



United States
General Accounting Office
Washington, D.C. 20548

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Resources, Community, and
Economic Development Division

B-279189

February 24, 1998

The Honorable F. James Sensenbrenner, Jr.
Chairman, Committee on Science
House of Representatives

Subject: Federal Research: Information on the Advanced Technology
Program's 1997 Award Selection

Dear Mr. Sensenbrenner:

The Advanced Technology Program (ATP), which is administered by the National Institute of Standards and Technology (NIST) within the Department of Commerce, is a competitive cost-sharing program designed for the federal government to work in partnership with industry to foster the development and broad dissemination of challenging, high-risk technologies that offer the potential for significant, broad-based economic benefits for the nation.

On September 29, 1997, NIST provided the Committee with a list of projects that had been selected to receive awards under the fiscal year 1997 ATP competitions. In a cover sheet attached to this list, NIST stated that ATP rejected project proposals when it concluded that (1) the applicants could probably find funding elsewhere or (2) a delay in the project's progress would not be a serious national economic concern. We reviewed the ATP proposal application and the proposal review process to determine what information ATP used to make these determinations.

BACKGROUND

ATP's fiscal year 1997 competitions consisted of one general competition and six focused program competitions in the following areas: motor vehicle manufacturing technology, information infrastructure for health care, digital data storage, technologies for the integration of manufacturing applications, component-based software, and tissue engineering. A total of 64 industry-

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generated projects were selected out of 570 applications, with an industry cost-share of \$142 million and ATP's investment of \$162 million over the life of the projects.

The ATP Proposal Preparation Kit applicants use to prepare project proposals contains background material on the program, guidance for preparing the proposal application, and all of the required forms. According to ATP Rule-15 C.F.R. 295.6, projects are selected for funding on the basis of the following five selection criteria: (1) scientific and technical merit, (2) the potential net broad-based economic benefits, (3) the adequacy of plans for eventual commercialization, (4) the level of commitment and organizational structure, and (5) experience and qualifications.

As part of the selection process, ATP uses peer reviewers to assess the proposed technology's scientific and technical merit and its potential for yielding broad-based economic benefits to the nation. The peer reviewers' comments are documented on reviewer worksheets, and ATP uses these comments to determine which proposals have the highest merit. In addition, applicants may be asked to make oral presentations of their proposals at NIST.

In fiscal year 1995, federal funding for ATP peaked at a high of \$341 million. Currently, ATP's fiscal year 1998 budget stands at \$192.5 million. In fiscal years 1997 and 1998, new awards were capped at \$62 million and \$82 million, respectively. For fiscal year 1999, the President's budget proposes \$269 million for the program.

RESULTS IN BRIEF

According to program officials, NIST made the determination of whether the applicants could probably find funding elsewhere on the basis of information gathered throughout the fiscal year 1997 competitions' proposal review process. In addition, ATP officials said that applicants were questioned during the oral review phase if any doubt remained as to whether they could have found funding elsewhere. In December 1997, ATP revised its requirements, requiring that in the future applicants indicate on the proposal application their efforts to find private funding.

In addition, program officials told us that all of the information acquired during the proposal review was used to determine if program support was important to the project from a national economic perspective. Specifically, the officials said that one of the five selection criteria for evaluating

proposals, "potential net broad-based economic benefits," relates to whether or not funding a project would create a serious national economic concern. According to the ATP Proposal Preparation Kit, the proposal review process included a review of the proposal by panels of outside experts in business and economics to determine the proposed project's potential for broad-based benefits and its commercial viability.

ATP'S EFFORTS TO DETERMINE THE
AVAILABILITY OF PRIVATE SECTOR FUNDS

According to ATP officials, NIST determined whether applicants could probably find funding elsewhere on the basis of information it gathered throughout the fiscal year 1997 competition's proposal review process. For example, the technical reviewer worksheets contained sections for optional evaluations of the degree to which program support is necessary and the pace with which domestic and foreign competitors are developing essentially the same technology or competing technologies. In addition, the business reviewer worksheets directed reviewers to evaluate why applicants could not fund the project on their own. The officials also said that applicants were questioned during the oral review phase if any doubt remained in this area.

For the fiscal year 1997 competition, there was no requirement that applicants report that they could not find funding elsewhere. However, in December 1997, NIST revised its ATP Proposal Preparation Kit to request that future applicants describe what efforts were made, before applying for ATP funding, to secure private capital to wholly support their project. According to ATP officials, the information provided in this portion of the application will be used in future competitions together with information gathered elsewhere in the application to aid in making an overall funding decision on the proposal.

ATP'S EFFORTS TO DETERMINE WHETHER PROJECTS
MAY POSE A SERIOUS NATIONAL ECONOMIC CONCERN

For the fiscal year 1997 competitions, applicants were required to provide detailed information on a variety of economic factors. For example, applicants were asked to (1) describe the project's potential incremental economic benefits to the nation if funded by ATP compared with the benefits from research and development if privately funded at a lower level; (2) provide supporting evidence on market size and commercialization pathways to the broad-based benefits; and (3) identify the indirect benefits to other fields of activity or entire industries.

The proposal review criteria indicated that ATP not fund projects unless there is strong evidence that the funding can bring about important national economic benefits beyond what would likely result without ATP's involvement. The business reviewer worksheets contained a section for evaluating the potential broad-based economic benefits for the proposed project. Reviewers were asked to evaluate the proposed project in terms of (1) the potential to improve U.S. economic growth and productivity, (2) timeliness, (3) the degree to which ATP's support is necessary, and (4) cost-effectiveness (or probable benefits relative to costs). However, program officials did not define what they meant by a serious national economic concern. Therefore, we are unable to determine how the ATP project reviews determined that a delay in a project's progress would not be a serious national economic concern.

OBJECTIVES, SCOPE, AND METHODOLOGY

We reviewed the information ATP used to determine whether (1) fiscal year 1997 awardees sought funding elsewhere and (2) a delay in the progress of these projects would be a serious national economic concern. We reviewed the ATP Proposal Preparation Kits for fiscal years 1997 and 1998 competitions to identify the guidance provided to applicants for proposal preparation and the review criteria. To identify the kind of information reviewed, we also examined the worksheets the technical and business reviewers used. Our overall assessment of ATP's determination of whether a delay in the progress of a project would be a serious national economic concern was generally based on our knowledge of the ATP and its operations, discussions with ATP officials, and review of relevant economic literature. Our work was performed from November 1997 through February 1998.

AGENCY COMMENTS AND OUR EVALUATION

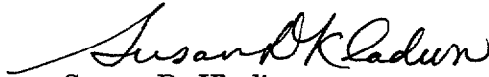
We provided a draft of this report to the Department of Commerce for its review and comment. The Department did not provide comments in time for us to include them in this report.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 10 days after its date. At that time, we will send copies of this report to the Secretary of Commerce and make copies available to others on request.

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Please call me at (202) 512-7106 if you or your staff have any questions concerning this report. Major contributors to this report include Robin Nazzaro and Diane Raynes.

Sincerely yours,

A handwritten signature in cursive script that reads "Susan D. Kladiva".

Susan D. Kladiva
Associate Director, Energy, Resources,
and Science Issues

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