

## ADDITIONAL FINANCIAL REPORTING INFORMATION

### IMPROPER PAYMENTS INFORMATION ACT REPORTING DETAILS

**I. Describe your agency’s risk assessment(s), performed subsequent to compiling your full program inventory. List the risk-susceptible programs (i.e., programs that have a significant risk of improper payments based on OMB guidance thresholds) identified through your risk assessments. Be sure to include the programs previously identified in the former Section 57 of OMB Circular A-11.**

Former Section 57 of OMB Circular No. A-11 listed NSF’s “Research and Education Grants and Cooperative Agreements” as a risk-susceptible program. NSF defined this “program” as all grants and cooperative agreements within our Research and Related Activities (R&RA) and Education and Human Resources (EHR) appropriations, which are comprised primarily of grants and cooperative agreements (NSF’s IPIA program). NSF came to this determination after conducting an analysis of outlays; the R&RA and EHR appropriations were the only ones that met the IPIA reporting threshold of payments over \$10 million and 2.5% of outlays. NSF conducts this risk assessment annually but we do not anticipate a change in the results unless the agency were to receive a significant change in funding. The risk assessment conducted in January 2005 indicated that the grants and cooperative agreements within our R&RA and EHR appropriations which constitute our risk-susceptible program accounted for 91% of the agency’s total outlays -- \$4.649 billion out of \$5.118 billion.

**II. Describe the statistical sampling process conducted to estimate the improper payment rate for each program identified.**

NSF contracted with McBride, Lock, and Associates, Certified Public Accountants, to conduct a statistical review of our FCTR transactions received from grant recipients funded from the two appropriations (R&RA and EHR) that are included in our risk-susceptible program. Management Analysis, Incorporated (MAI) conducted the statistical sample determination under a subcontract agreement with McBride, Lock, and Associates. NSF staff in the Division of Financial Management and Division of Institution and Award Support worked closely with the contractors as they proceeded with this large IPIA effort. NSF staff made a concerted effort to ensure the project was successful and completed on time.

The large number of FCTR transactions received each year necessitated a statistical sampling be applied to determine the degree of “improper use” in payments to grant recipients. The sampling was conducted in accordance with OMB guidance. MAI selected the FCTR transaction to be reviewed and McBride, Lock, and Associates conducted the actual reviews. This team arrangement ensured a distinctly unbiased sampling approach.

The sampling team of McBride, Lock and Associates along with MAI considered all FCTR transactions from the quarter ending December 31, 2003, through the quarter ending September 30, 2004, as the statistical population for review. The total statistical population (universe) includes all the quarterly transactions of NSF’s IPIA program.

**Sample Size Determination:** Sample size was determined in accordance with the Implementation Guidance for Improper Payments Information Act of 2002, PL 107-300,

and specifically in the cited reference (Sampling of Populations: Methods and Applications, Levy and Lemeshow, 1999). The number of FCTR awards to be reviewed was calculated as:

$$n \geq (2.706 * (1-P)) / ((.025/P)^2 * P)$$

In the formula “n” is the minimum sample size and “P” is the estimated percentage of erroneous payments. This equation is based on a 90% confidence interval of plus or minus 2.5% (or 0.025) around the estimate of the percentage of erroneous payments. The total awards, with each of their quarterly submissions, are included in the universe for the sample determination. The minimum number of samples to be reviewed was determined by applying the above formula to the standards in the table below:

Sample Type	Total Universe Represented	% from calculation	Minimum Sample to be Reviewed
Improper Payments	151,488	0.08317%	126
Dollar Value Represented	\$4,215,714,913	0.08317%	\$3,506,210

The information in the “Total Universe Represented” represents FY 2004 outlays and FCTR’s in determining the 2005 NSF IPIA program results. The sample sizes determined by the above formula were also evaluated by MAI using other recognized equations and tables and found to be reasonable. However, it was recognized that the number of samples evaluated and fully reviewed must meet the minimum sample size, not just the samples pulled. As such, additional samples were pulled to ensure that the final amount was sufficient.

**Actual Sample Determination:** Samples selected for review were selected by an algorithm developed by MAI that used random number generation to select the grant award identification number. The quarter to be evaluated was also randomly selected. During the initial reviews of the data, it was determined that the data included significant zero entries for quarterly periods that were preceding the grant award effective date. There are a total of 12,522 zero entries or 8.3% of the total FCTR transactions. Under the NSF General Grant Terms and Conditions, grant recipients can incur pre-award costs up to 90 days prior to the effective date of the award at their own risk. Therefore, NSF determined that transaction amounts other than zero with dates prior to the award effective date were valid transactions.

However, for sampling purposes NSF determined that zero entries for dates prior to the effective date of the awards represented invalid zero transaction amounts because incurring pre-award costs is an option for the grant recipients. This makes a zero amount for pre-award periods the standard for the vast majority of NSF grants. These zero entries were not used in the final sample for review. NSF determined that zero entries for quarterly periods during the performance period of the award were valid entries and were included in the final sample. Additional zero entries present in quarters that follow final payments of closed out awards were also not included in the final sample. OMB was consulted on NSF’s approach for handling zero entries. All samples identified as not to be sampled were confirmed by NSF.

It was anticipated that some grantees would not respond in a timely manner in order for the review to be completed within the timeline specified. Therefore, the initial sample randomly selected was larger than the minimums, to ensure that zero payment samples and non-responses would not result in a sample less than the minimum required to ensure a statistically valid sampling for the record. The samples were also kept in the random priority order to ensure validity of the total sample when samples were zero or non-responsive. NSF did not encounter any grantees that could not respond in this year's sample.

The list of grantees selected for review was transmitted to McBride, Lock, and Associates for communication to the grantees informing them of NSF's intent to review their specific FCTR transaction. Based on data that McBride, Lock and Associates received from grantees, a listing of sampled FCTRs with their respective number of subtasks was transmitted to MAI. From this FCTR list, MAI randomly selected the subtask to be reviewed in detail. Each group of samples was validated by an MAI method to ensure they were truly random. The sub-transaction number identification was then sent to McBride, Lock and Associates for the detailed audit of the respective sub-transaction.

**Letters Requesting FCTR Transaction Lists:** Letters were prepared for each grantee informing them of their selection for review. The letters were coordinated with NSF prior to sending and also electronically transmitted to grantees to expedite the process. The letter requested the grantee provide a list of the individual transactions for the award selected for review that were included in the expenditure amount that was submitted on the FCTR for the quarter.

**FCTR Transaction List Processing:** Upon receipt of the transaction lists from each grantee, the information was documented for accountability, reconciled with the FCTR, and NSF was apprised of the status of receipts. The transaction lists were processed by MAI into an MS Excel format for sample determination. Using the MS Excel random sampling function, one sample from each selected FCTR quarterly transaction list was selected. The identified grantee, associated FCTR quarterly transaction list, and one specific transaction representing the respective FCTR quarterly report was then transmitted to McBride, Lock and Associates for review.

The non-timely response of grant holders was documented and forwarded to NSF. All grantees selected for sampling were advised in the request letter that failure to provide the requested information by the due date without reasonable explanation could result in the suspension of the award(s) until such time that the information was submitted. As stated earlier, additional samples were pulled to account for non-responses, however, none of the additional samples were needed. NSF communication with grantees facilitated all samples to be received. Substitutions were only to be allowed for grantees who could not respond due to hardship or circumstances beyond their control (e.g. Hurricane Katrina, etc). Once sufficient returns to meet the sample requirement were met, the remaining returns were eliminated to reduce the inconvenience to grant holders.

**Selected Transaction Supporting Documentation:** Letters and electronic communication were sent to each grantee with instructions to provide supporting documentation for the specific transaction selected from their FCTR transaction list. The information received was then reviewed in accordance with applicable cost principles.

Reviews included, but were not limited to the following:

- Did the cost represent expressly unallowable cost as cited in the Cost Principles, Grant Policy Manual, and award terms and conditions?
- Was this a duplicative payment?
- Were the services or products provided?
- Were the costs incurred during the period of performance?
- Did the payment agree with the terms of sub-award agreement?
- Was there adequate documentation?

### **III. Describe the Corrective Action Plans for:**

**A. Reducing the estimated rate of improper payments. Include in this discussion what is seen as the cause(s) of errors and the corresponding steps necessary to prevent future occurrences. If efforts are already underway, and/or have been going on for some length of time, it is appropriate to include that information in this section.**

NSF's results were well below the \$10 million IPIA Act threshold requirement for a reduction plan and associated corrective action plan reporting. The IPIA initiative for NSF did not focus on whether we correctly pay the correct grantee. NSF's electronic process for cash draws and FCTR payments is highly automated and accurate. Our grant payment process in paying eligible recipients has been near perfect—99.9%—for many years and is one of the most accurate in government. Therefore, NSF's IPIA initiative focuses on the awardees' proper use of taxpayer funds. NSF's statistically favorable results in Section IV demonstrate the effectiveness of the Foundation's end-to-end award management process.

As the lead research grant-making agency participating in the IPIA initiative, NSF encountered challenges in developing an appropriate plan for sampling FCTRs. This year, NSF overcame the challenges and implemented a successful IPIA assessment program for grantees. The combination of contractor and internal resources provided a knowledgeable team. NSF will continue its successful IPIA program in the future and will discuss results and our inclusion in future reporting requirements with OMB.

**B. Grant-making agencies with risk susceptible grant programs, discuss what your agency has accomplished in the area of funds stewardship past the primary recipient. Include the status on projects and results of any reviews.**

NSF's integrated systems and policies provide assurance that assistance awards are made to the proper recipient. NSF awards and responsibility for those funds are provided to the primary grant recipient. The terms and conditions of awards state that the awardee has full responsibility for the conduct of the project or activity supported and for adherence to award conditions, and, that by acceptance of the award, the awardee agrees to comply with applicable federal requirements for grants and cooperative agreements and to the prudent management of all expenditures and actions affecting the award. It is important to note that NSF has an integrated award administration enterprise that builds-in risk mitigation from the pre-award stage and throughout post-award administration. As such, NSF fulfills its fiduciary and programmatic responsibilities throughout the award administration lifecycle or continuum.

Federal post-award financial and administrative responsibilities are shared. NSF has responsibility for business assistance and monitoring, and the NSF/OIG has responsibility for the conduct of audits. These federal responsibilities are supplemented at the awardee-level. Specifically, awardees must have adequate administrative systems in place as a predicate for the receipt of federal funding, and the A-133 audit process serves to enhance and complement federal oversight of awardee compliance. This shared responsibility for oversight is robust, multilevel and comprehensive. Our IPIA program and the low error rate results that have been demonstrated provide further proof that this shared, multilevel approach is successful.

**IV.**

**Improper Payment Reduction Outlook FY 2004 - FY 2007**

*(\$ in Millions)*

Program	2004			2005			2006	2007
R&RA	Outlays	IP%	IP\$	Outlays	IP%	IP\$	IP%	IP%
& EHR	\$4,742	0.093%	\$4.4	\$4,215	0.0248%	\$1.05	< 0.1%	< 0.1%

NSF’s IPIA program outlay and improper payment rates and dollars are an assessment of prior year activity. The 2005 outlays and improper payment rates reported represent FY 2004 outlays and FCTR transactions reviewed (quarter ending December 31, 2003 through the quarter ending September 30, 2004). NSF assesses its activity in this manner in relation to timing of receipt of our FCTRs, allowing time for extensive review, and relating them to a fiscal year of outlays.

NSF’s change in methodology from 2004 to 2005 impacted the comparability of the results. In 2004, NSF’s assessment for our IPIA program was directed to awards already identified as high-risk through our pre-existing Award Monitoring and Business Assistance Program. The extrapolation of the results of our high-risk awards to our IPIA program led to higher results and statistical issues. In 2005, NSF revamped our IPIA plan and implemented a process to ensure statistically valid improper payment testing across NSF’s IPIA program.

NSF contracted with McBride, Lock and Associates and they reviewed each of the individual sub-transactions representing the FCTR. The results of their review were presented to MAI for analysis against the initial requirements. The improper payment rate percentage described above is the calculated erroneous payment rate based on the sample size determination discussed in the sampling plan. The extrapolated values listed above therefore have a standard deviation of plus or minus 2.5% and an associated confidence level of 90%. The results indicate that the occurrence of improper payments is well below the significant standard for improper payments defined as a total of improper payments exceeding \$10 million and 2.5% of the total outlays (as outlined by the Improper Payments Information Act of 2002 and OMB Guidance). These statistically favorable results demonstrate the effectiveness of NSF’s end-to-end award management process.

**V. Discuss your agency’s Recovery Auditing effort, if applicable, include any contract types excluded from review and the justifications for doing so; actions taken to recoup improper payments, and the business process changes and internal controls instituted and/or strengthened to prevent further occurrences.**

Not applicable for NSF’s program of Research and Education Grants and Cooperative agreements.

**VI. Describe the steps the agency has taken and plans to take (including time line) to ensure that agency managers (including the agency head) are held accountable for reducing and recovering improper payments.**

NSF’s grant monitoring framework for assessing and managing awardee risks and assets is based on a planned, dynamic multi-level risk minimization strategy with levels. Our IPIA program is an important part of our baseline level. It is within this overall context that NSF incorporates risk assessment as a management tool to ensure a balanced cost-benefit approach that frames its multi-level strategy. It is a proactive approach that requires a working relationship with both the program staff and the awardee community and helps to ensure that the public funds that are received are properly managed and accounted for.

**VII.A. Describe whether the agency has the information systems and other infrastructure it needs to reduce improper payments to the levels the agency has targeted.**

NSF is currently using its existing end-to-end award information systems and infrastructure. NSF will evaluate future grant and core financial needs consistent with its e-Government Implementation Plan.

**VII. B. If the agency does not have such systems and infrastructure, describe the resources the agency requested in its FY 2006 budget submission to Congress to obtain the necessary information systems and infrastructure.**

Continuation of contractor support for this initiative will be dependent upon NSF’s future Salaries and Expenses appropriation level.

**VIII. Describe any statutory or regulatory barriers that may limit the agencies’ corrective actions in reducing improper payments and actions taken by the agency to mitigate the barriers’ effects.**

None currently identified.

**IX. Additional comments, if any, on overall agency efforts, specific programs, best practices, or common challenges identified, as a result of IPIA implementation.**

None.