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Ben Franklin Technology Development Authority University Research Commercialization Grant

Program Guidelines

November 2011

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Section I – General

A. Introduction

The Ben Franklin Technology Development Authority (BFTDA) is one of the largest single state technology development programs in the nation, providing a vital vehicle for investment in economic, community, and university-based innovation. BFTDA programs are key to the strategy and mission of the Department of Community and Economic Development's (DCED) Technology Investment Office (TIO): to serve as a catalyst for growth and competitiveness of Pennsylvania companies through technology-based economic development initiatives including funding, partnerships and support services. The BFTDA manages the following programs:

1. **The Ben Franklin Technology Partners** – a statewide network fostering innovation to stimulate Pennsylvania's economic growth and prosperity
2. **Venture Investment Program** – a program to address the financing needs of technology-oriented businesses by increasing the amount of venture capital available to early stage technology companies
3. **Technology Development Grants** – grants to help position groups or consortia of PA companies at the cutting edge of emerging technologies and establish a competitive advantage through advanced e-business systems
4. **Keystone Innovation Zone (KIZ) Grants** – grants to provide administrative funding for the KIZs
5. **University Research Commercialization Grants** – a competitive grant program to promote stronger synergy between university-based applied research and development (R&D) and the transfer of technology as it relates to economic and workforce development in the areas of: 1) energy, 2) nanotechnology and, 3) advanced materials. Funding for this grant program for FY 2011 is limited to nanotechnology.

B. Mission & Focus

Pennsylvania's higher education institutions contribute significantly to the economic development of the Commonwealth by advancing human capital, increasing intellectual capital, and supporting physical capital—each a key component for sustainable economic development. Involved in this support are partnerships with other private and public institutions serving as major engines of economic development.

To support higher education and economic development partnerships, competitive grants supporting nanotechnology-related university research as well as, educational and workforce development programs are designed to:

- act as catalysts to spur technology growth and development among Pennsylvania's higher education institutions and technology-oriented businesses;
- attract and retain the most talented undergraduate and graduate students;
- stimulate leveraging of other capacity building resources; and,
- promote synergy between Pennsylvania's higher education institution-based nanotechnology R&D with related economic development.

These goals will be achieved by commercializing new technologies, expanding and enhancing strategic alliances among new and existing companies and universities throughout the Commonwealth, and coordinating with other Commonwealth-funded, nanotechnology-based economic development activities.

The research activities and projects funded under this program contribute to the broad higher education mission of creating and disseminating knowledge/intellectual property—and engage private-sector companies by licensing patented university intellectual property for commercialization or for developing new university company spin-offs. Successful technology transfer policies have permitted Pennsylvania higher education institutions to become vital catalysts for new company formation, new industries, new products and new jobs for the Pennsylvania economy.

The primary strategies for the Nanotechnology Grant are:

- Developing and increasing new technologies, escalating technology transfer, and enhancing university-based resources and skills
- Increasing commercialization of applications and processes through university, industry and government collaboration
- Forming new spin-off companies utilizing technology and/or know-how developed at a Pennsylvania higher education institution or another company collaborating with a Pennsylvania higher education institution
- Leveraging funding by federal, state and local governments; philanthropic foundations; strategic investors; and industry sponsored research
- Advancing university-based, nanotechnology-related educational and workforce development programs
- Developing strategies for financial sustainability

C. Eligible Applicants

1. A Pennsylvania higher education institution located in Pennsylvania and legally authorized to grant degrees in the Commonwealth (www.pdehighered.state.pa.us/higher/lib/higher/OperatingInstitutions.pdf).

Note: Eligible applicants exclude theological seminaries, institutions functioning through the authority of partner degree-granting institutions, and specialized associate degree-granting institutions (private licensed schools offering specialized associate or occupational degrees, not academic associate degrees). The Pennsylvania Department of Higher Education will provide continuing updates to the list of eligible institutions.

2. Consortia of Pennsylvania higher education institutions are encouraged.
3. A Pennsylvania based not-for-profit with the ability to advance commercialization of research done in the areas of energy, nanotechnology and advanced materials within the Commonwealth in collaboration with a Pennsylvania higher education institution.

D. Uses and Conditions for Grant Funds

1. Funds shall be used for nanotechnology-related: 1) applied R&D of technology, 2) technology transfer, 3) product development and design, 4) university-based educational and workforce development programs and, 5) other innovative initiatives arising from regional portfolios and state growth opportunities.

2. Exceptionally meritorious R&D proposals with high-impact potential for economic development and commercialization.
3. Multi-year project requests require BFTDA Board approval for the initial request and for each subsequent year of funding. Each annual funding request must contain deliverables and a detailed budget for the year under consideration and evidence that deliverables from the previous year's funding are being achieved. Grant funds from a single fiscal year appropriation may be utilized over three years.
4. Grant funds may not be used for acquisition or construction of a new facility.
5. A limited amount of grant funds may be used to pay for specialized equipment necessary to conduct the research project.
6. If any products developed with these funds are subsequently manufactured or produced, a significant amount of such manufacturing or production shall take place in Pennsylvania during the first five years.
7. Grantees will develop policies to encourage technology transfer and commercialization of intellectual property. Such policies will be made available to BFTDA staff upon request.
8. Priority for equipment acquisition will be given to shared equipment and laboratory resources that provide service or research capability to Pennsylvania institutions and industries.

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Section II – The Application Process

A. General

The application for a Nanotechnology Grant shall be submitted to the Department of Community and Economic Development (DCED) utilizing the electronic on-line DCED Single Application for Assistance (ESA) located at newPA.com or www.esa.dced.state.pa.us. If addenda are required, it may be attached electronically to the application on the Addenda tab, or submitted via US Mail with the Signature page. Please reference the Single Application number on any documents sent with the signature page.

Applications may be filed between November 1, 2011 and December 31, 2011, with approval subject to available funding and BFTDA Board approval. Questions on using the ESA should be directed to DCED's Customer Service Center at: (800) 379-7448 or emailing ra-dcedcs@pa.gov. For specific questions on this program, contact DCED's Technology Investment Office at: RA-TechInvestment@pa.gov.

B. Contents of the Application

1. An application shall be for/or in support of nanotechnology-related: 1) applied research or, 2) university-based educational and workforce development programs.
2. All applications must include a letter of support from the institution's vice-president of research or similarly appointed official.
3. A joint application with multiple partners is strongly encouraged.
4. An application must demonstrate the following:
 - a. A clear technical focus, description of the industry and its research need(s) and a clearly defined research agenda.
 - b. Evidence that the faculty and other participants in the project have the multidisciplinary technical capacity relevant to company needs in the specific project(s) and the research field, and that university infrastructure (i.e., laboratories, equipment, instrumentation, students) and administrative policies and procedures to support the project are in place.
 - c. Strong program or university and industry collaboration. This shall be demonstrated by private sector sponsorship to include the identity and the level of the commitment of the private sector partners through matching funding or other types of support.
 - d. Benchmarks, milestones, performance measures and deliverables including successful project implementation appropriate to the specific research project. These measurements must include a timeline for completion. These elements will be included in the grant contract.
 - e. The usage and projected timeline and benchmarks for commercialization of new technologies and/or processes.
 - f. A work plan for the research project(s) or program(s), including a description of the management structure, staffing for the project and proposed budget.
 - g. A detailed description of anticipated industry, university, state and other funding commitments. A minimum of a 1:1 dollar match is required.

- h. A plan to establish affiliations, exchanges, partnerships or other cooperative efforts with postsecondary educational institutions to provide programs to train students in the respective field.
 - i. Outreach efforts informing businesses and business organizations about recent developments in nanotechnology research conducted by the institution(s).
5. Each grant application shall include a description of policies for intellectual property, royalty and equity agreements, land and equipment ownership or provide references to the institutional policies on these topics or such policies shall be provided.
 6. Preference will be given to applications that have or project significant matching funds from public or private sponsors.

C. Application Review and Approval Process

1. TIO staff will evaluate each application.
2. TIO staff will work with the applicant to obtain a full understanding of the project.
3. TIO staff will rank each application for possible recommendation according to the following criteria:
 - a. The project's expected ability to achieve one or more of the program goals as defined in SECTION I. B. of these guidelines. Maximum eligible score equals 40 points.
 - b. Likelihood that proposed project milestones will be completed on-time. Maximum eligible score equals 25 points.
 - c. Projected overall impact as defined in SECTION II. E. of these guidelines. Maximum eligible score equals 15 points.
 - d. Past performance in meeting or exceeding deliverables on a previously funded project. Maximum eligible score equals 10 points.
 - e. Whether the budget aligns with the project goals, timeline and metrics. Maximum eligible score equals 10 points.

The maximum number of points that a project can receive is 100 points.

4. TIO staff will present the recommended projects to the BFTDA Board for approval. The BFTDA Board will consider approval of each of the recommended projects at a scheduled Board meeting. Approval of the project requires a majority vote of the BFTDA Board and is contingent upon available funding.

D. Post-Approval Process

1. A grant contract will be issued only after the following conditions are met:
 - a. The applicant must certify to BFTDA that it will not discriminate against any employee or against any applicant for employment because of race, religion, color, handicap, national origin, age or sex.
 - b. The applicant and its principals must be current in payment of all state and local taxes unless they have entered into an agreement satisfactory to the respective taxing authorities and are fully in compliance with the terms thereof.

2. Following the disbursement of funds, TIO staff will monitor the grant to ensure compliance with the conditions of the grant. The TIO staff is empowered to engage in any and all activities required in order to ensure that the conditions of the contract are fulfilled.
3. The applicant must maintain full and accurate records with respect to the project, and shall ensure adequate control over the records of related parties in the project. TIO staff shall have access to such records and be able to inspect all project work and all relevant records at reasonable times and places. Upon request, the applicant must furnish TIO staff all data, reports, contracts, documents and other information relevant to the project and not protected by a confidentiality agreement.
4. Material misrepresentations in the application or misuse of grant funds will cause the grantee to be considered in default of the contract, and DCED may demand immediate repayment of any or all grant funds provided to the grantee.

E. Reports

1. Semi-Annual Report

All grant recipients must provide semi-annual reports detailing progress toward accomplishing required deliverables (reporting is due via e-mail bi-annually on or before January 10th and July 10th). Following the disbursements of funds, staff will monitor the use of the grants through the submission of semi-annual reports by the applicant. Reporting shall continue for 3 years following the contract expiration or termination date.

A semi-annual electronic reporting survey template will be provided to the grant recipient. All reports should be submitted directly to the TIO.

- a. The report template will include Nanotechnology Grant impacts within the following measures:
 - Jobs Created
 - Jobs Retained
 - Businesses Assisted
 - Leverage of Additional Funding—Private and Public
 - New Company Formation
 - Development and Introduction of New Products
 - Expanded Research, Development, Testing and Evaluation
 - Intellectual Property and Licensing
 - Increased Revenues
 - Increased Productivity
 - Graduates and Job Placement
 - Seed Capital Awards
 - Publications
 - Internships
 - Program Trainees
 - Program Graduates
 - Deliverables

- b. Contracts, documents and other information relevant to the project, as may be requested.
- c. The Grant Agreement will require additional conditions including but not limited to a project audit, competitive bidding requirements, and maintenance of records.

2. **Final Report**

A final report for each funded project(s) shall be submitted to the TIO staff within six months of the contract end date. The report shall include a detailed description of:

- Achievement of benchmarks, performance measures and deliverables for the project within the timelines established in the application.
- Patents that have been developed and royalties and equity investment earnings of the project(s).
- Progress made toward the commercialization of a technology, product or process(es).
- University or program collaboration with industry.
- When applicable, the relationship of the project(s) to the regional portfolios and growth opportunities within the region and the Commonwealth.

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