

**Matter of:** Purification Industries, Inc.  
**File:** B-261984  
**Date:** September 20, 1995

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C. G. Steiner for the protester.  
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**DIGEST**

Protest alleging that specifications for a gravity-type oil/water separator are impossible to achieve with the required technology is denied where the agency's tests of, and prior experience with, the technology suggest that the requirements are reasonable, achievable, and necessary to satisfy the agency's minimum needs, and where the protester merely disagrees with the agency's justification.

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**DECISION**

Purification Industries, Inc. protests the specifications in request for proposals (RFP) No. N00024-95-R-4119(Q), issued by the Department of the Navy, Naval Sea Systems Command, for C100 gravity-type oil/water separators for installation on Navy vessels.

We deny the protest.

A gravity-type oil-water separator uses the natural properties of gravity to separate oil (and other particulates) from waste water. Oil, having a lower specific gravity than water, tends to separate from the water and float on the surface (particles heavier than water tend to separate and sink to the bottom). An oil-water separator of the type at issue here uses a bank of parallel plates through which the water flows. Each plate creates a surface where oil may coalesce, thereby increasing the surface area of the water and accelerating the natural separation process.

The RFP, issued May 16, 1995, contemplated the award of a fixed-price contract for 15 oil/water separators with

options for up to 148 additional separators. Section C of the RFP incorporated detailed specifications for the C100 separator, which will be used on board ships to separate oil from waste water in bilges and oily waste holding tanks before the waste water is discharged overboard.<sup>1</sup> Among other things, the specifications stated that the separator:

". . . shall be a compact single, gravity-type vessel using coalescing plate pack principle of separation. The plates shall be constructed of oleophilic polypropylene."

The specifications stated maximum dimensions for the separator and related equipment,<sup>2</sup> as well as a requirement that the residual oil content in the discharged waste shall not exceed 15 parts per million (ppm).

The RFP also included detailed first article test (FAT) requirements, which, among other things, prescribed the content of the waste water to be treated by the separator during the test and the acceptable test performance standards as follows:

"[o]ne percent of `Navy recommended standard bilge mixture No. 4,' to be mixed with fresh water. 100 milligrams per liter (mg/l) of particulates, and 100 ppm of Allied P-98 detergent. Navy standard bilge mixture No. 4 consists of the following by volume:

- a. 50 [percent] diesel fuel marine  
  . . .
- b. 25 [percent] 2190 lubricating oil  
  . . .
- c. 25 [percent] diesel engine lube oil  
  . . .

"[Upon discharge from the oil\water separator, the waste water] must not exceed the upper limit of 15

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<sup>1</sup>The C100 separator will have an operating capacity of 100 gallons per minute (gpm) of waste water. The Navy is currently using oil/water separators with operating capacities of 1, 10, and 50 gpm. It intends to install the 100 gpm separators on aircraft carriers and large amphibious warfare ships.

<sup>2</sup>The maximum dimensions for the assembled separator are a height of 76 inches, a width of 33 inches, and a length of 75 inches.

ppm by volume of oil in [the] water. The [oil/water separator] will be considered acceptable for this goal if the [oil content in the discharged waste water] does not exceed the following specification:

100 ppm - 100 [percent] of the operational time,

20 ppm - 99 [percent] of the operational time,

15 ppm - 95 [percent] of the operational time.

"The [oil/water separator] performance test duration shall be conducted over a minimum of 96 hours of continuous operation."

The FAT requirements also stated that a minimum of 40 samples of discharged waste water, with a minimum of 10 samples in a 24 hour period, would be analyzed for oil content.

Purification alleges that, due to the presence of detergent in the waste water, which inhibits the natural properties of oil/water separation, gravity-type separators are incapable of meeting the 15 ppm residual oil content performance requirement stated in the RFP, and that the other types of separators which would meet these performance requirements exceed the maximum size requirements stated in the RFP.

In preparing a solicitation for supplies or services, a contracting agency must specify its needs and solicit offers in a manner designed to achieve full and open competition, and include restrictive provisions or conditions only to the extent necessary to satisfy the agency's needs. 10 U.S.C. § 2305(a)(1) (1994). Contracting agencies have broad discretion in determining their minimum needs and the best method of accommodating those needs, and we will not question such a determination unless the record clearly shows it lacks a reasonable basis. H.L. Bouton Co., Inc., B-256014.4, Oct. 24, 1994, 94-2 CPD ¶ 149; Woodland Container Corp., B-255000, Feb. 3, 1994, 94-1 CPD ¶ 70.

The Navy states that its requirement for a maximum oil content in discharged waste water of 15 ppm is consistent with international standards. The Navy explains that although the protester is correct that detergents generally have emulsifying properties that inhibit gravity-type separators from separating oil from water to the 15 ppm standard, the Navy has previously tested and adopted "short-lived" detergents for shipboard use where the waste water is

treated by gravity-type separators that allow this standard to be achieved. These "short-lived" detergents, including Allied P-98, quickly lose their emulsifying properties, thus permitting the natural separation of oil and water to occur in gravity-type separators. The Navy reports that it has been using "short-lived" detergents in conjunction with gravity-type separators for years with satisfactory results. Furthermore, during the course of this protest, the Navy, using an existing gravity-type separator, successfully tested for separation of oil from waste water to the 15 ppm discharge requirement in accordance with the FAT requirements stated in the RFP--which included adding 100 ppm of Allied P-98 detergent to the oily waste water.

The Navy states that the maximum size requirements are necessary because space available on board the Navy vessels for installing a separator is limited. Indeed, according to the Navy, the space requirements stated in the RFP represent the maximum space available for a separator on board the vessels on which the separators will be installed.<sup>3</sup> Although the agency has much successful prior experience with smaller gravity-type separators, the Navy has never used or tested this larger, 100 gpm, gravity-type separator. Nevertheless, based on its analysis of existing gravity-type separators, the Navy determined that the specified space is sufficient to permit design of a gravity-type separator with the larger capacity specified that meets the 15 ppm discharge requirements.<sup>4</sup>

The protester does not per se challenge the agency's need for oil/water separators that meet the 15 ppm standard for oil content in discharge waste water, but only alleges that this standard cannot be satisfied with a gravity-type separator where detergent is present in the waste water.<sup>5</sup> Purification also does not allege that the stated space requirements are unreasonable for a gravity-type separator, only that they are unreasonable for other types of oil/water separators. Purification's allegations are based solely on the protester's own opinion on what is theoretically

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<sup>3</sup>Additionally, gravity-type separators do not use filter media or bags, which eliminates the need for space to store and dispose of filters.

<sup>4</sup>The agency states that it received three proposals by the due date for submission of initial proposals, all of which offered to provide gravity-type separators compliant with all of the specifications stated in this RFP. Purification did not submit a proposal.

<sup>5</sup>In fact, Purification states that this standard is achievable using other technology.

possible or impossible; it has provided no evidence that causes us to doubt the Navy's test results and prior experience using Allied P-98 detergent with gravity-type separators.

In fact, the record shows that the specified requirements reasonably reflect the agency's minimum needs and are achievable. In this regard, as noted, the agency's tests show that the 15 ppm standard is achievable with gravity-type separator technology when used with the Allied P-98 detergent. Moreover, nothing in the record suggests that any other type of separator can satisfy the space requirements; the record shows that only a gravity-type separator will fit within the stated space requirements and meet the discharge requirements. The protester's mere disagreement, absent a clear supporting rationale, does not provide a basis for finding the specifications unreasonable. See Purification Env'tl., B-259280, Mar. 14, 1995, 95-1 CPD ¶ 142.<sup>6</sup>

The protest is denied.

/s/ Christine S. Melody  
for Robert P. Murphy  
General Counsel

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<sup>6</sup>Purification, in its comments submitted in response to the agency report, alleged additional improprieties in the RFP. For example, Purification alleges that the RFP did not provide sufficient information about Allied P-98 detergent, that the requirement for polypropylene plates is unduly restrictive, and that the FAT requirements are insufficient. All of these additional contentions concern alleged improprieties apparent on the face of the RFP which, to be considered timely, should have been protested prior to the time which initial proposals were due. 4 C.F.R. § 21.2(a)(1) (1995); Englehard Corp., B-237824, Mar. 23, 1990, 90-1 CPD ¶ 324. Since Purification's comments raising these other issues were filed more than a month after the July 13 due date for initial proposals, these bases for protest are untimely and will not be considered.