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## Decision

**Matter of:** Praxair Inc.

**File:** B-298327

**Date:** August 24, 2006

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Mark D. Colley, Esq., and David J. Craig, Esq., Holland & Knight LLP, for the protester.

Robert J. Symon, Esq., and Douglas L. Patin, Esq., Bradley Arant Rose & White LLP, for Air Products and Chemicals, Inc., an intervenor.

Vincent A. Salgado, Esq., and Michael I. Mark, Esq., National Aeronautics & Space Administration, for the agency.

Charles W. Morrow, Esq., and James A. Spangenberg, Esq., Office of the General Counsel, GAO, participated in the preparation of the decision.

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### DIGEST

Protest by agency's current supplier of liquid nitrogen (LN<sub>2</sub>) that agency's solicitation requesting proposals to construct a government-owned, contractor-operated plant to meet the agency's LN<sub>2</sub> requirements without considering as part of the procurement proposals for continuing to obtain LN<sub>2</sub> from the supplier or purchasing the supplier's facility, is denied, where the record establishes that the agency reasonably concluded that building a government source of LN<sub>2</sub> was necessary to meet its minimum needs.

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### DECISION

Praxair, Inc. protests the terms of request for proposals (RFP) No. NNL06153354R, issued by the National Aeronautics and Space Administration (NASA), Langley Research Center (LaRC), Hampton, Virginia, for building a government-owned, contractor-operated liquid nitrogen (LN<sub>2</sub>) plant. Praxair contends that NASA's decision to only solicit proposals for building a government-owned, contractor operated facility to produce LN<sub>2</sub>, instead of also considering proposals for purchasing LN<sub>2</sub> from commercial sources, unduly restricts competition.

We deny the protest.

This RFP, issued May 3, 2006, is NASA's second effort to solicit proposals to build a government-owned, contractor-operated facility to produce an independent source of LN<sub>2</sub> for the National Transonic Facility (NTF) operated by LaRC. The NTF is a

closed-circuit, fan-driven, pressurized wind tunnel operated by LaRC that utilizes LN<sub>2</sub> to test transonic aerodynamic flow. It is the only cryogenic wind tunnel in the United States and is utilized by NASA, the Department of Defense, and the aerodynamics industry to conduct aerodynamic research on scale model aircraft designs.

Since 1984, to support the NTF's mission, NASA has acquired LN<sub>2</sub> via a pipeline from Praxair (and its predecessors), which operates an LN<sub>2</sub> plant near LaRC, under a sole-source requirements contract. The NTF requires large quantities of LN<sub>2</sub> over short periods in order to obtain high-fidelity data, but there are long stretches of time where no LN<sub>2</sub> is needed, because the actual tests using large quantities of LN<sub>2</sub> at the NTF are intermittent. Because of this, NASA has paid a premium to Praxair for LN<sub>2</sub> to support the NTF. Specifically, the current contract with Praxair costs NASA a weighted average price of \$81 per ton (down from the previous contract price of \$112 per ton).<sup>1</sup> After undertaking various studies to determine the feasibility of creating its own source of LN<sub>2</sub>, NASA determined that it could potentially reduce its cost for LN<sub>2</sub> to [DELETED] per ton, and make its testing more affordable and available to a wider range of customers, if it built and operated its own source of LN<sub>2</sub>. See Kenco Ass'n, Inc.; Air Prod. and Chem., Inc., B-297503, B-297503.2, Jan. 25, 2006, 2006 CPD ¶ 24 at 2.

NASA issued an RFP to construct a government-owned, contractor-operated LN<sub>2</sub> production facility in September 2005. However, based on numerous internal communications as well as discussions with Congressional representatives, NASA canceled the first RFP in October 2005 because of concerns regarding the feasibility of the project, and to consider and to resolve questions regarding its LN<sub>2</sub> requirements that were not considered at the time the agency issued the RFP.<sup>2</sup> The current RFP was issued after NASA undertook further study to determine the feasibility and scope of this project.

This RFP solicited fixed-price proposals for constructing an LN<sub>2</sub> plant on government-provided land near LaRC. The RFP requires the contractor to "provide a 'Turnkey' project; providing all materials, labor, and resources to: engineer, design, procure, fabricate, inspect, test, deliver, install, commission, train[,] document, and

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<sup>1</sup> Historically, the prices have exceeded \$100 per ton.

<sup>2</sup> To this effect, NASA decided to reassess/update the technical requirements for LN<sub>2</sub> for the NTF, including estimating LN<sub>2</sub> needs for the long term, 15 years; the impact of a new third LN<sub>2</sub> storage tank; the possibility of trucking LN<sub>2</sub>; the possibility of offering a site near the NTF on LaRC property for the construction and commercial operation of a new LN<sub>2</sub> plant; and the impacts of all the scenarios on the LN<sub>2</sub> facility operations costs and the NTF capacity. See Kenco Ass'n, Inc.; Air Prod. and Chem., Inc., *supra*, at 3.

demonstrate performance of an LN<sub>2</sub> plant that meets the requirements set forth in this statement of work.”<sup>3</sup> RFP Statement of Work ¶ 1.2.2.1.

In its protest, Praxair essentially contends that the solicitation unduly restricts competition because it does not allow Praxair to submit a proposal offering to meet the agency’s requirements for LN<sub>2</sub> under a supply contract or by selling the government its existing facility, so that the agency assertedly does not have a proper basis to determine which approach best satisfies the government’s needs for a supply of LN<sub>2</sub>.

While a contracting agency has the discretion to determine its needs and the best method to accommodate them, Mark Dunning Indus., Inc., B-289378, Feb. 27, 2002, 2002 CPD ¶ 46 at 3-4; Parcel 47C LLC, B-286324; B-286324.2, Dec. 26, 2000, 2001 CPD ¶ 44 at 7, those needs must be specified in a manner designed to achieve full and open competition; solicitations may include restrictive requirements only to the extent they are necessary to satisfy the agency’s legitimate needs. 10 U.S.C. §§ 2305(a)(1)(A)(i), (B)(ii) (2000). Where a protester challenges a specification as unduly restrictive, the procuring agency has the responsibility of establishing that the specification is reasonably necessary to meet its needs. The adequacy of the agency’s justification is ascertained through examining whether the agency’s explanation is reasonable, that is, whether the explanation can withstand logical scrutiny. Chadwick-Helmuth Co., Inc., B-279621.2, Aug. 17, 1998, 98-2 CPD ¶ 44 at 3. A protester’s mere disagreement with the agency’s judgment concerning the agency’s needs and how to accommodate them does not show that the agency’s judgment is unreasonable. See Dynamic Access Sys., B-295356, Feb. 8, 2005, 2005 CPD ¶ 34 at 4.

As noted above, this RFP culminated from various studies and market research undertaken by NASA since 1992 specifically to determine how to reduce the high costs associated with acquiring LN<sub>2</sub> from Praxair (and its predecessors), which were passed on to the customers of the facility, and to consider how to improve the productivity of the NTF wind tunnel. These high costs and the lack of optimum productivity were found to threaten the long term economic viability of the NTF because they inhibited customers’ use of the wind tunnel. The studies all found that NASA could potentially reduce the cost of operating the NTF and improve its productivity by building a government-owned LN<sub>2</sub> plant on site. See Agency Report, Tab Nos. 8, 9-15, 17, 19, 20, 21, 62, and 77.

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<sup>3</sup> The previous RFP not only requested proposals to design and construct an LN<sub>2</sub> production facility, but also provided for the operation of this facility by the contractor which constructed the facility. The current RFP was limited to the design, construction and commissioning of the facility. The record indicates that NASA plans to have another contractor operate the facility after being trained by the contractor who designed and built the plant.

Specifically, based on these studies, NASA estimated that it could obtain LN<sub>2</sub> as low as [DELETED] per ton if it built its own facility, as opposed to the approximately \$100 per ton rate historically charged by Praxair and its predecessors. This would make the facility far more economical to customers of the facility.

NASA also concluded based on these studies that a government-owned LN<sub>2</sub> production facility should have a production output of 370 tons per day during testing, which is a significantly higher level than the 262 tons per day Praxair has been providing under its contract. NASA found that this increased daily LN<sub>2</sub> production would increase the productivity of the NTF wind tunnel. NASA explains that the projected future use of LN<sub>2</sub> would continue in the 50,000 tons per year range, but that the increased LN<sub>2</sub> production output during testing would allow the current 3-week cryogenic test cycle time necessitated by the current LN<sub>2</sub> supply arrangement with Praxair to be reduced to 2 weeks, which would double the number of test days available for the facility and thus increase its productivity.<sup>4</sup> This increased production level would allow tests to be more efficiently conducted because there would be fewer interruptions and downtime because of the need to refill the storage tanks, which would optimize “the multimode testing for models requiring air and cryogenic tests without changing calibration baselines and lost time due to changing the model,” and allow the facility to be run on a “nearly continuous basis.” See Contracting Officer’s Statement at 25; Agency Report, Tab 20, National Institute of Aerospace Report (Apr. 2005).

The agency found that customers would gain from the reduced overall test costs, resulting from both lower LN<sub>2</sub> costs and more efficient testing procedures, and that the agency would gain from more productivity, since more customers could be attracted/accommodated, which would result in a reduction of the overall cost of the program because the cost of the facility can be distributed over a wider base.

In addition, the agency advises that its market research established that other firms were unwilling to compete to supply LN<sub>2</sub> to NASA under a supply contract because of the competitive advantages enjoyed by Praxair due to its close proximity to the NTF facility and the unavailability of privately owned land on which a competing facility could be built. In fact, Praxair’s contract to provide LN<sub>2</sub> has necessarily been on a sole-source basis. The agency also reports a recent case where the needs of the agency were not completely met, since Praxair was unwilling to furnish LN<sub>2</sub> at the level needed to meet the needs of a customer above the maximum order limitation under its contract, except at a cost of [DELETED] per ton, which caused the

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<sup>4</sup> The test cycle for cryogenic testing is defined by the combination of a fixed number of test days and fixed number of storage refill days. As the LN<sub>2</sub> production rate increases, the time needed for LN<sub>2</sub> storage refill decreases. Contracting Officer’s Statement at 25.

customer to curtail some of its tests and extend its test cycle.<sup>5</sup> See Contracting Officer's Statement at 8-9, 23.

In sum, based on these studies and after coordinating the decision with the Office of Management and Budget, NASA determined that its minimum needs were for a government-owned, contractor-operated LN<sub>2</sub> production facility located near the LaRC that was capable of producing an estimated 50,000 tons of LN<sub>2</sub> per year and 370 tons of LN<sub>2</sub> per day during testing. NASA reasonably found that it needed such a facility to allow the NTF to be more viable, cost-effective, and productive.

While Praxair challenges the validity (alleging various erroneous facts and/or assumptions) and objectivity of the various studies that NASA relied upon to determine that building a government-owned facility was necessary to satisfy its requirements, we find these studies reasonably support NASA's decision to build its own plant and the asserted flaws in these studies are not such as to render NASA's exercise of its discretion in this regard unreasonable. See Dynamic Access Sys., supra, at 5-6 (agency's failure to consider an alternative pointed out in the protest in its study, on which basis it determined its minimum needs, does not invalidate the agency's determination). Indeed, in our view, the record demonstrates that NASA reasonably determined that producing its own source of LN<sub>2</sub> was the best method to ensure that it would have more control over its LN<sub>2</sub> costs, and that a plant built according to its specifications would increase the productivity and viability of the NTF wind tunnel. Under the supply contract approach of satisfying its LN<sub>2</sub> requirements, which has been based on a sole-source contract with Praxair with no evidence of possible competition from other suppliers, the agency has had to pay a premium for the LN<sub>2</sub>, NASA's NTF needs have not always been met, and this arrangement has not allowed for the optimum utilization of the NTF wind tunnel.

Praxair argues that the agency did not appreciate the capabilities of Praxair's facility to meet the government's requirements, asserting that its facility is capable of meeting the government's requirement of producing 370 tons per day of LN<sub>2</sub> or more with [DELETED] particularly if [DELETED] at its facility are used. Praxair also asserts that it was unfair for the agency to consider in its analyses the short-term pricing with no guaranteed minimum contained in Praxair's contract, or to

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<sup>5</sup> While Praxair asserts that it has always met its contract requirements but at times NASA has requested far more LN<sub>2</sub> than Praxair was contractually obligated to provide, and that its facility can satisfy all the operational requirements that the newly constructed facility will provide, the fact is that NASA needs to increase the future productivity and cost effectiveness of the NTF and has been unable to optimally and economically satisfy its operational requirements under Praxair's sole-source supply contract. We need not resolve whether this problem was Praxair's or NASA's fault, given the enhanced operational requirements for the newly constructed facility.

completely discount the possibility of a long-term supply arrangement with Praxair.<sup>6</sup> Praxair also points out that the government's studies never considered the possibility of purchasing the Praxair plant rather than its current approach, and states that it is willing to offer lower prices to compete with NASA's government-owned plant approach to meeting its LN<sub>2</sub> requirements.<sup>7</sup> Praxair argues that by restricting the competition to preclude a supply alternative the agency will miss the opportunity to benefit from the pressures of competition on both Praxair and other potential offerors.

On February 27, 2006, prior to releasing this RFP, the agency issued a "sources sought" notice requesting industry, including Praxair, to provide information on the best approach to meet its proposed LN<sub>2</sub> requirements to include a supply system of 370 tons per day that can be provided for 10 2-week cycles. In response, Praxair did not propose to [DELETED],<sup>8</sup> nor did it reveal that it was willing to provide LN<sub>2</sub> at the terms it now proposes in this protest. While Praxair asserts that it was limited by the terms of the sources sought notice from making such offers, we find no limitation in this notice soliciting information "from industry regarding potential sources and

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<sup>6</sup> With respect to the high costs associated with its supply contract, Praxair argues that NASA is partly to blame because its high prices have been a direct consequence of NASA's refusal to make a long term or volumetric purchase commitment. In addition, Praxair maintains that its prices to NASA have been in line with what it charges its other commercial customers for the LN<sub>2</sub>.

<sup>7</sup> In a sworn statement, Praxair advises that in order to compete with the prospect of NASA taking over LN<sub>2</sub> production, it is prepared to offer:

[DELETED] /ton for 370 TPD [tons per day] or [DELETED] TPY [tons per year], with no volume commitment.

[DELETED] /ton for 370 TPD or [DELETED] TPY, with an annual [DELETED] ton minimum take-or-pay commitment.

Tiered Pricing of [DELETED]/ton for [DELETED] tons and [DELETED] /ton for [DELETED] tons, for 370 TPD or [DELETED] TPY, with an annual [DELETED] tons minimum take-or-pay commitment.

[DELETED]

See Protester's Comments at 12.

<sup>8</sup> There were apparently several prior informal inquiries from Praxair as to whether NASA would be interested in purchasing the facility. NASA reports that because of the age and limitations of Praxair's facility, as compared to constructing a current state of the art facility, it does not believe this option is viable.

alternatives [to satisfying the agency's requirement for a facility to] deliver at least 370 tons of LN<sub>2</sub> per day." Agency Report, Tab 66, Sources Sought Notice. Moreover, Praxair's response to this notice only indicated a capacity of providing 262 tons of LN<sub>2</sub> per day under its contract and did not indicate a willingness or capability to provide 370 tons of LN<sub>2</sub> per day, except by [DELETED].<sup>9</sup>

Given the purpose of the sources sought notice and Praxair's desire to continue to provide LN<sub>2</sub> for the NTF facility, we find Praxair's failure to explain its willingness and capability of satisfying the 370 ton requirements in its response could reasonably lead to the inference that Praxair was unable or unwilling to meet this requirement. While Praxair contends that it otherwise apprised NASA of its capabilities or that NASA should have more thoroughly considered its facility's capabilities, we find no basis to find unreasonable the agency's decision to solicit proposals only for a government-owned, contractor-operated facility based upon the studies it made that indicated this was needed to satisfy its NTF requirements. As indicated above, it is within the contracting agency's discretion to determine its needs and the best method of accommodating them, and an agency does not have to consider every possible alternative (particularly when they have not been presented except in this protest) when it determines its minimum needs, so long as the record otherwise shows that it has a reasonable basis for its determination. See Dynamic Access Sys., *supra*, at 3-6.

Based on this record, which reasonably shows that NASA reasonably determined that its actual requirements were for the construction of an LN<sub>2</sub> production facility, we find that Praxair has not shown that the RFP's failure to consider Praxair's proposed alternatives unduly restricted competition.<sup>10</sup> In fact, as pointed out by the agency, Praxair is in the business of building LN<sub>2</sub> plants, and Praxair has stated that

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<sup>9</sup> Based on its studies, NASA considered the option of adding storage to meet its NTF mission needs and rejected it. While Praxair contends that NASA's consideration of this option was not reasonable, NASA has provided cogent reasons why adding storage is a less desirable option than providing a higher daily rate of providing LN<sub>2</sub> for testing. NASA explains, "What appears to be short-term gain in product volume eventually requires a sacrificially long refill time." In addition, NASA found that increased storage only increases LN<sub>2</sub> unit costs, increases "boil-off losses of cryogenic liquid," and raises additional safety and security concerns. Contracting Officer's Statement at 26-28.

<sup>10</sup> Praxair argues that since LN<sub>2</sub> is a commercial item, the agency was required to comply with the requirements applicable to the acquisition of commercial items before issuing this RFP. However, contrary to Praxair's arguments, this procurement is for the construction of a government-owned, contractor-operated facility that will manufacture LN<sub>2</sub> and does not provide for the supply of LN<sub>2</sub>, and therefore does not involve the acquisition of a commercial item. See Federal Acquisition Regulation § 2.101(b).

it could make an offer here (although Praxair asserts that this offer might not be competitive because it would be forced to close its current plant and might include these costs in its proposal).

The protest is denied.

Gary L. Kepplinger  
General Counsel