

Report to the National Science Board

on the

National Science Foundation's

Merit Review Process

Fiscal Year 2001



# FY 2001 Report on the NSF Merit Review System

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## HIGHLIGHTS

1. During FY 2001 NSF took action on 31,942 competitively reviewed proposals, and provided funding to 9,925 of them. This resulted in an overall funding rate of 31 percent. The number of proposals reviewed increased by 8.5%, the largest annual percentage increase in over a decade.
2. Of the awards made in FY 2001, 61 percent were standard grants. In recent years NSF has devoted an increasingly larger percentage of its annual budget to making standard grants. This reduces future year commitments and increases longer term budget flexibility.
3. In FY 2001, the number of awards to minority PIs increased to 521, a 9% increase over FY 2000, and an 18 percent increase since 1994. Still, this is only about five percent of the total number of NSF awards. The funding rate for minority PIs is 30%, slightly less than the overall rate of 31%. Proposals received from minority PIs increased by 17 percent in FY 2001, after having remained fairly level since 1994.
4. During FY 2001, female PIs received 1,881 awards, or 19 percent of total NSF awards. The funding rate was 32 percent, compared to the funding rate of 31% for males. The number of proposals received from female PIs increased by six percent in FY 2001 and has increased by 20 percent since 1994.
5. The average annualized award amount for *research grants* in FY 2001 was \$113,601, an increase of 7 percent above the previous year and 44 percent above FY 1997. Adequate award size is important for attracting high quality proposals and for ensuring that proposed work can be accomplished as planned.
6. Since 1994 the percentage of NSF proposals reviewed by panel-only has increased from 43 to 50 percent of all proposals. During the same period, there has been a steady decline in the use of mail-only review from 25 to 14 percent. The use of mail-plus-panel review increased from 28 to 33 percent.
7. In FY 2001 62 percent of all proposals were processed within six months, compared to 54 percent in FY 2000. This performance exceeds the norm at comparable granting agencies. As planned, NSF's goal for FY 2002 is to provide a timely funding decision for 70 percent of proposals within six months of receipt.
8. For proposal decisions in FY 2001, 44,726 external reviewers were sent one or more proposals for mail review and 10,052 reviewers served as panelists. About 9,000 of these reviewers had never reviewed an NSF proposal before. In FY 2001, 60 percent of requests for mail reviews produced responses, down from 62 percent response rate in FY 2000 and 64 percent in FY 1999.
9. A large number of potentially fundable proposals are declined each year. In FY 2001, about \$1.25 billion of declined proposals were rated as high as the average rating for an NSF award. These declined proposals represent a rich portfolio of unfunded opportunities.
10. Although NSF did not fully meet its FY 2001 GPRA goal of getting reviewers and program officers to address both merit review criteria, i.e. *intellectual merit* and *the broad impacts*, NSF has taken steps to assure that significant progress will be made.
11. In FY 2001, over 99 percent of NSF's proposals were received electronically via FastLane. Nearly half of all of the proposal reviews were conducted electronically, and this figure is expected to soon reach nearly 100 percent.

# FY 2001 Report on the NSF Merit Review System

## 1. Introduction

The National Science Foundation (NSF) is responsible for advancing science and engineering in the United States. NSF carries out its mission primarily by making merit-based grants to individual researchers and groups at more than 2,000 U.S. colleges, universities and other institutions. NSF categorizes its many programs to align with its three strategic goals:

People -- *A diverse, internationally competitive and globally engaged workforce of scientists, engineers, and well-prepared citizens.*

Ideas -- *Discovery across the frontier of science and engineering, connected to learning, innovation and service to society.*

Tools -- *Broadly accessible, state-of-the-art and shared research and education tools.*

NSF leads Federal agencies in funding research and education activities based upon competition. For example, NSF makes about 10,000 new awards each year, over 96 percent of which are selected through its competitive merit review process. This competitive approach pays rich dividends for the Nation by ensuring that only the highest-quality research and education projects are supported. For example, of the eleven 2001 Nobel Prize winners in the sciences, eight had been previously funded by NSF. One of NSF's greatest strengths is its flexibility to redirect resources to emerging science and engineering opportunities. This is possible because, with few exceptions, NSF does not own and operate large laboratories and facilities.

Of the total federal funds NSF receives, 95 percent go out to researchers and educators; the agency's administrative overhead is only five percent. While funding for the agency has grown significantly in the past decade, the agency's staffing level has remained flat. The agency has accommodated the increase in funding and responsibilities through the use of information technology and continued reliance on the outstanding support the science and engineering community provides to its merit review process.

In addition, NSF is the only federal agency that has received a green rating for financial management on the President's scorecard of management initiatives. NSF's financial management has received unqualified and timely audit opinions on its annual financial statements.

This *FY 2001 Report on the NSF Merit Review System* responds to a National Science Board (NSB) policy endorsed in 1977 and amended in 1984, requesting that the NSF Director submit an annual report on the NSF proposal review system. The report provides summary information about levels of proposal and award activity and the process by which proposals are reviewed and awarded. While the report indicates several areas in which improvements are being made, the health and vitality of NSF's merit review process, and the S&E community's confidence in it, remains very strong.

## 2. Proposals and Awards

### Competitively Reviewed Proposals, Awards and Funding Rates

During FY 2001, NSF took action on 31,942 competitive, merit reviewed research and education proposals, as shown in **Text Figure 1**. This represents an increase of 8.5% from the previous year. This is the largest annual percentage increase for NSF in over a decade. However, whether or not this is a meaningful trend will require another year or two of data.

During FY 2001, NSF funding was awarded to 9,925 of the proposals, resulting in an overall funding rate of 31 percent. This rate has ranged from 30-33 percent over the past seven years. As shown in **Appendix Table 1**, there are significant differences in the funding rates of the various NSF directorates<sup>1</sup>, ranging from 24 percent for the Engineering (ENG) and the Computer and Information Science and Engineering (CISE) Directorates to 40 percent for the Geosciences Directorate (GEO). There are many reasons for these differences, such as the relative size, diversity and nature of the S&E disciplines and communities being served by the various directorates.

**Text Figure 1**  
**NSF Proposal, Award and Funding Rate Trends**

	<b>Fiscal Year</b>						
	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
<b>Proposals</b>	30,363	30,199	30,257	28,421	28,578	29,507	31,942
<b>Awards</b>	9,597	9,115	9,935	9,380	9,187	9,849	9,925
<b>Funding Rate</b>	32%	30%	33%	33%	32%	33%	31%

### Types of Proposals and Awards

In general, NSF makes two kinds of competitive grants for the support of research and education.

**Standard grants** provide funding in a single fiscal year award to cover all of the proposed activities for the full duration (generally 1-5 years) of a project.

**Continuing grants** provide funds for an initial period (usually one year) of a multiple year project with a statement of intent to continue funding in yearly increments until completion of the project.

Of the 9,925 competitive awards made in FY 2001, 6089, or 61 percent were standard grants. Since 1993 the number of standard grants has increased by 16 percent, while the number of continuing grants has decreased by 5 percent. In addition to these awards, NSF awarded 7,133 continuing grant increments (CGIs) based on proposals which had been competitively reviewed in earlier years. As shown in Text Figure 2, in recent years NSF has devoted an increasingly larger percentage of its annual budget to making standard grants.

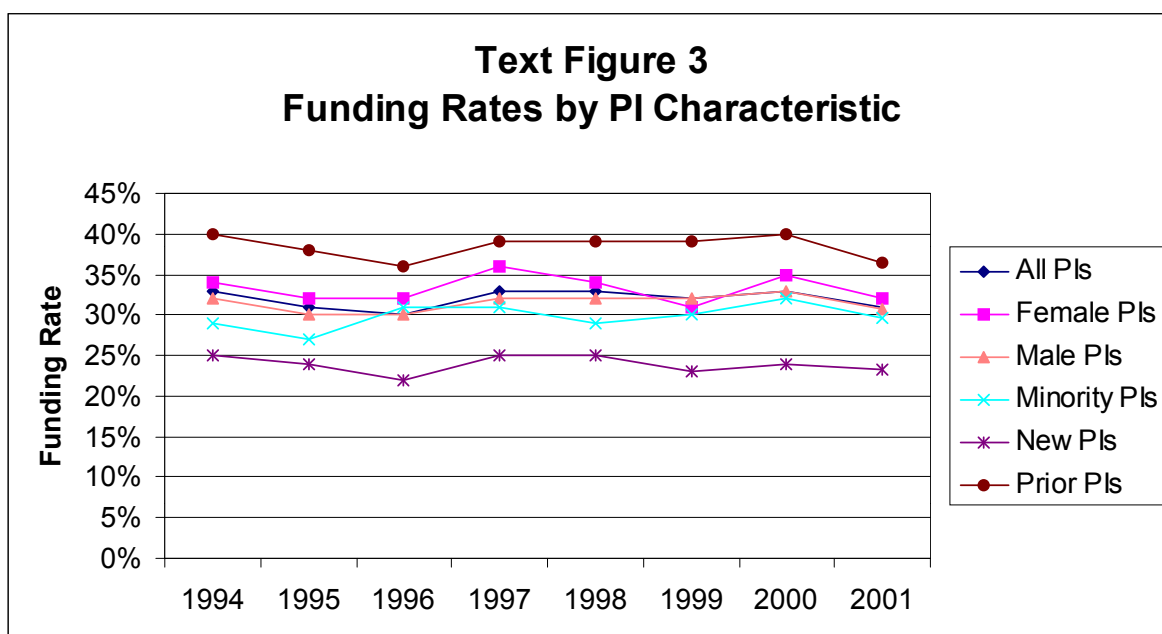
<sup>1</sup> The term "directorates" as used in this report, refers to NSF's seven programmatic directorates and the Office of Polar Programs.

**Text Figure 2**  
**Percentage of NSF Budget by Type of Award**

	1998	1999	2000	2001
<b>New Standard Grants</b>	23%	24%	24%	26%
<b>New Continuing Grants</b>	19%	19%	22%	20%
<b>Continuing Grant Increments</b>	38%	38%	35%	35%
<b>Facilities/ Other Awards</b>	20%	19%	19%	19%
<b>100% = \$Billion</b>	3.42	3.69	3.92	4.46

Broadening Participation

A key NSF strategy, stated in its GPR Strategic Plan, is “to broaden participation and enhance diversity in NSF programs.” NSF is strongly committed to increasing the participation in all NSF activities of science and engineering researchers, educators and students from groups currently underrepresented in the science and engineering enterprise. Trends in funding rate for all Principal Investigators (PIs), female and minority PIs<sup>2</sup>, and prior and new PIs are shown in **Text Figure 3** below. Proposals, awards and funding rates by PI characteristics are presented in **Appendix Table 2**.



During FY 2001, female PIs received 1,881 awards, or 19 percent of total NSF awards. This compares to 1,950 awards, or 20% of the total, in the previous year. The funding rate fell from 35 to 32 percent, compared to the funding rate of 31% for males, which fell from 33%. The number of proposals received from female PIs increased by six percent in FY 2001 and has increased by 20 percent since 1994.

<sup>2</sup> Minority includes American Indian or Alaskan Native, Black, Hispanic, and Pacific Islander and excludes Asian and White, not of Hispanic Origin.

In FY 2001, the number of awards to minority PIs increased to 521, a 9% increase over FY 2000, and an 18 percent increase since 1994. Still, this is only about five percent of the total number of NSF awards. The funding rate for minority PIs is 30%, slightly less than the overall rate of 31%. During the past decade, the minority funding rate has usually been 1-3 percentage points below the overall funding rate. Proposals received from minority PIs increased by 17 percent in FY 2001, after having remained fairly level since 1994.

There continues to be a wide disparity in the funding rates of *new PIs*<sup>3</sup> and *prior PIs* (23 percent and 36 percent, respectively, in FY 2001). There are a number of likely reasons for this; for example, prior PIs are more experienced at writing proposals and are more likely to cite the results of previously funded projects in their subsequent proposals. As indicated in Appendix Table 2, in FY 2001 new PIs submitted 13,289 proposals, up 8 percent from last year and up 13 percent from FY 1999.

In order to encourage the proposal process to be more open to new people and ideas, NSF established an FY 2001 GPRA performance goal of *30 percent of competitive research grants going to new investigators*. The FY 2001 result was 28%, one percent higher than in FY 1999. In the early 1990's, NSF had percentages approximating 30 percent of all competitive research grants going to new investigators. The percentage dropped over the mid-1990's, and is now rising slightly. In FY 2002 NSF will increase its efforts to promote awareness of the research opportunities at NSF open to new investigators.

In FY 2002 and beyond, NSF will make strong efforts to increase the number of proposals submitted by and awards made to scientists and engineers from underrepresented groups. A key element of NSF's strategy includes the use of information technology and connectivity to engage under-served individuals, groups, and communities in science and engineering.

#### Distribution of Awards by Sector/Institution

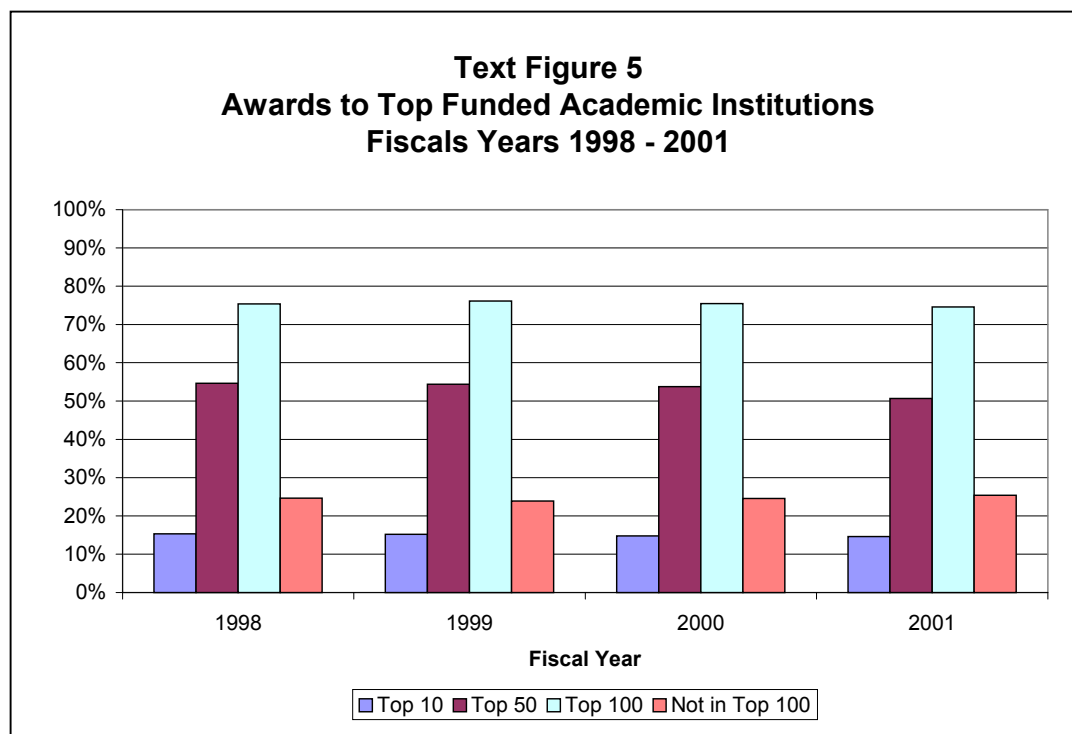
According to **Text Figure 4**, in FY 2001 NSF awarded 74 percent of its budget to academic institutions, up slightly from FY 2000. The overall distribution of funds by performer has remained fairly constant over the past three years.

**Text Figure 4**  
**Distribution of NSF Awards by Performer**

	Fiscal year					
	1999		2000		2001	
Type of Performer	\$M	%	\$M	%	\$M	%
Federal	119	3	73	2	80	2
Industry	219	6	268	7	283	7
Academe	2,605	74	2,711	72	3,209	74
Non-Profit & Other	574	16	706	19	741	17
<b>TOTAL</b>	3,517	100	3,758	100	4,313	100

<sup>3</sup> A proposal is counted in the New PI category if the PI did not have an NSF award in the same or prior years.  
*FY 2001 Report on the NSF Merit Review System*

According to **Text Figure 5**, the percent of NSF awards made to the top funded 10, top funded 50 and top funded 100 academic institutions has also remained within a narrow range over the past three years. The top 10 funded institutions receive about 15 percent of NSF awards while over 25 percent of NSF awards are made to institutions that are not in the top 100 funded schools.



#### Award Amount and Duration

Data on median and average (mean) award amounts from FY 1994-2001 are presented in **Text Figure 6** and **Appendix Table 3**. The average annualized award amount for *research grants*<sup>4</sup> in FY 2001 was \$113,601, an increase of 7 percent from the previous year and 44 percent from FY 1997. The median award<sup>5</sup> was \$84,636, an increase of 8 percent over last year. NSF met its FY 2001 GPRA goal to increase the average annualized award size for research projects to \$110,000. The FY 2002 goal is \$113,000.

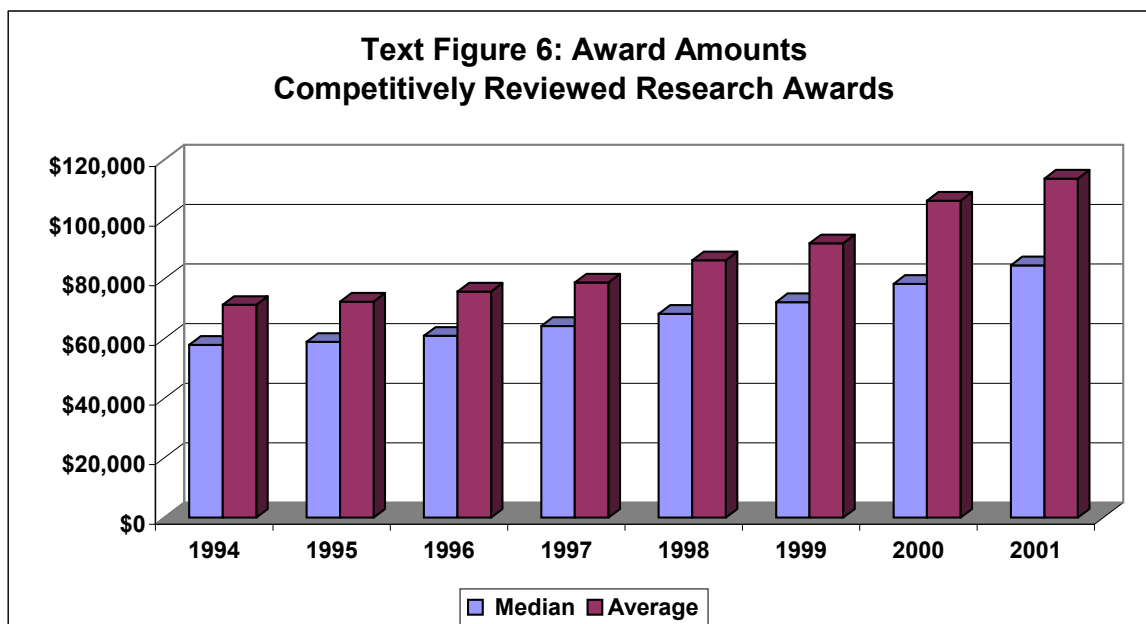
Adequate award size is important both to attracting high-quality proposals and to ensuring that proposed work can be accomplished as planned. Larger awards increase the efficiency of the system by allowing scientists and engineers to devote a greater portion of their time to actual research rather than proposal writing and other administrative work.

<sup>4</sup> *Research Grants* is a subset of total NSF awards associated primarily with individual investigator and small group research projects.

<sup>5</sup> The difference between the median and average award amounts reflects the effect of numerous small awards on the median, and a few large awards on the average award amount.



Longer award terms are important in increasing the effectiveness of principal investigators and graduate students. Less time is spent preparing proposals, and graduate students are able to have appropriate time to do their thesis work. NSF's FY 2001 GPRG goal was to increase average award duration for research grants from 2.8 to 3 years. The actual result was 2.9 years. In the future, given adequate funding, NSF would like to increase the duration of research grants beyond three years.



In FY 2002, NSF will initiate a survey of NSF PIs on issues related to the appropriate size and duration of awards. The survey universe consists of approximately 6,000 PIs who received competitive grant awards from NSF during FY 2001. The goal of the study is to understand how to improve the overall efficiency of the research funding process and to understand the impact of NSF awards on grantees.

### 3. The Proposal Review Process

The NSF proposal process starts with electronic receipt of the proposal, which is then forwarded electronically to the appropriate NSF program for review. All proposals are carefully reviewed by a scientist, engineer, or educator serving as an NSF program officer, and usually by three to ten experts from outside NSF in the particular fields represented in the proposal. Care is exercised to assure that the external reviewers have no conflicts of interest.

Proposers are invited to suggest names of persons they believe are especially well qualified to review the proposal, along with persons who they believe should not review the proposal. These suggestions may serve as an additional source in the reviewer selection process, at the program officer's discretion. Program officers may obtain comments from assembled review panels or from site visits before recommending final action on proposals.

Senior NSF staff further review recommendations for awards and declines. When a decision has been made, verbatim copies of reviews, excluding the names of the reviewers, and summaries of review panel deliberations, if any, are provided to the proposer.

### Review Processes Used at NSF

The involvement of knowledgeable peers from outside the Foundation in the review of proposals is the keystone of NSF's proposal review system. Their judgments of the extent to which proposals address the NSB-established merit review criteria are vital for informing NSF staff and influencing funding recommendations. NSF programs obtain external peer review by three principal methods: (1) "mail-only," (2) "panel-only," and (3) "mail-plus-panel" review. In addition, site visits by NSF staff and external peers are often used to review proposals for large facilities, centers, and systemic reform initiatives. NSF program officers are given discretion in the specific use of review methods, subject to supervisory approval.

In "mail-only" reviews, peers are sent proposals and asked to submit written comments to NSF through FastLane, NSF's Web-based system for electronic proposal submission and review. These mail reviews are then used by the NSF program officer to support a recommendation for award or decline.

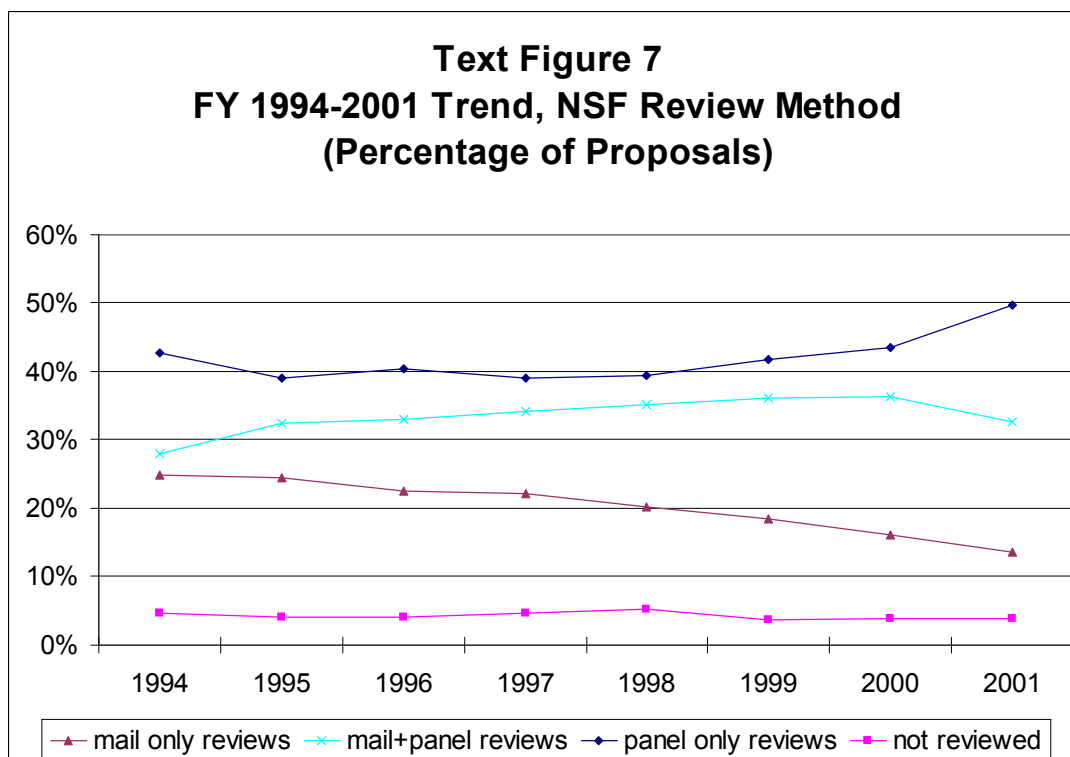
"Panel-only" review refers to the process of soliciting reviews only from those peers who meet in a panel review setting to discuss their reviews and provide advice directly to the program officer. Most programs that use this process provide proposals to panelists and receive their reviews before the panel meeting.

Many proposals submitted to NSF are reviewed using some combination of these two processes ("mail-plus-panel" review). Those programs that employ the mail-plus-panel review process have developed several different configurations, such as:

- A peer is asked to submit a written mail review and also serve as a panelist; and
- A peer is asked to participate only as a panelist, with responsibility only for reviewing and discussing mail reviews written by others and providing verbal and/or written advice to the program officer.

The use of various review methods has changed markedly over time, as shown in **Text Figure 7**, and the corresponding data in **Appendix Table 4**. Since 1994 the percentage of NSF proposals reviewed by panel-only has increased from 43 to 50 percent of all proposals. During the same period, there has been a steady decline in the use of mail-only review from 25 to 14 percent. The use of mail-plus-panel review increased from 28 to 33 percent.

There are a number of reasons for the trend toward panel review. For example, the panel review process permits proposals to be discussed and compared to one another. For this reason, panel review is the norm in evaluating proposals in response to program solicitations and announcements with proposal submission deadlines. The panel review process also has advantages in the evaluation of multidisciplinary proposals, because, unlike mail-only review, viewpoints representing several disciplines can be openly discussed and integrated.



Evaluation of the broader impacts of the proposal is also facilitated by the panel review process. The mail + panel review process is used frequently because it combines the in-depth expertise of mail review with the more comparative analysis of panel review.

Finally, the panel review process requires fewer individual reviewers than the mail-only process. For example a panel of 25 reviewers could possible review 200 proposals, while it may require several hundred mail reviewers to review the same proposals. Also, using panels in the review process tends to reduce proposal processing time (time-to-decision), compared to mail-only reviews. For example, in FY 2001, 70% of all proposals reviewed by panel-only were processed within six months, compared to 58% for mail-plus-panel and 52% for mail-only. Mail review often takes more time because additional reviews must be requested when some of the reviewers in the first set decline to review the proposal.

Directorate-level data on the use of different review processes during FY 2001 are presented in **Appendix Table 5**. For both historical and currently practical reasons, NSF Directorates vary in their use of proposal review methods. Mail-plus-panel review was the predominant review process used in the BIO, GEO, and SBE Directorates while panel-only review was the predominant method in CISE, EHR, ENG and MPS. Mail-only review was the most common mode of review in the Office of Polar Programs (OPP)

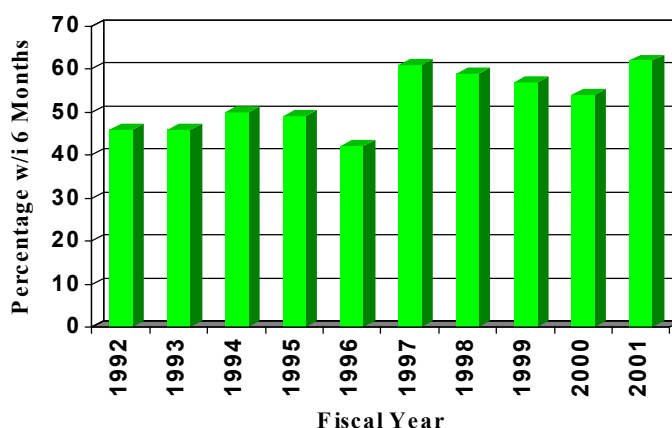
#### Proposal Processing Efficiency – Dwell Time

It is very important for applicants to receive a timely funding decision (dwell time). NSF's FY 2001 GPRA performance goal is, for 70% of proposals, to be able to inform applicants whether their proposals have been declined or recommended for funding within six months of receipt. As indicated in **Text Figure 8**, although NSF did not meet this goal, in FY 2001 62 percent of all

proposals were processed within six months, compared to 54 percent in FY 2000. Almost 80 percent of NSF proposals are processed within seven months. This performance exceeds the norm at comparable granting agencies. NSF staff will continue to work towards shortening the award decision process time by making more effective use of electronic mechanisms in conducting the review, working cooperatively to eliminate overloads and bottlenecks, and carefully tracking the stage of processing and age of all proposals.

**Text Figure 8**

### Proposal Dwell Time Percentage Within 6 Months



#### Merit Review Criteria

In FY 1998 the NSB approved the use of the two current NSF merit review criteria now in effect:

##### **What is the intellectual merit of the proposed activity?**

How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of prior work.) To what extent does the proposed activity suggest and explore creative and original concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

##### **What are the broader impacts of the proposed activity?**

How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

In FY 1999 NSF established annual GPRA performance goals to increase reviewer and program officer attention to both merit review criteria. Currently NSF Committees of Visitors and Advisory Committees provide an annual evaluation of the Foundation's use of the merit review criteria. In Board meetings discussions, NSB members expressed concern that the broader impacts criterion is not being fully integrated into the review process, and that principal investigators and reviewers are unsure how it should be addressed. They agreed that efforts to ensure that both criteria are addressed in proposals and reviews should be continued and they asked staff to periodically report on these efforts. Since then, NSF has completed the following actions to raise awareness of the importance and use of the merit review criteria:

- Developed a draft set of examples of activities that address the broader impacts criterion. NSF will disseminate the set to proposers via a link embedded in the Grant Proposal Guide and in every NSF announcement and solicitation. It will also be available to proposers and reviewers via FastLane.
- Drafted revisions to the Grant Proposal Guide, the FastLane Proposal Guidelines, and the standard language in the Proposal Announcement Template System that instruct proposers that they *must* clearly address broader impacts in their proposals.
- Evaluated reviewer utilization of the broader impacts criterion and concluded that 69% of sampled reviews provided evaluative comments regarding the broader impacts criterion.
- Designed activities to increase program officer attention to the broader impacts criterion through training of new program officers and through electronic tracking of program officer use of both criteria in making recommendations to fund or decline proposals.

### Reviews and Reviewers

NSF policy states that each recommendation for final action on a proposal must be accompanied by at least three external reviews, unless the requirement has been waived under special circumstances. The total numbers of reviews and the average numbers of reviews per proposal obtained by the three different review methods are presented in **Text Figure 9**. There is considerable variation among the review methods. Some of this difference may be attributed to the way reviewers are counted in various types of panels. For example, a panel might have 10-12 panelists of whom 4 lead reviewers are assigned to write an individual review. But, if all 10-12 panelists weigh in on the panel consensus, all may be counted as reviewers.

Directorate-level data for FY 2001 are presented in **Appendix Table 6**. The wide variation among directorates in the number of reviews per proposal reflects both their preferences for the different review methods, and differences in the way directorates count reviewers on the panel review process.

**Text Figure 9**  
**Reviews per Proposal, FY 2001**

	All Methods	Mail-plus-Panel	Mail-Only	Panel-Only
<b># of Reviews</b>	266,553	144,623	20,292	101,638
<b># of Proposals</b>	30,829	10,392	4,396	16,041
<b>Reviews per Proposal</b>	8.6	13.9	4.6	6.3

Diversity of the reviewer pool is an important feature of the merit review system. Reviewers from diverse backgrounds help ensure that a wide range of perspectives is taken into consideration in the review process. NSF emphasizes reviewer diversity through a variety of processes, including use of a large and expanding Foundation-wide reviewer database, explicit policy guidance, mandatory training for all program officers, and directorate-level initiatives.

NSF maintains a central electronic database of about 270,000 reviewers. Potential reviewers are identified from a variety of sources including applicant suggestions, references attached to proposals and published papers, scientific citation indexes and other similar databases, and input from mail reviewers, panelists, and visiting scientists. During FY 2001, 44,726 reviewers were sent one or more proposals for mail review and 10,052 reviewers served as panelists. In all, 50,683 individuals served on a panel, were sent a proposal for mail review, or served in both functions. About 9,000 of these reviewers had never reviewed an NSF proposal before.

In FY 2001, NSF developed systems and policies to enable it to request voluntary demographic data electronically from all reviewers to determine estimates of participation levels of members of underrepresented groups in the NSF reviewer pool. Of the reviewers who have responded thus far, over 25 percent have indicated that they do not wish to disclose their race or ethnicity. This will make establishing baseline data difficult. The need for an additional GPRA performance goal in FY 2003 for reviewer pool diversity will be assessed once the baseline is established.

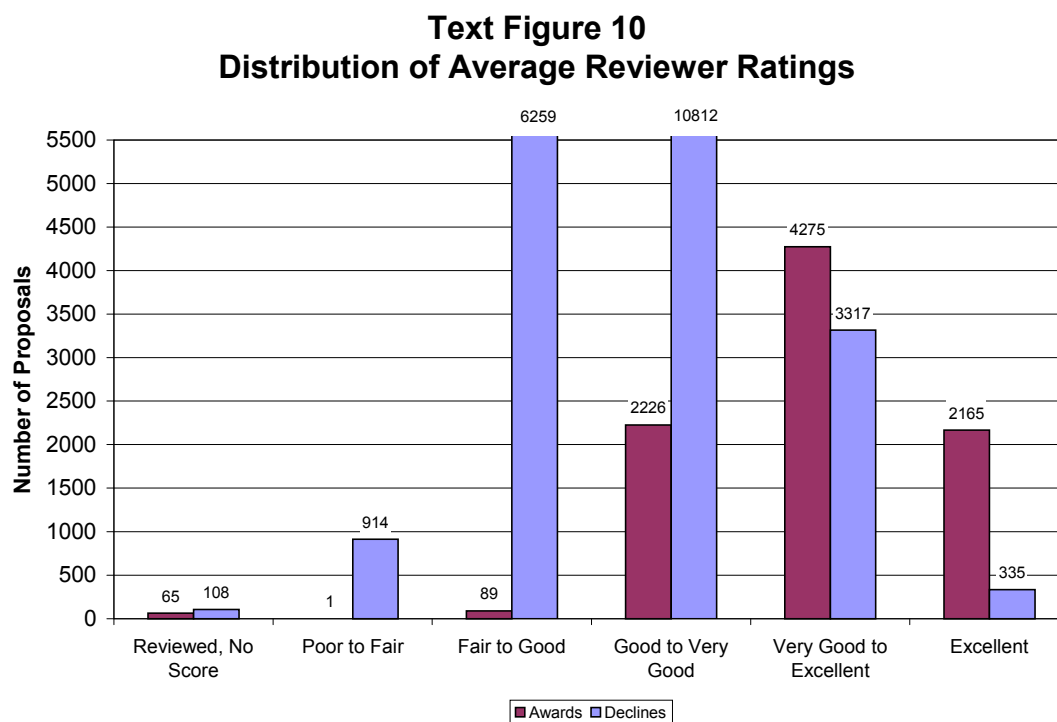
Meanwhile, NSF will continue efforts to identify additional reviewers from underrepresented groups through:

- Expansion and enhancement of existing NSF Library resources.
- Collection and sharing of potential reviewer data from associations and institutions serving groups that are underrepresented in science and engineering.
- Encouraging participation of members of underrepresented groups in activities such as NSF workshops or conferences so NSF is made aware of the review expertise of each.

Participation in the peer review process is voluntary. Panelists are reimbursed for expenses; mail reviewers receive no financial compensation. There are indications that it is becoming more difficult to obtain reviews through the mail process. In FY 2001, only 60 percent of requests for mail reviews produced positive responses, compared to 62 percent in FY 2000 and 64 percent in FY 1999.

### Reviewer Proposal Ratings

The distribution of average summary ratings<sup>6</sup> of reviews for awarded and declined proposals is provided in **Text Figure 10**.

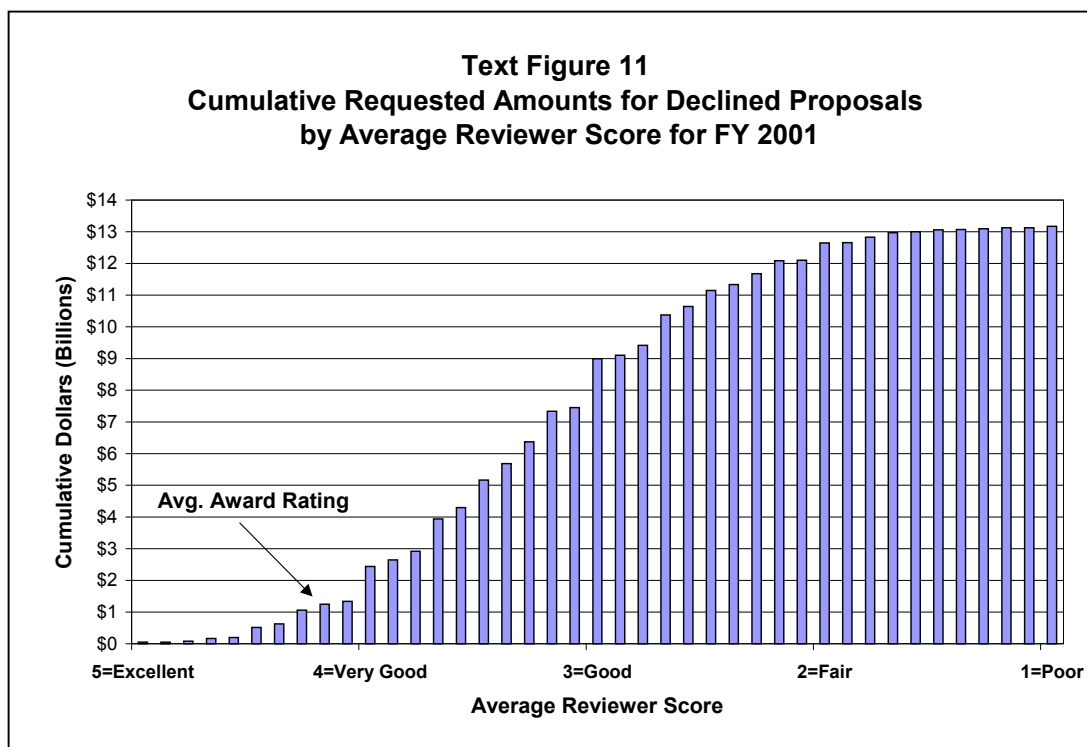


Number of FY 2001 Proposals -- 22,022 Declines, 9,860 Awards

These data indicate considerable overlap among the average reviewer ratings of successful and unsuccessful proposals, most notably in the range of “very good” average ratings. The judgment and discretion of the NSF professional staff are essential to making this difficult separation between awards and declines. **Appendix Tables 7-9** indicate that this overlap among the average reviewer ratings is present and similar in degree for each of the three proposal review methods used by NSF (panel-only, mail-only, and mail plus panel).

These data also indicate that a large number of potentially fundable proposals are declined each year. **Text Figure 11** indicates that in FY 2001, \$1.25 billion was requested for declined proposals that had received ratings at least as high as the average rating (4.1) for an awarded proposal. These declined proposals represent a rich portfolio of unfunded opportunities – fertile ground for learning and discovery that lies fallow.

<sup>6</sup> The NSF merit review system emphasizes reviewer narratives over summary ratings. Summary ratings are but one indicator of reviewer judgment of the proposal quality. The written narratives provided by reviewers, the deliberations by panel members, and the expert opinions provided by program officers are all important components of the merit review system. No one component is allowed to dominate over the others.



### Characteristics of NSF Program Officers

The narrative comments and summary ratings provided by external reviewers are essential inputs that inform the judgment of the program officers who formulate award and decline recommendations to NSF's senior management. In making these recommendations, highly qualified program officers produce and manage a portfolio of awards, addressing such factors as:

- Contributions to human resource and institutional infrastructure development,
- Distribution of approaches to significant research topics,
- Support for "risky" proposals with potential for significant advances in a field,
- Encouragement of interdisciplinary activities, and
- Achievement of program-level objectives and initiatives.

The number of program officers employed by NSF has remained stable for the past five years, despite increases in workload. Dividing the number of proposals processed in FY 2001 (31,942) by the number of program officers (377) indicates that the average program officer handles about 85 proposals per year.

This compares with 74 proposals in FY 2000. In addition, because of the increasing complexity of the research and education problems, there are more cross-disciplinary proposals than ever before, which require more time and effort to process.

The distribution of these program officers by characteristics is presented in **Text Figure 12**.



**Text Figure 12**  
**Distribution of NSF Program Officers by Characteristics**  
**As of October 1, 2001**

	<b>Assistant Program Directors</b>	<b>Associate Program Directors</b>	<b>Program Directors</b>	<b>Total</b>
<b>Total</b>	<b>11</b>	<b>14</b>	<b>352</b>	<b>377</b>
<b>Male</b>	<b>3</b> 27%	<b>8</b> 62%	<b>224</b> 63%	<b>235</b> 62%
<b>Female</b>	<b>8</b> 73%	<b>6</b> 38%	<b>122</b> 35%	<b>136</b> 36%
<b>Not Disclosed</b>	<b>0</b> 0%	<b>0</b> 0%	<b>6</b> 2%	<b>6</b> 2%
<b>Minority</b>	<b>2</b> 18%	<b>3</b> 22%	<b>67</b> 19%	<b>72</b> 19%
<b>White, Non-Hispanic</b>	<b>9</b> 82%	<b>11</b> 78%	<b>274</b> 78%	<b>294</b> 78%
<b>Unknown</b>	<b>0</b> 0%	<b>0</b> 0%	<b>11</b> 3%	<b>11</b> 3%
<b>Permanent</b>	<b>7</b> 64%	<b>8</b> 54%	<b>162</b> 46%	<b>177</b> 47%
<b>VSEE</b>	<b>0</b> 0%	<b>0</b> 0%	<b>35</b> 10%	<b>35</b> 10%
<b>Temporary</b>	<b>1</b> 9%	<b>4</b> 31%	<b>42</b> 12%	<b>47</b> 12%
<b>IPA</b>	<b>3</b> 27%	<b>2</b> 15%	<b>113</b> 32%	<b>118</b> 31%
Source: NSF Division of Human Resource Management Notes: VSEE: Individual employed as a Visiting Scientist, Engineer, or Educator (formerly termed "Rotator"). IPA: Individual employed under the Intergovernmental Personnel Act.				

Depending on their professional experience, program officers are classified as assistant program director, associate program director, or program director. They can be permanent NSF employees or temporary employees. Some temporary program officers are "on loan" as visiting scientists, engineers, and educators (VSEEs) for up to three years from their host institutions. Others are employed through grants to the home institutions under the terms of the Intergovernmental Personnel Act (IPA).

#### Assuring Objectivity in the Merit Review Process

NSF program officers carefully check all proposals for potential conflict of interest and select expert outside reviewers with no apparent potential conflicts. All reviewers are instructed to declare potential conflicts. All program officers receive conflict-of-interest training annually.

Each program officer's recommendation to award or decline a proposal is subject to a programmatic review by a higher level reviewing official (usually the division director), and an administrative review by a grants officer in the Office of Budget, Finance, and Award

Management (BFA). The Director's Review Board (DRB) reviews all award recommendations with an average annual award amount of 2.5% or more of a Division's prior year current plan. The National Science Board reviews and approves all recommended awards where the average annual award amount is 1% or more of the awarding directorate's prior year current plan.<sup>7</sup> In FY 2001, the Board reviewed and approved ten recommended awards.

Every proposer receives (from the NSF program officer) a description of the context in which the proposal was reviewed, a panel summary explaining the rationale for the decision (if panel review was used), along with an anonymous verbatim copy of each review that was considered in the review process. A declined PI may ask the cognizant program officer for additional clarification of the decision. If after considering this additional information a PI is not satisfied that the proposal was fairly handled and reasonably reviewed, he or she may request formal reconsideration from the cognizant Assistant Director (AD). This request can be based on the PI's perception of procedural errors or on disagreements over the substantive issues dealt with by reviewers. If the AD upholds the original action, the applicant's institution may request a second reconsideration from the Foundation's Deputy Director (O/DD).

On average, NSF annually declines over 20,000 proposals but receives only 40-50 requests for formal reconsideration. Most program-level decisions are upheld in the reconsideration process. The number of requests for formal reconsideration and resulting decisions at both the AD and O/DD levels from FY 1997 through FY 2001 are displayed in **Appendix Table 10**. Out of the 213 requests for formal reconsideration of declined proposals during the past five years, 15 decisions have been reversed.

## 4. Other Issues Related to Merit Review

### Electronic Proposal Processing

In October 2000, NSF became the first government agency to conduct all essential business interactions and transactions with its customers electronically. This allowed NSF to continue receiving and processing proposals without interruption during the mail emergencies following the anthrax attacks in late 2001.

The award-winning FastLane system exemplifies a high level of excellence and achievement in information systems design and implementation. Over 200,000 scientists and engineers, including the country's top researchers and educators, use FastLane's web-based systems to submit proposals for funding, for proposal peer-review, and to report on the progress of their government-funded research and education projects.

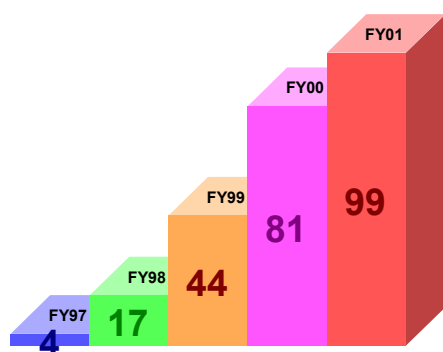
**Text Figure 13** indicates that in FY 2001, over 99 percent of NSF's proposals were received electronically via FastLane. Nearly half of all of the proposal reviews were conducted electronically, and this figure is expected to soon reach nearly 100 percent.

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<sup>7</sup> Other items requiring NSB prior approval are new programs and major construction projects that meet certain specifications.  
*FY 2001 Report on the NSF Merit Review System*

In addition, NSF has been and continues to be an active leader in interagency electronic grant initiatives through the new government-wide e-Grants initiative, the Federal Demonstration Partnership, and other initiatives. As with FastLane, NSF will assure that internal business process improvements and IT capabilities are integrated with government-wide e-Grants initiatives to streamline and simplify electronic grants management across the government.

**Text Figure 13**  
**NSF Electronic Proposal Processing**



Electronic Proposal %  
by Fiscal Year (FY97-FY01)

- 30,000 Electronic Proposals (over 99%)
- 130,000 Electronic Reviews
- 6,000 Electronic Graduate Research Fellowship Proposals
- 21,000 Electronic Grantee Progress Reports
- \$2.7 Billion Electronic Distribution of Funds
- 13,000 Electronic Administrative Requests
- 7,000 Electronic Post-Award Actions

NSF is also greatly increasing its usage of a broad range of video-conferencing / long distance communications technology in the proposal and program review process. For example, in FY 2001, 142 video-conferences were conducted, an increase of 184 percent over the 1999 level.

#### Performance Evaluation

Because of its importance to the success of NSF's mission, "operating a credible, efficient merit review system" is cited as one of the four critical factors for success in NSF's FY 2001-2006 GPRA Strategic Plan. Performance evaluation, with respect to the operation of the merit review system, is viewed as a process of continuous improvement. It is currently supported with information obtained from the following activities:

- **Applicant and Grantee Information/Merit Review.** All applicants and grantees provide results from previous NSF support, information about existing facilities and equipment available to conduct the proposed research, biographical information on the primary investigators, other sources of support, and certifications specific to NSF. Such information is required at the time of application, at the time of an award, and in annual and final project reports. It is reviewed by NSF staff, utilized during merit review and included in the package of information available to external committees conducting performance assessment.
- **Program Evaluation by Committees of Visitors (COVs).** To ensure the highest quality in processing and recommending proposals for awards, NSF convenes Committees of Visitors (COVs), composed of qualified external evaluators, to review each program approximately every three years. This includes disciplinary programs in the various directorates and offices,

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and some cross-disciplinary programs managed across directorates. The COVs are comprised of independent, external experts from academe industry, government, and the public sector. These experts assess the integrity and efficiency of the processes for proposal review and provide a retrospective assessment of the quality of results of NSF's programmatic investments. COV reports are submitted for review through Advisory Committees to the directorates and the NSF Director. The recommendations of COVs are reviewed by management and taken into consideration by NSF when evaluating existing programs and future directions for the Foundation. In FY 2001, about a third of NSF's 200+ programs were evaluated by COVs. See **Appendix Table 11** for a schedule of future COV program evaluations.

- **Directorate Assessment by Advisory Committees (ACs).** Directorate Advisory Committees review COV reports, available external evaluations, and annual directorate performance reports. They judge program effectiveness, describe strengths and weaknesses, and provide advice on priorities. With the implementation of the Government Performance and Results Act (GPRA), the directorate advisory committees also assess the progress of the directorate in relation to NSF-wide GPRA goals. Their recommendations are reviewed by management and considered by NSF when evaluating existing programs and future directions for the Foundation.
- **Government Performance and Results Act (GPRA).** Several of the investment process goals in the FY 2001 GPRA Performance Plan are focused on various aspects of the award selection process, such as the use of the merit review criteria, the need to keep the awards system open to new people and new ideas, and the time it takes to process a proposal. Some of these goals have been discussed in previous sections of this report. These goals and NSF's progress in meeting them are more fully described in **Appendix Table 12**.

### Special Proposal and Grant Mechanisms

#### *Use of Preliminary Proposals*

Some NSF programs try to manage proposal pressure by inviting the submission of preliminary proposals. The intent of preliminary proposals is to limit the burden imposed on proposers, reviewers and NSF staff. Normally, preliminary proposals require only enough information to make fair and reasonable decisions regarding encouragement/discouragement of a full proposal. Review practices for preliminary proposals vary widely, ranging from non-binding advice from program officers to proposers to formal recommendations from external reviewers.

The use of preliminary proposals has increased in frequency over the past several years in NSF programs. In FY 2001, NSF acted on 2,183 preliminary proposals that were logged into the proposal processing system, compared to 2,069 proposals in FY 2000, and 1,379 in FY 1999. Based upon the review of these proposals, NSF encouraged the submission of full proposals in 940 cases and discouraged submission in 1,167 cases.

### *Small Grants for Exploratory Research (SGER)*

Since the beginning of FY 1990, the Small Grants for Exploratory Research (SGER) option has permitted program officers throughout the Foundation to make short-term (one to two years), small-scale grants *without formal external review*. Characteristics of activities that can be supported by an SGER award include: preliminary work on untested and novel ideas; application of new approaches to “old” topics; ventures into emerging research areas; and narrow windows of opportunity for data collection, such as natural disasters and infrequent phenomena.

Potential SGER applicants are encouraged to contact an NSF program officer before submitting an SGER proposal to determine its appropriateness for funding. Directorate-level data on SGER proposals and awards are presented in **Appendix Table 13**. In FY 2001, NSF made 255 SGER awards, compared to 274 awards in the previous year. The total amount awarded to SGERs in FY 2001 was \$15,362,826, about 0.4 percent of the operating budget for research and education, far below the five percent of budget that program officers are authorized commit to SGER awards.

### *Accomplishment Based Renewals*

In an accomplishment-based renewal, the project description is replaced by copies of no more than six reprints of publications resulting from the research supported by NSF (or research supported by other sources that is closely related to the NSF-supported research) during the preceding three- to five-year period. In addition, a brief (not to exceed four pages) summary of plans for the proposed support period must be submitted. All other information required for NSF proposal submission remains the same. In 2001 there were 49 requests for accomplishment based renewals, 28 of which were awarded.

### Exemptions to the Merit Review Process

Authorized exemptions to the peer review process include routine award actions such as continuing grant increments and no-cost extensions. In special circumstances, the Director or designee may waive peer review requirements. In most cases, these waivers are granted for proposals which present extraordinary problems in obtaining external peer reviews or are otherwise not suited for the usual merit review process. However, NSF staff always closely reviews these proposals. Such waivers of peer review were granted five times during FY 2001, compared to seven times during FY 1999.

## Appendix Table 1

### Competitively Reviewed Proposals, Awards and Funding Rates By Directorate, FY 1997- 2001

		Fiscal Year					Five-year	Five-year
		1997	1998	1999	2000	2001	Total	Average
NSF	Proposals	30,237	28,421	28,578	29,507	31,942	148,685	29,737
	Awards	9,935	9,380	9,187	9,849	9,925	48,276	9,655
	Funding Rate	33%	33%	32%	33%	31%	32%	32%
BIO	Proposals	5,211	4,859	4,568	4,866	5,131	24,635	4,927
	Awards	1,418	1,410	1,347	1,428	1,431	7,034	1,407
	Funding Rate	27%	29%	29%	29%	28%	29%	29%
CSE	Proposals	2,019	2,044	2,314	3,022	3,866	13,265	2,653
	Awards	740	715	782	931	923	4,091	818
	Funding Rate	37%	35%	34%	31%	24%	31%	31%
EHR	Proposals	3,368	3,519	2,850	2,725	3,449	15,911	3,182
	Awards	1,193	1,219	819	950	1,157	5,338	1,068
	Funding Rate	35%	35%	29%	35%	34%	34%	34%
ENG	Proposals	6,082	5,546	5,424	6,022	5,983	29,057	5,811
	Awards	1,579	1,391	1,476	1,540	1,426	7,412	1,482
	Funding Rate	26%	25%	27%	26%	24%	26%	26%
GEO	Proposals	3,954	3,332	3,453	3,486	3,580	17,805	3,561
	Awards	1,341	1,242	1,321	1,368	1,417	6,689	1,338
	Funding Rate	34%	37%	38%	39%	40%	38%	38%
MPS	Proposals	5,541	5,272	5,207	5,287	5,692	26,999	5,400
	Awards	1,998	1,842	1,903	2,045	1,996	9,784	1,957
	Funding Rate	36%	35%	37%	39%	35%	36%	36%
SBE	Proposals	3,316	3,127	4,025	3,356	3,510	17,334	3,467
	Awards	1,253	1,298	1,220	1,268	1,300	6,339	1,268
	Funding Rate	38%	42%	30%	38%	37%	37%	37%
OPP	Proposals	579	555	638	675	634	3,081	616
	Awards	258	192	258	251	201	1,160	232
	Funding Rate	45%	35%	40%	37%	32%	38%	38%
Other	Proposals	167	167	99	68	97	598	120
	Awards	155	71	61	68	74	429	86
	Funding Rate	93%	43%	62%	100%	76%	72%	72%

**Notes:**

"Competitively reviewed" proposals and awards refer to proposal actions for research, education and training which are processed through NSF's external merit review system each year.

These figures do not include 7,145 second-year and later incremental awards during FY 2001 for "continuing grants" which are competitively reviewed in the first year of the award.

Also excluded are 3,197 supplements which are not subject to external merit review, and 249 contracts which are reviewed with special criteria.

"Other" organizational units include Office of Integrative Activities

Source: NSF Enterprise Information System, as of January 9, 2002.

## Appendix Table 2

### Competitively Reviewed Proposals, Awards and Funding Rates By PI Characteristics, FY 1994 - 2001

		Fiscal Year							
		1994	1995	1996	1997	1998	1999	2000	2001
All Pis	Proposals	30,337	30,363	30,199	30,237	28,421	28,578	29,507	31,942
	Awards	10,047	9,597	9,115	9,935	9,380	9,187	9,849	9,925
	Funding Rate	33%	32%	30%	33%	33%	32%	33%	31%
Female Pis	Proposals	4,832	4,917	5,179	5,395	5,621	5,310	5,507	5,822
	Awards	1,659	1,601	1,676	1,945	1,929	1,678	1,950	1,881
	Funding Rate	34%	33%	32%	36%	34%	32%	35%	32%
Male Pis	Proposals	24,978	24,851	24,677	24,536	22,505	23,009	23,652	25,485
	Awards	8,086	7,663	7,322	7,866	7,323	7,421	7,776	7,875
	Funding Rate	32%	31%	30%	32%	33%	32%	33%	31%
Minority Pis	Proposals	1,476	1,511	1,537	1,443	1,391	1,429	1,489	1,743
	Awards	442	418	476	450	396	426	480	521
	Funding Rate	30%	28%	31%	31%	28%	30%	32%	30%
New Pis	Proposals	14,525	14,012	13,573	13,280	12,254	11,797	12,325	13,289
	Awards	3,641	3,370	3,033	3,317	3,115	2,684	3,018	3,128
	Funding Rate	25%	24%	22%	25%	25%	23%	24%	24%
Prior Pis	Proposals	15,812	16,351	16,626	16,977	16,167	16,781	17,182	18,653
	Awards	6,406	6,227	6,082	6,618	6,265	6,503	6,831	6,797
	Funding Rate	41%	38%	37%	39%	39%	39%	40%	36%

**Notes:**

"Competitively reviewed" proposals and awards refer to proposal actions for research, education and training which are processed through NSF's external merit review system each year.

"Gender" is based on self-reported information from the PI's most recent proposal.

"Minority" is based on the PI's ethnic/racial status as reported to NSF on the most recent proposal.

Pis can decline to report their ethnic/racial status. Includes American Indian, Alaskan Native, Black, Hispanic, and Pacific Islander and excludes Asian and White-Not of Hispanic Origin.

Source: NSF Enterprise Information System, as of January 17, 2002.

### Appendix Table 3

#### Median and Average Award Amounts by Directorate, Research Grants FY 1997 - 2001

		Fiscal Year				
		1997	1998	1999	2000	2001
NSF	Median	\$ 64,333	\$ 68,383	\$ 72,343	\$ 78,430	\$ 84,636
	Average	\$ 78,855	\$ 86,342	\$ 92,077	\$ 106,389	\$ 113,773
BIO	Median	\$ 80,266	\$ 84,776	\$ 91,537	\$ 100,000	\$ 108,387
	Average	\$ 85,453	\$ 100,098	\$ 113,850	\$ 119,781	\$ 143,636
CSE	Median	\$ 70,104	\$ 73,049	\$ 80,152	\$ 100,000	\$ 96,010
	Average	\$ 88,664	\$ 94,598	\$ 108,638	\$ 156,698	\$ 133,787
ENG	Median	\$ 67,760	\$ 72,012	\$ 75,906	\$ 76,635	\$ 80,000
	Average	\$ 74,413	\$ 83,357	\$ 86,348	\$ 90,212	\$ 99,217
GEO	Median	\$ 64,119	\$ 67,000	\$ 66,491	\$ 73,635	\$ 77,156
	Average	\$ 77,540	\$ 83,768	\$ 84,571	\$ 96,420	\$ 97,652
MPS	Median	\$ 62,365	\$ 69,672	\$ 75,859	\$ 78,304	\$ 86,152
	Average	\$ 87,978	\$ 92,046	\$ 96,775	\$ 109,646	\$ 114,364
SBE	Median	\$ 31,216	\$ 34,163	\$ 37,691	\$ 43,433	\$ 51,251
	Average	\$ 44,935	\$ 50,603	\$ 52,345	\$ 50,778	\$ 66,585
OPP	Median	\$ 68,627	\$ 71,858	\$ 82,402	\$ 75,215	\$ 82,694
	Average	\$ 97,478	\$ 105,021	\$ 116,508	\$ 136,512	\$ 111,747

Note: Median and average are based on competitively reviewed research awards.

Source: NSF Enterprise Information System, as of January 17, 2002.



## Appendix Table 4

### Methods of NSF Proposal Review FY 1992 - 2001

FY	Total	Mail + Panel		Mail-Only		Panel-Only		Not Reviewed	
	Proposals	Proposals	Percent	Proposals	Percent	Proposals	Percent	Proposals	Percent
2001	31,708	10,374	33%	4,340	14%	15,759	50%	1,235	4%
2000	29,296	10,662	36%	4,711	16%	12,762	44%	1,161	4%
1999	28,136	10,185	36%	5,182	18%	11,742	42%	1,027	4%
1998	26,867	9,426	35%	5,420	20%	10,595	39%	1,426	5%
1997	29,252	10,024	34%	6,494	22%	11,397	39%	1,337	5%
1996	29,491	9,717	33%	6,640	23%	11,925	40%	1,209	4%
1995	29,948	9,731	32%	7,332	24%	11,666	39%	1,219	4%
1994	29,918	8,372	28%	7,408	25%	12,764	43%	1,374	5%
1993	29,297	8,238	28%	7,706	26%	11,816	40%	1,537	5%
1992	29,732	8,242	28%	8,607	29%	10,760	36%	2,123	7%

Note: Panel-Only includes cases where panelist was mailed proposal for review prior to panel.

Source: NSF Enterprise Information System, as of January 25, 2002.

## Appendix Table 5

### Methods of NSF Proposal Review By Directorate, FY 2001

Directorate	Total	Mail + Panel		Mail-Only		Panel-Only		Not Reviewed	
	Proposals	Proposals	Percent	Proposals	Percent	Proposals	Percent	Proposals	Percent
<b>NSF</b>	<b>31,708</b>	<b>10,374</b>	<b>33%</b>	<b>4,340</b>	<b>14%</b>	<b>15,759</b>	<b>50%</b>	<b>1,235</b>	<b>4%</b>
BIO	5,057	3,700	73%	82	2%	990	20%	285	6%
CSE	3,860	396	10%	61	2%	3,296	85%	107	3%
EHR	3,541	90	3%	111	3%	3,282	93%	58	2%
ENG	5,967	416	7%	430	7%	4,890	82%	231	4%
GEO	3,568	2,481	70%	667	19%	314	9%	106	3%
MPS	5,659	1,278	23%	2,044	36%	2,125	38%	212	4%
SBE	3,410	1,808	53%	593	17%	803	24%	206	6%
OPP	616	183	30%	345	56%	58	9%	30	5%
Other	30	22	73%	7	23%	1	3%	-	0%

Note: Panel-Only includes cases where panelist was mailed proposal for review prior to panel.

Source: NSF Enterprise Information System, as of January 18, 2002.

## Appendix Table 6

### Average Number of Reviews per Proposal By Method and Directorate, FY 2001

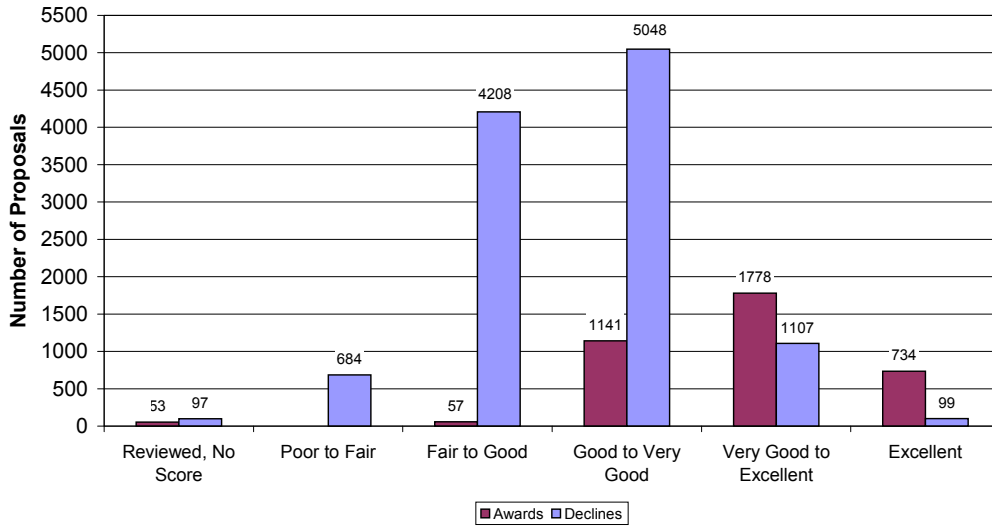
Directorate		Methods Of Review				
		All Methods	Mail + Panel	Mail-Only	Panel-Only	Not Reviewed
<b>BIO</b>	Reviews	79,402	64,998	398	14,006	0
	Proposals	5,057	3,700	82	990	285
	Rev/Prop	15.7	17.6	4.9	14.1	0.0
<b>CSE</b>	Reviews	17,727	3,033	212	14,482	0
	Proposals	3,860	396	61	3,296	107
	Rev/Prop	4.6	7.7	3.5	4.4	0.0
<b>EHR</b>	Reviews	19,739	598	464	18,677	0
	Proposals	3,541	90	111	3,282	58
	Rev/Prop	5.6	6.6	4.2	5.7	0.0
<b>ENG</b>	Reviews	23,151	2,180	1,949	19,022	0
	Proposals	5,967	416	430	4,890	231
	Rev/Prop	3.9	5.2	4.5	3.9	0.0
<b>GEO</b>	Reviews	36,901	31,545	3,339	2,017	0
	Proposals	3,568	2,481	667	314	106
	Rev/Prop	10.3	12.7	5.0	6.4	0.0
<b>MPS</b>	Reviews	47,533	15,581	9,827	22,125	0
	Proposals	5,659	1,278	2,044	2,125	212
	Rev/Prop	8.4	12.2	4.8	10.4	0.0
<b>SBE</b>	Reviews	35,985	24,861	2,227	8,897	0
	Proposals	3,410	1,808	593	803	206
	Rev/Prop	10.6	13.8	3.8	11.1	0.0
<b>OPP</b>	Reviews	3,192	1,370	1,626	202	0
	Proposals	616	183	345	60	30
	Rev/Prop	5.2	7.5	4.7	3.4	0.0

**Notes:**

Peers participating as both a mail and panel reviewer for the same proposal are counted as one review in this table.

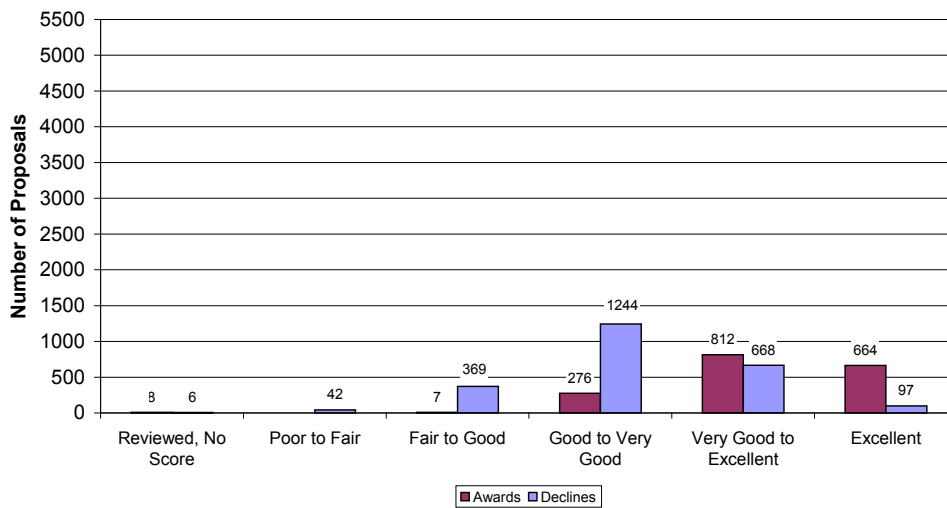
Source: NSF Enterprise Information System, as of January 18, 2002.

**Appendix Table 7  
Distribution of Average Reviewer Ratings  
Panel Reviewed**



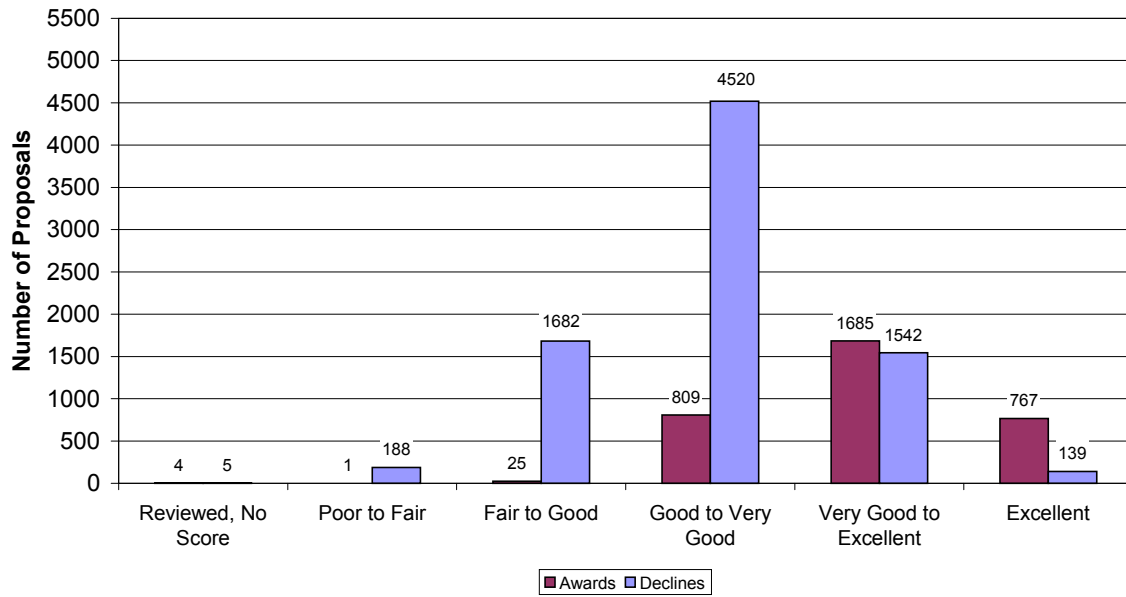
Number of FY 2001 Proposals -- 11,243 Declines, 3,763 Awards

**Appendix Table 8  
Distribution of Average Reviewer Ratings  
Mail Reviewed**



Number of FY 2001 Proposals -- 2,246 Declines, 1,767 Awards

**Appendix Table 9  
Distribution of Average Reviewer Ratings  
Mail and Panel Reviewed**



Number of FY 2001 Proposals -- 8,076 Declines, 3,291 Awards

## Appendix Table 10

### Requests for Formal Reconsideration of Declined Proposals By Directorate, FY 1997-2001

		Fiscal Year				
		1997	1998	1999	2000	2001
<b>First Level Reviews (by Assistant Directors):</b>						
BIO	Request	4	6	4	0	8
	- Upheld	2	6	4	0	6
	- Reversed	2	0	0	0	2
CISE	Request	2	3	1	2	1
	- Upheld	2	3	1	1	1
	- Reversed	0	0	0	0	0
EHR	Request	4	6	3	4	4
	- Upheld	4	5	3	4	3
	- Reversed	0	1	0	0	1
ENG	Request	9	5	4	6	1
	- Upheld	9	4	4	6	1
	- Reversed	0	0	0	0	0
GEO	Request	2	2	2	2	2
	- Upheld	2	2	1	2	2
	- Reversed	0	0	0	0	0
MPS	Request	17	25	20	18	24
	- Upheld	15	22	19	17	22
	- Reversed	2	2	0	1	2
SBE	Request	2	3	0	1	2
	- Upheld	1	3	1	1	1
	- Reversed	0	0	0	0	1
Other	Request	0	0	0	0	0
	- Upheld	0	0	0	0	0
	- Reversed	0	0	0	0	0
<b>Second Level Reviews (by Deputy Director):</b>						
O/DD	Request	4	3	2	6	2
	- Upheld	4	3	1	5	1
	- Reversed	0	0	0	1	0
<b>Total Reviews First &amp; Second Level</b>						
<b>NSF</b>	<b>Request</b>	<b>39</b>	<b>53</b>	<b>36</b>	<b>41</b>	<b>44</b>
	- Upheld	34	48	34	38	37
	- Reversed	4	3	0	2	6
	- Withdrawn	0	0	0	1	1

**Notes:**

The number of decisions (upheld or reversed) may not equal the number of requests in each year due to carryover of pending reconsideration request.

Source: Office of the Director

**Appendix Table 11**  
**Committee of Visitors Meetings**  
**By Directorate**

(COV meetings held during FY 2001 are highlighted in bold font)

DIRECTORATE <i>Division</i> Programs	Fiscal Year of Most Recent COV	Fiscal Year of Next COV Due
<b>BIOLOGICAL SCIENCES</b>		
<i>Biological Infrastructure</i>		
Instrument Related Activities	2000	2002
Research Resources	2000	2003
Training	2000	
<b>Plant Genome</b>	<b>2001</b>	
<i>Environmental Biology</i>	1999	2003
Ecological Studies	1998	2002
<b>Long Term Research</b>	<b>2001</b>	
Systematic and Population Biology	2000	2004
<i>Integrative Biology and Neuroscience</i>	<b>2001</b>	2005
Neuroscience	1999	2003
Developmental Mechanisms	2000	2004
Physiology and Ethnology	1997	2002
<i>Molecular and Cellular Biosciences</i>		2002
Biomolecular Structure and Function	2000	
Biomolecular Processes	2000	
<b>Cell Biology</b>	<b>2001</b>	
Genetics	1999	
<b>COMPUTER AND INFORMATION SCIENCE AND ENGINEERING</b>		
<i>Advanced Computational Infrastructure and Research</i>		
<b>Advanced Computational Research</b>	<b>2001</b>	2004
PACI	1999	2002
<i>Computer-Communications Research</i>		
Communications	2000	2003
Computer Systems Architecture	2000	2003
Design Automation	2000	2003
Hybrid and Embedded Systems (new in '02)		2003
Numeric, Symbolic and Geometric Computation	2000	2003
Operating Systems and Compilers	2000	2003
Signal Processing Systems	2000	2003
Software Engineering and Languages	2000	2003
Theory of Computing	2000	2003
Trusted Computing (new in '02)		2003
<i>Information and Intelligent Systems</i>		
Computation and Social Systems	1999	2002
Human Computer Interaction	1999	2002

Appendix Table 11 (continued)

Knowledge and Cognitive Systems	1999	2002
Robotics and Human Augmentation	1999	2002
Information and Data Management	1999	2002
<i>Advanced Networking Infrastructure and Research</i>		
Networking Research	2000	2003
Special Projects in Networking Research	2000	2003
Advanced Networking Infrastructure	2000	2003
<i>Information Technology Research (ITR) (new in '00)</i>		
		2003
<b>Experimental and Integrative Activities</b>		
-Instrumentation Infrastructure Cluster	<b>2001</b>	
<b>Research Infrastructure</b>	<b>2001</b>	2004
Research Resources (new in '02)		2004
-Multidisciplinary Research Cluster		
Biological Information Technology and Systems (new in '02)		2004
Quantum and Biologically Inspired Computing (new in '02)		2004
<b>Digital Government</b>	<b>2001</b>	2004
<b>Next Generation Software</b>	<b>2001</b>	2004
-Education Workforce Cluster		
Information Technology Workforce (new in '02)		2004
<b>Minority Institutions Infrastructure</b>	<b>2001</b>	2004
<b>CISE Educational Innovation</b>	<b>2001</b>	2004
<b>**CISE Postdoctoral Research Associates</b>	<b>2001</b>	
-EIA Special Projects Cluster		
Special Projects (new in '02)		2004
<b>**NSF-CONACyT Collaborative Research</b>	<b>2001</b>	
<b>**NSF-CNPq Collaborative Research</b>	<b>2001</b>	
**EIA monitored, managed/reviewed by Division in Partnership with Engineering		

<b>DIRECTORATE</b>	Fiscal Year of Most Recent COV	Fiscal Year of Next COV Due
<i>Division</i>		
<i>Programs</i>		
<b>EDUCATION AND HUMAN RESOURCES</b>		
<i>Educational Systemic Reform</i>		
<b>Statewide Systemic Initiatives</b>	<b>2001</b>	2004
<b>Urban Systemic Initiatives</b>	<b>2001</b>	2004
<b>Rural Systemic Initiatives</b>	<b>2001</b>	2004
<i>Office of Innovation Partnerships</i>		
Innovation Partnership Activities (new in '01)		2004
EPSCoR	2000	2003
<i>Elementary, Secondary and Informal Education</i>		
<b>Informal Science Education</b>	<b>2001</b>	2004
Teacher Enhancement	2000	2003
Instructional Materials Development	1997	2002
Centers for Learning and Teaching (new in '01)		2004
<i>Undergraduate Education</i>		
Teacher Preparation	2000	2003
Advanced Technological Education	2000	2003
NSF Computer, Science, Engineering and Mathematics		2002
Scholarships (new in '01)		

Appendix Table 11 (continued)

Distinguished Teaching Scholars (new in '02)		2004
Scholarship for Service (new in '01)		2004
National SMETE Digital Library (new in '01)		2002
Course, Curriculum, and Laboratory Improvement	2000	2003
Undergraduate Assessment (new in '02)		2004
<i>Graduate Education</i>		
Graduate Research Fellowships	1999	2003
<b>NATO Postdoctorate Fellowships</b>	<b>2001</b>	2005
IGERT (new in '97)		2002
GK-12 Fellows (new in '99)		2002
<i>Human Resource Development</i>		
<b>The Louis Stokes Alliances for Minority Participation</b>	<b>2001</b>	2004
<b>Centers for Research Excellence In Science and Technology (CREST)</b>	<b>2001</b>	2004
Programs for Gender Equity (PGE)	2000	2003
Programs for Persons with Disabilities (PPD)	2000	2003
<b>Alliances for Graduate Education and the Professoriate (AGEP)</b>	<b>2001</b>	2004
Tribal Colleges Program (TCP) (new in '01)		2004
<b>Historically Black Colleges and Universities (HBCU)</b>	<b>2001</b>	2004
<i>Research, Evaluation &amp; Communications</i>		
REPP/ROLE (new in '96)		2002
Evaluation	2000	2003
Education Research Initiative (ERI) (new in '01)		2002
<i>Other</i>		
H-IB VISA K-12		2004
Math and Science Partnership (MSP) (new in '02)		2005

<b>DIRECTORATE</b> <i>Division</i> Programs	Fiscal Year of Most Recent COV	Fiscal Year of Next COV Due
<b>ENGINEERING</b>		
<i>Bioengineering and Environmental Systems</i>		
Biochemical Engineering	1999	2002
Biotechnology	1999	2002
Biomedical Engineering	1999	2002
Research to Aid the Disabled	1999	2002
Environmental Engineering	1999	2002
Environmental Technology	1999	2002
<i>Civil and Mechanical Systems</i>		
<b>Dynamic System Modeling, Sensing and Control</b>	<b>2001</b>	2004
<b>Geotechnical and GeoHazard Systems</b>	<b>2001</b>	2004
<b>Infrastructure and Information Systems</b>	<b>2001</b>	2004
<b>Solid Mechanics and Materials Engineering</b>	<b>2001</b>	2004
<b>Structural Systems and Engineering</b>	<b>2001</b>	2004
<b>Network for Earthquake Engineering Simulation</b>	<b>2001</b>	2004
<i>Chemical and Transport Systems</i>		
Chemical Reaction Processes	2000	2003
Interfacial, Transport and Separation Processes	2000	2003
Fluid and Particle Processes	2000	2003
Thermal Systems	2000	2003



Appendix Table 11 (continued)

<i>Design, Manufacture and Industrial Innovation</i>		
-Engineering Decision Systems Programs (new in '02)		2003
Engineering Design	2000	2003
Manufacturing Enterprise Systems (new in '02)		2003
Service Enterprise Systems (new in '02)		2003
Operations Research	2000	2003
-Manufacturing Processes and Equipment Systems	2000	2003
Materials Processing and Manufacturing	2000	2003
Manufacturing Machines and Equipment	2000	2003
Nanomanufacturing (new in '02)		2003
-Industrial Innovation Programs Cluster		
<b>Small Business Innovation Research (SBIR)</b>	<b>2001</b>	2004
Innovation and Organizational Change	2000	
Grant Opportunities for Academic Liaison with Industry (GOALI)	2000	2003
<b>Small Business Technology Transfer</b>	<b>2001</b>	2004
<i>Electrical and Communications Systems</i>		
Electronics, Photonics and Device Technologies	2000	2002
Control, Networks, and Computational Intelligence	2000	2002
Integrative Systems (new in '02)		2002
<i>Engineering, Education and Centers</i>		
<b>Engineering Education</b>	<b>2001</b>	2004
<b>Engineering Research Centers</b>	<b>2001</b>	2004
<b>Earthquake Engineering Research Centers</b>	<b>2001</b>	2004
<b>Human Resource Development</b>	<b>2001</b>	2004
<b>State/Industry/University Cooperative Research Centers</b>	<b>2001</b>	2004
<b>Industry/Univ. Cooperative Research Centers</b>	<b>2001</b>	2004
<b>DIRECTORATE</b>	Fiscal Year of Most Recent COV	Fiscal Year of Next COV Due
<i>Division</i>		
<i>Programs</i>		
<b>GEOSCIENCES</b>		
<i>Atmospheric Sciences</i>		
-Lower Atmospheric Research Cluster		
<b>Atmospheric Chemistry</b>	<b>2001</b>	2004
<b>Climate Dynamics</b>	<b>2001</b>	2004
<b>Mesoscale Dynamic Meteorology</b>	<b>2001</b>	2004
<b>Large-scale Dynamic Meteorology</b>	<b>2001</b>	2004
<b>Physical Meteorology</b>	<b>2001</b>	2004
<b>Paleoclimate</b>	<b>2001</b>	2004
-Upper Atmospheric Research Cluster		
Magnetospheric Physics	1999	2002
Aeronomy	1999	2002
Upper Atmospheric Research Facilities	1999	2002
Solar Terrestrial Research	1999	2002
-Centers and Facilities Cluster		
Lower Atmospheric Observing Facilities	2000	2003
UNIDATA	2000	2003
NCAR/UCAR	2000	2003

Appendix Table 11 (continued)

<i>Earth Sciences</i>		
Instrumentation and Facilities	1997	2004
- Research Support Cluster	1998	
Tectonics	1998	2002
Geology and Paleontology	1998	2002
Hydrological Sciences	1998	2002
Petrology and Geochemistry	1998	2002
Geophysics	1998	2002
Continental Dynamics	1998	2002
<i>Ocean Sciences</i>		
- Integrative Programs Cluster	1997	2002
Oceanographic Technical Services	1994	2002
Ship Operations	1994	2002
Oceanographic Instrumentation	1994	2002
Ship Acquisitions and Upgrades (new in '02)		2002
Shipboard Scientific Support Equipment (new in '02)		2002
Oceanographic Tech and Interdisciplinary Coordination	1998	2002
- Marine Geosciences Cluster		
Marine Geology and Geophysics	1998	2003
Ocean Drilling	1994	2003
-Ocean Cluster		
Chemical Oceanography	1998	2003
Physical Oceanography	1998	2003
Biological Oceanography	1998	2003

<b>DIRECTORATE</b>	Fiscal Year of Most Recent COV	Fiscal Year of Next COV Due
<i>Division</i>		
<i>Programs</i>		
<b>MATHEMATICAL AND PHYSICAL SCIENCES</b>		
<i>Astronomical Sciences</i>	1999	2002
Planetary Astronomy	1999	2002
Stellar Astronomy and Astrophysics	1999	2002
Galactic Astronomy	1999	2002
Education, Human Resources and Special Programs	1999	2002
Advanced Technologies and Instrumentation	1999	2002
Electromagnetic Spectrum Management	1999	2002
Extragalactic Astronomy and Cosmology	1999	2002
-Facilities Cluster		
Gemini 8-Meter Telescopes	1999	2002
National Radio Astronomy Observatory (NRAO)	1999	2002
National Optical Astronomy Observatories (NOAO)	1999	2002
National Astronomy and Ionosphere Center (NAIC)	1999	2002
<i>Chemistry</i>	<b>2001</b>	2004
Office of Special Projects	<b>2001</b>	2004
Chemistry Research Instrumentation and Facilities (CRIF)	<b>2001</b>	2004
Organic Chemical Dynamics	<b>2001</b>	2004
Organic Synthesis	<b>2001</b>	2004
Chemistry of Materials	<b>2001</b>	2004
Theoretical and Computational Chemistry	<b>2001</b>	2004
Experimental Physical Chemistry	<b>2001</b>	2004
Inorganic, Bioinorganic and Organometallic Chemistry	<b>2001</b>	2004

Appendix Table 11 (continued)

<b>Analytical and Surface Chemistry</b>	<b>2001</b>	2004
<i>Materials Research</i>	1999	2002
-Base Science Cluster		
Condensed Matter Physics	1999	2002
Solid-State Chemistry	1999	2002
Polymers	1999	2002
-Advanced Materials and Processing Cluster		
Metals	1999	2002
Ceramics	1999	2002
Electronic Materials	1999	2002
-Materials Research and Technology Enabling Cluster		
Materials Theory	1999	2002
Instrumentation for Materials Research	1999	2002
National Facilities	1999	2002
Materials Research Science and Engineering Centers	1999	2002
<b>Mathematical Sciences</b>	<b>2001</b>	2004
<b>Applied Mathematics</b>	<b>2001</b>	2004
<b>Topology and Foundations</b>	<b>2001</b>	2004
<b>Computational Mathematics</b>	<b>2001</b>	2004
<b>Infrastructure</b>	<b>2001</b>	2004
<b>Geometric Analysis</b>	<b>2001</b>	2004
<b>Analysis</b>	<b>2001</b>	2004
<b>Algebra, Number Theory, and Combinatorics</b>	<b>2001</b>	2004
<b>Statistics and Probability</b>	<b>2001</b>	2004
<i>Physics</i>	2000	
Atomic, Molecular, Optical and Plasma Physics	2000	2003
Elementary Particle Physics	2000	2003
Theoretical Physics	2000	2003
Particle and Nuclear Astrophysics (new in '00)		2003
Nuclear Physics	2000	2003
Education and Interdisciplinary Research (new in '00)		2003
Gravitational Physics	2000	2003

<b>DIRECTORATE</b> <i>Division</i> Programs	Fiscal Year of Most Recent COV	Fiscal Year of Next COV Due
<b>SOCIAL, BEHAVIORAL, AND ECONOMIC SCIENCES</b>		
<i>Office of International Science and Engineering (INT)</i>	1999	2002
<i>Science Resource Statistics (SRS) (new in '99)</i>		2004
-NSF-wide Programs Cluster		
<b>CAREER</b>	<b>2001</b>	
ADVANCE (new in '01)		
<i>Behavioral and Cognitive Sciences (BCS)</i>		2004
Archeology and Archaeometry	1999	2004
Child Learning and Development	1997	2004
Cultural Anthropology	1999	2004
Linguistics	1999	2004
Human Cognition and Perception	1999	2004
Social Psychology	1999	2004
Physical Anthropology	1999	2004

Appendix Table 11 (continued)

Geography and Regional Sciences	1999	2004
<i>Social and Economic Sciences (SES)</i>		2003
Decision, Risk, and Management Sciences	2000	2003
Political Science	2000	2003
Law and Social Science	2000	2003
Innovation and Organizational Change	2000	2003
Methodology, Measurement and Statistics	2000	2003
Science and Technology Studies	2000	2003
Societal Dimensions of Engineering, Science, and Technology	2000	2003
Economics	2000	2003
Sociology	2000	2003
<b>DIRECORATE</b>	Fiscal Year of Most Recent COV	Fiscal Year of Next COV Due
<i>Division</i>		
<i>Programs</i>		
<b>OFFICE OF POLAR PROGRAMS</b>		
<b><i>Polar Research Support</i></b>	<b>2001</b>	2004
<i>Antarctic Sciences</i>		2003
Antarctic Aeronomy and Astrophysics	2000	2003
Antarctic Biology and Medicine	2000	2003
Antarctic Geology and Geophysics	2000	2003
Antarctic Glaciology	2000	2003
Antarctic Ocean and Climate Systems	2000	2003
<i>Arctic Sciences</i>		2003
Arctic Research Opportunities	2000	2003
Arctic Research and Policy	2000	2003
Arctic System Sciences	2000	2003
Arctic Natural Sciences	2000	2003
Arctic Social Sciences	2000	2003
<b>DIRECTORATE</b>	Fiscal Year of Most Recent COV	Fiscal Year of Next COV Due
<i>Division</i>		
<i>Programs</i>		
<b>OFFICE OF INTEGRATIVE ACTIVITIES</b>		
Major Research Instrumentation (MRI)	2000*	
Science and Technology Centers (STC)	1996*	2007
*External evaluations		

## Appendix Table 12

### GPRA Performance Relating to Merit Review

Performance Area	FY 2001 Annual Performance Goal	Results for National Science Foundation												
<b>NSF Business Practices</b>														
Electronic Proposal Submission	<p><b><u>Performance Goal IV-1:</u></b> Ninety-five percent of full proposals will be received electronically through FastLane.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">FY 1998 Baseline</td> <td style="text-align: right;">17%</td> </tr> <tr> <td>FY 1999 Result</td> <td style="text-align: right;">44%</td> </tr> <tr> <td>FY 2000 Goal</td> <td style="text-align: right;">60%</td> </tr> <tr> <td>FY 2000 Result</td> <td style="text-align: right;">81%</td> </tr> <tr> <td>FY 2001 Goal</td> <td style="text-align: right;">95%</td> </tr> <tr> <td>FY 2001 Result</td> <td style="text-align: right;">99%</td> </tr> </table>	FY 1998 Baseline	17%	FY 1999 Result	44%	FY 2000 Goal	60%	FY 2000 Result	81%	FY 2001 Goal	95%	FY 2001 Result	99%	<p style="text-align: center;"><i>FY 1999: NSF successful</i></p> <p style="text-align: center;"><i>FY 2000: NSF successful</i></p> <p style="text-align: center;"><i>FY 2001: NSF is successful for goal IV-1.</i></p>
FY 1998 Baseline	17%													
FY 1999 Result	44%													
FY 2000 Goal	60%													
FY 2000 Result	81%													
FY 2001 Goal	95%													
FY 2001 Result	99%													
<b>Proposal and Award Processes</b>														
Use of Merit Review	<p><b><u>Performance Goal V-1:</u></b> At least 85 percent of basic and applied research funds will be allocated to projects which undergo merit review. *</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">FY 2000 Goal</td> <td style="text-align: right;">80%</td> </tr> <tr> <td>FY 2000 Result</td> <td style="text-align: right;">87%</td> </tr> <tr> <td>FY 2001 Goal</td> <td style="text-align: right;">85%</td> </tr> <tr> <td>FY 2001 Result</td> <td style="text-align: right;">88%</td> </tr> </table> <p style="text-align: center;"><i>*During FY 2000 OMB redefined what constitutes a merit-reviewed project and established a new target level of 70-90%.</i></p>	FY 2000 Goal	80%	FY 2000 Result	87%	FY 2001 Goal	85%	FY 2001 Result	88%	<p>Goal revised in FY 2000</p> <p><b>FY 1999:</b> NSF successful for related goal</p> <p><b>FY 2000:</b> NSF successful</p> <p><b>FY 2001: NSF is successful for goal V-1.</b></p>				
FY 2000 Goal	80%													
FY 2000 Result	87%													
FY 2001 Goal	85%													
FY 2001 Result	88%													
Implementation of Merit Review Criteria – Reviewers	<p><b><u>Performance Goal V-2:</u></b> NSF performance in implementation of the merit review criteria is successful when reviewers address the elements of both generic review criteria.</p> <p><b><u>FY 2001 Result:</u></b> Reviewers did not consistently address the broader impacts criterion in FY 1998 – FY 2000. In FY 2001 separate screens were added in FastLane to enable reviewers to address each merit-review criterion separately and NSF established an internal task force to examine strategies to improve both proposer and reviewer attention to the broader impacts criterion. A number of reports by external experts note that reviewers are making significant progress in utilization of both merit review criteria.</p> <p>In FY 2002, NSF will continue to develop a set of recommendations that focus on strategies that stress the importance of using both criteria. It will also collect and make available examples of broader impacts and develop a plan to disseminate them.</p>	<p>Goal revised in FY 2001.</p> <p><b>FY 2001: NSF is not successful for goal V-2.</b></p>												

## Appendix Table 12

### Annual Performance Goals for NSF'S Investment Process (continued)

Performance Area	FY 2001 Annual Performance Goal	Results for National Science Foundation												
Customer Service: Time to Prepare Proposals	<p><b><u>Performance Goal V-4:</u></b> 95 percent of program announcements will be available to relevant individuals and organizations at least three months prior to the proposal deadline or target date.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-right: 20px;">FY 1998 Baseline</td> <td style="text-align: right;">66%</td> </tr> <tr> <td>FY 1999 Result</td> <td style="text-align: right;">75%</td> </tr> <tr> <td>FY 2000 Goal</td> <td style="text-align: right;">95%</td> </tr> <tr> <td>FY 2000 Result</td> <td style="text-align: right;">89%</td> </tr> <tr> <td>FY 2001 Goal</td> <td style="text-align: right;">95%</td> </tr> <tr> <td>FY 2001 Result</td> <td style="text-align: right;">100%</td> </tr> </table>	FY 1998 Baseline	66%	FY 1999 Result	75%	FY 2000 Goal	95%	FY 2000 Result	89%	FY 2001 Goal	95%	FY 2001 Result	100%	<p><b>FY 1999:</b> NSF not successful</p> <p><b>FY 2000:</b> NSF not successful</p> <p><b>FY 2001: NSF is successful for goal V-4.</b></p>
FY 1998 Baseline	66%													
FY 1999 Result	75%													
FY 2000 Goal	95%													
FY 2000 Result	89%													
FY 2001 Goal	95%													
FY 2001 Result	100%													
Customer Service: Time to Decision	<p><b><u>Performance Goal V-5:</u></b> For 70 percent of proposals, be able to tell applicants whether their proposals have been declined or recommended for funding within six months of receipt.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-right: 20px;">FY 1998 Baseline</td> <td style="text-align: right;">59%</td> </tr> <tr> <td>FY 1999 Result</td> <td style="text-align: right;">58%</td> </tr> <tr> <td>FY 2000 Goal</td> <td style="text-align: right;">70%</td> </tr> <tr> <td>FY 2000 Result</td> <td style="text-align: right;">54%</td> </tr> <tr> <td>FY 2001 Goal</td> <td style="text-align: right;">70%</td> </tr> <tr> <td>FY 2001 Result</td> <td style="text-align: right;">62%</td> </tr> </table> <p><b><u>FY 2001 Result:</u></b> In FY 2001, 62% of proposals were processed within 6 months of receipt.</p> <p>In FY 2002, NSF will continue to focus on improving the efficiency of proposal processing, including the dissemination of best practices to program staff.</p>	FY 1998 Baseline	59%	FY 1999 Result	58%	FY 2000 Goal	70%	FY 2000 Result	54%	FY 2001 Goal	70%	FY 2001 Result	62%	<p><b>FY 1999:</b> NSF not successful</p> <p><b>FY 2000:</b> NSF not successful</p> <p><b>FY 2001: NSF is not successful for goal V-5.</b></p>
FY 1998 Baseline	59%													
FY 1999 Result	58%													
FY 2000 Goal	70%													
FY 2000 Result	54%													
FY 2001 Goal	70%													
FY 2001 Result	62%													
Award Size	<p><b><u>Performance Goal V-6a:</u></b> NSF will increase the average annualized award size for research projects to \$110,000.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-right: 20px;">FY 1998 Baseline</td> <td style="text-align: right;">\$90,000</td> </tr> <tr> <td>FY 1999 Result</td> <td style="text-align: right;">\$94,000</td> </tr> <tr> <td>FY 2000 Result</td> <td style="text-align: right;">\$105,800</td> </tr> <tr> <td>FY 2001 Goal</td> <td style="text-align: right;">\$110,000</td> </tr> <tr> <td>FY 2001 Result</td> <td style="text-align: right;">\$113,601</td> </tr> </table>	FY 1998 Baseline	\$90,000	FY 1999 Result	\$94,000	FY 2000 Result	\$105,800	FY 2001 Goal	\$110,000	FY 2001 Result	\$113,601	<p>New goal in FY 2001.</p> <p><b>FY 2001: NSF is successful for goal V-6a.</b></p>		
FY 1998 Baseline	\$90,000													
FY 1999 Result	\$94,000													
FY 2000 Result	\$105,800													
FY 2001 Goal	\$110,000													
FY 2001 Result	\$113,601													

## Appendix Table 12

### Annual Performance Goals for NSF'S Investment Process (continued)

Performance Area	FY 2001 Annual Performance Goal	<i>Results for National Science Foundation</i>																
Award Duration	<p><b><u>Performance Goal V-6b:</u></b> NSF will increase the average duration of awards for research projects to at least three years.</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>FY 1998 Baseline</td> <td>2.7 years</td> </tr> <tr> <td>FY 1999 Goal</td> <td>2.8 years</td> </tr> <tr> <td>FY 1999 Result</td> <td>2.8 years</td> </tr> <tr> <td>FY 2000 Result</td> <td>2.8 years</td> </tr> <tr> <td>FY 2001 Goal</td> <td>3.0 years</td> </tr> <tr> <td>FY 2001 Result</td> <td>2.9 years</td> </tr> </table> <p><b><u>FY 2001 Result:</u></b> Resource limitations impacted NSF's ability to achieve both the award size and award duration goals. NSF focused its efforts on increasing average annualized award size.</p> <p>In FY 2002, NSF will continue to focus on increasing award size and duration in order to improve the efficiency of the research process.</p>	FY 1998 Baseline	2.7 years	FY 1999 Goal	2.8 years	FY 1999 Result	2.8 years	FY 2000 Result	2.8 years	FY 2001 Goal	3.0 years	FY 2001 Result	2.9 years	<p><b>FY 1999:</b> NSF successful</p> <p><b>FY 2000:</b> Not applicable</p> <p><b>FY 2001: NSF is not successful for goal V-6b.</b></p>				
FY 1998 Baseline	2.7 years																	
FY 1999 Goal	2.8 years																	
FY 1999 Result	2.8 years																	
FY 2000 Result	2.8 years																	
FY 2001 Goal	3.0 years																	
FY 2001 Result	2.9 years																	
Maintaining Openness in the System	<p><b><u>Performance Goal V-7:</u></b> NSF will award 30 percent of its research grants to new investigators.</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>FY 1997 Baseline</td> <td>27%</td> </tr> <tr> <td>FY 1998</td> <td>27%</td> </tr> <tr> <td>FY 1999 Goal</td> <td>30%</td> </tr> <tr> <td>FY 1999 Result</td> <td>27%</td> </tr> <tr> <td>FY 2000 Goal</td> <td>30%</td> </tr> <tr> <td>FY 2000 Result</td> <td>28%</td> </tr> <tr> <td>FY 2001 Goal</td> <td>30%</td> </tr> <tr> <td>FY 2001 Result</td> <td>28%</td> </tr> </table> <p>In FY 2002, NSF will continue its outreach to new investigators to promote awareness of research funding and to encourage new investigators to submit proposals.</p>	FY 1997 Baseline	27%	FY 1998	27%	FY 1999 Goal	30%	FY 1999 Result	27%	FY 2000 Goal	30%	FY 2000 Result	28%	FY 2001 Goal	30%	FY 2001 Result	28%	<p><b>FY 1999:</b> NSF not successful</p> <p><b>FY 2000:</b> NSF not successful</p> <p><b>FY 2001: NSF is not successful for goal V-7.</b></p>
FY 1997 Baseline	27%																	
FY 1998	27%																	
FY 1999 Goal	30%																	
FY 1999 Result	27%																	
FY 2000 Goal	30%																	
FY 2000 Result	28%																	
FY 2001 Goal	30%																	
FY 2001 Result	28%																	
<b>Broadening Participation</b>																		
Reviewer Pool	<p><b><u>Performance Goal V-8:</u></b> NSF will begin to request voluntary demographic data electronically from all reviewers to determine participation levels of members of underrepresented groups in the NSF reviewer pool.</p> <p><b><u>FY 2001 Result:</u></b> The reviewer system in FastLane was revised to gather voluntary demographic data.</p>	<p>New goal in FY 2001.</p> <p><b>FY 2001: NSF is successful for goal V- 8.</b></p>																

### Appendix Table 13

#### Small Grants for Exploratory Research (SGER) Funding Trends by Directorate, FY 1999 - 2001

		Fiscal Year		
		1999	2000	2001
NSF	Proposals	278	319	300
	Awards	224	274	255
	Total \$	\$12,293,477	\$15,725,176	\$15,362,826
	% of Obligations	0.3%	0.4%	0.4%
	Average \$	\$54,882	\$57,391	\$60,246
BIO	Proposals	49	61	59
	Awards	37	46	40
	Total \$	\$1,984,457	\$2,553,923	\$2,747,298
	% of Obligations	0.5%	0.6%	0.5%
	Average \$	\$55,124	\$55,520	\$68,682
CISE	Proposals	24	28	25
	Awards	22	27	21
	Total \$	\$1,739,513	\$1,634,881	\$1,571,733
	% of Obligations	0.5%	0.4%	0.3%
	Average \$	\$79,069	\$60,551	\$74,844
EHR	Proposals	15	27	13
	Awards	14	27	13
	Total \$	\$971,346	\$2,326,298	\$1,021,456
	% of Obligations	0.1%	0.3%	0.1%
	Average \$	\$69,382	\$86,159	\$78,574
ENG	Proposals	88	82	84
	Awards	74	73	79
	Total \$	\$4,371,965	\$4,757,413	\$5,121,146
	% of Obligations	1.1%	1.2%	1.1%
	Average \$	\$59,081	\$65,170	\$64,825
GEO	Proposals	44	51	49
	Awards	40	45	48
	Total \$	\$1,464,750	\$1,929,147	\$2,235,480
	% of Obligations	0.4%	0.4%	0.4%
	Average \$	\$36,619	\$42,870	\$46,573
MPS	Proposals	33	22	25
	Awards	16	12	12
	Total \$	\$908,436	\$767,216	\$802,671
	% of Obligations	0.1%	0.1%	0.1%
	Average \$	\$56,777	\$63,935	\$66,889
SBE	Proposals	17	31	28
	Awards	13	28	27
	Total \$	\$534,126	\$878,781	\$1,195,763
	% of Obligations	0.3%	0.5%	0.7%
	Average \$	\$41,087	\$31,385	\$44,288



## Terms & Acronyms

<u>Acronym</u>	<u>Definition</u>
A&M	Administration and Management
AC	Advisory Committee
BFA	Office of Budget, Finance and Award Management
BIO	Directorate for Biological Sciences
CAREER	Faculty Early Career Development Program
CISE	Directorate for Computer and Information Science and Engineering
COV	Committee of Visitors
EHR	Directorate for Education and Human Resources
EIS	Enterprise Information System
ENG	Directorate for Engineering
EPSCoR	Experimental Program to Stimulate Competitive Research
FFRDC	Federally Funded Research and Development Center
FTE	Full-Time Equivalent
FY	Fiscal Year
GPRA	Government Performance and Results Act
IA	Integrative Activities
IPA	Intergovernmental Personnel Act (appointee)
IPERS	Integrated Personnel System
MPS	Directorate for Mathematical and Physical Sciences
NSF	National Science Foundation
ODS	Online Document System
OIG	Office of Inspector General
OMB	Office of Management and Budget
OPP	Office of Polar Programs
PARS	Proposal, PI and Reviewer System
PI	Principal Investigator
R&D	Research and Development
R&RA	Research and Related Activities (account)
S&E	Science and Engineering
S&E	Salaries and Expenses (account)
SBE	Directorate for Social, Behavioral and Economic Sciences
SGER	Small Grant for Exploratory Research
VSEE	Visiting Scientists, Engineers and Educators