INFORMATION ABOUT PRINCIPAL INVESTIGATOR/PROJECT DIRECTORS Submit only ONE copy of this form with your proposal. Attach it on top of the cover page of the copy of your proposal that bears the original signatures. Leave the back of the page blank. Do not include this form with any of the other copies of your proposal, as this may compromise the confidentiality of the information. Please check the appropriate answers to each question for all principal investigator(s)/project director(s) listed on the cover page, using the same order in which they were listed there: Principal Third First Second Fourth Investigator/ Additional Additional Additional Additional PI/PD Project Director PI/PD PI/PD PI/PD 1. Is this person Female Male 2. Is this person a U.S. Citizen Permanent Resident Other non-U.S. Citizen 3. Which one of these categories best describes this person's ethnic/racial status? (If more than one category applies, use the category that most closely reflects the person's recognition in the community.) American Indian or Alaskan Native Asian Black, not of Hispanic Origin Hispanic Pacific Islander White, not of Hispanic Origin 4. Does this person have a disability which limits a major life activity? Yes $\overline{\Box}$ 靣 靣 Nο Check here if this person does П not wish to provide some of all of the above information REQUIRED: Check here if this person is currently serving (or has previously served) as PI, Co-PI or PD on any Federally funded project AMERICAN INDIAN OR ALASKAN NATIVE: A person having origins in any of the original peoples of North American and who maintains cultural identification through tribal affiliation or community recognition. ASIAN: A person having origins in any of the original peoples of East Asia, Southeast Asia or the Indian subcontinent. This area includes for example, China, India, Indonesia, Japan, Korea, and Vietnam. BLACK, NOT HISPANIC ORIGIN: A person having origins in any of the black racial groups of Africa. HISPANIC: A person of Mexican, Puerto Rico, Cuban, Central of South American or other Spanish culture or origin, regardless of race. PACIFIC ISLANDER: A person having origins in any of the original peoples of Hawaii; the U.S. Pacific territories of Guam, American Samoa, and the Northern Marinas; The U.S. Trust Territory of Palau; the islands of Micronesia and Melanesia; or the Philippines. WHITE, NOT OF HISPANIC ORIGIN: A person having origins in any of the original peoples of Europe, North Africa, or the Middle East. *Disabled: A person having a physical or mental impairment that substantially limits one or more major life activities; who has a record of such impairment; or who is regarded as having such impairment. WHY THIS INFORMATION IS BEING REQUESTED: The Federal Government has a continuing commitment to monitor the operation of its review and award processes to identify and address any inequities based on gender, race, ethnicity, or disability of the proposed principal investigators/project directors and co-principal investigators. To

gather the information needed for this important task, you should submit a single copy of this form with each proposal; however, submission of the requested information is not mandatory and is not a precondition of award. Any individual not wishing to submit the information should check the box provided for this purpose. (The exception is information about previous Federal support, the last question above.)

Information from this from will be retained by Federal agencies as an integral part of their Privacy Act Systems of Records in accordance with the Privacy Act of 1974. These are confidential files accessible only to appropriate Federal agency personnel and will be treated as confidential to the extent permitted by law. Data submitted will be used in accordance with criteria established by the respective Federal agency for awarding grants for research and education, and in response to Public Law 99-383 and 42 USC 1885c.

CERTIFICATION PAGE

| Certification for Principal Investigato I certify to the best of my knowledge that: | rs | | | | | |
|--|--|---|--|--|--|--|
| the statements herein (excluding scientific the text and graphics herein are as well as a the signatories or individuals working under their | ny accompar supervision. | nying publications or other documents, . I agree to accept responsibility for the | unless otherwise | | _ | |
| required progress reports if an award is made as a I understand that the willful provision of false information of fense (U.S. Code, Title 18, Section 1001) | nation or con | | or any other comm | nunication s | ubmitted | to NSF is a |
| Name (Typed) | | Signature | | | Date | |
| PI/PD | | | | | | |
| Certification for Authorized Organiza By signing and submitting this proposal, the individ herein are true and complete to the best of his/her kr an award is made as a result of this application. Fur suspension, drugfree workplace, and lobbying activit information in this application and its supporting do Section 1001). In addition, if the applicant institution employs more implemented a written and enforced conflict of inter his/her knowledge, all financial disclosures required | ual applicant and applicant ther, the applicies (see belocuments or in the than fifty possible than fifty possible than fifty possible that confidence that by that confidence that applicant the than fifty possible than fifty p | or the authorized official of the applicated (2) agreeing to accept the obligation of the application in the accept the obligation of the application who, as set forth in the <i>Grant Proposal</i> of a reports required under an ensuring award ersons, the authorized official of the application is consistent with the provisions of <i>G</i> lict of interest policy have been made; | ant institution is: (to comply with Note that the comply with Note that the complex with Note that the complex with the compl | SF award ted debt status, F 98-2. Will offense (U.S is certifying ual, Section fied conflict | rms and co debarmer iful provis . Code, Ti g that the i 510; that | onditions if and sion of false itle 18, institution has to the best of |
| conflict of interest policy. Conflicts which cannot be the beat and Debarment Certifications (If | | | | NSF. | | |
| Is organization delinquent on any Federal debt? | unswer yes | to craici, picuse provide explanation. | YES | NO | | |
| Is the organization or its principals presently debarre ineligible, or voluntarily excluded from covered tran | | | YES | NO NO | NO | |
| Certification Regarding Lobbying This certification is required for an award of a Feder commitment providing for the United States to insur | | | ing \$100,000 and | for an award | d of a Fed | eral loan or a |
| Certification for Contracts, Grants, Loans The undersigned certifies, to the best of his or her kn | | | | | | |
| (1) No Federal appropriated funds have been paid or influence an officer of employee of any agency, a M connection with the awarding of any federal contrac agreement, and the extension, continuation, renewal | ember of Cor t, the making | ngress, an officer or employee of Congr g of any Federal grant, the making of ar | ress, or an employ ny Federal loan, th | ee of a mem ne entering i | ber of Co nto of any | ongress in cooperative |
| (2) If any funds other than Federal appropriated fun employee of any agency, a Member of Congress, and Federal contract, grant, loan, or cooperative agreement Activities," in accordance with its instructions. | d officer or e | mployee of Congress, or an employee of | of a Member of Co | ongress in co | nnection | with this |
| (3) The undersigned shall require that the language subcontracts, subgrants, and contracts under grants, | | | | | | |
| This certification is a material representation of fact certification is a prerequisite for making or entering required certification shall be subject to a civil pena | into this tran | saction imposed by section 1352, title | 31, U.S. Code. A | ny person w | | |
| Authorized Company Officier | | Signature | | | D | ate |
| Name /Title (Typed) | · | | | | | |
| Telephone Number | Electron | nic Mail Address | Fax Numb | oer | | |
| | | | | | | |

NATIONAL SCIENCE FOUNDATION

Program Solicitation/Instruction Guide: NSF 98-54

Closing Date: June 12, 1998

SBIR PHASE I -- PROPOSAL COVER PAGE

| TOPIC NO. SUBTOPIC | LETTER | TOPIC TITLE | | | | |
|--|-------------------------------|---------------------|-----------------|-----------|-----------------------------|------|
| (if any) | | | | | | |
| PROPOSAL TITLE | | | | | | |
| | | | | | | |
| COMPANY NAME | | | | | TIFICATION NUMBER (EIN) (| OR |
| | | | TAXPAY | ER IDEN | TIFICATION NUMBER (TIN) | |
| | | | | | | |
| ADDRESS (including address of C | Company Heada | marters and zin co | de plus four d | igit exte | nsion) | |
| ADDICESS (including address of C | company ricadq | quarters and zip ec | de plus four d | igit exte | 1131011) | |
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| REQUESTED AMOUNT | PROPOSI | ED DURATION | | PERIO | OD OF PERFORMANCE | |
| - | | | | | | |
| \$ | | 6 months | | | | |
| THE SMALL BUSINESS CERT | TIFIES THAT: | | | | | Y/N |
| 1. It is a small business as defined | d in Section 2.12 | 2 | | | | |
| 2. It qualifies as a socially and eco | onomically disac | lvantaged busines | s as defined in | Section | 2.14. FOR STATISTICAL | |
| PURPOSES ONLY. | | | | | | |
| 3. It qualifies as a women-owned | business as defii | ned in Section 2.1 | 7. FOR STAT | TISTICA | AL PURPOSES ONLY. | |
| 4. NSF is the only Federal agency | that has receive | ed this proposal (o | or an overlappi | ng or eq | uivalent proposal) from the | |
| small business concern. If No, you | u must disclose | overlapping or eq | uivalent propo | sals and | awards as required by this | |
| solicitation. (See Section 3.1.12) | | | | | | |
| 5. A minimum of two-thirds of the research will be performed by this firm in Phase I. | | | | | | |
| 6. The primary employment of the principal investigator will be with this firm at the time of award and during the | | | | | | |
| conduct of the research. | | | | | | |
| 7. It will permit the government | | | | | | |
| telephone number of a corporate of | | | | d to part | ties that may be interested | |
| in contacting the small business for | | | | | | |
| 8. It will comply with the provisions of the Civil Rights Act of 1964 (P. L. 88-352) and the regulations pursuant | | | | | | |
| thereto. | | | | | | |
| 9. It has previously submitted proposals to NSF. 10. It previously submitted this proposal (which was declined) and significant modifications have been made as | | | | | | |
| | oposal (which w | as declined) and | significant mod | dificatio | ns have been made as | |
| described in Section 4.4. | DINCIDAL IN | WEGICATOR / | DDO IECT D | DECT | OD | |
| | KINCIPAL IN | VESIGATOR / | TITLE | IKECI | OR | |
| NAME | | | IIILE | | | |
| SOCIAL SECURITY NO. | HIG | HEST DEGREE | / VEAP | | E-MAIL ADDRESS | |
| SOCIAL SECURITI NO. | IIIO | TIEST DEGREE | ILAK | | E-MAIL ADDRESS | |
| TELEPHONE NO. | FAX | Z NO | | | WER ADDRESS | |
| () | PHONE NO. FAX NO. WEB ADDRESS | | | | | |
| COMPANY OFFICER (FOR BUSINESS AND FINANCIAL MATTERS) | | | | | | |
| NAME | TITI | | | ·CIIIL | TELEPHONE NO. | |
| TV HVIE | | 313 | | | TEEEI HOIVE IVO. | |
| | | OTHER INFORM | MATION | | 1 | |
| PRESIDENT'S NAME | | YEAR FIRM | | NUM | BER OF EMPLOYEES AVE | RAGE |
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| | | | | CURF | RENTLY: | |

PROPRIETARY NOTICE: See Section 5.5 concerning proprietary information.

(Check Here if proposal contains proprietary information.)

NOTE: The signed Certification Page MUST be included immediately following this Cover Page with the original copy of the proposal only.

National Science Foundation Small Business Innovation Research Program Program Solicitation/Instruction Guide No: NSF 98-54

PROJECT SUMMARY

FOR NSF USE ONLY NSF PROPOSAL NUMBER:

| COMPANY NAME | | |
|--|----------------------------------|---|
| ADDRESS | | |
| | | |
| PRINCIPAL INVESTIGATOR (NAME AND TITLE) | | |
| TITLE OF PROJECT | | |
| TOPIC TITLE | TOPIC NUMBER AND SUBTOPIC LETTER | Phase I Award No. (For Phase II proposals only) |
| PROJECT | SUMMARY | |
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| Potential Commercial Applications of the Research | | |
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| Key Words to Identify Research or Technology (8 maximum) | | |
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SUMMARY

| BEFORE COMPLETING) PROPOSAL BUDGET | | | | FOR NSF USE | ONLY | |
|---|-----------------|--------------|---------|-------------------|---------------------|---------|
| ORGANIZATION | | | PR | OPOSAL NO. | DURATIO | |
| | | | | | (MONTHS Proposed | Granted |
| | | | | | | |
| PRINCIPAL INVESTIGATOR/PROJECT DIRECTOR | | | F | WARD NO. | | |
| | | | | | | |
| A. SENIOR PERSONNEL: PI/PD and Other Senior Associates | | NSE | Funded | Funds | Fun | nde |
| (List each separately with title, A.6, show number in brackets) | | | on-mos. | Requested By | Granted | By NSF |
| | | CAL | | Proposer | (If Diffe | erent) |
| | | CAL | | | • | |
| 1. | | | | \$ | \$ | |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. 5. | | | | | | |
| 6. () OTHERS (LIST INDIVIDUALLY ON BUDGET EXPLANATION PAGE) | | | | | | |
| | | | | | | |
| 7. () TOTAL SENIOR PERSONNEL (1–5) B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS) | | | | | | |
| 1. () POST DOCTORAL ASSOCIATES | | | | | | |
| 2. () OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.) | | | | | | |
| 3. () GRADUATE STUDENTS | | | | | | |
| 4. () UNDERGRADUATE STUDENTS | | | | | | |
| 5. () SECRETARIAL - CLERICAL | | | | | | |
| 6. () OTHER | | | | | | |
| TOTAL SALARIES AND WAGES (A+B) | | | | | | |
| C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS) | | | | | | |
| TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A+B+C) | | | | | | |
| D. PERMANENT EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM E | XCEEDING \$5,00 | 00.) | | | | |
| (Do not use for Phase I) | | | | | | |
| TOTAL PERMANENT EQUIPMENT | | | | | | |
| E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS | | | | | | |
| 2. FOREIGN (Do not use for Phase I) | | | | | | |
| | | | | | | |
| F. PARTICIPANT SUPPORT COSTS | | | | | | |
| 1. STIPENDS \$ 2. TRAVEL | | | | | | |
| 3. SUBSISTENCE | | | | | | |
| 4. OTHER | | | | | | |
| () TOTAL PARTICIPANT COSTS | | | | | | |
| G. OTHER DIRECT COSTS | | | | | | |
| 1. MATERIALS AND SUPPLIES | | | | | | |
| 2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION 2. CONCULTANT SERVICES (Abook confirmation letters) (Doily rate not over \$442) | | | | | | |
| CONSULTANT SERVICES (Attach confirmation letters) (Daily rate not over \$443) COMPUTER (ADPE) SERVICES | | | | | | |
| 5. SUBAWARDS (PROVIDE A SEPARTE NSF FORM 1030 FOR EACH SUBAWARD) | | | | | | |
| 6. OTHER | | | | | | |
| TOTAL OTHER DIRECT COSTS | | | | | | |
| H. TOTAL DIRECT COSTS (A THROUGH G) | | | | | | |
| I. INDIRECT COSTS (SPECIFY RATE AND BASE) | | | | | | |
| TOTAL INDIRECT COSTS | | | | | | |
| J. TOTAL DIRECT AND INDIRECT COSTS (H+I) | | | | | | |
| K. FEE (If requested; maximum equals 7% of J) | | | | | | |
| L. TOTAL COST AND FEE (J + K) | | | | \$ | \$ | |
| PI/PD TYPED NAME & SIGNATURE | DATE | | FOI | NSF USE ONLY | <u> </u> | |
| | | IN | | OST RATE VERIFICA | TION | |
| CO. REP. TYPED NAME & SIGNATURE | DATE | Date Checked | 1 | late Sheet | Initials-DG | A |
| 3 | | | 20.001 | | aio DC | |
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INSTRUCTIONS FOR USE OF SUMMARY PROPOSAL BUDGET (NSF FORM 1030A)

1. General

- a. Each grant proposal, including requests for supplemental funding, must contain a Summary Proposal Budget in this format unless a pertinent announcement/solicitation specifically provides otherwise. A Summary Proposal Budget need not be submitted for incremental funding unless the original grant letter did not indicate specific incremental funding or if adjustments to the planned increment exceeding the greater of 10% or \$10,000 are being requested.
- b. Copies of NSF Form 1030A and instructions should be reproduced locally.
- c. For SBIR Phase II Proposals a cumulative budget for the full term of the grant is required.
- d. Completion of this summary does not eliminate the need to document and justify the amounts requested in each category. Such documentation should be provided on additional page(s) immediately following the budget in the proposal and should be identified by line item. The documentation page(s) should be titled "Budget Justification/Explanation Page." e. If a revised budget is required by NSF, it must be signed and dated by the Authorized Organizational Representative and Principal Investigator and submitted in at least the original and two copies.

2. Budget Line Items

A full discussion of the budget and the allowability of selected items of cost is contained in the *Grant Proposal Guide*, NSF *Grant Policy Manual* (GPM). The following is a brief outline of budget documentation requirements by line item. (NOTE: All documentation, justification/explanation required on the line items below should be provided on the Budget Justification/Explanation Page(s).

- A., B., and C. Salaries, Wages, and Fringe Benefits (GPM 611). List individually, all senior personnel who were grouped under Part A, the requested person-months to be funded and rates of pay.
- **D.** Equipment (GPM 612). Items exceeding \$5,000 and 1 year's useful life are defined as permanent equipment (unless lower thresholds are established by the organization). List item and dollar amount for each item. Justify
- **E.** *Travel* (GPM 614 AND GPM 760). Address the type and extent of travel (including consultant travel) and its relation to the project. Itemize by destination and cost and justify travel outside the United States and its possessions, Puerto Rico, Canada, and Mexico (foreign travel is normally not permitted for Phase I). Include dates of foreign visits or meetings. Fare allowances are limited to round-trip, jet-economy rates.
- **F.** Participant Support Costs (GPM 618). Normally, participant support costs may only be requested for grants supporting conferences, workshops or symposia. Show number of participants in brackets. Consult GPG or specific program announcement/solicitation for additional information.

G. Other Direct Costs.

- 1. Materials and Supplies (GPM 613). Indicate types required and estimate costs.
- 2. Publication, Documentation and Dissemination (GPM 617). Estimate costs of documenting, preparing, publishing, disseminating, and sharing research findings.
- 3. Consultant Services (GPM 616). Indicate name, daily compensation (limited to individual's normal rate or daily rate paid for Level IV of the Executive Schedule whichever is less), and estimated days of service, and justify.
- 4. Computer Services (GPM 615). Include justification based on established computer service rates at the proposing institution. Purchase of equipment is included under D.
- 5. Subawards (GPM 313). Also include a complete budget NSF Form 1030A for each subaward and justify details.
- 6. Other. Itemize and justify. Include computer equipment leasing.
- **I.** *Indirect Costs* (GPM 630). Specify current rate(s) and base(s). Use current rate(s) negotiated with the cognizant Federal negotiating agency. See GPM for special policy regarding grants to individuals, travel grants, equipment grants, doctoral dissertation grants and grants involving participant support costs (GPM, Chapter VI)

PROPOSERS MUST NOT ALTER OR REARRANGE THE COST CATEGORIES AS THEY APPEAR ON THIS FORM WHICH HAS BEEN DESIGNED FOR COMPATIBILITY WITH DATA CAPTURE BY NSF'S MANAGEMENT INFORMATION SYSTEM. IMPROPER COMPLETION OF THIS FORM MAY RESULT IN RETURN OF PROPOSAL.

SMALL BUSINESS INNOVATION RESEARCH (SBIR) PHASE I REPORT COVER PAGE

| NSF Award Number: | Project Title: | | | | |
|--|--|--|--|--|--|
| Date: | Period Covered by this Report: | | | | |
| Company Name: | PI Name: | | | | |
| Telephone Number: | Fax Number: | | | | |
| Company Address: | -1 | | | | |
| Please check as appropriate: | | | | | |
| • | l on □ November 12, 1998 □ November 12, 1999 | | | | |
| Report contains Proprietary Info | ormation | | | | |
| Acknowledgment of NSF support and disclaimer: "This material is based upon work supported by the National Science Foundation under Award Number: Any opinions, findings, and conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the views of the National Science Foundation." | | | | | |
| Certifications: | | | | | |
| I certify that the Principal Investigate grantee organization as defined in the | or currently is \square , is not \square , "primarily employed" by the eSBIR Solicitation. | | | | |
| | ject has \square , has not \square , been submitted for funding to another as not \square , been funded under any other Federal grant, contract, | | | | |
| I certify that to the best of my knowledge the work for which payment is hereby requested was performed in accordance with the award terms and conditions and that payment is due and has not been previously requested. | | | | | |
| I certify that to the best of my knowledge (1) the statements herein(excluding scientific hypotheses and scientific opinions) are true and complete, and (2) the text and graphics in this report as well as any accompanying publications or other documents, unless otherwise indicated, are the original work of the signatories or individuals working under their supervision. I understand that the willful provision of false information or concealing a material fact in this report or any other communication submitted to NSF is a criminal offense (U.S. Code, Title 18, Section 1001). | | | | | |
| Authorized Company Officer Signature: | Date: | | | | |
| I. Signature: Date: | | | | | |

NATIONAL SCIENCE FOUNDATION Small Business Innovation Research (SBIR) SBIR PHASE II PROPOSAL COVER PAGE

| Phase I Award No. | Topic No. | SubTopic Letter (if | | | ppic Letter (if any |) | |
|---|----------------|---------------------|---------------|--------------------------|---------------------|-----------------|-----|
| Proposal Title | | | | I | | | |
| | | | | | | | |
| Company Name: | | | | | | ion Number (EIN | |
| | | | Tax | payer Identi | ficat | ion Number (TIN | 1) |
| Address (including address of Company H | eadquarters | and zip code | plus | four digit ex | tensi | on) | |
| | | | | | | | |
| | | | | | | | |
| Requested Amount | Proposed 1 | Duration | Pe | eriod of Perfe | orma | nnce | |
| THE SMALL BUSINESS CONCERN C | ERTIFIES | S THAT: | | | | | Y/N |
| 1. It is a small business as defined Section | | • | | | | | |
| 2. It qualifies as a socially and economical | lly disadvar | taged busines | s as d | lefined Secti | on 2 | .14. (FOR | |
| STATISTICAL PURPOSES ONLY) | | : Castian 2.1 | 7 (E/ | OD CTATIC | TIC | AL DUDDOCEC | |
| 3. It qualifies as a women-owned business as defined in Section 2.17. (FOR STATISTICAL PURPOSES ONLY) | | | | | | | |
| 4. NSF is the only Federal agency that has | received th | is proposal (or | r an c | verlapping o | or eq | uivalent | |
| proposal) from the small business concern. | | | | | | | |
| and awards as defined in Section 3.1.12 | | | | | | | |
| 5. A minimum of one-half of the research | | | | | | | |
| 6. The primary employment of the Princip during the conduct of the research. | oal Investiga | ator will be wi | th thi | is firm at the | time | e of award and | |
| 7. It will permit the government to disclose | e the title ar | nd technical al | etrac | rt nage nlus | the 1 | name address | |
| and telephone number of a corporate offici | | | | | | | |
| may be interested in further information or | | | | W10 111 W11 W 11 | | o parties that | |
| 8. It will comply with the provisions of the | | | (P. | L. 88-352) a | nd tl | ne regulations | |
| pursuant thereto. | | | | | | | |
| PRINCIPAL IN | VESTIGA | TOR / PROJ | ECT | DIRECTO | R | | |
| Name | | Title | | | | | |
| Social Security No. | | Telephone | Nun | nber | | | |
| E-Mail Address | | Fax Numb | er | | | | |
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| COMPANY OFFICER | 1 | INESS AND | FINA | ANCIAL M. | ATI | , | 1 |
| Name Title Telephone Nu | | | Telephone Num | ber | | | |
| | OTHER IN | NFORMATI(| N | | | | |
| President's Name | | Year Firm | | Number of | - | • | |
| | | Founded | | Average Pr Currently: | revio | ous 12 Mo.: | |

PROPRIETARY NOTICE: See Section 5.5 for instructions concerning proprietary information.

Check here if proposal contains proprietary information.

NOTE: The signed Certification Page **must** be included immediately following this Cover Page with the original copy of the proposal only.

CERTIFICATION PAGE

| Certification for Principal Investigators I certify to the best of my knowledge that: (1) the statements herein (excluding scientific hypotheses and scientific opinions) are true and complete, and (2) the text and graphics herein are as well as any accompanying publications or other documents, unless otherwise indicated, are the original work of the signatories or individuals working under their supervision. I agree to accept responsibility for the scientific conduct of the project and to provide the required progress reports if an award is made as a result of this application. I understand that the willful provision of false information or concealing a material fact in this proposal or any other communication submitted to NSF is a criminal offense (U.S. Code, Title 18, Section 1001). | | | | | | |
|--|--------------|------------------------------------|---------|----------------|---|------|
| Name (Typed) | | Signature | | | | Date |
| PI/PD | | | | | | |
| Certification for Authorized Organizational Representative or Individual Applicant By signing and submitting this proposal, the individual applicant or the authorized official of the applicant institution is: (1) certifying that statements made herein are true and complete to the best of his/her knowledge; and (2) agreeing to accept the obligation to comply with NSF award terms and conditions if an award is made as a result of this application. Further, the applicant is hereby providing certification regarding Federal debt status, debarment and suspension, drugfree workplace, and lobbying activities (see below), as set forth in the <i>Grant Proposal Guide (GPG)</i> , NSF 98-2. Willful provision of false information in this application and its supporting documents or in reports required under an ensuring award is a criminal offense (U.S. Code, Title 18, Section 1001). In addition, if the applicant institution employs more than fifty persons, the authorized official of the applicant institution is certifying that the institution has implemented a written and enforced conflict of interest policy that is consistent with the provisions of <i>Grant Policy Manual</i> , Section 510; that to the best of his/her knowledge, all financial disclosures required by that conflict of interest policy have been made; and that all identified conflicts of interest will have conflict of interest policy. Conflicts which cannot be satisfactorily managed, reduced or eliminated must be disclosed to NSF. | | | | | | |
| Debt and Debarment Certifications (In | answer "yes" | 'to either, please provide explana | tion.) | | | |
| Is organization delinquent on any Federal debt? YES NO | | | | | | |
| Is the organization or its principals presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by a Federal Department or agency? | | | | |) | |
| Certification Regarding Lobbying This certification is required for an award of a Federal contract, grant or cooperative agreement exceeding \$100,000 and for an award of a Federal loan or a commitment providing for the United States to insure or guarantee a loan exceeding \$150,000. | | | | | | |
| Certification for Contracts, Grants, Loans The undersigned certifies, to the best of his or her kn | | | | | | |
| (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer of employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal Contract, grant, loan, or cooperative agreement. | | | | | | |
| (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. | | | | | | |
| (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements and that all subrecipients shall certify and disclose accordingly. | | | | | | |
| This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure. | | | | | | |
| Authorized Company Officer | | Signati | ıre | | | Date |
| Name /Title (Typed) | | | | | | |
| Telephone Number | Flootron | ic Mail Address | I I I I | x Number | 1 | |
| receptione rumoet | Election. | ic Man Addi C55 | | ia i tuillisti | | |
| | | | | | | |

CERTIFICATE OF CURRENT COST OR PRICING DATA

| This is to certify that, to the best of my knowled | |
|---|---------------------------------------|
| defined in section 15.801 of the Federal Acquisit actually or by specific identification in writing, to | · · · · · · · · · · · · · · · · · · · |
| Officer's representative in support of | |
| complete, and current as of | |
| This certification includes the cost or pricing dat forward pricing rate agreements between the offethe proposal. | |
| COMPANY NAME: | |
| REPRESENTATIVE NAME: | |
| REPRESENTATIVE TITLE: | |
| REPRESENTATIVE SIGNATURE: | |
| DATE OF EXECUTION***: | |
| | |

SBIR Organizations are required to submit this certificate with their proposal. If the proposal is recommended for funding, a second certificate will be requested by NSF subsequent to a pre-award budget review, but prior to award.

^{*} NSF will provide the Proposal Award Number.

^{** (1)} Insert the date, month, and year of proposal submission when submitting with proposal, (2) or the date, month, and year when notified by NSF that the proposal has been recommend for award and price negotiations are completed.

^{***} Insert the date, month, and year of signing

SUGGESTED FORMATS FOR FOLLOW-ON FUNDING COMMITMENTS

NSF FOLLOW-ON FUNDING COMMITMENT

[Venture Capital Commitment]

| <u>Purpose</u> | |
|--|------------------------|
| Whereas (venture capital firm or investor) of is desirous of investing in (sn | nall |
| business firm) of contingent upon: (1) (small business firm) receiving a Pha | se II |
| award from the National Science Foundation. (2) the Phase II research achieving certain mutually | agreed |
| upon technical objectives set-out in section D. (3) the planned technology not being by-passed in tl | |
| marketplace during Phase II, and (4) the technology appearing to be economically viable, it is there | efore |
| agreed as set forth below: | |
| A. TERM OF AGREEMENT | |
| The initial term of this agreement shall be for four (4) years from the date of execution hereof and | |
| thereafter renewable one (1) year at a time unless canceled by either party on 90 days notice prior to | o the |
| end of the initial or any renewable terms. | |
| B. FOLLOW-ON FUNDING | |
| Contingent upon meeting the specification in Section D, (investor) agrees to fund (small business f the commercial development (Phase III) of the project the sum of \$ beginning no later the completion of Phase II. The schedule of funding will be as follows: (for example: \$50,000 at common of Phase II and three additional payments of \$50,000 at 6 month intervals) (Investor) may choose to accelerate the investment schedule at any time it feels such investment is justified by technical programment conditions. | an the pletion o |
| C. <u>TERMS OF INVESTMENT</u> (Investor) agrees to make \$as equity investment available to (small business) on the following | owing |
| terms: In return | ı for |
| this investment (small business firm) agrees to provide (investor) withshares of (small busin firm) common stock according to the following schedule: | ess |
| ashares on receipt of first investment | |
| bshares on receipt of second investment | |
| cshares on receipt of third investment | |
| dshares on receipt of fourth investment | |
| (Or a statement that the number of shares will be determined prior to the completion of Phase II). (small business firm) fails to meet the requirements of Section D, the parties will negotiate to see winvestment may be justified in the case of partial success. | |
| It is represented by (small business firm) that it possess (or will possess) and continue to possess commercial rights to any resulting patents to convey such exclusive (or non-exclusive) license or sulicense and that such rights do not interfere with the right of others. | ıb- |

If (small business) falls to meet all the specifications stated in section D, the parties will negotiate to

determine what terms may be justified in the case of partial success.

| D. | TECHNICAL. | SPECIFICATION ' | TO BE ACHIE | EVED IN PHASE II |
|----|------------|-----------------|-------------|------------------|
| ν. | ILCINICAL | of ECHTCATION | | |

| The research to be carried out in Phase I | II shall achieve the following measu | rable <u>technical</u> objectives: |
|---|--------------------------------------|------------------------------------|
| 1. | | |

2.

3.

Semi-annual meetings will be held during Phase II to review the technical progress and to consider market and other conditions.

"The undersigned certify that they agree to this funding commitment and that they understand that this information will be used by NSF in evaluating the commercial potential of the company's innovation and, therefore, that information will be a significant factor in determining whether the SBIR Phase II proposal will be funded. They further understand that willfully making a false statement or concealing a material fact in this commitment or any other communication submitted to the NSF is a criminal offense." (U.S. Code, Title 18, Section 1001)

| Authorized Officer (Investor) | | <u>Authorized Officer</u> (Small Business Firm) | | |
|----------------------------------|-------------|--|--|--|
| | Name Typed: | | | |
| | Signature: | | | |
| | Title: | | | |
| | Company: | | | |
| | Tel. No. | | | |
| | Date: | | | |

NSF FOLLOW-ON FUNDING COMMITMENT [Manufacturing Firm Commitment]

| <u>Purpose</u> |
|---|
| Whereas (manufacturing firm) of (location) is desirous of obtaining access to |
| technology being developed by (small business firm) contingent upon (1) (small business firm) receiving |
| Phase II award from the National Science Foundation, (2) the Phase II research achieving certain |
| mutually agreed upon technical objectives set-out in section E, (3) the research or resulting technology not |
| being by-passed in the marketplace during Phase II and (4) the technology appearing to be economically |
| |
| viable, it is therefore agreed as set forth below: |
| A. <u>TERM OF AGREEMENT</u> The initial term of this agreement shall be for four (4) years from the date of execution and thereafter renewable for one (1) year at a time unless canceled by either party on 90 days notice prior to the end of the initial or any renewable term. |
| B. <u>FOLLOW-ON FUNDING</u> |
| Contingent upon meeting the technical specification in Section E, (manufacturing firm) agrees to fund |
| (small business firm) for the commercial development (Phase III) of the project the sum of \$ |
| |
| beginning no later than the completion of Phase II. The schedule of funding will be as follows: |
| 1. |
| 2. |
| 3. |
| 4. |
| |
| (Manufacturing firm) may choose to accelerate the funding schedule at any time it feels such investment is justified by technical progress or market conditions. |
| C. <u>LICENSE OR JOINT VENTURE</u> Should (manufacturing firm) fund this project as set forth above or on any other mutually agreed upon |
| basis, (small business) agrees to grant (manufacturing firm) an option to acquire an exclusive (or non-exclusive) license (or enter into a joint venture agreement) to exploit the technology for the following applications: |
| |
| 1. |
| 2. |
| 3. |
| (or purchase (number) prototypes for an amount at least equal to the proposed Phase II award). |
| D. ROYALTIES OR INVESTMENT |
| In addition to the amount provided for the development phase a royalty should be paid by (manufacturing |
| firm) on net sales of in accordance with the following |
| royalty schedule: |
| |
| 1% on the first \$ of sales |
| 1% on the first \$ of sales 2% on the next \$ of sales 3% on the next \$ of sales |
| 3. % on the next \$ of sales |
| 4% on all additional sales. |
| |
| (or an investment of \$ will be made by (manufacturing firm) in the joint venture). |

| It is represented by (small business fir commercial rights to any resulting pat license and that such rights do not into | ents to convey such exc | clusive (or non-exclusive) license or sub- |
|--|---|---|
| It (small business) fails to meet all the terms may be justified in the case of p | | n E, the parties will negotiate to see what |
| | rst four years after initia | not produce total sales exceeding \$ in all sales, then the license (or ownership) of the uring firm) elects to pay royalties as if sales |
| | | ave the right to sublicense others for the responsible for paying (small business) the |
| E. TECHNICAL SPECIFICATION | | |
| | e ii shaii acmeve the io | llowing measurable technical objectives: |
| 1. 2. | | |
| 3. | | |
| Semi-annual meetings will be held du and other conditions. | ring Phase II to review | technical progress and to consider market |
| information will be used by NSF in e and, therefore, that information will proposal will be funded They furth | valuating the commer be a significant factor er understand that will nmitment or any other | mmitment and that they understand that this cial potential of the company's innovation in determining whether the SBIR Phase II fully making a false statement or communication submitted to the NSF is a |
| Authorized Officer | | ized Officer |
| (Investor) | | Business Firm) |
| | Name Typed: | |
| | Signature: | |
| | Title: | |
| | Company: | |
| | Tel. No. | |
| | Date | |

SMALL BUSINESS INNOVATION RESEARCH (SBIR) PHASE II REPORT COVER PAGE

| NSF AWARD NUMBER: | DATE: | | | | | | |
|---|--|--|--|--|--|--|--|
| PROJECT TITLE: | | | | | | | |
| PERIOD COVERED BY THIS REPORT: | PRINCIPAL INVESTIGATOR: | | | | | | |
| COMPANY NAME: | | | | | | | |
| COMPANY ADDRESS: | | | | | | | |
| | | | | | | | |
| TELEPHONE NUMBER: | FAX NUMBER: | | | | | | |
| Please check as appropriate: | | | | | | | |
| ☐ Progress Report* * Report content requirements are identified in Articl (9/95). This Cover Sheet is required for submission of Cover Sheet. | | | | | | | |
| Acknowledgment of NSF support and disclaimer: "This material is based upon work supported by the National Science Foundation under Award Number: Any opinions, findings, and conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the views of the National Science Foundation." | | | | | | | |
| Certifications: | | | | | | | |
| I certify that the Principal Investigator currently is grantee organization as defined in the SBIR Solicit | | | | | | | |
| I certify that the work under this project has \square , been been project has \square , has not \square , been proportional to the project has \square , has not \square , been proportional to the project has \square , has not \square , been proportional to the project has \square , has not \square , been proportional to the project has \square , has not \square , been project has \square , has not \square , been project has \square , has not \square , been project has \square , has not \square , been project has \square , has not \square , been project has \square , has not \square | | | | | | | |
| I certify that to the best of my knowledge the work performed in accordance with the award terms are been previously requested. | | | | | | | |
| I certify that to the best of my knowledge (1) the st and scientific opinions) are true and complete, and any accompanying publications or other document work of the signatories or individuals working und provision of false information or concealing a mate communication submitted to NSF is a criminal offer | (2) the text and graphics in this report as well as is, unless otherwise indicated, are the original ler their supervision. I understand that the willful erial fact in this report or any other | | | | | | |
| Authorized Company Officer: | Date: | | | | | | |
| P.I. Signature: | Date: | | | | | | |

SBIR PHASE II PROGRESS REPORTING FORMAT

(PROGRESS REPORTS MUST BE ATTACHED TO A SMALL BUSINESS INNOVATIVE RESEARCH (SBIR)
PHASE II REPORT COVER SHEET (Attachment I).)

| Reporting Period: (From) | (to) |
|--|---|
| Total Estimated Expenditures* | * this reporting period: \$ |
| Cumulative Estimated Expend | litures*: \$ |
| Principal Investigator/ Key Personnel (Identify) | Estimated Level of Effort/ Person Months |
| 1 | |
| 2 | |
| 3 | |
| 4Consultant(s) Utilized and Service | ces Provided: |
| | |
| | |
| | |
| | |
| Subcontractor(s) Utilized and Se | ervices Provided: |
| | |
| | |
| | |
| Identification of Permanent Equi | ipment Purchased: |
| 2 | |

Attach technical report covering accomplishments, milestone progress or completion, and problems encountered this reporting period (report against milestone tasks stated on project milestone chart).

^{* &}quot;Estimated Expenditures" means a good faith estimate of actual expenditures for this award.

INFORMATION CONCERNING FINANCIAL MANAGEMENT SYSTEMS

| INSTITUTION: | | | | | | | | |
|---|---------------|---|--|--|--|--|--|--|
| A. General Information | | | | | | | | |
| 1. Has your organization been audited in the last two years by any agency of the Federal Government? If yes, please attach a copy of the report, or in the absence of the report, provide the name and telephone number of the office completing the review. | | | | | | | | |
| Has your organization been aud If yes, please attach a copy of the second copy of the second copy. | | t public accounting firm within the past two years? es No | | | | | | |
| | B. Accoun | ting Systems | | | | | | |
| | d Combination | 5. Does the accounting system identify the receipt and expenditure of funds separately for each grant and contract? | | | | | | |
| 2. Is there a chart of accounts? Comments: | Yes No | Comments: | | | | | | |
| 3. Is a double entry accounting syst | | 6. Does the accounting sysetm provide for the record | | | | | | |
| Comments: | Yes No | of grant/contract costs according to categories of the approved budget? | | | | | | |
| | | Comments: | | | | | | |
| 4. What books of account are main | tained? | 7. Are time distribution records maintained for each | | | | | | |
| a. General Ledger | □ Yes □ No | employee to account for his/her TOTAL effort (100%)? Attach sample copy of completed timesheet. Yes No | | | | | | |
| b. Project Cost Ledger | ☐ Yes ☐ No | Comments: | | | | | | |
| c. Cash Receipts Journal | Yes No | Comments | | | | | | |
| d. Cash Disbursements Journal | ☐ Yes ☐ No | 8. Is the organization familiar with the cost principles (Federal Acquisition Regulations, Part 31.2, OMB | | | | | | |
| e. Payroll Journal | Yes No | Circular A-21, or A-122 as appropriate) and procedures for the determination and allowance of costs in | | | | | | |
| f. Income (Sales) Journal | ☐ Yes ☐ No | connection with federal grants and contracts? (OMB | | | | | | |
| g. Purchase Journal | ☐ Yes ☐ No | circulars can be obtained by calling (202)395-7332, FAR (202)783-3238.) | | | | | | |
| h. General Journal | ☐ Yes ☐ No | | | | | | | |
| i. Other (describe) | ☐ Yes ☐ No | Coments: | | | | | | |
| Comments: | | | | | | | | |
| | | | | | | | | |

| INSTITUTION: | | | | | | |
|--|---|--|--|--|--|--|
| C. Funds N | Aanagement | | | | | |
| 1. Is a separate bank account maintained for Federal grant/contract funds? — Yes — No Comments: | 2. If a separate account is not maintained, can the Federal grant/contract funds and related expenses be readily identified? Yes No Comments: | | | | | |
| 3. Can the organization identify, by Federal agency, intere- | ☐ Yes ☐ No | | | | | |
| 4. Does the organization have procedures that minimize to Treasury and disbursement by the organization whenever f | funds are advanced by the Federal Government? | | | | | |
| Comments: | ☐ Yes ☐ No | | | | | |
| D. Interna | al Controls | | | | | |
| 1. Are the duties of the bookkeeper/recordkeeper separated from cash functions (receipt or payment of cash)? Yes No Comments: | 2. Are checks signed by individuals whose duties exclude recording cash received, approving vouchers for payment and payroll preparation? Yes No Comments: | | | | | |
| 3. Are accounting entries supported by appropriate documentation (e.g., purchase orders, vouchers, etc.)? ☐ Yes ☐ No Comments: | 4. Are employees who handle funds required to be bonded against loss by reasons of fraud or dishonesty? Yes No Comments: | | | | | |
| E. Purchasir | ng Equipment | | | | | |
| Are inventory records maintained? Comments: | ☐Yes ☐No | | | | | |
| 2. Does your organization have policies relating to buy/lease analysis and competitive purchases over \$25,000? | | | | | | |
| Prepared by: | Telephone Number: | | | | | |
| Title: | Date: | | | | | |

SAMPLE INDIRECT COST PROPOSAL

(Name of Organization) Indirect Cost Rate Proposal Actual (or Budgeted) Cost Data for the FY_____

| | (1) | (2) | (3) | (4) | | | | | (6) |
|-------------------------|-----------|--------------|----------|--------------|-----------|-----------|-----------|-----------|-------------|
| | Total | | | | | | | | |
| | Actual or | | Total | Total | ***** | ***** | ***** | ***** | ***** |
| | Budgeted | | Indirect | Direct | Project A | Project B | Project C | Project D | Research & |
| | Costs | Eliminations | Costs | Costs | (NSF) | (DOE) | | | Development |
| Salaries & Wages: | | | | | | | | | |
| Bill Able, President | 38,000 | | 6,000 | 32,000 | | 4,000 | 8,000 | 10,000 | 10,000 |
| John Brown, Scientist | 25,000 | | | 25,000 | 15,000 | | 5,000 | | 5,000 |
| Paul Dent, Engineer | 20,000 | | | 20,000 | 9,000 | | 9,000 | 2,000 | |
| Carl Kipe, Scientist | 20,000 | | | 20,000 | | 10,000 | 10,000 | | |
| Nancy Wong, Scientist | 20,000 | | | 20,000 | 5,000 | 5,000 | 5,000 | | 5,000 |
| Sally Smith, Typist | 12,000 | | 2,000 | 10,000 | 3,000 | 2,000 | 3,000 | | 2,000 |
| Mary Jones, Accting | 15,000 | | 15,000 | | | | | | |
| | 150,000 | 0 | 23,000 | 127,000 | 32,000 | 21,000 | 40,000 | 12,000 | 22,000 |
| | | | | (B) | | | | | |
| | | | | - 100 | | | | -00 | |
| FICA | 8,500 | | 2,100 | 6,400 | 1,650 | 1,100 | 1,900 | 600 | 1,150 |
| Health & Life Insurance | 5,000 | | 800 | 4,200 | 1,100 | 700 | 1,250 | 400 | 750 |
| Consultant Fees | 3,000 | | | 3,000 | 500 | 1,000 | 500 | | 1,000 |
| Depreciation | 5,000 | | 5,000 | | | | | | |
| Entertainment | 500 | 500 | | | | | | | |
| Equipment | 5,000 | 5,000 | | | | | | | |
| Legal & Accounting | 2,000 | | 2,000 | | | | | | |
| Materials & Supplies | 9,000 | | | 9,000 | 3,000 | 2,000 | 3,000 | | 1,000 |
| Office Supplies | 2,000 | | 2,000 | | | | | | |
| Outside Computer Svcs | 2,500 | | 500 | 2,000 | 500 | 500 | 500 | | 500 |
| Postage & Telephone | 1,500 | | 1,500 | | | | | | |
| Printing & Publications | 4,000 | | | 4,000 | 500 | 500 | 1,000 | | 2,000 |
| Rent | 15,000 | | 15,000 | | | | | | |
| Subawards | 50,000 | 50,000 | | | | | | | |
| Travel | 9,000 | | 1,500 | 7,500 | 2,500 | 2,000 | 1,000 | | 2,000 |
| · | 272,000 | 55,500 | 53,400 | 163,100 | 41,750 | 28,800 | 49,150 | 13,000 | 30,400 |
| | | | (A) | (C) | | | | | |

Indirect Cost Rate:

(A)/(B) - 42.00% of Direct Salaries and Wages or

(A)/(C) - 32.70% of Total Direct Costs less Capital Expenditures and Subaward Costs

- (1) Two indirect cost proposals should be provided. One should be based on actual cost data for the most current ended accounting period and should be submitted with the financial statements for that period. The total actual expenses as reported in the related financial statements should agree with the total cost column (1) in the indirect cost rate proposal. The second indirect cost proposal should be based on projected costs for the accounting period in which the proposed work will be performed. If this indirect cost rate varies significantly from the rate determined on actual expenses, footnote the indirect cost proposal to highlight cost areas which caused the variance and explain.
- (2) Eliminations: Costs which will not be considered for the purposed of determining an indirect cost rate. These are direct costs which do not generate the same level of indirect costs as other direct costs. Examples are subawards and equipment.
- (3) Indirect Costs: Indirect costs are those costs that have been incurred for common or joint objectives and cannot be readily identified with a particular final cost objective. Examples are rent, utilities, salaries for administrative and accounting personnel.
- (4) Direct Costs: Direct costs are those costs that can be identified specifically with a particular final cost objective; i.e. a particular award or project.
- (5) Unallowable Costs: Costs which cannot be charged or included in the indirect cost rate. Examples are entertainment, contributions, advertising and bad debts.
- (6) Research and Development Costs are treated as direct costs.

| PI/PD Name and Address | | | | | | |
|------------------------|--|--|--|--|--|--|
| | | | | | | |
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NATIONAL SCIENCE FOUNDATION FINAL PROJECT REPORT

| | PART I - PROJEC | T IDENTIFICA | TION INFORMATION | |
|----|-------------------------|--------------|------------------|--|
| 1. | Program Official/Org. | | | |
| 2. | Program Name | | | |
| 3. | Award Dates (MM/YY) | From: | То: | |
| 4. | Institution and Address | | | |
| 5. | Award Number: | | | |
| 6. | Project Title | | | |

NSF Grant Conditions (Article 17, GC-1, and Article 9, FDP-II) require submission of a Final Project Report (NSF Form 98A) to the NSF program officer no later than 60 days after the expiration of the award. Final Project Reports for expired awards must be received before new awards can be made (NSF Grant Policy Manual Section 677).

Below, or on a separate page attach to this form, provide a summary of the completed project and technical information. Be sure to include your name and award number on each separate page. See below for more instructions.

PART II - SUMMARY OF COMPLETED PROJECT (for public use)

The summary (about 200 words) must be self-contained and intelligible to a scientifically literate reader. Without restating the project title, it should begin with a topic sentence stating the project's major thesis. The summary should include, if pertinent to the project being described, the following items:

- The primary objectives and scope of the project
- The techniques or approaches used only to the degree necessary for comprehension
- The findings and implications stated as concisely and informatively as possible

PART III - TECHNICAL INFORMATION (for program management use)

List references to publications resulting from this award and briefly describe primary data, samples, physical collections, inventions, software, etc. Created or gathered in the course of the research and, if appropriate, how they are being made available to the research community. Provide the NSF with Invention Disclosure number for any invention.

| Principal Investigator/Project Director Signature | Date |
|---|------|

IMPORTANT: MAILING INSTRUCTIONS

Return this with: Phase I Final Report
Phase II Final Report and Commercialization Report.

The data requested below are important for the development of a statistical profile on the personnel supported by Federal grants. The information on this part is solicited in response to Public Law 99-383 and 42 USC 1885C. All information provided will be treated as confidential and will be safeguarded in accordance with the provisions of the Privacy Act of 1974. You should submit a single copy of this part with each final project report. However, submission of the requested information is not mandatory and is not a precondition of future award(s). Check the "Decline to Provide Information" box below if you do not wish to provide the information.

Please enter the number of individuals supported under this grant.

Do not enter information for individuals working less than 40 hours in any calendar year.

| Do not enter information to | 1 | | | icss ma | | | · | | | |
|---|--------|------|----------------|---------|-------|--------|-------|-------|------|---------------------|
| | Senior | r | Post- Graduate | | | Under- | | Other | | |
| | Staff | | Docto | | Stude | | Gradu | | | ipants ¹ |
| | Male | Fem. | Male | Fem. | Male | Fem. | Male | Fem. | Male | Fem. |
| A. Total U.S. Citizens | | | | | | | | | | |
| B. Total Permanent Residents | | | | | | | | | | |
| U.S. Citizens or Permanent Residents ² | | | | | | | | | | |
| American Indian or Alaskan | | | | | | | | | | |
| Native | | | | | | | | | | |
| Asian | | | | | | | | | | |
| Black, Not of Hispanic Origin | | | | | | | | | | |
| Hispanic | | | | | | | | | | |
| Pacific Islander | | | | | | | | | | |
| White, Not of Hispanic Origin | | | | | | | | | | |
| C. Total Other Non-U.S. Citizen | | | | | | | | | | |
| Specify Country | | | | | | | | | | |
| 1. | | | | | | | | | | |
| 2. | | | | | | | | | | |
| 3. | | | | | | | | | | |
| D. Total All Participants | | | | | | | | | | |
| $(\mathbf{A} + \mathbf{B} + \mathbf{C})$ | | | | | | | | | | |
| Disabled ³ | | | | | | | | | | |

Decline to Provide Information: Check box if you do not wish to provide this information (you are still required to return this page along with Parts I - III.

AMERICAN INDIAN OR ALASKIAN NATIVE: A person having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.

ASIAN: A person having origins in any of the original peoples of East Asia, Southeast Asia and the Indian subcontinent. This area includes for example, China, India, Indonesia, Japan, Korea, and Vietnam.

BLACK, NOT OF HISPANIC ORIGIN: A person having origins in any of the black racial groups of Africa.

HISPANIC: A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.

PACIFIC ISLANDER: A person having origins in any of the original peoples of Hawaii; the U. S. Pacific Territories of Guam, American Samoa, or

PACIFIC ISLANDER: A person having origins in any of the original peoples of Hawaii; the U. S. Pacific Territories of Guam, American Samoa, or the Northern Marianas; the U. S. Territory of Palau; the islands of Micronesia or Melanesia; or the Philippines.

WHITE, NOT OF HISPANIC ORIGIN: A person having origins in any of the original people of Europe, North Africa, or the Middle East.

¹Category includes, for example, college and precollege teachers, conference and workshop participates.

²Use the category that best describes the ethnic/racial status for all U.S. Citizens with Permanent Residency. (If more than one category applies, use the one category that most closely reflects the person's recognition in the community.)

³A person having a physical or mental impairment that substantially limits one or more major life activities; who has a record of such impairment; or who is regarded as having such impairment. (Disabled individuals also should be counted under the appropriate ethnic/racial group unless they are classified as "Other Non-U.S. Citizen.")

National Science Foundation Small Business Innovation Research (SBIR) Program

COMPANY COMMERCIALIZATION HISTORY

[Failure to fill in all appropriate spaces may cause your proposal to be disqualified]

| FIRM NAME: | | | | | | |
|---|---|-------------------------------------|----------------------------------|--|--|--|
| MAILING ADDRESS: | | | | | | |
| | | | | | | |
| CITY: | | STATE: | ZIP: | | | |
| How many Phase II SBIR or STTR awards has | your firm received from the Federal Government, include | ling NSF? | | | | |
| | STTR awards from the Federal Government and the firs last fiscal year is Federal SBIR and/or STTR funding? | t award was receive | ed prior to October1, 1987 what | | | |
| to government agencies or private sector custor | firm has received and, for each project, provide the tota ners. Also, provide total non-SBIR/STTR funding recei g R&D, manufacturing, marketing, etc.). Apportion sale ng. (See back for further instruction.) | ved from governme | nt and private sector sources to | | | |
| Agency: | Topic Number: | | Contract/Grant Number: | | | |
| Project Title: | | | | | | |
| Government Sales: | | Private Sector | Sales: | | | |
| non-SBIR/STTR Government Funds: | | non-SBIR/STTR Private Sector Funds: | | | | |
| Agency: | Topic Number: | | Contract/Grant Number: | | | |
| Project Title: | | | | | | |
| Government Sales: | | Private Sector | Sales: | | | |
| non-SBIR/STTR Government Funds: | | non-SBIR/STT | TR Private Sector Funds: | | | |
| Agency: | Topic Number: | - | Contract/Grant Number: | | | |
| Project Title: | | | | | | |
| Government Sales: | | Private Sector Sales: | | | | |
| non-SBIR/STTR Government Funds: | | non-SBIR/STT | TR Private Sector Funds: | | | |
| Agency: | Topic Number: | I | Contract/Grant Number: | | | |
| Project Title: | | | | | | |
| Government Sales: | Private Sector Sales: | | | | | |
| non-SBIR/STTR Government Funds: | non-SBIR/STT | TR Private Sector Funds: | | | | |
| FIRM CORPORATE OFFICIAL | | | | | | |
| NAME: | | TELEPHONE: | | | | |
| TITLE: | | FAX: | | | | |
| SIGNATURE: | | DATE: | | | | |

INSTRUCTIONS FOR COMPLETING APPENDIX 3

GENERAL:

The Company Commercialization History (Appendix 3) shall **NOT** be counted toward proposal page count limitations.

Appendix 3 should be the last page(s) of your proposal.

Use as many Appendix 3 forms as needed to report <u>ALL</u> Phase II projects. (Make black and white copies of this form, if necessary.) If multiple pages are submitted, fill in the "Page _____ of ____" in the lower right corner.

Type in either a 10 or 12 character per inch font.

Use the Post Office two-letter abbreviation for the state (i.e. type NY not New York).

DEFINITIONS:

Sales: sales of products resulting from the technology associated with this Phase

II project. Sales also includes the sale of technology or rights. Specify the sales revenue in dollars (1) to government agencies (federal, state, local and/or foreign) and (2) to the private sector. Include sales made by your firm as well as by other firms that may have acquired the SBIR/STTR-

developed technology.

Non-SBIR/STTR funding: non-SBIR/STTR government or private sector funds to further develop the

technology (including R&D, manufacturing, marketing, etc.) associated

with this Phase II project.

Apportion sales/funding: if two or more Phase II projects contributed to a single product or

technology right that has been sold or received non-SBIR/STTR funding among the contributing projects. For example, Phase II projects A and B lead to the sale of a new product/process/software . . . to the DOD for a total of \$10 million and to retail software stores for \$12 million. Under the heading of "Government Sales" put \$ 5 million and under the heading "Private Sector Sales" put \$ 6 million for both Phase II projects A and B.

SUBMISSION:

<u>ALL</u> Phase I and Phase II proposals must include a Company Commercialization History (Appendix 3).

REQUEST FOR COPIES:

Black and white copies of this form are acceptable. Additional original forms may be obtained from:

National Science Foundation SBIR/STTR Programs 4201 Wilson Blvd., Suite 590 Arlington, VA 22230 telephone: (703) 306-1390

fax: (703) 306-0337