



Composites Kansas WIRED Initiative
South Central Kansas WIRED Initiative

Implementation Plan

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Composites Kansas WIRED Initiative South Central Kansas WIRED Initiative

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Executive Summary

South Central Kansas is now one of 39 Workforce Innovations in Regional Economic Development (WIRED) regions through the Third Generation of WIRED funded by the United States Department of Labor. The region is receiving \$5 million over three years to support high skilled and high wage careers in South Central Kansas. Regional assets from private, non-profit, and government sources will be leveraged to implement the transformational strategy. WIRED is part of a national strategy to enhance transformation and innovation in regional economies through integration of education, workforce and economic development systems.

The goal of the South Central Kansas WIRED Initiative, Composites Kansas, is to accelerate economic growth and transformation by fostering innovation and talent development critical to the aircraft and medical device industries and other technology driven employers in the region. Focus will be placed on increasing the competency of workforce and expanding education and training in science, technology, engineering and math. Resources from Composites Kansas will support the emerging composite and advanced materials industry as the use of composites dramatically accelerates in the aviation and medical device industries, and encourage migration of a new generation of composite and advanced materials technology to other commercial applications in the region.

To maintain a competitive advantage and further develop composite expertise in South Central Kansas, it is critical that the region expand workforce training from students to entry level workers and experienced engineers. In developing a premier workforce of skilled composite and advanced materials technicians who can serve a variety of industries, South Central Kansas can diversify the regional economy while strengthening its manufacturing base and providing for future growth and stability.

The WIRED Region covers 10 counties in South Central Kansas encompassing the regional labor market: Butler, Cowley, Harper, Harvey, Kingman, Marion, McPherson, Reno, Sedgwick, Sumner. The initiative will be collaboratively administered by the Workforce Alliance of South Central Kansas, Kansas WorkforceONE¹ and Kansas Department of Commerce. Key areas to be addressed and the partners identified in the Composites Kansas WIRED Initiative² application include the following.

EDUCATION AND TRAINING

- Kansas Career Pipeline/K-12
- Wichita Area Technical College (WATC)
- Wichita State University (WSU), College of Engineering (COE)

EMPLOYMENT OPPORTUNITIES IN COMPOSITE AND ADVANCED MATERIALS TECHNOLOGY, PRODUCTS AND BUSINESS

- WSU, National Institute for Aviation Research (NIAR)
- WSU, Center for Entrepreneurship
- WSU, Kansas Small Business Development Center (KSBDC)
- Via Christi Health Systems, Orthopedic Research Center

REGIONAL ECONOMIC GROWTH

- Business and Industry

¹ Kansas WorkforceONE was formerly known as Western Kansas Local Workforce Board

² Composites Kansas WIRED Initiative was formerly know as South Central Kansas WIRED Initiative in the original grant application

- o Greater Wichita Economic Development Coalition (GWEDC)
- o Economic Development Agencies in the Region

A Leadership Team will provide governance for Composites Kansas WIRED Initiative. Selection of Leadership Team members will be focused toward identifying senior executive candidates who are regional champions with significant social networks that can provide the Initiative with access and flexibility to implement growth strategies and guide the regional transformational effort. Initially the coordination of the Leadership Team will be facilitated by the chair of Workforce Alliance and designee of Kansas WorkforceONE. The Kansas Department of Commerce will appoint two Leadership Team members. Five members of the Leadership Team will be appointed by the funded WIRED partners.³ The Leadership Team will also include members appointed by the Regional Economic Area Partnership (REAP)⁴ from business, industry, minority business councils, apprenticeship representative, K-12 education, post secondary education, and economic development professionals. Once the Team is established, co-chairs will be selected by the Leadership Team. Meetings are to be conducted at the discretion of the Team, at least quarterly, to guide the transformation efforts and review the progress of the Composites Kansas WIRED strategies and operations.

To support the Leadership Team, and expedite actions or decisions associated with the execution of the WIRED Initiative, an Executive Committee comprised of the Leadership Team's co-chair(s), and Leadership Team representatives from the aviation, healthcare, non-aviation manufacturing, state government, education and three at-large positions. Nonvoting, ex officio, members will include senior officials from the local workforce boards and the project director will be a staff member. The Executive Committee members will be nominated by the Co-Chairs and be affirmed by the Leadership Team. The Executive Committee will be empowered to act on behalf of the Leadership Team to address any modifications in funding or outcomes that require quick or immediate attention. Any issues before the Executive Committee and actions taken will be communicated to the Leadership Team. The Executive Committee will meet in response to specific topics that require expedited action or decision.

Responsibility for daily operation of the Composites Kansas WIRED Initiative will rest with a Project Director through a Memorandum of Understanding (MOU) between the Workforce Alliance and Kansas WorkforceONE. The Project Director will report directly to the WIRED Leadership Team. The Project Director will be a staff member of the Leadership Team and the Implementation Teams.

There are three primary strategies in the Composites Kansas WIRED Initiative, and Implementation Teams will oversee and coordinate execution of the Composites Kansas WIRED Initiative for each of the strategies. Implementation Teams will consist of initiative leaders from the regional partner(s) sponsoring the initiatives. The Implementation Teams will be staffed by the Project Director and members will be appointed by the Leadership Team. The role of the Implementation Teams is to coordinate and integrate the grant activities, leverage resources to maximize outcomes and track program metrics. Implementation Teams will meet monthly.

³ The chairman of Workforce Alliance of South Central Kansas and designee of Kansas WorkforceONE will initially coordinate the Leadership Team. Additional funded WIRED partners are Wichita State University, Wichita Area Technical College, Via Christi Research, Kansas Career Pipeline and Greater Wichita Economic Development Coalition.

⁴ The Regional Economic Area Partnership (REAP) is comprised of thirty-four city and county governments in the nine counties of South Central Kansas, which include Butler, Cowley, Harper, Harvey, Kingman, McPherson, Reno, Sedgwick, and Sumner counties. These jurisdictions have voluntarily joined together for two primary purposes – to guide state and national actions that affect economic development in the region and to consider and adopt joint actions among member governments that enhance the regional economy.

Strategy 1- Leverage the education, training and workforce development resources in the region as a way to ensure a highly skilled workforce that will support the sustainable, high-wage jobs required in a global economy

Strategy 2- Promote emerging technology and enterprises by advancing process controls to improve the quality of and promote employment opportunities in composite and advanced materials sciences in ways that will strengthen the economy of the region

Strategy 3- Cultivate an Emerging Global Cluster to Strengthen the Regional Economy

Overview of WIRED Goal and Strategies

The South Central Kansas region⁵ is one of the largest centers of composite aircraft component design and fabrication. Companies such as Boeing, Cessna and Hawker Beechcraft have utilized these materials in aircraft for over 25 years, and recent technological advances are increasing the use of advanced materials and polymers in commercial and general aviation manufacturing. The growth in composite structural aircraft components is estimated to be 14 percent per year over the next 20 years. While much of the demand for composites and advanced materials is driven by the aviation manufacturing cluster in this region, these materials are being used in medical devices, machinery components, building materials, and other commercial applications. South Central Kansas has an opportunity to become the global center for composite and advanced materials expertise.

The goal of the Composites Kansas WIRED Initiative⁶ is to accelerate economic growth and transformation by fostering innovation and talent development critical to the aircraft and medical device industries and other technology driven employers in the region. Focus will be placed on increasing the competency of workforce and expanding education and training in science, technology, engineering and math. Resources from the Composites Kansas WIRED Initiative will support the emerging composite and advanced materials industry as the use of composites dramatically accelerates in the aviation industry, and encourage migration of a new generation of composite technology to other commercial applications in the region.

Composites are engineered materials made by combining two or more dissimilar materials, such as fibers and resin, to create a product with exceptional structural properties not present in the original materials. Such lightweight, high-strength materials are a natural fit with aerospace, automotive manufacturing, medical devices (orthotics, etc.), wind turbines, marine applications, building and heavy construction infrastructure materials, machinery structural components, scientific instrumentation and home products. The Composites Kansas WIRED Initiative proposal builds on research in this field and existing partnerships to create a proactive approach supported by specific, innovative strategies for enhancing the regional economy.

Resources from the Composites Kansas WIRED Initiative will support the emerging composite and advanced materials industry as the use of composites dramatically accelerates in aviation manufacturing and encourages migration of a new generation of composite and advanced materials technology to other commercial applications. To maintain a competitive advantage and develop composite and advanced materials expertise in South Central Kansas, it is critical that the region expand workforce training from students to entry level workers and experienced engineers. In developing a premier workforce of skilled composite and advanced materials technicians who can serve a variety of industries, South Central Kansas can diversify its regional economy while maintaining its manufacturing base and providing for future growth and stability.

An important element to the Composites Kansas WIRED Initiative will be an asset mapping project. Resources for asset mapping will come from technical assistance funding provided by DOL. Through a competitive bid process, Wichita State University Center for Economic Development and Business Research has been selected as the asset mapping vendor. Initial results are anticipated in the first quarter of 2008. The asset mapping process is designed to guide implementation of the Composites Kansas WIRED Initiative and will at a minimum include:

⁵ The South Central Kansas WIRED Initiative/Composites Kansas WIRED Initiative includes 10 Kansas counties: Butler, Cowley, Harper, Harvey, Kingman, Marion, McPherson, Reno, Sedgwick, and Sumner

⁶ Composites Kansas WIRED Initiative was formerly know as the South Central Kansas WIRED Initiative

- o Database of the assets identified within the Composites Kansas WIRED Initiative 10-county region
- o Map of asset locations
- o Separate directory of assets with contact information for distribution.

The specific strategies to accomplish the goals of the Composites Kansas WIRED Initiative are organized into the three sections described in detail below. Implementation Teams will be established for each strategy and staffed by the Project Director. The role of the teams is to coordinate and integrate the Composites Kansas WIRED Initiative activities, and leverage resources to maximize outcomes. See attachment 1 for a table/matrix that identifies funding levels, time frames and outcomes for the Composites Kansas WIRED Initiative strategies.

Strategy 1. Education and Training

1.1 Composite Assembly and Composites Maintenance and Repair Training

The Wichita Area Technical College (WATC) through a partnership with SAE International is beginning to train Professional Aviation Maintenance Association (PAMA) certified Aviation Maintenance Technicians. The Kansas Occupational Outlook states that there are currently 2,030 Aviation Maintenance Technicians in South Central Kansas, with an estimated industry growth rate of 24 percent over the three-year term of the grant. As aviation manufacturing continues to grow in South Central Kansas, design and development of aircraft is beginning to focus around composites assembly. Currently aviation service center employees do not have composites experience and the FAA has not approved curriculum in the area of composites maintenance and repair. With the Boeing 787 scheduled for delivery in 2008, WATC is partnering with SAE International and the National Institute for Aviation Research (NIAR) at Wichita State University (WSU) to develop composites standards in the areas of composites maintenance and repair as the only way to avert a national crisis in aviation service centers.

WATC will consult with SAE International and hire a full-time aerospace curriculum developer to create national standards in composites maintenance and repair and time allowing composites assembly.

This strategy coincides with the building of the National Center for Aviation Training (NCAT) at Jabara Airport, and the composites curriculum will be delivered from this campus. To further prepare the NCAT, WATC will purchase equipment based on curriculum development requirements. This equipment is needed to outfit a composites lab for new program development and course offerings, and will be located at NCAT upon completion of the facility.

The expected outcome for this strategy in years 1-2 will be to complete curriculum development based on national standards and in year 3 have 120 students enrolled in composites maintenance and repair the first year it is offered. The new curriculum will add capacity and broaden regional technical training options as well as expand employment and advancement opportunities for workers while simultaneously catalyzing the creation of high-skill, high-wage jobs.

Sources of Leveraged Funds			
Source	Level	Leveraged Support over Three-year Period of Grant	Initiative
KDOC Workforce Solutions Fund	\$2,000,000	National Center for Aviation Training (NCAT) Wichita Area Technical College construction funding	1.1.

Sources of Leveraged Funds			
Source	Level	Leveraged Support over Three-year Period of Grant	Initiative
KDOC	\$75,000	Seed money for Manufacturing Skills Certification pilot to validate the curriculum	1.1.
Sedgwick County	\$54,000,000	National Center for Aviation Training (NCAT) Wichita Area Technical College construction funding	1.1.
US EDA	\$2,000,000	National Center for Aviation Training (NCAT) Wichita Area Technical College construction funding	1.1.
US HUD	\$500,000	National Center for Aviation Training (NCAT) Wichita Area Technical College construction funding	1.1.
Private Aviation Companies	\$3,000,000	National Center for Aviation Training (NCAT) Wichita Area Technical College program and operations funding for scholarships and equipment	1.1.
City of Wichita	\$1,600,000	National Center for Aviation Training (NCAT) Wichita Area Technical College program and operations funding, ground lease payments for 20 years	1.1.
KDOC	\$100,000	Seed money for plastics training facility in Cowley County	1.1.
DACUM	\$13,140	Training for six WATC program developers	1.1.
WATC	\$10,000	WATC will assume the start-up costs for the programs in the local high schools	1.1.
Total	\$63,298,140		1.1.

1.2 Coordinate and Leverage Educational and Workforce Development Resources

An ongoing priority for local workforce boards is to provide services to employers, thus creating opportunities for placing job seekers and Workforce Investment Act (WIA) participants. To coordinate the WIA services in the region from the Local Area I and IV Workforce Boards, a Business Service Advanced Materials Specialist will be established to serve as a liaison/account representative to composite, advanced materials, and polymer related employers. This staff position serves both workforce boards with a primary assignment to create service relationships with composite and or advanced materials related employers and the public workforce system. Services to be offered include, but are not limited to, providing job posting, screening, assessment, job fairs, and training services. The Advanced Materials Specialist will seek opportunities to apply the training funds through the Composites Kansas WIRED Initiative to companies needing incumbent worker training. Whenever possible, funds from the annual WIA allocations to each Board can be leveraged to engage more participants into training programs.

The outcomes for this element of the Composites Kansas WIRED Initiative include increased skills of existing labor force through training of incumbent worker and emergent workers, and improved coordination between Workforce Alliance and Kansas WorkforceONE⁷ in serving employers and job seekers in a common labor market by creating strong and sustainable partnerships.

To initiate this strategy, the Advanced Materials Specialist will work with Composites Kansas WIRED Initiative Strategy 1 Implementation Team and Composites Kansas WIRED Initiative Project Director to develop a work plan with specific goals to award incumbent worker and emergent worker scholarships for talent development in composites, polymers and advanced materials, and to engage composite and advanced materials companies in various industries with the services offered at the one-stop workforce centers in the WIRED region.

⁷ Formerly know as Western Kansas Local Workforce Board

Sources of Leveraged Funds			
Source	Level	Leveraged Support over Three-year Period of Grant	Initiative
**WIA	\$600,000	Local WIA set aside for Adult (\$300,000) and Dislocated Worker (\$300,000)	1.2.

** Allocations anticipated based on historical funding levels

1.3 Broaden Participation in Engineering

The College of Engineering (COE) at Wichita State University established the Engineering Education Center of Excellence with a mission that includes designing initiatives to attract youth in underrepresented groups to engineering. In the summer of 2007, two summer day camps were initiated to provide college campus experiences in engineering sciences for targeted students in grades 4-6 (primarily female) and high school students. The Society of Women Engineers provided grant funds to underwrite the first year start-up cost of the camp. Through Composites Kansas WIRED Initiative, funds will support approximately 360 youth scholarships for the summer camp and expand this program. (A waiver request will be submitted to fund camps for grades 4-6.)

With the assistance of the Project Director and the Strategy 1 Implementation Team, COE staff will work directly with school districts in the region to recruit participants for both 4-6 grades and high school participants.

Update: The waiver request for WSU Summer Camps for Grades 4 to 6 was filed in March 2008. On March 28, 2008, Jeffrey Saylor, Chief, Division of Federal Assistance Services, reviewed the waiver request for WSU Summer Camps for Grades 4 to 6. It was determined that "This project cannot be approved as it targets participants below the age of 14 for which we cannot use WIRED funds. We are restricted to using H-1B funds for activities for activities targeting youth ages 14 and above." The waiver and response can be found in the appendix.

Alternate funding for the WSU Summer Camps for Grades 4 to 6 was secured from the Knight Foundation.

The waiver request for WSU High School Summer Camps was filed in March 2008. On March 28, 2008, Jeffrey Saylor, Chief, Division of Federal Assistance Services, reviewed the waiver request for WSU High School Summer Camps. It was determined that this project was approved. The waiver and response can be found in the appendix.

Sources of Leveraged Funds			
Source	Level	Leveraged Support over Three-year Period of Grant	Initiative
Society for Women Engineers	\$2,500	Grant to underwrite first year start-up cost for summer camp primarily for school girls	1.3.
WSU	\$6,000	Office of Undergraduate Admissions provided scholarships for summer camp 2007	1.3.
WSU	\$9,750	In-kind donation, rental value for camp space	1.3.
WSU	\$76,662	Summer camp staff salaries (\$76,662)	1.3.
Knight Foundation	\$17,500	Funding for WSU Summer Camps for Grades 4 to 6	1.3
Total	\$112,412		1.3.

1.4 Expand Project Lead the Way (PLTW)

PLTW is a nation-wide program that provides training and mentoring for regional teachers so they can return to their classrooms and offer quality engineering and technology coursework. The Engineering Education Center of Excellence at the COE is the Kansas Affiliate for PLTW and is currently training teachers in two high schools in the region. As part of the Composites Kansas WIRED Initiative, the COE intends to expand the PLTW program and will offer up to seven courses with three curriculums each summer to regional middle school and high school teachers. WIRED funds will provide mini-grants to more than 50 schools to purchase equipment and supplies to implement the PLTW programs in regional schools.

An intended outcome of this element in the Composites Kansas WIRED Initiative is to increase the number of young people enrolling and completing engineering and engineering technology programs requiring a two- or four-year college degree. Mini-grant funds will provide lab equipment for schools.

In a similar fashion to strategy 1.3, COE staff will implement a coordinated process to work directly with school districts in the region to identify teachers and schools to participate in PLTW. (Mini-grants will be awarded to middle school and high schools. A waiver request will be submitted to fund PLTW middle school mini-grants.)

Update: The waiver request for PLTW was filed in February 2008. On March 28, 2008, Jeffrey Saylor, Chief, Division of Federal Assistance Services, reviewed the waiver request for PLTW. It was determined that this project was approved. The waiver and response can be found in the appendix.

Sources of Leveraged Funds			
Source	Level	Leveraged Support over Three-year Period of Grant	Initiative
WSU	\$389,857	.5 FTE director salary plus benefits (\$205,857), summer faculty salaries (\$84,000), mentor salaries (\$100,000)	1.4.
WSU	\$60,000	Conference Office fees (\$42,000) and Supplies and equipment maintenance (\$18,000)	1.4.
Total	\$449,857		1.4.

1.5 Develop Training Opportunities and Curricula for the Aerospace Composites Industry

The Center for Learning, Exploration, Research and Development in Composite Materials for Aerospace Application is located at the WSU College of Engineering. The Center's goals are fourfold: 1) develop and offer formal education in composites through a certificate, masters or a concentration in a Ph.D. program; 2) develop the required workforce through a continuing education program; 3) perform research and development in collaboration with the National Institute for Aviation Research (NIAR); and 4) work with NIAR and the Greater Wichita Economic Development Coalition (GWEDC) to make the South Central Kansas the center for composites expertise in the world.

To remain competitive, and to collaborate and support industry needs, it is crucial the region expand the training of both student and experienced engineers. Through a curriculum of composite training offered by the COE, current graduate students can earn a graduate certificate in Composite Materials. Further, existing aerospace engineers who are currently in the regional job market, but who had their engineering education in the pre-composite materials era, can attend workshops offered by the COE in collaboration with NIAR and receive hands-on training in the use of this new material.

In conjunction with the Center, Composites Kansas funds will provide scholarships for experienced engineers to attend process specific, customized training in a state of the art composites manufacturing laboratory over the three-year term of the grant. This training will provide expansion of employment and advancement opportunities in high-skill and high-wage occupations.

An additional Composite Materials Certificate Scholarship Fund will be established to provide scholarships to graduate students over the three-year term of the grant to expand employment and advancement opportunities in high-skill and high-wage occupations. Current graduate students who are committed to remain in the region and work in the advanced materials and composites cluster are eligible to apply for the scholarships.

This strategy is designed to increase the pool of skilled engineers in areas of composites and advanced materials in the region, and to add to the number of graduate students completing degrees in composites and advanced materials.

COE staff will work with the Strategy I Implementation Team to develop guidelines for awarding the scholarships. The Advanced Materials Specialist (strategy 1.2) will be engaged to identify companies with engineers who qualify for the customized training programs in composites. The COE will disseminate information on the Composites Materials Scholarship Fund to current and prospective students.

Sources of Leveraged Funds			
Source	Level	Leveraged Support over Three-year Period of Grant	Initiative
WSU	\$10,800	Course development cost = 3 hours program development time for every hour of course time * 24 hour of course work * \$150 per hour	1.5.
WSU	\$220,000	In-kind for composites lab = \$120,000 current equipment + \$70,000 projected expansion of lab + (\$10,000 * 3 years) maintenance on lab	1.5.
Total	\$230,800		1.5.

1.6 Kansas Career Pipeline (KCP)

The KCP is a free online assessment tool being developed for all Kansas students from middle school through college (adult workers also can access the website) that matches participant's aptitudes and interests with high demand careers in Kansas. An appropriation will be used to develop video vignettes representing the advanced materials and composite related employers in the Composites Kansas region. The videos will give the pay range, education, career ladder, and the types of skills needed to be successful in the advanced materials and polymers industry.

The KCP can be used by students as well as adult job seekers. Field tests of the KCP have been underway since April of 2007, many held in partnership with local school districts, community colleges and one-stop workforce centers. Students and job seekers will be able to access the video vignettes through the KCP website as part of the career awareness information designed to promote employment opportunities with Kansas employers. The completed product is expected to be released in 2008. Plans are being developed to implant the KCP in multiple grade levels in schools all across the state and to engage direct support from Kansas employers.

By providing career information and promoting employment opportunities with Kansas employers, the Composites Kansas WIRED resources will help improve the perception of manufacturing jobs and lead young people to select classes and training programs to better prepare for high-skill and high-demand careers.

Through the Strategy 1 Implementation Team, the Advanced Materials Specialist (strategy 1.2) and the Project Director will work with the KCP to identify companies for production of video vignettes. (The KCP is web based and therefore is available to younger students in addition to adult job seekers and students over the age of sixteen. A waiver request will be submitted to fund KCP.)

Update: The waiver request for KCP was filed in February 2008. On March 28, 2008, Jeffrey Saylor, Chief, Division of Federal Assistance Services, reviewed the waiver request for KCP. It was determined that this project was approved. The waiver and response can be found in the appendix.

Sources of Leveraged Funds			
Source	Level	Leveraged Support over Three-year Period of Grant	Initiative
*State of Kansas	\$2,770,720	In-kind funding for Kansas Career Pipeline (\$250,000 committed, balance anticipated)	1.6.

* Leveraged funds are expected, but final (independent) decision is pending

Strategy 2. Employment Opportunity Expansion in Composite and Advanced Materials Technology, Products and Business

2.1 Enhancing Commercialization of Emerging Technology and Products: Bio-Composite Research Initiative, Via Christi Regional Medical Center’s Orthopedic Research Institute (ORI)

WSU and ORI have jointly proposed a bio-composite research initiative which would seek to develop orthopedic devices such as artificial joints and fixation devices using composite technology. Funding for this endeavor will come in part from the Kansas Bioscience Initiative supported by Kansas tax revenues. ORI has a long history of effective research in the area of orthopedic devices and currently generates significant revenue from patents which have been realized by commercial interests.

ORI staff will use Composites Kansas WIRED Initiative funding for talent development and training in order to effectively integrate the bio-composite initiative with developing composite industrial development. This training will center on commercialization strategies and processes for emerging technology, enterprises and employment opportunities.

Outcomes from this strategy will include increased knowledge of potential opportunities to develop biocomposite medical enterprises, awareness of commercialization strategies appropriate for medical biocomposite enterprises and more direct contact between ORI research staff and business development organizations involved in bringing innovative medical devices to market.

A representative from ORI will serve on the Strategy 2 Implementation Team and provide regular reports on progress of composites related medical research and its implications for new job opportunities. Particular attention will be given to leverage resources from other partners in the Composites Kansas WIRED Initiative to support new business ventures in this field.

Sources of Leveraged Funds			
Source	Level	Leveraged Support over Three-year Period of Grant	Initiative
ORI	\$320,000	ORI annual budget	2.1.

Sources of Leveraged Funds			
Source	Level	Leveraged Support over Three-year Period of Grant	Initiative
*Kansas Bioscience Initiative	\$4,000,000	Orthopaedic Research Center (ORI) grant to be submitted in the Summer of 2007 with first funding distributions scheduled for January 2008	2.1.
ORI	\$50,000	In-kind contribution for management oversight, space allocation and overhead	2.1.
Total	\$4,370,000		2.1.

* Leveraged funds are expected, but final (independent) decision is pending

2.2 Kansas Entrepreneurial Initiative (KEI)

The KEI is a program for senior and graduate level college students to evaluate and manage emerging technologies through analysis of market potential, new-venture feasibility and new-venture launch requirements. The KEI program provides feedback of the potential viability of technology transfer to the concept's originators and successfully launches multiple new businesses each year adding additional jobs. The Coleman Foundation has provided seed money for this initiative.

Composites Kansas WIRED Initiative funding will be used to hire a staff member and graduate assistant to expand the current program and develop public programs and symposiums for the entrepreneurial community. Kauffman Foundation certified non-traditional experiential learning with hands-on coaching programs will be offered twice annually. Courses offered will include FastTrac® NewVenture™ and FastTrac® GrowthVenture™. Entrepreneurs will strengthen their ability to make critical decisions and become equipped with knowledge and skills needed to strategically connect research with improved performance in their business. The program will become self-sustaining with tuition.

The outcomes for this strategy are to develop public programs for feedback on the potential viability of technology transfer to the concept's originator, expand training in FastTrac® NewVenture™ and FastTrac® GrowthVenture™ courses for entrepreneurs, and assist in launching new businesses.

KEI staffs are to be appointed to the Strategy 2 Implementation Team, and coordinate activities to connect entrepreneurs to the resources from Composites Kansas partners.

2.3 Business Plan Competition

Initiated in 2006, the Shocker Business Plan Competition is open to any two-year and four-year college or university student in Kansas and is designed to encourage student innovation and venture creation by providing a forum to present new business ideas to local business community leaders, including entrepreneurs and investors. The competition is co-sponsored by WSU Center for Entrepreneurship and local business. With Composites Kansas funding, the Shocker Business Plan Competition will be expanded to add a regional high school tournament.

The intent of the Business Plan Competition is to provide access for high school students to the Shocker Business Plan Competition and encourage private sector sponsors to maintain the high school competition in subsequent years. WIRED funds will not be used for competition prizes; prizes will be provided by leveraged funds from business and industry.

As with strategies 1.3 and 1.4, outreach plans will be developed to engage high schools throughout the region to identify participants for this competition. Methods for connecting this and other Composites Kansas strategies to

the regional school districts will be coordinated through the Implementation Teams. The Project Director is responsible for ensuring there is no duplication of efforts among Composites Kansas partners.

Sources of Leveraged Funds			
Source	Level	Leveraged Support over Three-year Period of Grant	Initiative
Coleman Foundation	\$180,000	Grant to fund 30 graduate internships for the Kansas Entrepreneurial Initiative	2.2.
WSU	\$30,000	In-kind donation, faculty time, overhead and office expenses	2.2-3.
Local businesses	\$20,000	Shocker Business Plan prize scholarships	2.3.
Total	\$230,000		2.2-3.

2.4 Advance Materials Cluster Specialist for Entrepreneurs

Background Information: The WSU Kansas Small Business Development Center (KSBDC) maintains a well established record of successfully impacting regional economic development through consultation services, workshops, and access to entrepreneurial financing.

Through the Composites Kansas WIRED Initiative, a staff position will be supported to provide consultation and training to high-potential firms selected by the grant partners to facilitate the launch of new businesses in the composites and advanced material cluster. The WSU KSBDC will provide individual consultation services and training in areas that include business plan development, strategic planning, market research, marketing plan development, financial projections development, cash flow analysis, operational efficiency, human resources, and other business management matters.

Planned outcomes include consultation services and training to high-potential firms focused on development of new industry application in an emerging composites and advanced materials cluster, and consultation assistance in launching new enterprises and services within both new and existing industries leading to greater regional employment opportunities.

Currently, the number of potential entrepreneurs entering the advanced materials and composites cluster in the Composites Kansas region is unknown. Under the circumstances, existing staff or consultants will be assigned to this strategy on a part time basis during year 1 of the Composites Kansas WIRED Initiative. Resources have been budgeted and are to be allocated as needed to support the partnership with the KSBDC. It is expected the demand for services from the KSBDC from composites and or advanced materials technology firms will increase during the term of the Composites Kansas WIRED Initiative. There is also a strong potential for outcomes in terms of new business start ups and job creation that will go beyond composites and advanced materials through the expanded entrepreneurial training and business plan competition.

The Project Director and Strategy 2 Implementation Team will provide guidance to the KSBDC and help to identify prospects for these services. One of the sustainability goals from this strategy is to strengthen the connection between regional assets in the areas of entrepreneurship training and small business development. A representative from KSBDC will serve on the Strategy 2 Implementation Team and provide regular reports on progress of entrepreneurial/business enterprises.

Sources of Leveraged Funds			
Source	Level	Leveraged Support over Three-year Period of Grant	Initiative
US SBA	\$532,500	Cash funding for KSBDC	2.4.
WSU	\$210,000	Cash funding for KSBDC	2.4.
City of Kingman	\$60,000	City of Kingman cash funding for KSBDC	2.4.
Harvey County	\$15,000	Harvey County Economic Development cash funding for KSBDC	2.4.
KDOC, Workforce Development	\$158,406	State cash funding for KSBDC	2.4.
WSU	\$322,602	In-kind funding for KSBDC	2.4.
Total	\$1,298,508		2.4.

2.5 Training Support from National Institute for Aviation Research (NIAR) on Manufacturing and Maintenance of Advanced Materials

As most of the aviation manufacturing workforce has been changing from metallic aircraft to non-metallic, composite aircraft, an increase in manufacturing defects has been observed resulting in a number of aircraft being reworked on the manufacturing floor. These defects have wide range variability and can inherently be traced to the polymer chemistry occurring as a result of the manufacturing process on the shop floor.

With resources from the Composites Kansas WIRED Initiative, a NIAR Polymer Development and Training Scientist experienced in manufacturing and maintenance of resin-based composite materials will be assigned to work within the aviation community, in partnership with WATC and NCAT to provide educational material for the training of current and future composite employees, as well as investigate the sources of manufacturing defects. In addition, this position will isolate effects of defects within these structural parts and develop training initiatives to mitigate these defects. It is expected that the defects will include both laminated and sandwich core composite structures.

With resources from the Composites Kansas WIRED Initiative, a NIAR Polymer Engineer will be assigned to support training, testing and directing laboratory activities to ensure quality of instruction. In addition, this position will coordinate procurement and maintenance of laboratory equipment and tools.

The training resulting from this strategy is intended to diminish the occurrence of manufacturing defects currently being experienced as part of the composite manufacturing process. In addition, using polymer chemistry equipment in the development of an effective training curriculum in this area will characterize the manufacturing defects and the creation of reference standards to train composite employees on the detection of these defects and the demonstration of the influences of various polymer chemistry variables within the manufacturing process thereby making workers more employable.

A representative from NIAR will be appointed to the Strategy 2 Implementation Team and provide reports and updates on training standards for composites and advanced materials.

Sources of Leveraged Funds			
Source	Level	Leveraged Support over Three-year Period of Grant	Initiative
NIAR	\$14,250,000	NIAR support of composite research and training, \$4.5-5M * 3 years. This supports staff, space, equipment and also includes contracted work.	2.5.

Strategy 3. Regional Composites and Advanced Materials Economic Growth

3.1 Coordinating a Cluster of Composites and Advanced Materials Employers

In 2004, the Greater Wichita Economic Development Coalition (GWEDC) founded the Composites Advisory Board (CAB) consisting of members from the area's aviation manufacturers and suppliers involved in composites manufacturing, as well as staff from the NIAR and WATC. The CAB meets on a regular basis to identify issues of common concern to the industry partners. Through the Composites Kansas WIRED Initiative, the Project Director and the Business Service Advanced Materials Specialist will utilize this model and work with economic development organizations in the region to expand and strengthen the emerging cluster of employers engaged in composites and advanced materials manufacturing. With the assistance of the Asset Mapping project, employers in composites and advanced materials related fields will be identified and engaged to provide guidance and support for the activities of the Composites Kansas WIRED Initiative.

By expanding and strengthening an industry group of regional employers engaged in composites and advanced materials manufacturing, there will be an increased understanding of both technical aspects and the overall importance of the emerging regional cluster among local, state and federal government officials and the general public -- leading to more effective cooperation and cluster facilitation among relevant private and public entities. The CAB leaders will have access to and collaborate regularly with the Leadership Team in order to leverage social networks to initiate and sustain the Composites Kansas goals for regional economic growth.

As with Strategies 1 and 2, an Implementation Team will be established by the Leadership Team and supported by the Project Director. Membership of the Strategy 3 Implementation Team will be drawn from economic development organizations and employers from across the Composites Kansas region.

3.2 Regional Composites and Advanced Materials Development Strategies and Stakeholder Communication

This strategy focuses on increasing the collaboration and cooperation among the economic development agencies in South Central Kansas to better position the region for global economic competition in composites and advanced materials. (a) The Composites Kansas WIRED Initiative will build on and expand existing relationships with the basic goal of developing common strategies to rally, support, and leverage the advantages afforded through the innovation and transformation of the regional economy and the growing use of composites and advanced materials. (b) In addition, efforts to increase regional collaboration will build on goals to further incorporate the public workforce system as an asset and a recognizable built-in incentive to both retention and recruitment efforts in South Central Kansas. (c) Regional economic development partners will expand their scientific understanding of composite and advanced materials through networking opportunities, increased communication, education and outreach opportunities.

Since 2004, the GWEDC has partnered with county economic development agencies in the region to market South Central Kansas. A website has been created through this collaboration, and representatives from the economic development agencies meet on a regular basis. Despite the increased communication and cooperation, developing relationships between and among economic development agencies that translate into a coordinated regional strategy has been elusive. The absence of a regional economic development strategy is not from a lack of desire or willingness to collaborate; it is more a function of limited resources and the difficulty for any one agency to lead the development of regional strategies.

Early in the WIRED program with Composites Kansas funds, and through the Strategy 3 Implementation Team, economic development partners will convene to develop a coordinated regional economic development strategy for composites and advanced materials including but not limited to a SWOT analysis, goal setting, and implementation activities. The outcomes of these activities will be reported to the Leadership Team in order to leverage social networks and initiate and sustain the Composite Kansas goals. It is expected that the composites and advanced materials regional economic development planning will be used as building blocks that benefit the expansion in commercial and industrial application of composites and advanced materials, and provide tools for employers and job seekers from the public workforce system. Additional issues of common concern and opportunities for increased regional collaboration are expected to emerge from this process.

3.3 Advanced Material and Polymers Market Research

Composites Kansas WIRED Initiative resources would allow GWEDC to purchase credible advanced materials industry forecasts and market analyses that would provide vital data resulting in better informed and more effective decision-making regarding regional cluster external outreach strategies and internal stakeholder communication. In Year 1, off-shelf forecasts can be purchased to allow the Strategy 3 Implementation Team, economic development agencies and business and industry to identify trends and growth opportunities. Such reports are provided by E-Composites, World Composites and AeroStrategy. In Years 2 and 3, additional funds are to be invested in customized research on targeted employment growth opportunities.

Through the Strategy 3 Implementation Team, materials will be developed and used to raise awareness about the regional workforce skills and the composite and advanced materials cluster in South Central Kansas. Materials will highlight the unique, innovative curriculums developed locally and focus on talent development as an asset to bringing new businesses and industries into the region and drive economic prosperity. Informational materials will be used at trade shows, seminars and in print advertising. Representatives from the region are expected to attend conferences, workshops and trade shows related to the composites and advanced materials industry to distribute these materials. GWEDC’s budget will partially fund the expense of marketing materials.

Sources of Leveraged Funds			
Source	Level	Leveraged Support over Three-year Period of Grant	Initiative
Knight Foundation	\$56,250	Foundation funding to support regional economic development	3.1-3.
GWEDC	\$900,000	Greater Wichita Economic Development Coalition marketing budget	3.1-3.
Total	\$956,250		3.1-3.

Governance

A Leadership Team will provide governance for Composites Kansas WIRED Initiative. Selection of Leadership Team members will be focused toward identifying senior executive candidates who are regional champions with significant social networks that can provide the Initiative with access and flexibility to implement growth

strategies and guide the regional transformational effort. Initially the coordination of the Leadership Team will be facilitated by the chair of Workforce Alliance and designee of Kansas WorkforceONE. The Kansas Department of Commerce will appoint two Leadership Team members. Five members of the Leadership Team will be appointed by the funded WIRED partners.⁸ The Leadership Team will also include members appointed by the Regional Economic Area Partnership (REAP)⁹ from business, industry, minority business councils, apprenticeship representative, K-12 education, post secondary education, and economic development professionals. Once the Team is established, co-chairs will be selected by the Leadership Team. Meetings are to be conducted at the discretion of the Team, at least quarterly, to guide the transformation efforts and review the progress of the Composites Kansas WIRED strategies and operations.

To support the Leadership Team, and expedite actions or decisions associated with the execution of the WIRED Initiative, an Executive Committee comprised of the Leadership Team's co-chair(s), and Leadership Team representatives from the aviation, healthcare, non-aviation manufacturing, state government, education and three at-large positions. Nonvoting, ex officio, members will include senior officials from the local workforce boards and the project director will be a staff member. The Executive Committee members will be nominated by the Co-Chairs and be affirmed by the Leadership Team. The Executive Committee will be empowered to act on behalf of the Leadership Team to address any modifications in funding or outcomes that require quick or immediate attention. Any issues before the Executive Committee and actions taken will be communicated to the Leadership Team. The Executive Committee will meet in response to specific topics that require expedited action or decision.

Responsibility for daily operation of the Composites Kansas WIRED Initiative will rest with a Project Director through a Memorandum of Understanding (MOU) between the Workforce Alliance and Kansas WorkforceONE. The Project Director will report directly to the WIRED Leadership Team. The Project Director will be a staff member of the Leadership Team and the Implementation Teams.

There are three primary strategies in the Composites Kansas WIRED Initiative, and Implementation Teams will oversee and coordinate execution of the Composites Kansas WIRED Initiative for each of the strategies. Implementation Teams will consist of initiative leaders from the regional partner(s) sponsoring the initiatives. The Implementation Teams will be staffed by the Project Director and members will be appointed by the Leadership Team. The role of the Implementation Teams is to coordinate and integrate the grant activities, leverage resources to maximize outcomes and track program metrics. Implementation Teams will meet monthly.

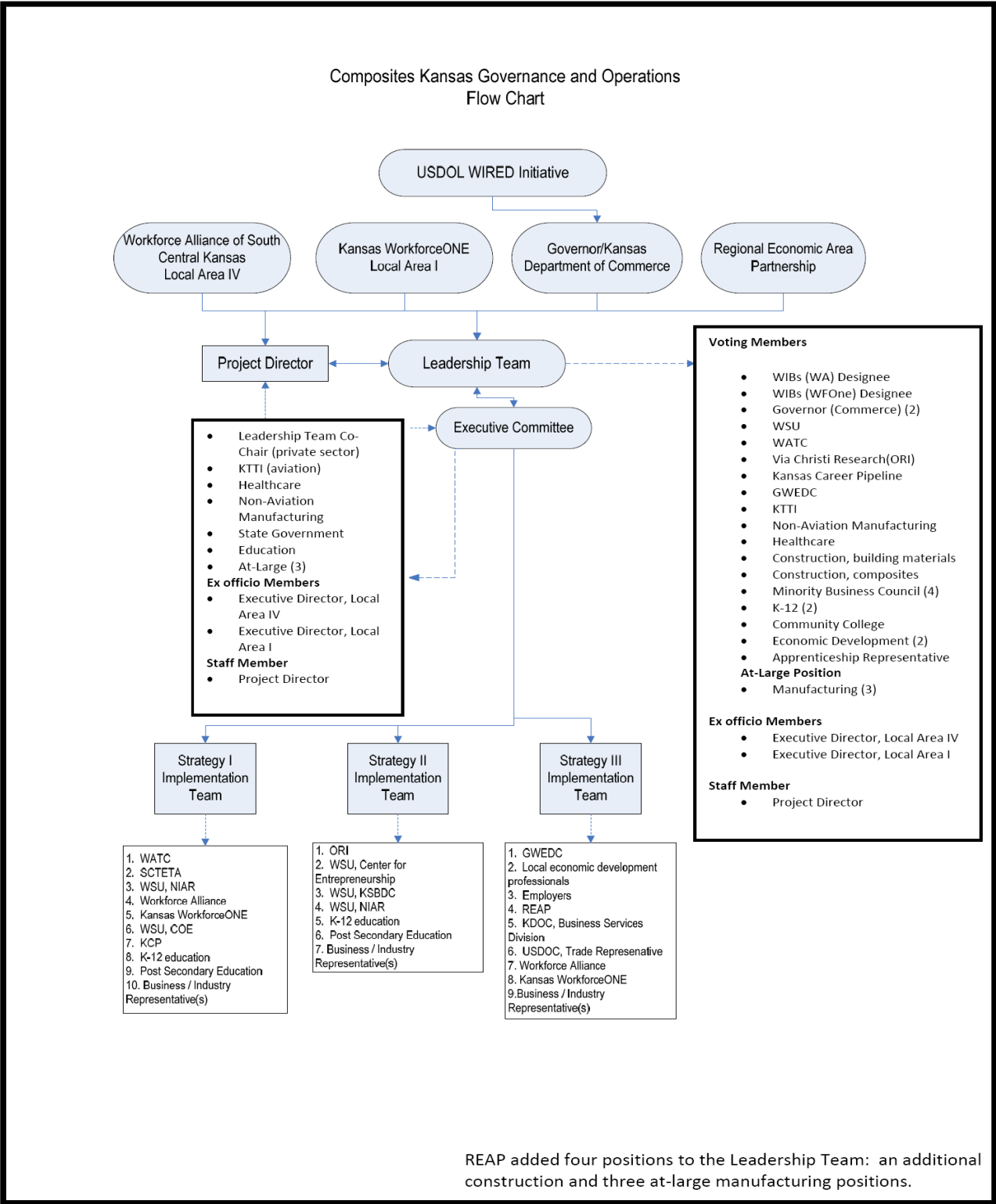
Sources of Leveraged Funds			
Source	Level	Leveraged Support over Three-year Period of Grant	Initiative
WIA	\$66,000	Funding for labor research study	Administration

⁸ The chairman of Workforce Alliance of South Central Kansas and designee of Kansas WorkforceONE will initially coordinate the Leadership Team. Additional funded WIRED partners are Wichita State University, Wichita Area Technical College, Via Christi Research, Kansas Career Pipeline and Greater Wichita Economic Development Coalition.

⁹ The Regional Economic Area Partnership (REAP) is comprised of thirty-four city and county governments in the nine counties of South Central Kansas, which include Butler, Cowley, Harper, Harvey, Kingman, McPherson, Reno, Sedgwick, and Sumner counties. These jurisdictions have voluntarily joined together for two primary purposes – to guide state and national actions that affect economic development in the region and to consider and adopt joint actions among member governments that enhance the regional economy.

Composites Kansas Governance and Operations

Proposed and Approved by Leadership Team: May 14, 2008



Communication

Internal Communications

The Composites Kansas Implementation Teams will meet monthly with the project director to provide consistent communication while identifying and addressing issues impacting the implementation of the grant. In addition, the project director will provide monthly updates to the Leadership Team to ensure that all parties are aware of the status of the grant implementation. The Project Director will provide an electronic communication midway through the month that will serve to keep all of the partners routinely informed about the grant implementation. Success stories will be tracked and serve as a reservoir of information on the continuous success of the grant providing awareness for partners, supporters, grant affiliates and the public.

The Composites Kansas WIRED Initiative will also host a semi-annual all partner meeting to enhance communication while providing forums to discuss the grant implementation across strategies and foster project team communication. The Composites Kansas Leadership Team will receive a report on the progress of the grant implementation on a quarterly basis.

External Communications

Press releases are planned to be regularly issued to increase communication, promote success and activities, and bring additional opportunities to the Composites Kansas transformation process. The Leadership Team will serve as a speaker's bureau to provide outreach and public presentation on WIRED throughout the region and the adjacent regions including briefings to legislators, business leaders, industry groups and schools. The purpose of these presentations is to educate the region on the WIRED initiative and to gain support for the long-term sustainability of the project. In addition, Composites Kansas partners will host similar media events to publicize their own regional initiative supported by the grant.

A Fact Sheet with summary information on the WIRED grant, strategies and initiatives will be created to promote and educate the stakeholders. Customized communications tailored to workforce and industry stakeholders will be produced highlighting specific WIRED partner programs.

Operations

The Project Director will be responsible for daily operation of the Composites Kansas WIRED Initiative, including but not limited to preparing and monitoring sub-recipient agreements for the Composites Kansas partners, documenting performance requirements, and preparing quarterly financial and progress reports for the Leadership Team and Department of Labor. The Project Director will report directly to the Composites Kansas Leadership Team and will function through a Memorandum of Understanding (MOU) between the Workforce Alliance and Kansas WorkforceONE.

There are three primary strategies in the Composites Kansas WIRED Initiative. Implementation Teams will be created for each of the strategies and will be responsible for the execution of Composites Kansas initiative(s). The Implementation Teams will be staffed by the Project Director and members will be appointed by the Leadership Team.

Formal agreements will be developed with each of the Composites Kansas partners to fund the initiative and strategies of the grant. These agreements with the sub recipients are intended to detail funding and outcomes

and can be used for assistance in monitoring and measuring Composites Kansas activities and ultimate sustainability of efforts beyond the WIRED period. Templates and models of sub recipient agreements from other WIRED regions will be used to guide drafting of the Composites Kansas WIRED Initiative agreements.

Budget Allocations and Fiscal Management

Composites Kansas WIRED Initiative designates the Kansas Department of Commerce as the grant recipient and fiscal agent. The Kansas Department of Commerce is a State level Cabinet agency overseen by the Governor and Secretary of Commerce. The Department of Commerce administers a budget of more than \$100 million of federal and state funding. The department is charged with state level administration of the workforce-related services/programs and oversight of the state workforce development system. It is the responsibility of Commerce to ensure all entities of the system provide quality training and assistance through well administered and fiscally sound programs. The Division of Operations which encompasses the Fiscal Management Unit will oversee the receipt and disbursement of these funds in accordance with both federal and state fiscal policies and procedures.

Requested Advanced Technical Assistance

It is anticipated Composites Kansas WIRED Initiative will need technical assistance from the United States Department of Labor in the areas listed below.

- Developing program outcomes and measurements
- Methods for overcoming regulatory barriers challenging targeted industries
- Identifying and securing resources and funds to leverage and expand the Composites Kansas strategies
- Providing information on best practices from other WIRED regions or employment and training programs.



Activities Matrix Composites Kansas WIRED Initiative

Implementation Stage					
Key Strategies (Projects)	Partners * designates lead	Activities	Milestones Year/Quarter	Resources Needed	Desired Outcomes
Asset Mapping	WSU CEDBR	Conduct asset mapping of Composites Kansas WIRED Region.	2008Q1	\$30,000	Creation of asset map to identify regional assets and to guide the Composites Kansas WIRED region.
Project Director	Area I and IV LWIBs	Identify Project Director. Conduct initial orientation and training.	2008Q1	\$318,698	Project Director hired and oriented for WIRED Management.
		Ongoing project management and staff support for Leadership and Implementation Teams.	2008-2010		Successful Project Management.

Strategic Goal #1:

To leverage the education, training and workforce development resources in the region as a way to develop a highly skilled workforce that will support the sustainable, high wage jobs required in a global economy.

Key Strategies (Projects)	Partners * designates lead	Activities	Milestones Year/Quarter	Resources Needed	Desired Outcomes
1.1. Composite Assembly and Composites Maintenance and Repair Training	*WATC, SCTETA, NIAR	Develop curriculum for training.	2008-2009	\$755,000	Curriculum will be developed based on national standards and delivered to 120 students.
		Enroll 120 students in training programs.	2010Q1		Add capacity and sustain training.

Activities Matrix, Composites Kansas WIRED Initiative

Key Strategies (Projects)	Partners <small>* designates lead</small>	Activities	Milestones <small>Year/Quarter</small>	Resources <small>Needed</small>	Desired Outcomes
1.2. Coordinate and Leverage Educational and Workforce Development Resources	*Area I and IV LWIBs	Select Business Services Advanced Materials Specialist to serve the Composites Kansas WIRED region, conduct initial orientation and training.	2008Q1	\$1,258,771	Create service relationships with at least 50 composite and/or polymer related employers and the public workforce system providing job posting, screening, assessment, job fairs, and training services.
		Through asset mapping, implementation teams identify companies engaged in use of composites and advanced materials in manufacturing or commercial applications.	2008Q2		Identify companies that could benefit from incumbent worker training and/or looking for employees with training in composites.
		Develop standards for pre-employment and incumbent worker scholarships for talent development in composites and advanced materials curricula for production workers, engineers, scientists and researchers.	2008Q2		Increase skills of existing labor force through training of incumbent workers.
		Determine goals for pre-employment incumbent worker training projects through the Composites Kansas WIRED Initiative.	2008Q2		Improved coordination between Workforce Alliance and Western Kansas Workforce Board in serving employers and job seekers in common labor market.
		Award incumbent worker training scholarships to qualifying companies.	2008Q3-2010Q2		Trained workforce for emerging cluster.

Activities Matrix, Composites Kansas WIRED Initiative

Key Strategies (Projects)	Partners * designates lead	Activities	Milestones Year/Quarter	Resources Needed	Desired Outcomes
1.3. Broaden Participation in Engineering	*COE	Composites science summer camp primarily for females grades 4-6 and second camp for high school students – 50 students per camp for a total of 100 students.	2008Q3	\$90,000	50 scholarships will be awarded to female students grades 4-6. 50 scholarships will be awarded to high school students. Assessment tools are used to demonstrate improvements each summer.
		Composites science summer camp primarily for females grades 4-6 and second camp for high school students – 60 students per camp for a total of 120 students.	2009Q3		60 scholarships will be awarded to female students grades 4-6. 60 scholarships will be awarded to high school students. Assessment tools are used to demonstrate improvements each summer.
		Composites science summer camp primarily for females grades 4-6 and second camp for high school students – 70 students per camp for a total of 140 students.	2010Q3		70 scholarships will be awarded to female students grades 4-6. 70 scholarships will be awarded to high school students. Assessment tools are used to demonstrate improvements each summer.

Activities Matrix, Composites Kansas WIRED Initiative

Key Strategies (Projects)	Partners <small>* designates lead</small>	Activities	Milestones <small>Year/Quarter</small>	Resources Needed	Desired Outcomes
1.4. Expand Project Lead the Way (PLTW)	*COE	WSU will offer one Project Lead the Way (PLTW) training course for middle school teachers, three introductory training courses and one specialty course for high school teachers in the WIRED region.	2008Q2 2009Q2 2010Q2	\$280,000	Train teachers so they can offer quality engineering and technology coursework.
		Minigrants will be awarded to high school and middle schools to set up labs and offer PLTW courses.	2008Q3 2009Q3 2010Q3		Increase stock, quality and use of lab equipment in regional schools. At least 56 minigrants will be awarded to middle and high schools to encourage coursework in composites.
		WSU will provide mentors to middle school and high school teachers.	2009Q1 2010Q1 2010Q4		Continued support and educational outreach to regional high school and middle school teachers.
1.5. Develop Training Opportunities and Curricula for the Aerospace Composites Industry	*COE	Ninety scholarships will be awarded to graduate students for work in composites.	2008Q2 2008Q3 2009Q1	\$162,000	Equip and retain talented individuals that will study composites.
		Sixty scholarships for experienced engineers to attend process specific, customized training in a state of the art composites manufacturing laboratory.	2008Q3 2009Q1 2009Q3		Train the existing workforce in composites technology.
1.6. Kansas Career Pipeline (KCP)	*KCP	Produce fifty minutes of video vignettes for the Kansas Career Pipeline.	2008Q1 Ongoing	\$150,000	Educate potential workers about the top grade pay and working opportunities available in advanced manufacturing and composite occupations.

Activities Matrix, Composites Kansas WIRED Initiative

Strategic Transformation Goal #2:

To catalyze the research and development, investment and application of composite and advanced materials sciences in ways that will strengthen the economy of the region.

Key Strategies (Projects)	Partners * designates lead	Activities	Milestones Year/Quarter	Resources Needed	Desired Outcomes
2.1. Bio-Composite Research Initiative	*ORI & WSU	Orthopaedic Research Institute (ORI) professional development in commercialization processes for new technology and products.	2008Q2 2009Q2 2010Q2	\$36,000	Increased ORI research of potential opportunities, commercialization, business development organizations, to develop biocomposite medical products.
2.2. Kansas Entrepreneurial Initiative (KEI)	*KEI	FastTrac® NewVenture™ and FastTrac® GrowthVenture™ courses available to local businesses and entrepreneurs, 15 to 20 students in each course.	2008Q1 2008Q3 2009Q1 2009Q3 2010Q1 2010Q3	\$387,500	Develop public programs to give feedback on the potential viability of technology transfer to the concept's originator.
2.3. Shocker Business Plan Competition	*KEI	Launch annual regional high school business plan tournament.	2009Q2 2010Q2		All Kansas high school, two-year and four-year college students will have access to Shocker Business Plan Competition with regional tournaments.
2.4. Advanced Materials Cluster Specialists for Entrepreneurs	*KSBDC	Determine goals and assign resources within KSBDC to meet initial need for consultation and training to high potential firms for Year 1.	2008Q1	\$262,031	Provide consultation and training to high-potential firms to develop new markets in emerging cluster.
		Review resource needs for KSBDC to meet Composite Kansas WIRED goals and make adjustments as needed.	2008Q3 2009Q1 2009Q3 2010Q1		Assist in launch of new products and services within both new and existing businesses.

Activities Matrix, Composites Kansas WIRED Initiative

Key Strategies (Projects)	Partners * designates lead	Activities	Milestones Year/Quarter	Resources Needed	Desired Outcomes
2.5. National Institute for Aviation Research (NIAR)	*NIAR & WATC	Implement NIAR Development and Training Scientist and Polymer Engineer positions to develop training curriculum for composites.	2008Q1	\$1,000,000	Development and Training Scientist and Polymer Engineer hired and oriented to NIAR position.
		Develop and deliver training curriculum, purchase essential research equipment, and attend professional development and scientific symposia.	2008Q1 - Ongoing		Operational training and usage manual developed to polymer based manufacturing implemented in aviation manufacturing workplace.

Strategic Transformation Goal #3:

Cultivate an Emerging Global Cluster to Strengthen the Regional Economy.

Key Strategies (Projects)	Partners * designates lead	Activities	Milestones Year/Quarter	Resources Needed	Desired Outcomes
3.1. Coordinating a Cluster of Composites and Advanced Materials Employers	*Business Advisory/ GWEDC	To grow the emerging cluster of employers engaged in composites and advanced materials and manufacturing.	2008Q1 - Ongoing	\$100,000	Strengthen an industry group of regional employers and encourage cooperation among the cluster to increase the understanding of the importance of the cluster to all citizens of the region.
3.2. Regional Econ Dev Strategies and Stakeholder Communication	*Business Advisory/ GWEDC	Encourage cooperation and collaboration among the economic development agencies across the region.	2008Q1 - Ongoing	\$100,000	Create economic development strategy that all agencies will benefit from in promoting composites.
3.3. Advanced Material and Polymers Market Research	*Business Advisory/ GWEDC	Develop materials to raise awareness about composite and advanced materials cluster in the region.	2008Q1 - Ongoing	\$100,000	Coordinate effort to promote composite and advanced manufacturing cluster that will benefit the region.
		Acquire market research data and forecast for composites and advanced material market.	2008Q1 - Ongoing		Current forecast and market research data available for WIRED partners.



Leveraged Funds Table

Composites Kansas WIRED Initiative

Sources of Leveraged Funds			
Source	Level	Leveraged Support over Three-year Period of Grant	Initiative
KDOC Workforce Solutions Fund	\$2,000,000	National Center for Aviation Training (NCAT) Wichita Area Technical College construction funding	1.1.
KDOC	\$75,000	Seed money for Manufacturing Skills Certification pilot to validate the curriculum	1.1.
Sedgwick County	\$54,000,000	National Center for Aviation Training (NCAT) Wichita Area Technical College construction funding	1.1.
US EDA	\$2,000,000	National Center for Aviation Training (NCAT) Wichita Area Technical College construction funding	1.1.
US HUD	\$500,000	National Center for Aviation Training (NCAT) Wichita Area Technical College construction funding	1.1.
Private Aviation Companies	\$3,000,000	National Center for Aviation Training (NCAT) Wichita Area Technical College program and operations funding for scholarships and equipment	1.1.
City of Wichita	\$1,600,000	National Center for Aviation Training (NCAT) Wichita Area Technical College program and operations funding, ground lease payments for 20 years	1.1.
KDOC	\$100,000	Seed money for plastics training facility in Cowley County	1.1.
DACUM	\$13,140	Training for six WATC program developers	1.1.
WATC	\$10,000	WATC will assume the start-up costs for the programs in the local high schools	1.1.
WIA	\$66,000	Funding for labor research study	1.2.
**WIA	\$600,000	Local WIA set aside for Adult (\$300,000) and Dislocated Worker (\$300,000)	1.2.
Society for Women Engineers	\$2,500	Grant to underwrite first year start-up cost for summer camp primarily for school girls	1.3.
WSU	\$6,000	Office of Undergraduate Admissions provided scholarships for summer camp 2007	1.3.
WSU	\$9,750	In-kind donation, rental value for camp space	1.3.
WSU	\$76,662	Summer camp staff salaries (\$76,662)	1.3.
Knight Foundation	\$17,500	Funding for WSU Summer Camps for Grades 4 to 6	1.4
WSU	\$389,857	.5 FTE director salary plus benefits (\$205,857), summer faculty salaries (\$84,000), mentor salaries (\$100,000)	1.4.
WSU	\$60,000	Conference Office fees (\$42,000) and Supplies and equipment maintenance (\$18,000)	1.4.
WSU	\$10,800	Course development cost = 3 hours program development time for every hour of course time * 24 hour of course work * \$150 per hour	1.5.

Sources of Leveraged Funds			
Source	Level	Leveraged Support over Three-year Period of Grant	Initiative
WSU	\$220,000	In-kind for composites lab = \$120,000 current equipment + \$70,000 projected expansion of lab + (\$10,000 * 3 years) maintenance on lab	1.5.
*State of Kansas	\$2,770,720	In-kind funding for Kansas Career Pipeline (\$250,000 committed, balance anticipated)	1.6.
ORI	\$320,000	ORI annual budget	2.1.
*Kansas Bioscience Initiative	\$4,000,000	Orthopaedic Research Center (ORI) grant to be submitted in the Summer of 2007 with first funding distributions scheduled for January 2008	2.1.
ORI	\$50,000	In-kind contribution for management oversight, space allocation and overhead	2.1.
ORI	\$27,000	Recruitment and moving expenses for Dr. Wooley, team, lab	2.1.
Coleman Foundation	\$180,000	Grant to fund 30 graduate internships for the Kansas Entrepreneurial Initiative	2.2.
WSU	\$30,000	In-kind donation, faculty time, overhead and office expenses	2.2-3.
Local businesses	\$20,000	Shocker Business Plan prize scholarships	2.3.
US SBA	\$532,500	Cash funding for KSBDC	2.4.
WSU	\$210,000	Cash funding for KSBDC	2.4.
City of Kingman	\$60,000	City of Kingman cash funding for KSBDC	2.4.
Harvey County	\$15,000	Harvey County Economic Development cash funding for KSBDC	2.4.
KDOC, Workforce Development	\$158,406	State cash funding for KSBDC	2.4.
WSU	\$322,602	In-kind funding for KSBDC	2.4.
NIAR	\$14,250,000	NIAR support of composite research and training, \$4.5-5M * 3 years. This supports staff, space, equipment and also includes contracted work.	2.5.
Knight Foundation	\$56,250	Foundation funding to support regional economic development	3.1-3.
GWEDC	\$900,000	Greater Wichita Economic Development Coalition marketing budget	3.1-3.
City of Wichita	\$3,000,000	Designated funds for cash incentives potentially for composite companies	All
Sedgwick County	\$3,000,000	Designated funds for cash incentives potentially for composite companies	All
KDOC, Workforce Development	\$9,000,000	KIT, KIR, IMPACT business development training funds	All
TOTAL	\$103,659,187		

* Leveraged funds are expected, but final (independent) decision is pending

** Allocations anticipated based on historical funding levels



Budget by Strategy
Composites Kansas WIRED Initiative

Technical Assistance

Partner	Item	Description	Year 1	Year 2	Year 3	Total
Kansas Department of Commerce	Technical Assistance	Asset Mapping	\$30,000.00	\$0.00	\$0.00	\$30,000.00
			\$30,000.00	\$0.00	\$0.00	\$30,000.00

Administration and Oversight

Partner	Item	Description	Year 1	Year 2	Year 3	Total
LA I & IV WIB	Personnel	Project Dir.	\$46,800.00	\$60,000.00	\$60,000.00	\$166,800.00
LA I & IV WIB	Travel/Academy and	WIRED Team	\$6,000.00	\$13,000.00	\$17,000.00	\$36,000.00
LA I & IV WIB	Travel/Local	WIRED Team	\$0.00	\$5,100.00	\$5,100.00	\$10,200.00
Kansas Department of Commerce	Contractual	Monitor/Audit	\$14,000.00	\$18,000.00	\$18,000.00	\$50,000.00
LA I & IV WIB	Personnel	Director Support	\$1,950.00	\$19,430.00	\$20,950.00	\$42,330.00
LA I & IV WIB	Fringe	Director Support	\$616.00	\$6,136.00	\$6,616.00	\$13,368.00
			\$69,366.00	\$121,666.00	\$127,666.00	\$318,698.00

Budget by Strategy, Composites Kansas WIRED Initiative

1.1 Composite Assembly and Composites Maintenance & Repair Training

Partner	Item	Description	Year 1	Year 2	Year 3	Total
Wichita Area Technical College	Personnel	Curriculum Development	\$68,548.00	\$68,548.00	\$68,548.00	\$205,644.00
Wichita Area Technical College	Fringe	Curriculum Development	\$16,452.00	\$16,452.00	\$16,452.00	\$49,356.00
Wichita Area Technical College	Equipment	Training Equipment	\$40,000.00	\$80,000.00	\$80,000.00	\$200,000.00
Wichita Area Technical College	Supplies	Training	\$60,000.00	\$120,000.00	\$120,000.00	\$300,000.00
			\$185,000.00	\$285,000.00	\$285,000.00	\$755,000.00

1.2 Coordinate and Leverage Educational and Workforce Development Resources

Partner	Item	Description	Year 1	Year 2	Year 3	Total
LA I & IV WIB	Other/Outreach	WIRED Cons.	\$1,000.00	\$10,000.00	\$10,000.00	\$21,000.00
LA I & IV WIB	Other/Scholarships	Incumbent Worker	\$0.00	\$441,960.00	\$612,111.00	\$1,054,071.00
LA I & IV WIB	Other/Development	WIRED Cons.	\$0.00	\$500.00	\$500.00	\$1,000.00
LA I & IV WIB	Other/Rent, Business	WIRED Cons.	\$2,600.00	\$10,000.00	\$10,500.00	\$23,100.00
LA I & IV WIB	Supplies	WIRED Cons.	\$200.00	\$800.00	\$700.00	\$1,700.00
LA I & IV WIB	Equipment	WIRED Cons.	\$1,500.00	\$2,000.00	\$1,000.00	\$4,500.00
LA I & IV WIB	Travel	WIRED Cons.	\$200.00	\$6,000.00	\$6,000.00	\$12,200.00
LA I & IV WIB	Personnel	WIRED Cons.	\$5,060.00	\$44,460.00	\$46,512.00	\$96,032.00
LA I & IV WIB	Fringe	WIRED Cons.	\$1,440.00	\$14,040.00	\$12,288.00	\$27,768.00
LA I & IV WIB	Other/Rent WIRED	WIRED Cons.		\$8,400.00	\$9,000.00	\$17,400.00
			\$12,000.00	\$529,760.00	\$708,611.00	\$1,258,771.00

Budget by Strategy, Composites Kansas WIRED Initiative

1.3 Broaden Participation in Engineering

Partner	Item	Description	Year 1	Year 2	Year 3	Total
Wichita State University	Other/Scholarships	Scholarships- Camps	\$20,000.00	\$24,000.00	\$28,000.00	\$72,000.00
Wichita State University	Supplies	Camp Supplies	\$5,000.00	\$6,000.00	\$7,000.00	\$18,000.00
			\$25,000.00	\$30,000.00	\$35,000.00	\$90,000.00

1.4 Expand Project Lead the Way

Partner	Item	Description	Year 1	Year 2	Year 3	Total
Project Lead The Way	Supplies/Equipment	Grants to Schools	\$60,000.00	\$110,000.00	\$110,000.00	\$280,000.00
			\$60,000.00	\$110,000.00	\$110,000.00	\$280,000.00

1.5 Develop Training Opportunities and Curricula for the Aerospace Composites Industry

Partner	Item	Description	Year 1	Year 2	Year 3	Total
Center for Learning, Exploration, Research and Development in Composite Materials for Aerospace Applications	Other/Scholarships	Engineers	\$30,000.00	\$30,000.00	\$30,000.00	\$90,000.00
Center for Learning, Exploration, Research and Development in Composite Materials for Aerospace Applications	Other/Scholarships	Comp. Mat Cert.	\$24,000.00	\$24,000.00	\$24,000.00	\$72,000.00
			\$54,000.00	\$54,000.00	\$54,000.00	\$162,000.00

1.6 Kansas Career Pipeline

Partner	Item	Description	Year 1	Year 2	Year 3	Total
Kansas Career Pipeline	Other/Videos	Videos	\$50,000.00	\$50,000.00	\$50,000.00	\$150,000.00
			\$50,000.00	\$50,000.00	\$50,000.00	\$150,000.00

Budget by Strategy, Composites Kansas WIRED Initiative

2.1 Enhancing Commercialization of New Technology and Products

Partner	Item	Description	Year 1	Year 2	Year 3	Total
Bio-Composite Research Initiative	Other/Training	Conference Fees	\$4,000.00	\$4,000.00	\$4,000.00	\$12,000.00
Bio-Composite Research Initiative	Travel	Training and Workshops	\$8,000.00	\$8,000.00	\$8,000.00	\$24,000.00
			\$12,000.00	\$12,000.00	\$12,000.00	\$36,000.00

2.2/2.3 Kansas Entrepreneurial Initiative

Partner	Item	Description	Year 1	Year 2	Year 3	Total
Kansas Entrepreneurial Initiative	Personnel	Graduate Assistant	\$0.00	\$10,000.00	\$10,000.00	\$20,000.00
Kansas Entrepreneurial Initiative	Travel	Training/Seminars	\$10,000.00	\$10,000.00	\$10,000.00	\$30,000.00
Kansas Entrepreneurial Initiative	Other/Outreach	Marketing	\$5,000.00	\$5,000.00	\$5,000.00	\$15,000.00
Kansas Entrepreneurial Initiative	Other/Course	Course Materials	\$10,000.00	\$0.00	\$0.00	\$10,000.00
Kansas Entrepreneurial Initiative	Other/2 Entrepreneurial	2 Entrepreneurial Prog	\$30,000.00	\$30,000.00	\$30,000.00	\$90,000.00
Kansas Entrepreneurial Initiative	Other/Training	Leadership Training	\$10,000.00	\$10,000.00	\$10,000.00	\$30,000.00
Kansas Entrepreneurial Initiative	Personnel	Director	\$50,000.00	\$50,000.00	\$50,000.00	\$150,000.00
Kansas Entrepreneurial Initiative	Fringe	Director	\$12,500.00	\$15,000.00	\$15,000.00	\$42,500.00
			\$127,500.00	\$130,000.00	\$130,000.00	\$387,500.00

2.4 Advance Materials Cluster Specialist for Entrepreneurs

Partner	Item	Description	Year 1	Year 2	Year 3	Total
Kansas Small Business Development Center	Supplies/Office Eq	Equipment	\$3,700.00	\$0.00	\$0.00	\$3,700.00
Kansas Small Business Development Center	Personnel	Cluster Spec.	\$60,000.00	\$62,400.00	\$64,896.00	\$187,296.00
Kansas Small Business Development Center	Fringe	Cluster Spec.	\$19,200.00	\$19,968.00	\$20,767.00	\$59,935.00
Kansas Small Business Development Center	Travel	Travel	\$3,500.00	\$3,700.00	\$3,900.00	\$11,100.00
			\$86,400.00	\$86,068.00	\$89,563.00	\$262,031.00

Budget by Strategy, Composites Kansas WIRED Initiative

2.5 Manufacturing and Maintenance of Advanced Materials

Partner	Item	Description	Year 1	Year 2	Year 3	Total
National Institute for Aviation Research	Equipment	Equipment	\$135,000.00	\$186,000.00	\$153,000.00	\$474,000.00
National Institute for Aviation Research	Personnel	Development & Training Specialist and Polymer	\$80,000.00	\$160,000.00	\$160,000.00	\$400,000.00
National Institute for Aviation Research	Fringe	Engineer Development & Training Specialist and Polymer	\$19,200.00	\$38,400.00	\$38,400.00	\$96,000.00
National Institute for Aviation Research	Travel	Engineer Travel	\$10,000.00	\$10,000.00	\$10,000.00	\$30,000.00
			\$244,200.00	\$394,400.00	\$361,400.00	\$1,000,000.00

3.1 Coordinating a Cluster of Composites and Advanced Materials Employers

Partner	Item	Description	Year 1	Year 2	Year 3	Total
Business & Industry, GWEDC, & Eco Dev	Other/Outreach	Industry Cluster Development	\$20,000.00	\$40,000.00	\$40,000.00	\$100,000.00
			\$20,000.00	\$40,000.00	\$40,000.00	\$100,000.00

3.2 Regional Economic Development Strategies and Stakeholder Communication

Partner	Item	Description	Year 1	Year 2	Year 3	Total
Economic Development Agencies	Other/Strategy Plan/Regional	Composites Coordinator	\$20,000.00	\$40,000.00	\$40,000.00	\$100,000.00
			\$20,000.00	\$40,000.00	\$40,000.00	\$100,000.00

3.3 Advanced Material and Polymers Market Research

Partner	Item	Description	Year 1	Year 2	Year 3	Total
Economic Development Agencies	Other/Industry Forecast	Cluster Analysis	\$20,000.00	\$40,000.00	\$40,000.00	\$100,000.00
			\$20,000.00	\$40,000.00	\$40,000.00	\$100,000.00



Line Item Budget
Composites Kansas WIRED Initiative

WIRED Grant Partners Line Item Budget Totals

Totals by Category	Object Class	Description	Year 1	Year 2	Year 3	Total
	a. Personnel	Total	\$312,358.00	\$474,838.00	\$480,906.00	\$1,268,102.00
	b. Fringe Benefits	Total	\$69,408.00	\$109,996.00	\$109,523.00	\$288,927.00
	c. Travel	Total	\$37,700.00	\$55,800.00	\$60,000.00	\$153,500.00
	d. Equipment	Total	\$176,500.00	\$268,000.00	\$234,000.00	\$678,500.00
	e. Supplies	Total	\$128,900.00	\$236,800.00	\$237,700.00	\$603,400.00
	f. Contractual	Total	\$14,000.00	\$18,000.00	\$18,000.00	\$50,000.00
	g. Construction	Total	\$0.00	\$0.00	\$0.00	\$0.00
	h. Other	Total	\$246,600.00	\$767,860.00	\$943,111.00	\$1,957,571.00
	i. Total Direct Charges		\$985,466.00	\$1,931,294.00	\$2,083,240.00	\$5,000,000.00
	Technical Assistance		\$30,000.00	\$0.00	\$0.00	\$30,000.00
Total Direct Charges and Technical Assistance			\$1,015,466.00	\$1,931,294.00	\$2,083,240.00	\$5,030,000.00

Appendix A. Approval Request for Initiative 1.3 COE Summer Camps for Students Fourth to Sixth Grade

To: United States Department of Labor Employment and Training Administration
From: Composites Kansas WIRED Initiative, South Central Kansas
Grant Number: WR-16344-07-60-A-20
Date: March 4, 2008
RE: Approval Request for Initiative 1.3 College of Engineering Summer Camps: For Students Entering the Fourth through Sixth Grade

WIRED ACTIVITIES FOR SCHOOL AGE YOUTH UNDER AGE SIXTEEN



Section I – Description of Activity

The College of Engineering (COE) at Wichita State University (WSU) established the Engineering Education Center of Excellence with a mission that includes designing initiatives to attract youth in underrepresented groups to engineering. In the summer of 2007, summer day camps were initiated to provide college campus experiences in engineering sciences for targeted students in grades 4-6 (primarily female) students. The Society of Women Engineers provided grant funds to underwrite the first year start-up cost of the camp. Through Composites Kansas WIRED Initiative, funds will support approximately 180 youth scholarships for the summer camp and expand this program.

The week long day camp primarily for girls will explore science and engineering with hands-on activities, such as designing and building rockets, LEGO robots, and a roller coaster. There will be opportunities to meet and hear from local women engineers, mathematicians, and scientists.

Section II – Justification That Not Core Educational Activity

Summer camps are not a core educational activity, and they are not routinely funded through existing educational funding sources.

Section III – Connectivity to Gaining Employment in High Growth Industry Sectors

According to the United States Department of Education, America’s Career Resource Network (ACRN),¹ elementary school is not too early to start teaching children about career awareness. It is important for children to become aware of how his or her **schooling is connected to a successful future**. The WSU COE Day Camps will support parents in providing career awareness and career guidance to children entering the fourth through sixth grade.

Elementary school is not too early to lay a strong foundation for career exploration and preparation. The earlier you are involved in your child’s development, both at home and in school, the more likely he or she will be successful in life.

The Camp will provide children with an opportunity to learn what engineers thought about school and careers as they were growing up. This camp not only will provide students the guidance to select educational and training opportunities in emerging occupational opportunities but will provide the foundations for the manual skills needed in technical occupations. There will be opportunities to meet and hear from local women engineers, mathematicians, and scientists.

Figure 1. *PTA Goes to Work, Parent Guide*, in partnership with the U.S. Department of Labor, Employment & Training Administration²

¹ *Career Awareness in Elementary School*, U.S. Department of Education. This brochure was created using a grant from the Department of Education’s Office on Vocational and Adult Education. <http://www.acrnetwork.org/parents/documents/careerawareness-doe.pdf>

This information will help children **understand how his or her schoolwork will be used in future careers.** Camp leaders and activities are designed to explain the skills workers use in their high growth jobs (science, technology, engineering and mathematics). According to the ACRN and the PTA,² encouraging children to think about careers from an early age will help children be successful in life.

Camp activities are designed to expose students to skills and competencies, that when further developed, will lead to employment in high growth industries. The week long day camp will explore science and engineering with hands-on activities, such as designing and building rockets, LEGO robots, and a roller coaster.

The WSU COE Day Camps will provide critical foundational **career guidance** needed by fourth through sixth grade students to select educational and training pathways to the new and emerging occupational opportunities.³

Additional Scholarly Research

Research provides some interesting data concerning the impact of early childhood career guidance and exploration. According to Sabrina Hope King, at least one of the periods for career decision making occurred during elementary school (24 percent), a finding that may be indicative of the presence of some very powerful role models during that period.⁴

Another study, done by Carolyn S. Magnuson of Lincoln University, finds that career development is a life-long, spiraling process and that career awareness and career exploration form the foundation for effective life career planning.⁵ According to Magnuson, in the early elementary school years, developing an awareness and appreciation of the many kinds of work and workers is the primary emphasis; career exploration at this level is designed to create the awareness that work-tasks are applications of academic skills.

“Children make choices about their preferences early in their lives— first for food and toys followed very soon by preferences for entertainment and clothing. These early choices have a seemingly short-term impact on their lives; however, as children make short term decisions about tangibles, they are unknowingly making long-term decisions about the intangibles, such as, belief in themselves and their abilities. We (and they) can readily see the results of their decisions about clothing, food and video games; it is not so easy to see the results of the decisions they make about themselves. Yet, children’s decisions about themselves and what they can or cannot do have the potential for becoming lasting influences in their lives.

If one accepts the concept that children make decisions about themselves and the world at a very young age, it follows that development of the skills required for effective life career planning must begin early.”⁶

² *PTA Goes to Work, Parent Guide.* Developed in partnership with the U.S. Department of Labor, Employment & Training Administration. <http://www.pta.org/goestowork/pdfs/pta-parentguide.pdf>

³ Curriculum development to provide the foundation of training in new or emerging occupations is an allowable use of the WIRED funds provided that such curriculum is tied to specific identified needs and actual jobs within the regional economy. *WIRED Grants Uses of H-1B funds*, page 6.

⁴ King, Sabrina Hope. Why did we choose teaching careers and what will enable us to stay?: Insights from one cohort of the African American teaching pool. *The Journal of Negro Education*. Vol. 62, No. 4. (Autumn, 1993), p. 479. <http://www.jstor.org/view/00222984/di990490/99p0601o/0>

⁵ Magnuson, Carolyn S., Marion F. Staff. How early is too early to begin life career planning? The importance of the elementary school years. *Journal of Career Development*, Vol. 27, No.2, 2000. <http://www.springerlink.com/content/l276qnw3t11q783v/fulltext.pdf>

⁶ Magnuson, p 90.

More Career Awareness Activities for you and your Child.

There are many activities that you can do at home to help increase your child's awareness of careers. Help your child think about chores and how skills he or she has learned in school are needed to complete those chores. You can use such activities as:

- Paying bills;
- Buying groceries;
- Sending birthday cards and letters;
- Getting appliances repaired;
- Shopping for clothing; and
- Organizing family activities.

Ask your child to create a timeline for his or her school day. For example:

- 6:30 - Get out of bed
- 6:35 - Eat breakfast
- 6:45 - Get dressed, comb hair, brush teeth
- 7:10 - Make it to school
- 7:40 - Get organized for first class
- 8:00 - Science class
- 8:00 - Math class
- 10:00 - English class
- 11:00 - Gym class
- 12:00 - Eat lunch
- 1:00 - Spanish class
- 2:00 - Theatre Arts class
- 3:00 - Do homework

Then ask your child to think about how his or her workday may be similar or different.

Teachable Moments -

Put names of different careers in a bowl. Each month, have your child draw the name of a career out of the bowl. During the month, have your child collect as much information as he or she can about that career. Reward your child at the end of the month for collecting the information and discuss the career with him or her.


Ask your child the following questions:

- Would you like to work alone or in a group?
- Would you rather work inside or outside?
- Would you prefer working during the day or during the night?
- Would you mind wearing a uniform?
- Would you like to make things or to sell things?
- Would you rather travel or stay close to home?
- Would you like to work with your hands?
- Would you prefer to give directions or to follow directions?
- Would you rather use communication skills or math skills?

Have your child "interview" you about what you used to think about school and careers growing up. Here are some sample questions for your child to ask:



- What were your favorite school subjects?
- What did you like to do with your free time?
- What career did you think about when you were young?
- Did you follow the career path you dreamed about when you were young? Why or why not?
- What obstacles were in the way of your career path?
- What did your parents want you to do?
- Who helped you make your career decision?
- What did you learn in school that helped you the most?
- What is your favorite thing about the work you do now?
- What do you like least about the work you do now?
- What skills did you learn in elementary school that you use in your work now?
- What skills did you learn in elementary school that you use in your home life?

Being an involved parent and encouraging your child to think about careers from an early age will help your child be successful in life.



Career Awareness in Elementary School

Help your child discover the world of work from an early age. . .

This brochure was created using a grant from the Department of Education's Office of Vocational and Adult Education.

Composites Kansas WIRED Initiative

Why is it Important to get an Early Start?

Elementary school is not too early to start teaching your child about career awareness. It is important for your child to become aware of how his or her schooling is connected to a successful future. While in elementary school, you can help your child:

- Discover the variety of jobs available to him or her;
- Connect what he or she is learning in school to real world situations;
- Imagine himself or herself in an occupation; and
- Develop work-readiness skills such as working and playing with others, making decisions, solving problems and being a leader.

Many times, children choose careers based on what they see on television or what their parents do for a living. If you help your child learn about a broad range of careers, he or she will have more information when it comes time to choose a career.

To help your child understand how his or her schoolwork will be used in a future career, you can explain the skills workers use in their jobs.

For example:

- A veterinarian uses math skills to calculate the amount of medicine a cat will need;
- A reporter needs writing skills to compose newspaper articles; and
- A marine biologist relies on his or her knowledge of science to study aquatic life.

By talking with your child about the link between school and careers, you will help your child understand that school is important and that school success can open doors to his or her ideal career.

3

Approval Request, COE, 4-6 Grade Summer Camps

How do I Start Talking to my Child about Careers?

One way to start talking to your elementary-aged child about careers is to talk about the things that interest your child. Then, point out how these items of interest relate to activities that adults do.

For example:

- *If your child likes art,* discuss how adults use art to design houses, clothing, magazine ads, movie sets and even toys. Explain that art is also used to draw cartoons, arrange flowers and take photos for magazines and books.
- *If your child likes to be outdoors,* discuss how he or she can have a career that involves working outside, such as landscape architecture, forestry, archeology, construction work, marine biology and commercial fishing.
- *If your child is very social,* discuss how people who like to talk and work with people may choose to work as a teacher, a lawyer, a customer service representative, a receptionist, a hotel manager or a convention planner.
- *If your child likes to help people,* talk about different ways he or she can do that in a career, such as working as a nurse, doctor, athletic trainer, family counselor or child care worker.
- *If your child loves math,* you may want to talk with him or her about the possibility of becoming an accountant, a computer programmer, an engineer or a statistician. You should also remind your child that almost all careers use basic math, so it is a very important skill to have.
- *If your child likes to keep others safe,* talk to your child about a career as a police officer, a forensic scientist, a detective, an investigator, a parole officer, a security guard or a bailiff.

Other Career Skills for your Elementary-Aged Child

Elementary school is the time when your child should start learning about responsibility, cooperation, and problem solving. Here are some ways you as a parent can help your child learn these valuable skills for school and for work.

You can help your child in many ways. For example:

- Help your child develop a positive attitude and feel good about his or her life.
- Talk about what your child likes and dislikes, and explain that every person has different likes and dislikes.
- Teach your child to accept other children's ideas, even if they are different from your child's.
- Have your child think about how his or her behavior might affect the feelings of other children.
- Resolve conflicts in a positive manner.
- Talk to your child about how he or she is feeling, and teach your child to deal with his or her emotions in a healthy manner.
- Have your family work as a team to complete a home project.
- When your child makes a mistake, work to correct the mistake and to prevent the same mistake from happening again.
- Take your child to school on time, and teach your child the importance of punctuality.
- Involve your child in real-world examples of decision-making. Talk to your child about how his or her decisions impact other people.
- Explain why work is important - not only for a source of income but also as a way to contribute to society.

Appendix B. Approval Request for Initiative 1.3 COE High School Summer Camps

To: United States Department of Labor Employment and Training Administration
From: Composites Kansas WIRED Initiative, South Central Kansas
Grant Number: WR-16344-07-60-A-20
Date: March 4, 2008
RE: Approval Request for Initiative 1.3 College of Engineering High School Summer Camps

WIRED ACTIVITIES FOR SECONDARY SCHOOL AGE YOUTH UNDER AGE SIXTEEN



Section I – Description of Activity

The College of Engineering (COE) at Wichita State University (WSU) established the Engineering Education Center of Excellence with a mission that includes designing initiatives to attract youth in underrepresented groups to engineering. In the summer of 2007, summer day camps were initiated to provide college campus experiences in engineering sciences for targeted high school students. The Society of Women Engineers provided grant funds to underwrite the first year start-up cost of the camp. Through Composites Kansas WIRED Initiative, funds will support approximately 180 youth scholarships for the summer camp and expand this program.

This week long day camp for high school age youth (grades nine through twelve) will provide an opportunity to learn about applying engineering tools and concepts to the body to improve peoples’ lives. The camp features a tour of the *Our Body: The Universe Within* exhibit that the Exploration Place will be hosting during Summer 2008. Students will learn about ergonomics, designing artificial limbs and organs, and improving in-hospital operations and patient care quality. Campers will build a human bone out of advanced composite materials and will hear from engineers and scientist who use their knowledge in the healthcare, aircraft, and manufacturing industries to improve quality of life and longevity.

Section II – Justification That Not Core Educational Activity

Summer camps are not a core educational activity, and they are not routinely funded through existing educational funding sources.

Section III – Connectivity to Gaining Employment in High Growth Industry Sectors

Day camp activities have a direct connection to the students **gaining skills and competencies** that will lead to employment in the high growth composites and advanced materials industry, health care industry, and the engineering occupations. Students will learn about ergonomics, designing artificial limbs and organs, and improving in-hospital operations and patient care quality. Campers will build a human bone out of advanced composite materials and will hear from engineers and scientist who use their knowledge in the healthcare, aircraft, and manufacturing industries to improve quality of life and longevity.

Composites Kansas WIRED Initiative 1 Approval Request, COE, HS Summer Camps

South Central Kansas WIRED Initiative 37 Composites Kansas Implementation Plan

The curriculum for the camp is developed to be studied in concert with the **innovative model** *Our Body: The Universe Within*. The goal of *Our Body: The Universe Within* is for students to acquire a deeper understanding of the body's form and function and a stronger appreciation of the uniqueness of each of our individual bodies. This exhibit literally goes "under the skin", revealing the mysteries of the human anatomy. *Our Body: The Universe Within* allows students the insight to the inside: giving one a true look at the inner workings of the extraordinary human body. The camp experiences are designed to encourage students to further their studies in the sciences and engineering and use their knowledge in the healthcare, aircraft and manufacturing industries.

The camp is designed to expose students to careers and provide **career guidance** in high growth industries. Students will hear from engineers and scientist who use their knowledge in the healthcare, aircraft, and manufacturing industries to improve quality of life and longevity for the people within their region.

One of the activities of the camp involves Campers designing and building a human bone out of advanced composite materials. These activities are directly related to the goal of the Composite Kansas WIRED Initiative which is to accelerate economic growth and transformation by fostering innovation and talent development critical to the aircraft and medical device industries and other technology driven employers in the region. **The camp will focus on increasing the competency of the future workforce** and expanding education and training in science, technology, engineering and math. The camp will support the future of the emerging composite and advanced materials industry as the use of composites dramatically accelerates in the aviation and medical device industries, and encourage migration of a new generation of composite and advanced materials technology to other commercial applications in the region.

The WSU COE Day Camps will provide critical foundational guidance needed by high schools students to select educational and training pathways to the new and emerging occupational opportunities.¹

¹ Curriculum development to provide the foundation of training in new or emerging occupations is an allowable use of the WIRED funds provided that such curriculum is tied to specific identified needs and actual jobs within the regional economy. *WIRED Grants Uses of H-1B funds*, page 6.

Composites Kansas WIRED Initiative 2 Approval Request, COE, HS Summer Camps

South Central Kansas WIRED Initiative 38 Composites Kansas Implementation Plan

Appendix C. Approval Request for Initiative 1.4 Project Lead the Way

To: United States Department of Labor Employment and Training Administration
From: Composites Kansas WIRED Initiative, South Central Kansas
Grant Number: WR-16344-07-60-A-20
Date: February 5, 2008
RE: Approval Request for Initiative 1.4 Project Lead the Way

WIRED ACTIVITIES FOR SECONDARY SCHOOL AGE YOUTH UNDER AGE SIXTEEN



Section I – Description of Activity

Project Lead the Way (PLTW) is a nation-wide program that provides training and mentoring for regional teachers so they can return to their classrooms and offer quality engineering and technology coursework. **PLTW has developed a four year sequence of courses** which, when combined with college preparatory mathematics and science courses in high school, introduces students to the scope, rigor and discipline of engineering and engineering technology prior to entering college. In addition, PLTW has developed an exciting **Middle School Technology Curriculum: Gateway to Technology (GTT) which may be taught from grades six through eight.** This project-based, cutting edge curriculum is 40 weeks in length and is divided into five 10-week units. The Middle School Technology Curriculum is designed for all students and the units address national standards in math, science, and technology (STEM).

As part of the Composites Kansas WIRED Initiative, the Engineering Education Center of Excellence at the Wichita State University College of Engineering intends to expand the PLTW program and will offer up to seven courses with three curriculums each summer to regional middle school and high school teachers. WIRED funds will provide mini-grants to more than 50 schools to help cover the cost of training, equipment and supplies to implement the PLTW programs in regional schools.

Section II – Justification That Not Core Educational Activity

PLTW is a curriculum reform initiative introducing increased rigor and an inquiry-based approach to pre-engineering curriculum. The program is initially expensive to introduce and districts need assistance to adopt the curriculum. Individual districts develop sustainability strategies for retaining the program utilizing traditional educational funding sources; however they are dependent on other funds to help with start up costs.

WIRED funds will provide mini-grants to more than 50 schools to help cover the cost of training, equipment and supplies to implement the PLTW programs in regional schools. Laboratory equipment purchases for Project Lead the Way curriculum are beyond the core educational activities/purchases that are routinely funded/budgeted through existing educational funding sources. The mini grant will provide about a third of the funding needed for the first year of the program (\$5,000 of the minimum \$15,000 for year 1 - although many schools spend more than that in year 1).

Composites Kansas WIRED Initiative 1 Approval Request, PLTW

Section III – Connectivity to Gaining Employment in High Growth Industry Sectors

PLTW has developed an exciting Middle School Technology Curriculum: Gateway to Technology (GTT) which may be taught from grades six through eight. This project-based, cutting edge curriculum is 40 weeks in length and is divided into five 10-week units. The Middle School Technology Curriculum is designed for all students and the units address national standards in math, science, and technology (STEM).

One of the goals is to increase interest and awareness of female and minority students in technology and related careers. Gateway To Technology will also encourage *increasing numbers* of students to elect the high school program; GTT is a precursor to PLTW.

The Middle School Technology Curriculum: Gateway to Technology and PLTW will provide training and educational activities that introduce students to the scope, rigor and discipline of engineering and engineering technology. **This training and resulting skills will equip students with the competencies needed to gain employment in high-wage, high-growth engineering and technology careers.**

PLTW makes a concerted effort to inform school career counselors about the benefits of the program as well as the wide array of **high growth technology jobs and careers available to students** who enter the field upon graduation from high school, technical training, and college.

Project Lead the Way (PLTW) is a national initiative to create a pipeline of high school students prepared with foundational skills needed to pursue engineering and technology related careers. Key to the success of the program is partnerships with the corporate sector and post secondary institutions. These partnerships assure that students and teachers learn about the practical applications for the subjects that they study everyday.

WIRED Grants uses of H-1B funds provide allowable uses of WIRED funding for supplies and equipment. The Composites Kansas WIRED Initiative includes provisions for training in both the high school PLTW summer institutes for teachers as well as the middle school summer institutes. WIRED funds will only be used to provide mini-grants to more than 50 schools to help cover the cost of training, equipment and supplies to implement the PLTW programs in regional schools after successful completion of the summer institute. ¹ Training and equipment used in the middle school program is a precursor to the high school program.

¹ These costs may also include a proportionate share of the costs of employer-owned equipment, materials and inventory used directly during training activities and any maintenance or repair costs specific to the use of such equipment during training. *WIRED Grants Uses of H-1B funds*, page 7.

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Appendix D. Approval Request for Initiative 1.6 Kansas Career Pipeline

To: United States Department of Labor Employment and Training Administration
From: Composites Kansas WIRED Initiative, South Central Kansas
Grant Number: WR-16344-07-60-A-20
Date: February 5, 2008
RE: Approval Request for Initiative 1.6 Kansas Career Pipeline

WIRED ACTIVITIES FOR SECONDARY SCHOOL AGE YOUTH UNDER AGE SIXTEEN



Section I – Description of Activity

The Kansas Career Pipeline (KCP) is a free online assessment tool now available to all Kansas students from middle school through college (adult workers also can access the website) that matches participant’s skills and interests with high demand and other careers in Kansas. Students and job seekers can access the video vignettes through the KCP website as part of the career awareness information designed to promote employment opportunities with Kansas employers.

WIRED appropriations will be used to develop video vignettes representing the advanced materials and composite related employers in the Composites Kansas region. The videos will give the pay range, education, career ladder, and the types of skills needed to be successful in the advanced materials and polymers industry.

Section II – Justification That Not Core Educational Activity

KCP provides a novel career awareness gateway that connects students with the workplace and business with its future workforce. Public education’s primary goal is to provide a safe learning environment, where all students acquire the skills and knowledge necessary for success in a global community. Launching and expanding a state-wide online career assessment, exploration and awareness platform provides a new way of engaging students in their educational and careers futures and is not routinely funded through existing educational funding sources.

Section III – Connectivity to Gaining Employment in High Growth Industry Sectors

The KCP guides young people and adults into careers that match their personal interests with employment needs of Kansas businesses – now and in the future. WIRED funds will help develop video vignettes that highlight the emerging composites and advanced materials occupational opportunities in the regional economy.

Due to recent evolution in composite and advanced materials applications, existing career counseling materials lack information on the new and emerging labor force opportunities. Funding

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the development of the composite and advanced materials vignettes will ensure that the system's users across the state will have access to the career guidance resources needed to prepare them with the skills and competencies for a lifetime of success.

The KCP will connect participant's interests, skills, and work values with the educational programs that supply job-ready employees for high-growth, high-demand business and industry in the region.

The KCP will connect regional companies with all important employment systems including education, workforce development, economic development, government, and business. Companies will be able to post current job openings, share corporate information as well as facilitate the coordination of e-mentors, scholarships, apprenticeships, summer jobs and on-the-job training opportunities. Students, parents and teachers will be better equipped to select a course of study that leads to employment.

KCP is a "model activity" in that it helps students select the kind of career future they want, connects them with Kansas schools that can educate and train them, and then links the student with the companies that provide the jobs they seek.

An appropriation will be used to develop video vignettes representing the advanced materials and composite related employers in the Composites Kansas region. The videos will give the pay range, education, career ladder, and the types of skills needed to be successful in the advanced materials and polymers industry. This information is critical to provide the foundational guidance needed by middle school and high schools students and adult job seekers to select educational and training pathways to the new and emerging occupational opportunities.¹

¹ Curriculum development to provide the foundation of training in new or emerging occupations is an allowable use of the WIRED funds provided that such curriculum is tied to specific identified needs and actual jobs within the regional economy. *WIRED Grants Uses of H-1B funds*, page 6.

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Appendix E. Waiver Response

From: Saylor, Jeffrey - ETA
Sent: Friday, March 28, 2008 11:48 AM
To: Williams, Nancy - ETA; Donahue, Kit - ETA; MacLennan, John - ETA
Cc: Watson, Laura P - ETA; Fisher, Judi - ETA
Subject: South Central Kansas

We have reviewed the requests for approval of educational activities. We have reviewed the four requests and each is addressed separately below:

1. Project Lead The Way – Approved.
2. Wichita – WSU Summer Camp for High School Youth – Approved.
3. Kansas Career Pipeline – Approved.
4. WSU Summer Camps for Grades 4 to 6. This project can not be approved as it targets participants below the age of 14 for which we can not use WIRED funds. We are restricted to using H-1B funds for activities for activities targeting youth ages 14 and above.

Please inform the grant recipient and subrecipients of this decision. If you have any questions, please contact Judi Fisher or me.

Jeffrey Saylor, Chief
Division of Federal Assistance Services
OGCM/OFAM/ETA
Room N-4716, 200 Constitution Ave. N.W.
Telephone (202)693-3151