was amended to include a Risk Mitigation Phase (RMP) of approximately 15 months to precede the D&V phase. The RMP phase became the basic contract effort, while the D&V phase was converted to option line items under the RFP. Contracts were ultimately awarded to WEC (No. N00024-92-C-6223) and General Electric (No. N00024-92-C-6222) on January 28,

¹Inasmuch as significant portions of the record are classified, the following unclassified discussion is necessarily somewhat general.

1992. (During RMP, General Electric Aerospace was purchased by MMC; it was the General Electric proposal for RMP/D&V which formed the basis of the current MMC proposal for the D&V down-select competition.)

The objective of RMP was to perform further tests, trials and analyses in specific areas of high program risk, including such key areas of concern as the ability to detect, classify and localize torpedoes, material countermeasures, shipfitting, and threat definition. According to the agency, these efforts did not relate specifically to any particular contractor's design approach, but instead focused on the basic ability to perform these high risk functions using available technology. The Joint Project Office (JPO) and the government laboratories of both the United States and the United Kingdom took the lead in this phase, with industry providing support via the RMP contracts.

At the time of the RMP/D&V contract awards, it was intended that both contractors would be carried through the D&V phase by means of the exercise of the D&V option in both contracts, and that a single contractor would subsequently be selected for EMD, based upon a limited competition between the two D&V contractors. The agency contemplated that a detailed design would be produced by the joint project at the end of the EMD phase, followed by the award of a production contract based upon full and open competition. However, delays and funding constraints following the RMP/D&V contract awards in January 1992 forced a restructuring of the project as part of which it was determined that only one consortium would be selected for the D&V contract. The performance specification, statement of work (SOW) and contract options for D&V were revised, and issued to WEC and MMC (as the successor to General Electric), on September 12, 1994, as a modification to their contracts.

The modification requested proposals for a fixed-price incentive contract to perform the D&V phase. It generally advised that:

"[o]fferors are to submit comprehensive, updated responses to the requirements of this modification. These responses will be utilized to reassess the offeror's understanding of, and capability to accomplish, the stated requirements. The reassessment will build on the Government's previous evaluation of the offeror's original proposal. Additionally, the reassessment will focus on changes to the offeror's original proposal and the evaluation of new data generated through subsequent work, such as Risk Mitigation, which substantiates claims contained in the offeror's original proposal."

Although the instructions for preparation of the down-select proposals stated that an offeror was "only required to submit change pages to its original proposal," the

modification specifically stated that the proposals "must clearly show how" the proposed concepts would meet or exceed the performance requirements in the SOW or specification. Likewise, the modification required offerors to "provide data in sufficient detail to: . . . (2) provide performance predictions which illustrate that the offeror's design concept has the potential to meet or exceed the performance requirements for all proposed systems and specified operational modes."

Award was to be made to "that responsible offeror whose offer, conforming to this modification, is considered to represent the best value to the government, price and other factors considered." The modification provided for the evaluation of technical merit and price. The evaluation of technical merit was to include consideration of: (1) system effectiveness and (2) detection, classification and localization, which were "of equal importance and . . . more important than" (3) material countermeasures; these first three criteria were "significantly more important than" (4) combat control, (5) shipfitting and systems engineering, and (6) operations, all of which were of equal importance. The modification stated that "[t]echnical content and scope is of paramount importance. In determination of best value, the offeror should be aware that technical superiority is significantly more important than price."

Proposals were received from MMC and WEC on October 12, 1994. Although MMC's proposed target price [DELETED] was substantially lower than WEC's [DELETED], MMC's technical proposal was found to be unsatisfactory overall, while WEC's was rated good overall.

MMC proposed to satisfy the specification requirement for 360-degree coverage for first echelon units--e.g., aircraft carriers--through use of an improved version of an existing towed passive sonar array and a new bow-mounted passive sonar array. Although MMC's proposal stated that the proposed bow sonar array could be furnished in either a "Removable or Permanent Fit Mounting," and could be given an "Intrusive/Integrated" mounting, the bow array was depicted in drawings with a semi-permanent, detachable mounting, in which the unit is held in place with hydraulic tensioning rods. MMC's proposal stated that the sonar dome--which covers the sonar--and the array fairing (i.e., the transition between the dome and the hull) was "designed to be external to and non-intrusive of the ship's hull structure," and was "based upon the US Kingfisher . . . program" (which used a detachable sonar mounting). The proposal described the sonar dome as made of a "Coated GRP," that is, of glass reinforced plastic (GRP) or fiberglass.

MMC's technical proposal was found to be unsatisfactory with respect to detection, classification and localization, systems effectiveness, and shipfitting and systems engineering. Project evaluators assessed the new bow array sonar "as an area of major risk. The main concerns are the risks associated with shipfitting and self noise." With respect to shipfitting, the evaluators noted that:

"[t]he typical production installation shown [in MMC's proposal] has the dome and array mounted on a frame secured externally to the hull. Compared with the rigid ship structure to which sonar arrays and domes are normally installed, this will be prone to vibration. Fairings are required to create a smooth dome/hull interface. These are prone to movement or loss with the consequent rise in self noise levels. Additionally, as the fit is to take place with the ship afloat, it will not be possible to put filler in the gaps between fairing, hull and dome."

Concluding that "[t]he offeror pays insufficient attention to achieving fairness of form with his proposed mounting arrangements" for the dome, the evaluators reported that British experience "has shown that this is extremely difficult to achieve and it is crucial to self noise performance. The self noise levels are substantially increased should the fairing be less than perfect."

The evaluators also expressed concern that the proposed ADM bow array sonar dome "is held in place by wire strops attached to the hull above the waterline. Such an arrangement will lead to cable strum and cavitation at even modest ship speeds leading to high noise levels in the vicinity of the array." In this regard, the evaluators noted that United States experience with the Kingfisher sonar array temporary mounting, from which MMC's mounting approach was derived, "indicated poor self noise, vibration, etc.," resulting in a decision not to use it for Operation Desert Storm during the Gulf War.

Evaluators also questioned the difference between the D&V and production versions of the bow array. They noted that:

"[t]he production version requires welded brackets and stops and hydraulic rams in place of the cable strops. Since the ADM is mounted in a completely different manner to that proposed for the production fit . . . it will not be possible to extrapolate the expected production performance. Thus, it will not be possible to judge the acceptability of the proposed production design. Therefore, the ADM approach is considered unsatisfactory."

Further, the evaluators expressed concern that the use of hydraulics to hold the array and dome in position would bring machinery sources close to the sensor, thus degrading performance unless substantial vibration insulation was used. In addition, the evaluators noted that although "[s]tiffening of the forward structure [plating] is necessary to reduce self noise," it was unlikely that adequate stiffening would exist on many types of ships without current bow-mounted sonar arrays.

The evaluators also questioned MMC's proposed use of a fiberglass (GRP) dome on the basis that "[t]he lightweight fiberglass dome concept is considered, from US and UK trials, to be a risk area since fiberglass domes tend to be noisy and also have high failure rates." As a result, the evaluators concluded that:

"[t]he dome and installation is poorly designed and this will cause high self noise effects which would severely degrade detection performance. The concept is, therefore, considered flawed, and thus will not meet the requirements."

The Source Selection Evaluation Board (SSEB) likewise questioned MMC's proposed approach, finding that: "[t]he dome and installation is poorly designed and this will cause high self noise effects which will severely degrade detection performance to an extent that it won't do the job. The concept is, therefore, considered flawed and will not meet performance requirements." In addition, the SSEB noted that MMC's proposed "schedule carries significant risk. . . . [T]he main sea trial is late in D&V giving very little time for the important post trials analysis. Should schedules . . . slip the overall program schedule will be impacted." Although recognizing that MMC had indicated a willingness to consider alternatives to its non-intrusive mounting arrangement, the SSEB noted that "[t]he proposed mitigation measure of examining an intrusive design for [first echelon units] is tantamount to a unique sonar design and development for every class of ship and is therefore considered unsatisfactory on grounds of expected cost and time to fit."

The SSEB rated MMC's proposal as characterized by "high technical risk with attendant high cost and schedule risk." The SSEB reported to the source selection advisory council (SSAC) and the source selection authority that MMC's proposed bow array sonar will be "ineffective"; according to the SSEB, MMC's approach to detection, classification and localization was "fundamentally flawed," such that "correction would require [a] new design concept." The SSAC agreed, finding that MMC's proposal was unacceptable in that it contained design deficiencies of such magnitude that the necessary corrections or improvements would necessitate major revisions and require an entirely new technical proposal.² Upon learning of the resulting, December 14 selection of WEC on the basis of initial proposals, MMC filed this protest with our Office.

²During the protest proceedings, NAVSEA stipulated that "[a]lthough the Source Selection Evaluation Board determined that the Martin proposal contained other weaknesses, the deficiencies associated with the bow array sonar design were pivotal to the SSAC's determinations that the Martin proposal was unacceptable and that it was not necessary to enter into discussions."

MMC'S EVALUATION

Prior Evaluation

MMC disputes the JPO's determination that its proposal was technically unacceptable. As an initial matter, MMC argues that the determination that its bow array mounting was unacceptable, the concern with respect to its proposal of a GRP (fiberglass) dome, and the overall conclusion that MMC's proposed approach will suffer from high self-noise which will severely degrade detection performance were unreasonable because these conclusions were inconsistent with those reached in the evaluation of its proposal for the 1992 contract, which allegedly was based on an identical mounting and fiberglass dome. Indeed, according to the protester, the evaluators were precluded from reassessing MMC's approach by the terms of the modification, which indicated that in reassessing the offeror's understanding of, and capability to accomplish, the stated requirements, the reassessment would "build on the Government's previous evaluation of the offeror's original proposal." We disagree.

While the modification stated that the evaluation for the down-select contract would "focus on changes to the offeror's original proposal" and "build on" the prior evaluation, neither this language, nor any other provision of the modification, precluded the agency from going beyond the prior evaluation or reaching different conclusions. The modification required the submission of "comprehensive, updated responses to the requirements," which "clearly show how" the proposed concepts would meet or exceed the performance requirements, and provided for a "reassessment" of the proposal. Implicit in the concept of a reassessment is the possibility that different conclusions may be reached. Indeed, the modification mentioned one possible cause for a difference in conclusion when it indicated that the reassessment would also focus on the evaluation of new data; as discussed below, NAVSEA reports that additional data from recent sea trials of a British sonar influenced evaluators ultimately to conclude that MMC's proposed GRP dome was not merely a matter of concern, but in fact was unacceptable. More generally, although clearly related in that they represent steps in the ultimate development and acquisition of an SSTD system, the 1990/1992 and 1994 competitions and awards were legally separate contracting actions. We have previously recognized that each procurement stands on its own; the fact that an agency in a prior procurement reached one conclusion concerning the acceptability of an offeror's approach does not preclude that agency from subsequently reaching, upon further consideration, a different conclusion. See generally Cobra Technologies, Inc., B-238031 et al., Feb. 27, 1990, 90-1 CPD ¶ 242.

Further, the contemporaneous evaluation record indicates that the bow array mounting and sonar dome in fact were the subject of evaluator concern during the 1990/1992 competition. The evaluators questioned General Electric's reliance on

the "Kingfisher" sonar program, asking General Electric during discussions to "[e]xplain how you plan to assess the risk of using the Kingfisher sonar over a wide range of operational environments over which it must operate. Include a discussion of flow-induced hull vibration problems encountered during development." In its response, General Electric recognized that "vibrational problems" had been encountered at "moderate to high operational speeds" during the development of Kingfisher. The offeror maintained, however, that "[t]hese vibrations, resulting from cable and strut strum, were reduced to an acceptable level by addition of a fairing and the problem has not reoccurred." Notwithstanding General Electric's response to the discussion question, however, the record indicates that the JPO's concerns with respect to the mounting approach were not resolved. The evaluators concluded that "use of the Kingfisher array may be risky at high sea states and ship speeds due to potential reliability problems." According to the evaluators, "UK trials have shown that poor bow array fitting/fairing can cause excessive self noise. The proposed mounting has areas of likely turbulent flow . . . and the concept must be considered (and the offeror does . . .) high risk." Likewise, the SSEB expressed concern that "[t]he proposed bow array may have high levels of array self-noise (e.g. flow noise) and survivability problems. . . ." Indeed, in testimony given at the hearing conducted with respect to this protest, the chief engineer for the SSTD project testified that on two occasions subsequent to the 1992 RMP/D&V awards, he advised General Electric/MMC of the JPO's continuing concern with the potentially high self noise associated with their installation approach, focusing on the strumming vibration experienced with the Kingfisher. Hearing Transcript (Tr.) at 275-281, 302.³ In addition, with respect to General Electric's proposed sonar dome, the SSEB noted that "[t]he lightweight fiberglass dome concept is considered, from US and UK trials, to be a risk area since fiberglass domes tend to be noisy and also have high failure rates. The offeror seems to acknowledge this, since mountings and fairings are considered high risk and only medium risk after D&V." In summary, neither the terms of the 1994 modification nor the conclusions reached in the 1990/1992 competition precluded or rendered unreasonable the JPO's determination that MMC's down-select proposal was unacceptable.

³Although MMC generally denies receiving any post-award notice as to the agency's continued concern with respect to vibration caused by its proposed installation method, see, e.g., Tr. at 340, we find the testimony and sworn statement of the SSTD chief engineer to be credible since the concern reportedly expressed to General Electric/MMC was the same concern stated in the 1990/1992 evaluation documents and the expression of the concern is consistent with the action of the JPO in submitting the written question concerning this matter to General Electric during discussions.

Dome

MMC argues that the JPO's concerns with respect to its proposed GRP (fiberglass) dome were unreasonable and did not furnish a basis for finding its proposal unacceptable.

Noting that MMC claimed that its proposed bow sonar array would achieve only slightly higher self-noise levels than found on the AN/SQS-53 surface ship sonar (the sonar on many American surface ships), NAVSEA responds that "the evaluators determined it will be impossible for [MMC] to achieve AN/SQS-53 self-noise levels using [GRP] material for its dome window." The agency reports that GRP domes were investigated during the development of the AN/SQS-26/53 sonar dome, and the initial development efforts at the United States Naval Undersea Warfare Center "proved that fiberglass domes would not achieve the low self-noise levels attained with reinforced rubber"; according to the agency, "[e]xtensive testing determined that the use of rubber composites was the only way to achieve the desired noise level." The agency reports that:

"[t]he essential property of rubber that makes it a very suitable material for sonar window manufacture is that it has wave speeds that are all sub-sonic. This means that any energy that gets into the material will not be radiated off as an acoustic signal that will interfere with the hydrophone array. [GRP] on the other hand has supersonic wave (compressional) speeds that cause energy trapped within the material to radiate off at certain critical angles. This is one of the problems experienced in the UK's submarine dome program. Surface ship sonar systems . . . have experienced numerous acoustic problems with their [GRP] domes. . . .

"The problems of [GRP] as a material, if the mounting at the edges of a dome are not properly designed, are in fact exceedingly complex. . . . Attempts to mechanically isolate a [GRP] dome from its attachment have failed in the past, as the noise levels were increased by the isolated mounting of the dome. . . . In practice the dominating noise source was flow induced dome vibrations. . . . The way in which a dome is mounted at the edges is critical. . . . [T]he planned ADM mounting arrangements would not hold the dome sufficiently rigidly to prevent flow induced dome vibration with the attendant self noise penalty."

In addition, NAVSEA maintains that recent sea trials (in early 1994) of a British sonar with a GRP dome, the results of which first became known to evaluators only

during the evaluation of MMC's down-select proposal, were a significant factor in the JPO's determination that MMC's use of a GRP sonar dome was an unacceptable risk. Joint project engineers testified that prior to the tests, self noise which had interfered with the detection capability of the British sonar had been primarily attributed to electrical interference, but that based on the sea trials it was determined that "there were significant self noise problems other than just the electrical noise problems and they . . . [were] associated with the fiberglass [dome]." Tr. at 285-287, 316-317, 626, 657. According to the testimony, British technical authorities now consider "fiberglass to be a significant contributing factor to that self-noise." Tr. at 626, 633-634, 638. The agency concludes that "[i]f the AN/SQS-26/53 was deemed incapable of obtaining its noise goal with the use of Glass Reinforced Plastic windows, there is likewise no probability that the [MMC] ADM bow sonar dome will meet the Government's performance requirements as designed."

MMC does not deny that rubber is superior to fiberglass for sonar domes. A consultant retained by MMC for this protest has noted that "[t]he characteristics of rubber makes it a superb substance for a sonar dome," while counsel for the protester acknowledges that "rubber is marginally better than fiberglass in terms of preventing noise from radiating within the bow dome." MMC and its consultant, however, argue that it was unreasonable for the joint project evaluators to conclude that the fiberglass dome proposed by MMC would necessarily suffer from high self noise; they contend that "by applying state-of-the-art techniques in baffling and constrained layer damping in the construction of the dome, the difference in self-noise between that dome [proposed by MMC] and a rubber dome would be relatively insignificant." As evidence that fiberglass is acceptable, MMC notes that fiberglass domes have been extensively used on submarines. Tr. at 323, 444. As for the sea trials of the British sonar cited by the agency as evidence of the unsatisfactory character of fiberglass for use in sonar domes, MMC points out that the draft report on the trials, issued in early 1995, does not specifically refer to fiberglass as a cause of the self-noise.

The procuring agency has the primary responsibility for evaluating the technical information supplied by an offeror and determining the technical acceptability of the offeror's proposal; we will not disturb a determination with respect to technical acceptability unless it is shown to be unreasonable. See Intelligent Env'ts, B-256170.2, Nov. 28, 1994, 94-2 CPD ¶ 210. A protester's mere disagreement with the agency's technical judgment does not establish that it was unreasonable. See Diversified Technical Consultants, Inc., B-250986, Feb. 22, 1993, 93-1 CPD ¶ 161.

MMC's arguments do not establish that the agency's determination as to MMC's proposed fiberglass sonar dome was unreasonable. The fact that fiberglass domes have been used on submarines does not establish that the evaluators were unreasonable in concluding, based on the latest information available, that use of a

fiberglass sonar dome on a surface ship could result in such self-noise as to interfere with the detection, classification, and localization of incoming torpedoes in sufficient time to take defensive action and permit compliance with the overall effectiveness requirements. In this regard, testimony at the hearing indicated that a submarine, with an intrusive, streamlined bow dome, operating below the surface where wave action and associated turbulence create significantly greater ship vibration, operates in an "absolutely different," more benign noise environment than do the surface ships to be defended here. Tr. at 335-336, 518, 636-637. Moreover, the record indicates that problems in fact have been encountered with fiberglass domes on British submarines; fiberglass has been seen as a "suspect material" in the British submarine program for approximately 20 years and is considered to be "acoustically sub-optimum." Tr. at 626-628, 633-634, 649-650. Likewise, NAVSEA reports that the United States has experienced many acoustic problems with GRP submarine bow domes. (Although consultants retained by MMC submitted declarations questioning NAVSEA's position in this regard, we note that a sonar expert at the British Defense Research Agency (DRA) testified to consultations with the Naval Undersea Warfare Center, during which technical personnel indicated that they likewise consider fiberglass a "problem material." Tr. at 650-651.)

As noted by MMC, the draft report on the recent sea trials of a British sonar does not specifically refer to fiberglass when listing four possible causes of the significant, "unacceptably high level of self noise" affecting the sonar dome, which is made of fiberglass. However, the draft report was published by the DRA, the agency which conducted the sea trials, and a DRA sonar expert testified that fiberglass was viewed as a significant contributing factor to dome self-noise. Tr. at 334, 626-628. Furthermore, the report does list "flow noise" as a possible cause of dome self-noise and states that "[i]t is clear that the design of the dome, its material, mounting arrangement and sitting are all contributing to high levels of self noise which limit passive detection ranges against torpedoes." (Emphasis added.) Again, the material of which the tested dome was made is fiberglass, and testimony at the hearing indicated that the fiberglass material comprising a dome affects flow noise. Tr. at 648-649. Thus, the DRA report does in fact call into question the use of fiberglass as a material for sonar domes; the report does not belie the agency's position that the British sea trials indicated that there was a substantial risk that use of a GRP sonar dome would result in significant self-noise.

Further, the record indicates that the detection of quiet electric torpedoes, one of the specification requirements, is very difficult, especially when high levels of self-noise are present to interfere with sonar detection. Tr. at 637-638. In this regard, according to NAVSEA, major sonar self-noise problems have been frequently encountered on surface ships. Further, the record indicates that fiberglass domes have been associated with high self-noise levels on British and American surface ships and submarines. Indeed, MMC itself concedes that rubber is superior to fiberglass with respect to its inherent self-noise characteristics. Although the

protester argues that the difference with respect to self-noise can be rendered relatively insignificant by applying state-of-the-art techniques in baffling and constrained layer damping to a fiberglass dome, and the evaluators agree that a number of techniques can reduce self-noise, Tr. at 318, 323, the evaluators found that MMC's proposal lacked adequate details concerning its mitigation measures. For example, although MMC referred to a "Dome-Coated GRP," it never described the coating to be applied to the dome. Tr. at 318, 329, 657-658. Further, hearing testimony indicated that the inherent acoustic superiority of rubber over fiberglass is considerable. Tr. at 651. Moreover, the record supports the agency's position that the history of fiberglass domes on surface ships indicates that it is often difficult in practice to eliminate high levels of self-noise.

Based on this record, we find that MMC has not established that the evaluators were unreasonable in concluding that MMC's proposed use of fiberglass for the sonar dome, an approach which has often resulted in high levels of self-noise in the past, posed an unacceptable risk of creating such self-noise as to interfere with the specification performance requirements with respect to detecting, classifying, and localizing incoming torpedoes.

MMC further argues that even if its proposed bow sonar array was ineffective because of self-noise, its bow sonar was "only essential for meeting the requirements of a portion of two [of the 26 specified threat] scenarios where the torpedo was directly off the bow"; according to the protester, its overall "average system effectiveness score" was acceptable and the agency thus was precluded from finding its proposal unacceptable.

This argument is without merit. The modification nowhere permitted an offeror to propose a system which is effective in some of the threat scenarios set forth in the system specification but not in others, and MMC's position in this regard appears inconsistent with express provisions of the modification. Paragraph 3.1.2 of the system specification generally provided that "[t]he SSTD System shall provide torpedo warning such that torpedo countermeasures can be executed," while paragraph 3.1.5.1(a) of the SOW required the contractor to "[d]emonstrate that his systems meet the performance requirements of Table 3-1 [with respect to specific effectiveness requirements for each torpedo type] in the [threat] scenarios shown in Tables 4-1 and 4-2 of the US/UK SSTD Joint Project System Specification. . . ." Paragraph 4.2 of the system specification provided that "[t]able 4-1 presents scenarios which shall be used to determine that proposed systems meet the capability requirements of Table 3-1 for ship types in each echelon required by each specific scenario." (Emphasis added.) The plain language of these provisions contemplated demonstrated effectiveness for all threat scenarios. Although the system specification elsewhere appeared to permit the averaging of effectiveness ratings between the torpedoes in a particular attack salvo, we find no provision (and MMC points to none) which permits the averaging of effectiveness between

scenarios. MMC's interpretation seems unreasonable, moreover, since it would permit the offer of an SSTD system which would allow the sinking of a first echelon unit, such as an aircraft carrier, subject to attack as set forth in certain threat scenarios so long as the ship was well protected in other scenarios. (MMC's position in this regard also is inconsistent with its claim, discussed below, that WEC's proposal should have been found unacceptable because it allegedly did not meet the system specification requirement for a 360-degree sonar defensive capability.)

We conclude that the JPO reasonably determined that MMC's proposed use of fiberglass for the sonar dome posed an unacceptable risk of creating such self-noise as to preclude compliance with the specification performance requirements with respect to detecting, classifying and localizing incoming torpedoes in time to take defensive measures and overall system effectiveness, and that this noncompliance was a material deviation from the mandatory specification requirements. Accordingly, this was a proper basis for rejecting MMC's proposal, and we need not consider MMC's challenge to the JPO's determination that its proposed mounting approach was also unacceptable.

WEC'S EVALUATION

MMC contends that WEC's proposal was technically unacceptable and could not form the basis for award; according to the protester, the agency was therefore required to open discussions with all offerors. MMC primarily argues that WEC's proposed approach will not meet the specification requirement for 360-degree coverage. WEC proposed to satisfy the specification requirement for 360-degree coverage for first echelon units through use of a [DELETED]. MMC alleges that because [DELETED] are inherently limited in their ability to detect acoustic signals which approach [DELETED] from the endfire region--that is, towards 0 degrees relative to [DELETED]--WEC's [DELETED] will be unable to meet the performance requirements with respect to torpedoes approaching the target ship from ahead of its bow. MMC maintains further that turbulence along the sides of the ship will create noise and interfere with signal reception by WEC's [DELETED].

The agency acknowledges that the signal detection capability of [DELETED] is degraded as the angle of the signal approaches true endfire--0 degrees relative to [DELETED]. See, *e.g.*, Tr. at 677. Indeed, agency evaluators recognized when evaluating WEC's proposal that [DELETED], which had been used on submarines, had not been demonstrated on surface ships, and that there was some risk that [DELETED] would be unable to achieve 180-degree coverage [DELETED]. The evaluators also recognized that performance of [DELETED] may be degraded by hull vibration-induced noise. However, based in part on the results of a test [DELETED] on the aircraft carrier USS Kennedy, the JPO ultimately concluded that WEC's overall system, [DELETED], would satisfy the 360-degree coverage

requirement. Likewise, NAVSEA maintains that when the proposed [DELETED], they will provide sufficient forward coverage such that WEC's proposed system will meet the overall coverage requirements.

There is some uncertainty and considerable technical dispute as to whether WEC's proposed [DELETED] will afford sufficient detection capability with respect to torpedoes approaching from ahead of the ship that WEC's system will offer the required 360-degree coverage. MMC has submitted declarations from technical consultants, and its consultants have testified, as to the theoretical impediments to [DELETED] detection capability. Tr. at 449-483, 491-514, 515-549. However, the record also includes declarations and testimony from government sonar experts and a technical consultant retained by WEC indicating that the proposed [DELETED] can be placed on ships so as to avoid significant interference from turbulence, and that when [DELETED], the [DELETED] will furnish the required 360-degree coverage. Tr. at 668-687, 692-710, 713-791. Further, somewhat fragmentary test results from the USS Kennedy trials, while not conclusively establishing that the proposed [DELETED] will offer the requisite coverage in the forward sector, appear to offer some support for the agency's position that [DELETED] could potentially provide such coverage. We are left to conclude that, while perhaps difficult to achieve, 360-degree coverage is at least theoretically possible with WEC's proposed [DELETED]; there is no conclusive evidence to the contrary. This being the case, we have no basis for concluding that the agency unreasonably determined that WEC's proposed system could meet the coverage requirements such that the proposal was technically acceptable in this regard.

In summary, having reviewed MMC's arguments with respect to the acceptability of its own proposal and that submitted by WEC, and based on the record before us, we find no basis for questioning the JPO's determination that WEC's down-select proposal, but not MMC's, was technically acceptable.

NOTICE

MMC alleges that it had no notice that its semi-permanent bow sonar array mounting and GRP sonar dome were considered by the JPO to be fundamentally unacceptable. MMC argues that it was unfairly misled by the JPO into offering an SSTD approach in its down-select proposal which the JPO knew or should have known would be fundamentally unacceptable by (1) the fact that the JPO found General Electric's 1990 proposal of the same approach to be acceptable; (2) general statements from the JPO that "[a]ll objectives and exit criteria of the Risk Mitigation Program have been achieved and the US/UK SSTD Joint Project is technically on a solid footing and ready to enter the [D&V] Phase," and that "[o]bjectives of D&V can be successfully achieved with low to moderate risk"; (3) the failure of the JPO to advise MMC that the JPO considered MMC's approach to be fundamentally flawed; (4) the addition to a list of factors to be considered by the contractor in performing

the required impact studies on subsystem location of the possibility of SSTD approaches not requiring drydocking for installation (which allegedly indicated to MMC the JPO's interest in nonpermanent installation approaches which did not require drydocking); and (5) the statement in the modification requesting down-select proposals that the contemplated reassessment of the offeror's understanding and capability would "build on the government's previous evaluation of the offeror's original proposal."⁴

MMC maintains that it was improper for the JPO to withhold vital knowledge concerning the fundamental acceptability of its approach. In support of its position, MMC cites our decision in EER Sys. Corp., B-248904.3, Mar. 8, 1993, 93-1 CPD ¶ 211, wherein we recognized that "under the well established doctrine of superior knowledge, where the government possesses special knowledge not shared by the contractor, which is vital to the performance of the contract, the government has an affirmative duty to disclose such knowledge to the contractor." See also Helene Curtis Indus. v. the United States, 312 F.2d 774 (Ct. Cl. 1963); Globe Woolen & Co. v. Utica Gas and Elec. Co., 121 N.E. 378, 380 (N.Y. 1918). Further, asserting that the 1992 awards were in effect only a competitive range determination and that the RMP effort thus constituted discussions, MMC contends that the JPO's failure to advise it of JPO's concerns with respect to the semi-permanent mounting approach and GRP dome prior to the submission of proposals in 1994 amounted to a failure to conduct meaningful discussions. Moreover, even if the RMP effort is not considered to be discussions, MMC argues, the contracting officer abused his discretion under Federal Acquisition Regulation § 15.610 by not affording MMC an opportunity to cure the perceived deficiencies in its proposal.

MMC's arguments do not furnish a basis for questioning the award to WEC. First, as discussed above, although the 1992 RMP/D&V and 1994 down-select awards were related in that they represented steps in an overall development and production process, they were legally separate procurements. We do not find persuasive MMC's contention that the 1994 down-select proposals were best and final offers concluding a process that commenced with the submission of initial proposals in 1990. The 1992-1993 RMP effort was not an extended period of negotiations, but instead a period of contract performance, for which the contractors were paid for their participation. Thus, the JPO made award to WEC on the basis of its initial

⁴Although MMC also claims that it was advised by the JPO during the RMP effort to retain its previously proposed bow array approach, it is clear from our review of the record that MMC in fact was advised, in response to its suggestion of the possibility of relying only on its towed sonar array, of the agency's view that a hull-mounted sonar array was necessary as a supplement to the towed array. There is no basis in the record for concluding that MMC was advised again to propose the same semi-permanent bow sonar array mounting and GRP sonar dome.

down-select proposal. Since WEC's down-select proposal was the only acceptable proposal at the time of award, MMC's having reasonably been found to be technically unacceptable, the JPO was not required to conduct discussions prior to making award. See Analytical Chemists, Inc., B-256037, Apr. 29, 1994, 94-1 CPD ¶ 283; see generally Infotec Dev., Inc., B-258198 *et al.*, Dec. 27, 1994, 95-1 CPD ¶ 52; A. G. Crook Co., B-255230, Feb. 16, 1994, 94-1 CPD ¶ 118.

Second, the record does not support MMC's contention that the JPO possessed superior, vital knowledge concerning the fundamental acceptability of MMC's approach prior to the submission of the down-select proposals. Again, during discussions with General Electric during the 1990/1992 competition, the JPO specifically questioned General Electric's semi-permanent--"Kingfisher"--bow sonar array mounting, citing the "flow-induced hull vibration problems encountered during development," that is, the very problems which led to it being found unacceptable in 1994. In addition, on two occasions subsequent to the 1992 RMP/D&V awards, the chief engineer for the SSTD project advised General Electric/MMC of the JPO's continuing concern with respect to the potentially high self-noise associated with their installation approach, focusing on the strumming vibration experienced with the Kingfisher. Although MMC complains that it was not specifically told that the continued offer of this approach would be unacceptable, we believe that it was placed on reasonable notice of the essential nature of the JPO's continuing concerns in this regard such that, as an experienced contractor, it could reasonably be expected to take them into account in preparing its proposal.

As for MMC's offer of the fiberglass sonar dome, it is clear from the record that the JPO for some time has viewed the use of fiberglass for sonar domes as a weakness. As discussed above, the SSEB noted in 1991 that "[t]he lightweight fiberglass dome concept is considered, from US and UK trials, to be a risk area since fiberglass domes tend to be noisy and also have high failure rates." Indeed, the record indicates that fiberglass has been seen as a "suspect material" in the British submarine program for approximately 20 years and has been associated with acoustic problems on United States surface ships and submarines. However, NAVSEA maintains that the results of the early 1994 sea trials of a British sonar with a GRP dome, which first became known to evaluators only during the evaluation of MMC's down-select proposal, were a significant factor in the determination that MMC's use of a GRP sonar dome was an unacceptable risk. Again, prior to the tests, self-noise which had interfered with the detection capability of the British sonar had been primarily attributed to electrical interference, but based on the sea trials it was determined that there were significant self-noise problems associated with the fiberglass dome. In our view, the fact that General Electric's 1990/1991 proposal was found acceptable, notwithstanding its inclusion of a fiberglass dome, supports the agency's position that a fiberglass dome was not viewed as unacceptable prior to receipt of the down-select proposals.

Furthermore, we think the essential nature of the JPO's concern with respect to the acoustic properties of fiberglass was or should have been known to the MMC team. MMC acknowledges that rubber is a material superior to fiberglass for domes with respect to preventing noise from radiating within the sonar dome and interfering with sonar detection and it does not claim that it was unaware of this when preparing its down-select proposal. Nor does it claim to have been unaware of the challenges posed by the need to detect quiet electric torpedoes. (Indeed, inasmuch as it claims to include experienced contractors in its team, it could hardly make such a claim.) Rather, it appears that it simply made a cost/technical tradeoff, selecting fiberglass because it was easier to work with and less expensive, and in the expectation that the acknowledged acoustic inferiority of the material could be mitigated. There thus is no basis for concluding that the JPO had superior knowledge that should have been imparted to MMC; the MMC team knew or should have known of the essential nature of the JPO's concerns in this regard.

The protest is denied.

Comptroller General
of the United States