



## **“LINKING ENVIRONMENTAL ACADEMIC PROGRAMS @ EPA”**

**“LEAP@EPA”**

### **Memorandum of Understanding**

**Between**

**United States Environmental Protection Agency  
Middle Atlantic Region**

**And**

**Lincoln University**

**And**

**Philadelphia Academies, Inc.**

**MEMORANDUM OF UNDERSTANDING  
(MOU)**

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**MEMORANDUM OF UNDERSTANDING**  
**BETWEEN**  
**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**MIDDLE ATLANTIC REGION**  
**AND**  
**LINCOLN UNIVERSITY**  
**AND**  
**PHILADELPHIA ACADEMIES, INC.**

**I. Introduction**

The underrepresentation of minority persons in science, environmental management, environmental policy, environmental health, and engineering fields can be attributed in part to the lack of familiarity with the many rewarding careers which can be developed in these fields, and to the lack of resources required to receive training in these fields. Thus, in order to increase the number of minority persons with careers in environmental fields, the numbers of those who seek education in these fields must increase. In addition, there is a need to provide environmental awareness to the general student at all educational levels as a part of the effort to educate the general public on issues concerning the environment. Special programs will be required to facilitate these concerns. The purpose of this Memorandum of Understanding (MOU) is to formalize and strengthen the ties between the Middle Atlantic Region of EPA, Lincoln University and the Philadelphia Academies, Inc., so as to enhance the education and training of students and increase the relevance of university research to EPA's mission.

Various projections and studies indicate a shortage of a well-trained workforce in this decade to meet national needs in the basic and applied sciences and various environmental fields and disciplines. In addition, these projections and studies indicate that if the national needs are to be met, these workers will have to come from the minority population. However, the number of minority students electing to pursue careers in these areas has been lower than necessary to reach this goal. Innovative strategies must be implemented to assure an adequate supply of highly-trained personnel to meet the nation's environmental research and developmental needs. To solve these needs will require a concerted effort among Federal, state and local governmental agencies and academic institutions.

**II. Background**

## **United States Environmental Protection Agency**

In addition to its regulatory and enforcement functions, EPA is an environmental science agency with responsibility for conducting environmental research, providing support to the academic environmental research community, and creating opportunities for young researchers and students to prepare for and enter environmentally-related careers. EPA began a sustained effort in 1981 to increase the involvement and participation of scientists and researchers in minority institutions in the Agency's environmental and scientific programs. In responding to these needs, EPA has established a number of partnerships and cooperative ventures with several minority academic institutions.

When President Bush signed into law the "No Child Left Behind Act of 2001," he committed to educating America's students. President Bush has committed to go beyond elementary and secondary schools by expanding to support higher education institutions servicing large numbers of minority students and will ask Congress for financial support for Historically Black Colleges and Universities (HBCUs). In February 2002, President Bush signed Executive Order 13256 aimed to strengthen the capacity for HBCUs to provide the highest quality education, and to increase opportunities for HBCUs to participate in and benefit from Federal programs. The furtherance of the goals and ideals stated in this executive order provides the foundation for this MOU between EPA, Lincoln University and the Philadelphia Academies, Inc. It is EPA's intent in entering into this agreement to carry out the activities referenced herein pursuant to, and to the extent allowed by, applicable laws and regulations.

### **Lincoln University**

Lincoln University has a long history and involvement in the science field. During the first 100 years of its existence, Lincoln graduated approximately 20 percent of the Afro-American physicians in the United States. Currently, in the School of Natural Sciences and Mathematics, a new Environmental Science major has been developed and will open in the Fall of 2002. The new Environmental Science degree will offer students the opportunity to work and study environmental issues from scientific, technical, ethical, political, economic and social perspectives. The Environmental Science major will be offered in two tracks - one in biology and one in chemistry.

### **Philadelphia Academies, Inc.**

Philadelphia Academies, Inc., is an independent non-profit organization dedicated to strengthening Philadelphia public school students' academic and workplace skills, enhancing their options during high school and beyond, and contributing to a stable workforce for the region.

The Philadelphia Academies, Inc., has worked to prepare young people for post-secondary education and careers since 1969. It has grown from 30 students in one Academy to more than 7,000 in 31 Academy programs located at 17 public high schools and one middle school.

Each program operates consistent with the Academy Model in partnership with a host high

school, community supporters (including business, higher education, community organizations and government agencies), and the School District of Philadelphia's governing entity. The staff of Philadelphia Academies, Inc., manages these partnerships.

### **III. Goals of the Memorandum of Understanding**

The goals of EPA, Region III and Lincoln University are combined in a collaborative program to strengthen the growth of a mutually beneficial partnership that will promote environmental education. The following activities will serve as vehicles toward achieving these objectives:

#### **(1) STUDENT/FACULTY INTERNSHIPS AND EMPLOYMENT**

- Lincoln University will work within EPA's well-established Co-op and Intern Programs to identify, coordinate and place students in various EPA functions;
- Summer Faculty Fellowships will provide opportunities for Lincoln University faculty to work with EPA technical staff and to gain first-hand knowledge and experience in various environmental protection activities;
- EPA, through the Intergovernmental Personnel Act (IPA) Program may provide Lincoln University with experts to work with Lincoln University faculty in developing programs and teaching in Environmental Science areas;
- Lincoln University will assist EPA in identifying students to provide them with information about EPA;
- EPA will participate in Lincoln University's job fairs;
- Lincoln students may participate in the National Network for Environmental Management Studies, (NNEMS); and
- EPA will participate in department seminars and workshops sponsored by Lincoln University for the purpose of generating interest, and creating a forum for publicizing EPA's mission and message.

#### **(2) TECHNICAL ASSISTANCE**

- EPA will work with Lincoln University to arrange short-term, intensive orientation workshops for Lincoln's faculty on environmental issues;
- EPA may work with Lincoln University to provide staff executive development workshops, seminars, and training; and
- EPA will work with Lincoln University to provide personnel to develop research and related activities in the National Estuary Programs and watershed programs such as water

quality studies in local estuaries.

### **(3) WATERSHED EDUCATION**

- EPA will work with Lincoln University to develop a Center for Watershed Education at Lincoln. The center will interface with local watershed associations and will work with local schools to develop and implement watershed education materials for the schools. This will involve appropriate teacher training in the use of monitoring and testing equipment.

- EPA will work with Lincoln University to adapt these materials to watersheds within the Philadelphia public school system boundaries so that watershed units can be taught in the public schools.

### **(4) BIOTECHNOLOGY/ENVIRONMENTAL RESEARCH**

This partnership is intended to facilitate fundamental interdisciplinary and collaborative research for faculty and students resulting in production of scientists, environmental policy makers, managers and educators, and engineers who may be considering careers in environmentally-related professions. A core research program will be identified that will incorporate current faculty research interests and those areas identified by EPA to generate knowledge essential to serve the broad needs of environmental decision making for long term regulatory needs.

- EPA will assist Lincoln University with the development of research proposals through consultations, meetings, workshops, and seminars;

- EPA will assist Lincoln University in upgrading its facilities and other technical resources through equipment donations where authorized;

- Lincoln University will work together to provide visiting faculty appointments to EPA technical staff on collaborative research efforts and related programs. Likewise, EPA may grant visiting scientist status to Lincoln University faculty at EPA analytical facilities, such as Fort Meade.

### **(5) COMMUNITY OUTREACH**

EPA and Lincoln University will collaborate in developing an environmental awareness educational kit and environmental awareness workshops for community/voluntary organizations, science and middle school teachers, and/or high school students. Lincoln University will act as an EPA outlet for its community outreach program activities. These activities may include: teacher training and promotional materials; Continuing Education courses; outreach to schools; depository references/resources for local communities; an on-going topical display on environmental issues.

### **(6) ENVIRONMENTAL EQUITY**

EPA and Lincoln University will collaborate on developing environmental equity

technical assistance on environmental issues and attitudes in minority communities, information workshops, and public meetings to increase community participation and awareness.

## **(7) BUSINESS PARTNERSHIP**

EPA will be represented on the Board of Governors with the Philadelphia Academies, Inc., and serve as a liaison to perform the following functions:

- EPA will assist with initial curriculum development as needed; review and revise the curriculum on an ongoing, regular basis.

- EPA will provide employment opportunities where authorized and to the extent possible for:

- Part-time for 11th and 12th grade students
  - Summer positions for students
  - Full-time for graduates

- EPA will support and participate in the education and training programs by:

- Providing classroom speakers
  - Hosting mock interviews
  - Hosting field trips/tours
  - Participating in career days
  - Providing staff development and training for teachers
  - Attending awards assemblies

- EPA will facilitate field trips and program events.

- EPA will furnish technical advice and expertise.

The Philadelphia Academies, Inc. (Academies, Inc.), will deliver services directly to students:

- Job readiness skills training
  - Career education, exposure information, and counseling
  - Orientation to post-secondary education and training options
  - Development of employment opportunities
  - Job placement
  - Counseling for working students
  - Cultural activities

In addition, Academies, Inc. will:

- Provide access to students enrolled in the Environmental Technology Academy (ETA)

for the purpose of informing the students of post-secondary education opportunities, specifically environmental science and technology.

- Invite faculty and students from Lincoln University to visit classrooms in the ETA to speak to students.
- Set up tours for ETA students at Lincoln University's Environmental Science facilities.
- Coordinate Lincoln University's faculty meetings with ETA faculty for the purpose of strengthening the Academy's curriculum.
- Collect follow-up data on all Academy graduates who enroll in environmental degree programs.

#### **IV. Profiles**

##### **Profile of Lincoln University**

Lincoln University of Pennsylvania is America's first Historically Black University. Founded in 1854, Lincoln University is a nationally-acclaimed institution of higher learning that provides the best elements of a liberal arts and sciences-based undergraduate core curriculum and selected graduate programs to meet the needs of students living in a highly technological and global society.

Lincoln University offers nine BS/BA degrees in the School of Natural Sciences and Mathematics. Between 1995 and 2001, the school graduated 353 of the total 1,556 graduates. This represents 22.7% of the total graduating class. Aside from 1999, when the school contributed only 19.4% of the graduating pool, the proportion of science graduates has never been lower than 21% of the total graduates. Lincoln University's peak years so far are 2000, when the School of Natural Sciences and Mathematics contributed 75 graduates (26.3%) of 285 total graduates, and 2001 when 56 of the 212 graduates (29%) came from the school. Also, all the six Summa Cum Laude graduates in 2001 came from the School of Natural Sciences and Mathematics.

Between 1995 and 2001, the Biology department has contributed 122 of the 353 (35%) graduates from the school, followed by Mathematics and Computer Science department with 78 (22.%) graduates, Chemistry department with 69 graduates (19.5%) and Physics with 56 graduates (15.9%). At the same time the school graduated 19 students (5.4%) with General Science and Science Education degrees.

In addition to these achievements, the departments within the school have continued to fulfill the science requirements of non-majors as well as providing foundation courses necessary for comprehending materials in other disciplines.

##### **Profile of Philadelphia Academies, Inc.**

It was 1968. Our nation and our cities were in crisis. We had lost John F. Kennedy and Dr. Martin Luther King. Drop out rates in some schools were 50%. Afraid of the racial



tension, or seeing no relevance in their education to what was happening in their world, children stayed away from school. Parents staged sit-ins and barricaded themselves in schools to protest desegregation. The nation was asking how it could best address the educational and career needs of students; how to engage them in meaningful ways that would keep them away from the negative forces of urban unrest; and how to give them hope for a future where they could be contributing, productive citizens.

One significant answer came from the business community and the Philadelphia Urban Coalition. Charles Bowser, who was Executive Director of the Coalition at the time, brought together J. Lee Everett, Chairman of the Philadelphia Electric Company, and Bill Mobraattan, of Bell of Pennsylvania - leaders who loved their city. They understood that Philadelphia's problems were their problems and they went to work on finding a way to help. They focused on the children and realized that here was their future and their city's future - and so the city's children became their children.

What they didn't realize at the time was they would create one the most successful education reform efforts in the country. The first Academy opened at Edison High School in 1969. It was called the Academy of Applied Electrical Science and enrolled thirty 10<sup>th</sup> grade students. It was set up as an independent not-for-profit corporation with its own Board of Governors.

Three years after the opening of the Electric Academy, a second program - the Philadelphia Business Academy - was started at University City High School, and in 1974 an Automotive Academy was started at West Philadelphia High School. Again, both of these programs were set up as independent not-for-profit corporations, each with its own Board of Industry representatives and each following the program design that characterized the original program.

In December of 1988, the individual Academy programs relinquished their status as separate tax-exempt, non-profit organizations and merged into the Philadelphia Academies, Inc.

During the 2000-2001 school year, the Philadelphia Academies, Inc. operated programs in 19 of the 22 comprehensive neighborhood high schools and two middle schools with twelve career areas and served approximately 7,500 students.

## **V. COSTS**

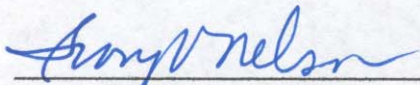
Nothing herein shall be construed to require the EPA, Lincoln University or Philadelphia Academies, Inc., to obligate or expend funds on behalf of the goals, objectives, or responsibilities set forth in this MOU, or give rise to a claim for compensation for services performed for the federal government. Any obligation or expenditure of funds by the EPA in furtherance of the goals of this MOU must be consistent with existing legal authorities. All obligations and expenditures of funds by EPA will be subject to the availability of appropriations and EPA's discretion in making budgetary determinations.

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## VI. SUMMARY

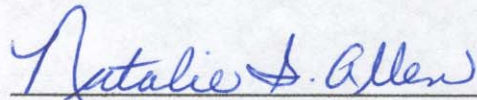
The undersigned agree to the program described in the Memorandum of Understanding. We further agree that this MOU shall become effective on the date of signature and shall remain in effect unless amended by consent of all parties. All parties to this MOU may withdraw their participation at any time upon sixty (60) days notice to the other parties.

Signed:



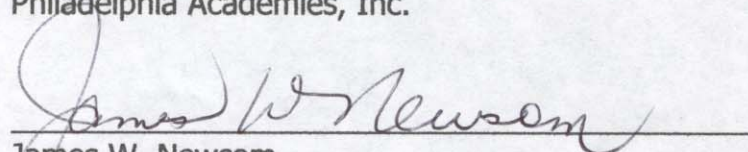
Ivory V. Nelson, Ph.D.  
President  
Lincoln University of Pennsylvania

10/22/2002  
DATE



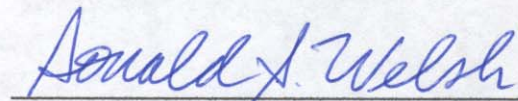
Natalie S. Allen  
President  
Philadelphia Academies, Inc.

10/17/02  
DATE



James W. Newsom  
Campus Executive  
United States Environmental Protection Agency  
Region III

9/26/02  
DATE



Donald S. Welsh  
Regional Administrator  
United States Environmental Protection Agency  
Region III

9/26/02  
DATE