



Comptroller General  
of the United States

Washington, D.C. 20548

*Gilhooly*

## Decision

**Matter of:** Everpure, Inc.  
**File:** B-226395.4  
**Date:** October 10, 1990

Katherine S. Nucci, Esq., Dykema Gossett, for the protester.  
John H. Vynalek, Esq., for Eltech Research Corporation, an interested party.  
Jonathan H. Kosarin, Esq., and John Bjerke, Esq., Department of the Navy, for the agency.  
Kathleen A. Gilhooly, Esq., and James A. Spangenberg, Esq., Office of the General Counsel, GAO, participated in the preparation of the decision.

### DIGEST

Protest that contract modifications to research and development contract for electrolytic chlorine generator system for disinfecting water are beyond the scope of the contract is denied where there is no significant change in the purpose and nature of the contract and obligation of either party to the contract.

### DECISION

Everpure, Inc. protests that the Department of the Navy's modifications of contract No. N00167-88-C-0025, awarded to Eltech Research Corporation, are beyond the scope of the contract and should have been the subject of a new procurement.

We deny the protest.

The \$724,487 firm, fixed-price, level of effort contract, awarded on May 16, 1988, called for the design and fabrication of an electrolytic chlorine generator (ECG) system for disinfecting potable water aboard Navy surface ships. The design of the ECG system contemplated electromechanical technology in which the chemical disinfectant (i.e., chlorine or a chlorine compound) is generated by the chemical/molecular effects of passing electricity through a brine solution in a chamber consisting of an anode and cathode. Once generated, the disinfectant is injected into the untreated water to make it potable.

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The contract's statement of work (SOW) provided that the ECG system be of the "non-flow through" type design. "Non-flow through" refers to the configuration of the electrolytic cell, in which the anode and cathode compartments are separated by a semi-permeable ion membrane that prevents the intermixing of the gaseous products resulting from electrolysis of the brine (electrolyte) solution. In this type of system, chlorine gas is evolved through electrolysis from the anode compartment, and this is the disinfectant injected into the water to be treated. The cathode compartment evolves hydrogen gas, which is removed from the system. Caustic sodium hydroxide waste is also generated and removed from the water contained in the cathode compartment.

Task A (priced at \$171,511) under the contract required a concept design and supporting documentation for both a one and two generator approach for generating chlorine over a given range. The two approaches were to be documented in sufficient detail for the Government to decide on the design approach to be implemented for the remainder of the contract. Task A would then culminate in a detailed engineering report and supporting documentation of the final design.

Tasks B and C were included in Option 1. Task B required fabrication, test, and delivery of one potable water ECG system conforming to the engineering drawings and test plans provided under Task A. The Government would then submit the unit to shock tests, and the contractor would make any necessary modifications due to failures arising during the shock tests. Thereafter, the contractor was to deliver two additional potable water ECG system units conforming to any modified design requirements. Task C required the contractor to provide detailed technical manuals after successful demonstration of the equipment's acceptability.

Effective March 2, 1989, the agency modified the contract (modification No. P00005), at no increase in cost, to extend the delivery date for final reports under Task A by 60 days so that the contractor could prepare a concept design and support documentation for a "flow through" type electrolytic cell in addition to the "non-flow through" cell specified in the SOW.

In a "flow through" cell there is no material (i.e., membrane) separating the anode and cathode. Chlorine gas is generated at the anode and rapidly dissolved in the electrolyte, thereby creating the disinfectant (sodium hypochlorite) that is mixed with the water to be treated (as contrasted with a "non-flow through" type cell where the chlorine gas is submitted to vacuum pressure and then injected into the water to be treated). The "flow through" system evolves hydrogen gas in the hypochlorite storage tank

for disposal, but does not evolve chlorine gas or generate sodium hydroxide waste as does the "non-flow through" system.

Effective July 15, 1989, the agency modified the contract (modification No. P00007), at no increase in cost, revising the SOW to reflect the Government's decision that the final design from Task A would be for the "flow through" type system.

On June 1, 1990, Everpure protested that modification Nos. P00005 and P00007 improperly exceeded the scope of the contract and should have been the subject of a new procurement.<sup>1/</sup> Everpure contends that the change from a "non-flow through" type electrolytic chlorine generator system to a "flow-through" type hypochlorite generator system mandated issuance of a new solicitation reflecting the Navy's revised requirements.

The Navy responds that the alleged cardinal change basically involved the contractor, at no increase in cost, pursuing a conceptual design for the electrolytic cell component in the overall chlorine generation system, which was in addition to (not in lieu of) the design approach envisioned for that component under the unmodified contract. The Navy states that as a result of Eltech's research and development through the conceptual design phase of Task A, and faced with indicators that a "non-flow through" type electrolytic cell may not be suited for the requirements of ship use, the Navy concurred in Eltech's suggestion that Task A must be expanded to also consider a concept design for a "flow-through" electrolytic cell.

The concerns about the "non-flow through" system included the following: membrane life appeared to be far shorter than originally anticipated and would require excessive or frequent maintenance possibly not meeting requirements; difficulties appeared in matching the injection of proper amounts of disinfectant (chlorine gas) with the inconsistent water flow from a typical ship distiller, as well as in matching the chlorine generation rate to widely varying

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<sup>1/</sup> The Navy asserts that Everpure's protest must be untimely since the modifications were issued in March and July of 1989, and these modifications were provided in litigation to an alleged associate of Everpure a month before Everpure's protest was filed. However, in response to the Navy's challenge, Everpure has submitted un rebutted evidence that it was not apprised of the substance of the modifications until May 22, 1990. Thus, Everpure's protest, filed on June 1, is timely.

distiller capacities; concern arose over the potential for toxic chlorine gas escaping into the ship's atmosphere; and excessive start-up time for chlorine generation in the membrane cell was inconsistent with the intermittent operation of source water systems aboard ship.

According to the Navy, modification No. P00007 directing Eltech to proceed with the design of the "flow through" system was issued after the Government engineers determined such a system offered superior safety, simplicity, generation rate flexibility and ease of operation as compared to the "non-flow through" system. The Navy argues that no cardinal change occurred because investigation showed that the original component/system had numerous deficiencies and was not suited for shipboard use, and because the essential type, purpose and function of the system remained unaltered.

As a general rule, our Bid Protest Regulations provide for dismissal of protests involving contract administration matters. 4 C.F.R. § 21.3(m) (1) (1990). However, we consider protests such as Everpure's alleging that modifications to a contract are beyond the scope of the original contract, thus changing the nature of the contract originally awarded, since the work covered by the modification would then be subject to requirements for competition absent a valid sole-source determination. Neal R. Gross & Co., Inc., 69 Comp. Gen. 247 (1990), 90-1 CPD ¶ 212. When it is alleged that a contract modification is outside the scope of the original contract, the question is whether the original nature or purpose of the contract is so substantially changed by the modification that the original and modified contract would be essentially different and the field of competition materially changed. See Ion Track Instruments, Inc., B-238893, July 13, 1990, 90-2 CPD ¶ 32.

It is clear from the record that the overall purpose and nature of the original contract--to procure the design of an ECG system to be used for disinfecting potable water aboard Navy surface ships--has not substantially changed. While it may be that this change could be considered cardinal if this were a procurement for production quantities, this is a more flexible research and development contract where changes in requirements or approaches are to be expected because the government's requirements are indefinite. See American Air Filter Co.--DLA Recon., 57 Comp. Gen. 567 (1978), 78-1 CPD ¶ 443. Some changes to research and development contracts may also be considered cardinal. Here all parties acknowledge that both the "non-flow through" system and the "flow through" system are ECG systems. The change to a "flow through" system at no increase in cost does not represent a change in the agency's basic requirement for an ECG system suitable for shipboard use, but rather reflects a better way (safer,

simpler, with generation rate flexibility) to meet that requirement. See Rolm Corp., B-218949, Aug. 22, 1985, 85-2 CPD ¶ 212.

Everpure, in its comments on the agency report, hypothesizes that the field of competition would have differed if the "flow through" technology had been permitted. However, on this record, we are not persuaded that this is the case, since this contract had the limited objective of designing a customized system for shipboard use and the system involves application of the ECG technology.

Everpure also argues that the potential problems Eltech found with the "non-flow through" system should be no revelation. However, there is no evidence that the Navy should reasonably have been cognizant that these problems should necessitate a modification to allow for a "flow through" ECG system on this research and development contract for the sophisticated application of this technology to the design of a compact system for shipboard use.

The protest is denied.



*for* James F. Hinchman  
General Counsel