

**FY14 Education (Competitive)
Staff Summaries & Recommendations – September 2013**

The Education Committee tabled ten advanced manufacturing proposals and two other competitive Education requests in May 2013. The proposals were revised this summer, in response to new Education grant requirements that were adopted in April, and are presented here. The Committee has an available balance of \$3.7 million. Recommendations below total \$1.7 million.

Req #	Organization Name	Project Title	Request Amount	Staff recommendations
Advanced Manufacturing and other requests tabled in May 2013				
2666	Central Virginia Community College Educational Foundation, Inc.	Equipment Upgrades For CVCC Machine Tool Program	\$255,676 \$206,972	\$206,972
2677	Danville Community College	Sitework Design/Management Funding for Danville Community College's New "Technology Building"	\$72,075	\$72,075
2671	Danville Community College	Danville Community College Certified Welding Program	\$150,000	\$150,000
2776	Mountain Empire Community College *	Advanced Manufacturing Workforce Training	\$59,595	\$59,595
2678	Southern Virginia Higher Education Center	Advanced Manufacturing Boot-Camp	\$869,083 \$711,583	\$163,750
2672	Southern Virginia Higher Education Center	Workforce Training: Welding in Halifax County	\$175,000 \$20,886	\$20,886
2665	Southside Virginia Community College Foundation	Technical Training for Southside's Workforce	\$471,977 \$471,756	\$456,756
2777	Virginia Highlands Community College *	Workforce Training in Advanced Manufacturing for Southwest Virginia	\$163,550	\$163,550
2674	Virginia Western Community College	Industrial Maintenance Technician Training	\$364,849 \$43,864	\$0
2779	Wytheville Community College *	WCC: Improving Advanced Manufacturing Education	\$110,150	\$110,150
subtotal - 10 tabled Advanced Manufacturing proposals			\$3,877,520 \$2,010,431	\$1,403,734

* these three colleges were co-applicants in #2658, which was withdrawn and replaced with three separate requests

Other Competitive proposals tabled in May 2013

2710	Southwest Virginia Higher Education Center Foundation	STEM-H Clinical Lab Sciences	\$400,000 \$500,000	table
2583	Virginia Foundation for Community College Education	GED to College: Increasing Educational Attainment Levels in the Tobacco Region	\$364,000	\$364,000

FY14 competitive funds + carried forward FY13 balance and deobligations = **\$3,745,551**

\$1,767,734

Central Virginia Community College Educational Foundation, Inc.
Equipment Upgrades For CVCC Machine Tool Program (#2666)
\$255,676 requested – reduced to \$206,972

Executive summary provided by applicant: CVCC is requesting funds for critical Equipment Upgrades for the CVCC Machine Technology Program, one of our most popular STEM-H programs. The upgrades include purchasing new equipment and upgrading existing equipment where possible to advance the technology capabilities of the program to meet expectations and needs of local manufacturing firms. Employers prefer machinists who have a wide range of skills and are capable of performing any task in a machine shop. That is our program objective. Total credentials for the Machine Tool Program awarded the past 3 years was 119, and is projected at 162 over the next 3 years. Local manufacturing firms make extensive investments in the latest machining and metal-casting equipment to compete with national and international competitors. It becomes incumbent on CVCC to graduate machinists who have trained on the same types of equipment in use by our industry partners in real manufacturing environments. Existing machines like our Haas Mini-Mill, 1540 TRAK lathe. Republic Lagun RL14X40 lathes and current metal-casting equipment are well behind current industry standards and need to be replaced or upgraded to create the learning environment with newer technology that our students require. We now offer 7 sections (70 students) of metal-casting per year. CVCC proposes purchasing a Haas VF-5 mill with 12" trunnion plate, a TRAK-1845 lathe, and upgrading eight existing RL14X40 lathes. The larger mill introduces 5-axis technology to students. It communicates with existing Haas equipment including Haas simulators, DNC, etc. The TRAK-1845 lathe replaces the TRAK-1540, enabling students to complete CNC projects on a single machine that they currently cannot do. The TRAK lathe enables students to program entire parts under CNC technology using proper manufacturing procedures. Existing RL14X40 lathes will be upgraded with newest digital readouts creating improved learning environment. New foundry equipment improves environment for casting and mold preparation. CVCC has doubled its headcount in the Machine Technology Program over the past three years. Upgrading equipment will enable CVCC to expand our headcount to produce 54 graduates per year with nearly 100% employment upon graduation. CVCC Machine Tool Program graduates will be trained on state of the art equipment that gives them considerable advantage when entering the competitive job market. For example, the 5-axis motion capability of the system will enable students to position a workpiece to almost any angle for machining. Class limitations in Metal/Heat Treatment classes will be alleviated, thereby enabling Machine Program enrollments to increase further.

Staff comments and recommendation: The original request from CVCC supports equipment updates for the Machine Technology and Machine Tools programs including purchase of a 5-axis mill, trade in of a

TRAK lathe for newer version and repair of eight (8) lathes. This aspect of the proposal is expected to support an increase of + 14 graduates annually with Machine Tools related diplomas. Students in the Machine Tools programs are required to take the nationally recognized, National Occupational Competency Testing Institute's Precision Machining examination. With the revised submission of an addendum to the original request, CVCC has expanded the scope of the project to include a focus on enhancing the pipeline of qualified applicants to the Machine Tools program by supporting critical equipment needs for the newly established STEM Academy located on the CVCC campus targeted to dual enrollment high school students. Strongly supported by private sector advanced manufacturing companies, the Academy launched the Mechatronics Engineering and Technology program Fall 2013, and is expected to result in twenty five students annually receiving a *Career Studies Certificate*, and with pathways for these students to complete additional coursework during the summer providing for at least six additional Associate Degrees annually (sixty percent of the students in the Academy are expected to be from tobacco region localities). A detailed equipment list with cost estimates was provided. Matching funds are from available funds committed by the CVCC Foundation. Private sector letters of support are from Babcock & Wilcox, FlowServe, and L&R Precision Tooling. **Staff recommends grant award of \$206,972.**

Danville Community College

Sitework Design/Management Funding for Danville Community College's New "Technology Building" (#2677)

\$72,075 requested

Executive summary provided by applicant: Responding to student requests and industry demand, DCC has launched a major workforce development initiative to expand critical job training programs. The expansion implements key points of Governor Bob McDonnell's "Preparing for the Top Jobs of the 21st Century" legislation as well as the Boston Consulting Group's "Developing an Advanced Manufacturing Workforce for Virginia's Tobacco Region" report. DCC has secured \$3.7 million from the Virginia legislature as well as additional private capital to renovate DCC's Hawkins building and to construct a new Technology Building. DCC requests \$72,075 from the TICRC to cover the design/project management of Technology Building site work. While DCC's advanced manufacturing trades programs graduate well-trained trades people, capacity constraints limit the number of graduates it is capable of producing. Thus, the number of skilled workers graduating falls short of industry needs. For example, while DCC's maximum graduate capacity in precision machining has been 22, the Boston Consulting Group forecasts a regional need for 429 additional machinists by 2017. Likewise, while DCC's maximum graduate capacity in welding has been 20, BCG forecasts a need for 328 additional welders in that timeframe. Additionally, space constraints have made it more challenging to meet all aspects of industry's stated skill needs. DCC is expanding its precision machining, welding, and industrial maintenance/advanced manufacturing programs by updating equipment, procuring additional equipment, adding an additional machining instructor and a welding instructor, developing an advanced manufacturing dual enrollment program at area high schools, providing additional credentialing options, and expanding its available lab and classroom floor space. The floor space expansion is being met through renovation of the Charles Hawkins building to add labs and classroom space for the machining program, and by construction of a new Technology Building to support DCC's Printing and Building Trades programs as well as expansion of its Welding program. The Boston Consulting Group found that the top three medium-skill occupations that will experience the largest workforce gaps in the Southside region in upcoming years are machinists, welders, and industrial maintenance mechanics. Of the 990 jobs expected to represent the gap by 2017, machinists and welders account for 76 percent of them. To meet these needs, DCC is expanding various programs, including its

welding and machining programs. The funds in this grant will be used to support the construction costs for a building to support program expansion; thus, helping to decrease the predicted upcoming skills gaps.

Staff comments and recommendation: Grant funds are requested to support design, inspection/testing, project management and sitework costs for construction of the new 7,500 square foot Technology Building that will house printing, building trades, and welding programs; and that will free up 20,000 square feet in the Charles Hawkins building to make room for expansion of the precision machining technology program. DCC is providing match for the balance of funds needed on the \$206,500 in estimated sitework costs, in addition to having secured \$1.5 million in state funds for construction costs. Using 2011-2012 baseline enrollment and graduation numbers, the project is expected to result in annual increase of eighty-eight students enrolled and eighty graduates annually starting in 2015-2016, with incremental increases each year across the four programs. Outcomes include + 27 precision machining, + 30 welding, + 8 building trades, and + 15 printing graduates annually. While DCC has indicated this project to be the second priority of the two proposals submitted, in consideration of the modest amounts requested the advanced manufacturing outcomes expected to be accomplished, **Staff recommends grant award of \$72,075.**

Danville Community College

Danville Community College Certified Welding Program (#2671)

\$150,000 requested

Executive summary provided by applicant: Danville Community College proposes to hire a Certified Welding Instructor to develop a comprehensive, four-semester diploma program designed to prepare graduates for careers in welding in Southside Virginia. The diploma program will prepare graduates for A.W.S. (American Welding Society) certification. The requested funds will be used as seed money to provide a certified welding instructor's salary for two years. During this period, the instructor will develop the curriculum, purchase equipment, oversee the design of new welding facilities, and recruit students. After two years, the increased student enrollment level will be sufficient to cover the instructor's salary in future years. In its January 2013 report to CCAM and the TICRC, "Developing an Advanced Manufacturing Workforce for Virginia's Tobacco Region," the Boston Consulting Group notes that the three occupations that account for almost all of the gap in medium-skilled jobs are machinists, welders, and industrial machinery mechanics. The report forecasts a need for 328 additional welders by 2017 for the Southside region. DCC currently has a welding certificate program that provides basic welding skills, but not the advanced level required in advanced manufacturing jobs. Furthermore, the program's capacity is limited to graduating only 15 to 20 students per year. Traditional economies, such as in Danville, have favored labor-intensive technologies that require lower levels of formal education. Thus, a key to transforming this region's economy is to increase human capital through training and broadening skill levels. An occupational area that will help transform the economic base of the Southside region is Certified Welding. Therefore, the goals of this project are to: (1) Hire an instructor to develop and implement a Certified Welding Diploma program at DCC, and (2) Graduate 30 certified welders annually from the diploma program and 20 welders from the existing certificate program. Despite a high industry demand for well-trained welders, Danville Community College is limited to graduating 15 to 20 Welding Certificate program students per year due to space, equipment, and instructor limitations. Further, students are required to double up in the welding booths in the current DCC welding lab, thereby limiting their hands-on experience. The limited number of welding graduates, according to the Boston Consulting Group, will impact the region's ability to meet current needs and to attract mega-industries and suppliers. Hiring a new welding instructor will play a significant role in supporting DCC's welding program expansion.

Staff comments and recommendation: This project requests support for start-up costs for development of a four semester diploma in welding, preparing students for certification by the American Welding Society. The 2-year, 62 credit hour *Certified Welding Diploma* is expected to enroll students in Fall 2014, and to annually graduate 30 students beginning with the first class graduating in Spring 2016. The program is tied in to DCC's *Advanced Manufacturing Career Studies Certificate* being launched in Danville, Pittsylvania, and Halifax High Schools; providing a pathway for students studying welding to receive a diploma after one additional year. Match is provided through the portion of state funding for construction of the new Technology Building based on the area expected to be occupied by this program. Private employer reviews were provided by Piedmont Precision Machining and Jarrett Welding, both located in Danville. The program is aligned with the nationally credentialed American Welding Society's performance-based Certified Welder Program. Of the two proposals submitted for consideration by DCC, this project supporting the welding program reflects the highest funding priority. **Staff recommends grant award of \$150,000.**

Mountain Empire Community College Foundation ***Advanced Manufacturing Workforce Training (#2776)*** **\$59,595 requested**

Executive summary provided by applicant: Mountain Empire Community College (MECC) requests funds to build its capacity to train skilled technicians for the advanced manufacturing sector in southwest Virginia. As the premiere provider of technical education for medium-skilled occupations in its service region, MECC will leverage TICRC funds against other private funds to purchase high-priority instructional equipment and software for Welding and Computerized Manufacturing Technology (with Electromechanical Technology and Industrial Maintenance specializations). TICRC funds will also provide support for the college to obtain accreditation for the Computerized Manufacturing Technology program. According to the Boston Consulting Group (BCG) report, demand for additional manufacturing workers in the tobacco region will reach 6,840 by 2017. BCG asserts that there will be an adequate labor supply to meet demand for low- and high-skilled positions, but there will be a critical shortage (1,045) of medium-skilled workers, which are primarily supplied by community and technical colleges. One of the two primary challenges the Boston report cites in closing this gap is "increasing the capacity and capabilities of the community colleges...to develop the skills that employees require." TICRC funds will be used to increase the capacity of MECC's Welding and Computerized Manufacturing Technology programs to provide students with the skills they need to fill the projected demand for middle-skilled positions in the southwest Virginia advanced manufacturing sector. Equipment and software purchased under the grant will provide students with hands-on experience with state-of-the-art technology that is commonly used in the advanced manufacturing workplace. This initiative will increase the pool of skilled labor to support the growth of the advanced manufacturing sector in southwest Virginia, and will help to close the critical supply gap for middle-skilled workers. By increasing the skilled labor pool, the region will increase its attractiveness to advanced manufacturing employers, including firms that supply larger manufacturing operations outside the MECC footprint.

Staff comments and recommendation: This project was originally included under a larger request, #2568, submitted by Southwest Virginia Community College in February. SWVCC withdrew their application and MECC submitted this revised proposal. The applicant seeks to purchase advanced equipment upgrades for their Welding and Computer Manufacturing Programs. This equipment will allow MECC to teach additional skills in their existing programs to better meet the needs of local employers. Funds will also be used to obtain accreditation for the Computerized Manufacturing Technology Program. Outcomes are listed as: 110 total enrollment; 19 certificates (welding); and 14 degrees (computer manufacturing). Outcomes are based

on the number of students enrolled at any level of the program during the Spring 2014 semester. **Staff recommends award of \$59,595.**

Southern Virginia Higher Education Center
Advanced Manufacturing Boot-Camp (#2678)
\$869,083 requested – revised to \$711, 583

Executive summary provided by applicant: The Southern Virginia Higher Education Center (SVHEC), in partnership with the Virginia Manufacturers Association (VMA), Virginia Industry Foundation (VIF) and ECPI University (ECPI), proposes to carry out an advanced manufacturing "boot-camp" that will annually produce 209 workforce-ready participants equipped with entry-level skills as well as career pathways mapped to skills gap areas identified in the recent BCG Report: precision machining, welding, and industrial machinery maintenance. Program participants will be certified as proficient and "work ready" for entry-level employment in Southern and Southwest Virginia. The boot-camp will utilize an existing national curriculum from the Manufacturing Skills Institute (MSI) and complement existing providers. Opportunity: CCAM member companies, and their suppliers, will be considering Virginia as a site for locating and expanding advanced manufacturing facilities. These factories will use innovative automated manufacturing technologies to produce components for aerospace gas turbine engines, naval ships, cutting tools, etc. In addition, the Boston Consultant Group (BCG) "Developing an Advanced Manufacturing Workforce for Virginia's Tobacco Region" (January 2013) report identifies three target manufacturing industries (Aerospace, Automotive and Heavy Machinery) to recruit and expand in the Tobacco Region to complement the current CCAM member companies. To address the BCG findings and recommendations for creating a "ready" and "adaptable" workforce for advanced manufacturing across the entire Tobacco Region, the Southern Virginia Higher Education (SVHEC) in partnership with the Virginia Manufacturers Association (VMA), Virginia Industry Foundation (VIF) and ECPI University (ECPI), hereinafter referred to collectively as the "Manufacturing Skills Institute" (MSI), propose the full implementation of a coordinated process to deliver existing workforce education and training programs that: (1) measure and document core work ready skills; (2) measure and document manufacturing knowledge and competencies; and (3) provide a practical "hands-on" manufacturing technology immersion experience. The advanced manufacturing boot-camp will benefit the entire Tobacco Region by providing standardized training and experience for preparing and certifying a work-ready workforce for manufacturing in Southern and Southwest Virginia. The boot-camp is a coordinated process to integrate existing foundational skills training offered by multiple educational institutions including community colleges, higher education centers and four-year institutions. Boot-camp completers will have the skills needed to compete in existing and emerging technology-intensive production facilities. Boot-camp training scholarships provided by the TICRC will provide the financial assistance necessary for at least 150 individuals of the 300 boot-camp enrollees targeted for workforce training.

Staff comments and recommendation: This multi-faceted proposal intends to prepare a pipeline of entry level advanced manufacturing training candidates using multiple experiences including career readiness assessments, career awareness website information, manufacturing camps, and several other training stages. While much of the request should be delayed to allow time for comprehensive region-wide strategies to emerge from the CCAM work groups that are currently meeting to select curriculum, awareness/marketing campaigns etc., the compelling aspects of this request include the "Work Ready Foundations" that entails 165 hours of training modeled after a Commission-funded pilot with Presto that involved ECPI, GenEdge and community colleges, as well as the "Manufacturing Technician Action Learning Lab" a 100 hour training conducted with Virginia Manufacturers Association and ECPI, resulting in up to six ECPI college

credits and the MT1 skills assessment designed by VMA and its partners. Other requested elements are of lesser duration and do not offer comparable state and national certifications, and/or may be incorporated in later CCAM-related strategies. SVHEC staff has provided a revised budget that would focus funds on 80 participants for the Work Ready and Manufacturing Technician Lab at a cost of \$163,750. That revised budget includes a part-time position at SVHEC to administer the programs, and acknowledges that career awareness activities will be addressed via the Centers of Excellence funding. **Staff recommends award of \$163,750 per the revised budget focused on Work Ready Foundations and Manufacturing Technician Learning lab and associated costs including student tuition assistance and SVHEC administrative position.**

Southern Virginia Higher Education Center
Workforce Training: Welding in Halifax County (#2672)
~~\$175,000~~ requested – reduced to \$20,886

Executive summary provided by applicant: This project will bring workforce training in welding to Halifax County, where none is currently available. Funds will be used to 1) modify existing space at the Southern Virginia Higher Education Center (SVHEC) to house the newly-developed workforce training welding program and 2) to provide tuition assistance to students. The project will also leverage existing resources in the form of infrastructure and equipment, allowing the SVHEC to meet the increasing regional demand for technical training services, especially welding, and make National Center for Construction Education and Research (NCCER) standardized training programs available in Halifax County, Virginia. The US welding workforce currently numbers 500,000. Demand for welders is projected to grow over the next decade. More than 50% of U.S. industries report difficulties locating qualified welders; this shortage is expected to worsen as researchers estimate that for every two welders retiring, only one is entering the workforce. In the Tobacco region, more than 1,400 people are employed in welding-related jobs. The need for welders is strong due to growth in industries such as construction, energy production, and manufacturing. Currently, Halifax County residents must drive 45 minutes or further to access welding training, a deterrent especially for working adults. The Welding Training program will provide a range of training options in Halifax County, from the 18 month modular program leading to NCCER certification, to customized short-term trainings for industry. Classes will be held in the 6-bay lab to be installed adjacent to the Advanced Machining Center and will be scheduled in the evenings and on weekends so as to accommodate working adults. Should the modular welding training program expand to a larger facility in the future, the 6-bay lab will continue to be used to meet industry needs for short-term customized training and for overflow from the modular program. The inaugural cohort of 12 students could complete the Welding Training program within 18 months, preparing them to take NCCER and American Welding Society certification exams. With a new cohort entering each year, we anticipate that at least 50 students will complete the Welding Training program within 6 years of the program start date and become employed in the Southern Virginia region. In addition, we anticipate 10-15 regional incumbent workers will utilize the 6-bay welding lab for customized skills training annually and as interest warrants, the SVHEC will enter into agreements with other education providers to use this space.

Staff comments and recommendation: The welding equipment requested in this proposal was funded by the Southside Economic Development Committee in May, leaving the final element of this proposal – scholarships for the first cohort of students – as the remaining request. Virginia Technical Institute of Altavista has agreed to provide the NCCER training curriculum at South Boston. At this time there is not evidence that future financial aid for these students will be available without substantial future commitments by the Commission. Absent a plan for a sustainable long-term source of financial aid, SVHEC alternatively

agrees to use funds to underwrite instruction costs and materials for the initial cohort as a one-time start-up expense. **Staff recommends award of \$20,886.**

Southside Virginia Community College Foundation
Technical Training for Southside's Workforce (#2665)
\$471,977 requested – revised to \$471,756

Executive summary provided by applicant: The College will develop and expand training in medium skilled technical careers, including welding, high performance technology, precision machining, and air conditioning, heating and refrigeration (HVAC/R). Emphasis will be placed on graduating students with nationally recognized industry certifications by developing and improving a series of technology labs serving a ten-county section of the Tobacco Region. Funds will be used to purchase and upgrade equipment. A recent study completed by The Boston Consulting Group indicated that to bolster its position, the Tobacco Region will need to address foreseeable shortages in its skilled labor force. The study, "Developing an Advanced Manufacturing Workforce", pointed out that recommended areas of focus include welding, machining, and industrial maintenance mechanics and that the Virginia Community College System will be instrumental in this undertaking. Because SsVCC and our community partners have put much of the basic infrastructure in place, our current opportunity centers around expansion of capacity and capability in the areas of welding, HVAC/R machining and high performance technology. SsVCC will upgrade and expand two welding labs to complete training equipment recommended by the American Welding Society for SENSE program certification along with specific equipment used by area employers and requested for training. High Performance Technology lab equipment will be expanded and upgraded in order to be fully equip a lab, a precision machining lab will be established and equipped and a HVAC/R lab will be updated to include a state-of-the-art simulation lab. SsVCC provides education and training for over 4,200 square miles of the Tobacco Region. We are a potential hub, serviced by Interstates 95 and 85, Route 58, Routes 460 and 360 and enhanced by the Commonwealth's economic engine, the Port of Virginia. In addition, Greensville County partnering with the city of Emporia and Mecklenburg County is developing the Mid-Atlantic Advanced Manufacturing Center (MAMaC). This 1,545 mega-site is the only certified mega-site in Virginia and one of only 10 in the U.S. The area has an excellent transportation network and is ripe for economic growth, creating jobs specifically in advanced manufacturing.

Staff comments and recommendation: The proposal represents critical equipping needs in order for the college to deliver advanced manufacturing programming that qualifies students for nationally recognized credentials. The highest priority at \$235,756 enables the college to begin offering Precision Machining courses in Fall 2014 in Greensville at the Southside Virginia Education Center – Phase III building, constructed in part through a \$1.3 million Reserve Fund grant award from TIGR. The proposal includes \$20,000 (initiative #4) matched equally by cash from Virginia's Growth Alliance, a regional economic development marketing alliance, to support a part-time position responsible for development of the Precision Machining Technology curriculum in alignment with national credentials. Combined, these initiatives support a *Career Students Certificate* for machining and qualifies students to receive NIMS industry certification and provides a pathway for higher lever credentials intended to be developed. The second initiative supported by the project at \$176,000 is for updating equipment in the SsVCC welding labs in Keysville and South Hill to qualify and prepare students for American Welding Society and NCCER certifications. The equipment is recommended by the *AWS SENSE Program Level I Entry Level Welder* and *Level II Advanced Level Welder*. Enhancements to equipment in the High Performance Technology program in South Hill at \$25,000, will allow the college to incorporate a machining training component into the existing program, more closely aligning the training with current industry demand. The fifth aspect of the proposal

requests \$15,000 to support advanced manufacturing camps for high school students; which based on the target audience makes these a low priority for TICR, and staff feels it is more appropriate to wait until the ad hoc marketing committee comes up with sustainable solutions for marketing these programs consistently across the tobacco region. Private letters of support are provided by Fluor Corporation which has the contract for construction of the new Dominion Power Plant in Brunswick County, American Buildings in Lacrosse, Boar's Head Provisions Co in Jarrett, Tri-Boro Storage products in Farmville, and High Test Laboratories in Arvonnia. Match is from numerous sources including US Department of Education, VCCS Institute of Excellence, and state Equipment Trust Fund. Staff points out that the \$160,000 DOE grant match identified from Greensville County is a portion of the \$400K DOE grant that is committed as match for the \$1.5 million TICR Reserve Fund award for construction of the Phase III building. Recognizing the county is providing match of 67% on the Reserve award and the importance of equipping and initiating program delivery at this site, staff is agreeable to accepting this match contribution. Outcomes for welding and high performance technology include 50 certificates, 2 degrees, and 13 transfers. Outcomes for precision machining are 15-20 certificates annually; and estimates for higher level credentials to be determined. **Staff recommends grant award of \$456,756, not including support for the camps.**

Virginia Highlands Community College

Workforce Training in Advanced Manufacturing at Virginia Highlands Community College (#2777)

\$163,550 requested

Executive summary provided by applicant: Virginia Highlands Community College in far southwest Virginia, in collaboration with regional business and industry partners, has recognized the impending increasing demand for a mid-level trained workforce in advanced manufacturing. In order to provide this essential nationally-certified training, VHCC needs to substantially upgrade the equipment in an existing manufacturing laboratory. Long recognized as the primary provider of workforce skills training throughout the Commonwealth, VHCC has a long-standing relationship with regional industry as a training provider. With the support of these partners, VHCC is requesting funding to assist with the development of a state-of-the-art advanced manufacturing laboratory facility on its campus. According to the Boston Consulting Group (BCG) report (2012), demand for additional manufacturing workers in the tobacco region will reach 6,840 by 2017, with a gap of 1,045 of those without available qualified individuals to fill them; upwards of 400 of those jobs will occur within the VHCC region (55-mile commuting distance). The BCG report indicated that the greatest obstacle to making up the shortage of these workers is to address the deficiency in training facilities at the community colleges in order to increase the capacity to train more students/workers to step into these mid-level manufacturing jobs. VHCC is currently unable to offer advanced manufacturing training to meet the current and projected employer demand due to a significantly outdated manufacturing laboratory. However, by investing in state-of-the-art equipment and revising the curriculum, the existing laboratory can be transformed into a high-capacity, modern training facility that will produce highly-skilled workers to meet the existing and impending demand for a qualified advanced manufacturing workforce specialized in industrial maintenance (IM). VHCC is committing a 50% cash match from available funding sources to ensure that the complete equipment package for superior industrial maintenance training, following nationally recognized industry certifications, can be provided. As stated by BCG, Advanced Manufacturing is a focus for our region, in particular medium-skilled jobs which includes IM. Updating the IM program is essential for the economic growth within the VHCC service region to facilitate a skilled, trained workforce to meet current and future employer demand. Due to our strategic location along the I-81 corridor, we are a prime area of interest for future manufacturing companies. With

the increased capacity to train skilled manufacturing workers, the workforce needs of both existing and potential companies can be met and arresting a possible decline in the manufacturing sector for this region.

Staff comments and recommendation: This project was originally included under a larger request, #2658, submitted by Southwest Virginia Community College in February. SWVCC withdrew their application and VHCC submitted this revised proposal. The proposed upgrades to the Industrial Maintenance Laboratory at VHCC will allow the college to provide an advanced training environment to students in the Electrical Technology Associates Degree Program, Industrial Maintenance Career Studies Certificate Program, and the Electro-Mechanical Maintenance Diploma programs. As a result of this additional training, students enrolled in the Industrial Maintenance Program will attain two national industry credentials (CRC and the NCCER). Outcomes are listed as: 74 enrolled: 67 certificates; 35 degrees, 40 diplomas. It is unclear how these figures were calculated. **Staff recommends award of \$163,550.**

Virginia Western Community College ***Industrial Maintenance Technician Training (#2674)*** **~~\$364,849~~ requested – reduced to \$43,864**

Executive summary provided by applicant: Virginia Western Community College will develop a manufacturing training classroom in Franklin County which will provide an industry recognized certification to students as Industrial Maintenance Technicians. This program will provide the Franklin County region with a high-demand advanced manufacturing workforce trained in industrial mechanics. Manufacturing is the largest industry within Franklin County and the occupations which support this industry, including installation, maintenance, repair and production, are growing. Within the Roanoke VA Metropolitan Statistical Area (of which Franklin County is included) it is anticipated that there will be 5,465 additional manufacturing jobs by 2020. Yet there is a skills gap of qualified workers as some manufacturing companies report difficulties hiring the workers they need to meet demand. A report from the Boston Consulting Group to the Tobacco Commission confirms there is "a critical gap" in medium skilled manufacturing jobs in the Tobacco Region. Virginia Western will work with partners in Franklin County to meet the advanced manufacturing skills gap by developing an Industrial Maintenance training classroom and lab at the Goodwill campus in Franklin County. Once established the training facility will provide two cohorts of 12 students with a 17-week non-credit training program to introduce students to the maintenance and repair of industrial production and processing machinery and equipment. Students who demonstrate need will receive scholarships. The Industrial Maintenance Technician Training grant will provide industry recognized credentials and job training necessary to strengthen the workforce pipeline in Advanced Manufacturing in Franklin County. The Industrial Maintenance Training project is significant in that, once it is established; the training classroom will provide Franklin County with many long-term opportunities for developing a medium-skilled manufacturing workforce including: machinists, welders, mechanics, mechatronics training and certification as well as certified production technician programs. It is also envisioned that many of these programs could be offered to local high school students as dual enrollment courses. By leveraging relationships among industry, education and government, Virginia Western will grow capacity and capability in Advanced Manufacturing within the Tobacco footprint.

Staff comments and recommendation: VWCC has requested the original proposal be amended to provide eight scholarships to Franklin County students for enrollment in the Industrial Maintenance Technician program. The change is based on a recent award from the VCCS to VWCC that allowed the college to equip an Industrial Maintenance training lab at a site in the City of Roanoke, which was determined to be sufficient to meet the needs of all students in their service area. The IMT program is currently offered as non-credit pending SACS approval, after which sustainability of the scholarships will be

handled through normal college financial aid offering. **Staff recommends no separate award for this project but for the committee to allow VWCC to work with staff to amend their pending financial aid proposal to include an allocation of funding to support scholarships for this program.**

Wytheville Community College Educational Foundation, Inc.
WCC: Improving Advanced Manufacturing Education (#2779)
\$110,150 requested

Executive summary provided by applicant: Wytheville Community College proposes to address the demand for training additional manufacturing workers in the southwest Virginia region. As the primary means of providing technical education for medium-skilled occupations in Virginia, WCC will focus on expanding its capacity to provide the critical skills needed for machining and industrial maintenance mechanics. Tobacco Commission funding will allow WCC to offer enhanced training programs with state-of-the-art equipment. According to the Boston Consulting Group report, demand for additional manufacturing workers in the tobacco region will reach 6,840 by 2017, with a predicted gap of 1,045 jobs left unfilled. One of the two primary challenges the reports notes in closing this gap is "increasing the capacity and capabilities of the community colleges ... to develop the skills that employers require," and the report recommends community colleges create or expand existing programs to address the critical skills for machining and industrial maintenance mechanics. WCC currently needs to update equipment, much of which is over 40 years old. WCC proposes to increase our capacity to address the demand for highly trained manufacturing workers by expanding the equipment training opportunities in our current machining program course offerings. This will require significant investment in equipment; therefore, WCC is requesting funding to purchase state-of-the-art equipment for its Machine Technology Program. This investment in state-of-the-art advanced manufacturing machining equipment will result in increased skill levels of WCC graduates, which will support advanced manufacturing employers in Southwest Virginia and could considerably close the greatest supply gap which exists among medium-skilled workers. By increasing the skills of our labor pool, we will increase our chances of attracting primary manufacturing and their suppliers to our region. According to the Boston Consulting Group report, without this influx of new employers, we are likely to see huge declines in manufacturing employment, with the current trend at a four percent decline annually.

Staff comments and recommendation: This project was originally included under a larger request, #2658, submitted by Southwest Virginia Community College in February. SWVCC withdrew their application and WCC submitted this revised proposal. The applicant seeks to purchase upgraded equipment for its Machine Technology Program. Much of the existing equipment is over 40 years old and is not suitable for current training needs. WCC's Machine Technology program is well established with graduates who historically have quickly obtained employment. This success is illustrated in the list of 15 potential employers who have recently expressed interest in recruiting the program's graduates. Outcomes are listed as: 38 total enrollment; 14 degrees awarded. **Staff recommends award of 110,150.**

Other Competitive Requests – Previously tabled 5/23/13

Southwest Virginia Higher Education Center

STEM-H Clinical Lab Sciences (#2710)

\$500,000 requested

Project description provided by applicant: The Healthcare sector is one of the largest employers across Southwest Virginia. The recruitment and retention of highly skilled professionals is a critical challenge, especially in "invisible" careers such as Clinical Lab diagnostics. Working behind the scenes in blood banks, pathology practices, hospitals, and clinical labs, these STEM-H graduates are difficult to find in rural areas. Administrators of Mountain States Health Alliance and others have requested a Bachelor's degree program in Clinical Lab Sciences to train entry level technicians for jobs that require advanced education in a sophisticated laboratory environment. The SWVHEC will partner with VCU to deliver the program. Healthcare providers face critical staff shortages of Medical Lab Technicians (AA degree) and Medical Lab Specialists (BS degree). Hospitals, blood banks, pathology clinics, and physician practices are among the primary employers in this "behind the sciences" career. Salaries range from \$35,000- \$125,000 based on degree attainment and level of practice. Currently, no Clinical Lab Sciences BS programs are offered in either TIC region. Consequently, healthcare providers do not have training options available to prepare entry level employees for more complex procedures and higher paying careers. Recruitment and retention of BS prepared professionals is a "continuous revolving door" issue. The SWVHEC in partnership with VCU Department of Clinical Lab Sciences will offer a 2 + 2 BS program for experienced lab technicians who want to enhance their career opportunities, and for undergraduate chemistry/biology majors who are seeking a laboratory based career as a Clinical Lab Specialist. The 2 yr. BS program will be delivered in the existing science lab at the SWVHEC to a cohort group of 20 students. The program will include lectures, intensive lab experiences, and clinical rotations across SW VA. A second cohort of 20 will begin in 2015. The primary benefits are two-fold: job creation for SW residents, and collaborative partnerships with healthcare providers to resolve employment challenges. Additionally, none of the 10 colleges and universities that provide programs at the SWVHEC offer lab science courses or degrees in lab sciences. Most of these programs never leave campus. Consequently, location bound residents rarely have educational opportunities in lab based programs for which there are jobs available locally. The proposed 2+2 in Clinical Lab Sciences will demonstrate an effective off campus model of delivery that can be replicated in SS, and in other lab based science majors.

Staff comments and recommendation: This revised proposal was also submitted April 30 in place of the original SwVHEC proposal #2681 and now requests \$500,000, with TICR funds focused on equipment and personnel in Abingdon. It has a compelling aspect of training SWVA residents for well-paying jobs at an array of local hospitals, labs and other private sector employers, although no letters from employers accompanied the proposal. It requests funds to be support 1 fulltime faculty member, plus benefits, in Abingdon for 3 years (\$282,000), \$6,000 of program advertising, \$30,000 (\$10,000 per year) of consumable lab supplies, and \$182,000 of new lab equipment for the Center. Matching funds are largely in-kind from VCU (\$354,500 faculty/staff support). VCU will spend \$150,000 at the Richmond campus for computer equipment, phones and computers to offer synchronous instruction to off-site campuses through the Commonwealth. It is unclear what percentage of time this equipment will be used to serve the Abingdon location. Staff has requested additional information on how the required matching funds were calculated and written evidence of VCU's commitment. A detailed equipment/supply list, with vendor quotes, has also been requested. **Given the amount of additional information requested for this project, staff recommends it remain tabled.**

Virginia Foundation for Community College Education (#2583)

GED to College: Increasing Educational Attainment Levels in the Tobacco Region **\$364,000 requested**

Project description provided by applicant (edited for brevity): The Virginia Foundation for Community College Education requests funding in the amount of \$364,000 in support of a new initiative, GED to College, to raise educational attainment levels in the Tobacco Region. The VFCCE proposes to award incentives of \$1,000 each to 350 citizens in the service areas of seven Tobacco Region community colleges, 50 per college, for new GED completers to enroll in postsecondary education and training. The project will be a key component of the Rural Virginia Initiative to advance Rural Virginia through education, thereby contributing to economic and social progress throughout the region. The program will recruit and reward students to enroll in college in the next full semester, or sooner as appropriate, after passing the GED exam, sign up for a specified number of for-credit classes, or sign up for a non-credit program of study that results in a state or national exam. Since the targeted population typically fails to engage with higher education, comprehensive marketing efforts will be necessary to promote the financial incentives of the program, recruit participants to GED classes, and educate new GED completers about the benefits of college. Projected outcomes include 350 people enrolling in community college, completing 3,000 credits or non-credit training hours and ultimately 80 additional degrees, workforce certifications, or transfers to four-year institutions. The GED to College project is based on the successful experience of a similar program in a Tobacco Region county. In 2001 former Governor Gerald Baliles established the Patrick County Education Foundation to address the county's low educational attainment levels. The key was three major goals: increasing the percentage of Patrick County high school graduates who attend college, increasing the number of adults with a high school diploma or higher level of education, and upgrading the job skills of the county's workforce. The PCEF not only contributed to improved educational standings for its residents but also supplemented the workforce skills of more than 1,700 citizens. A central component of the Patrick County model was its GED Promotion Project designed to increase the number of GED recipients each year. A financial incentive of \$1,000 was awarded to each completer to be used to enroll in college or to pay county taxes. By the end of five years, 48% of GED graduates continued their education. The foundation reached its goals five years ahead of schedule and concluded its ten-year pilot project with remarkable success, moving Patrick from one of the lowest performing counties in Virginia to among the top five rural counties in the state. The National Commission on Adult Literacy and the Southern Regional Education Board recommended it to the governors and legislatures of those states as an education model for rural areas. The community college mission is to offer opportunities for postsecondary education to many students who would not attend college otherwise. The VCCS is now targeting that mission in the Tobacco Region to promote GED completion as an on-ramp to college. The GED to College project will encourage participation based on the principle of tangible return on investment. GED completers will be rewarded if they immediately enroll in college with a \$1,000 grant that can be used for tuition, fees, and books, as well as for costs not covered by traditional financial aid, such as transportation, background checks for health sciences programs, and fees for certification exams at the conclusion of their program of study. The focus on immediate enrollment after GED completion is supported by census data showing that 35% of people over 25 stopped their education at high school and never went to college, suggesting that those who do not continue immediately are unlikely to pursue higher education later. The VFCCE will administer the program in conjunction with an oversight committee comprised of representatives of the financial aid, institutional advancement, admissions, and business offices of the seven Tobacco Region community colleges. This committee will be responsible for determining eligibility criteria, managing the application process, disbursing and monitoring funds, establishing evaluation procedures, and reporting outcomes. Reaching a population that has little connection to traditional higher education venues will require aggressive marketing, promotion, and recruitment efforts. The goal will be to convince those without a high school diploma to

complete the GED and explore the possibilities of college in a way that is personal, relevant, simple, and tangible. Following the successful model of the Patrick County GED Promotion Project, the VCCS Public Relations Office will oversee these activities in collaboration with the individual colleges, using such means as websites, mailings, media advertisements, and distribution of promotional items and flyers through businesses, civic organizations, schools, churches, fire and rescue squads, community events, local gathering places, adult education providers, one-stop centers, and Middle College and PluggedIn programs. During and following the grant period, the VCCS will collect and analyze data and produce reports related to recipient demographics, progress, outcomes, employment, and earnings. Such information will be valuable in determining the most effective strategies for raising educational attainment levels among underserved populations throughout the commonwealth. To help achieve Governor McDonnell's goal of producing 100,000 additional Virginians with degrees over the next ten years, the Virginia Foundation for Community College Education has launched the Rural Virginia Initiative to improve the educational attainment and workforce skills in rural Virginia localities that are served by 14 of Virginia's 23 community colleges in the Rural Horseshoe -- a region stretching from the Eastern Shore, across Southside and Southwest Virginia, and up the Shenandoah Valley. The goals are to increase the number of people in Rural Virginia who graduate from high school or earn a GED, successfully convince more Rural Virginians to enroll in and graduate from college, and prepare the workforce in Rural Virginia to take advantage of the competitive economic development opportunities of the 21st century. The GED to College project will be a major component of the Rural Virginia Initiative focusing specifically on the needs of the Tobacco Region. It promises to be significant in several dimensions -- educationally, socially, economically, and culturally -- making a positive difference to individuals, families, communities, businesses, the Tobacco Region, and it will create a model regional program for Virginia which can be replicated statewide and nationwide.

Staff comments and recommendation: This proposal grew out of dialogue between the VCCS Chancellor and TICR staff, and builds on the Commission's previous grant to VFCCE to expand the Great Expectations foster youth program across the tobacco region (\$300,000 awarded in 2009). Subsequent revisions to the proposal include a stated priority to assist students entering STEM-H coursework, and (at the suggestion of TICR staff) those who would not be served by the Commission's community college financial aid programs nor federal financial aid because they are entering non-credit but fast-track career training that could lead to employment in as few as two-to-three months in fields such as construction trades, truck-driving, nursing aides etc. The proposal seeks funds for two years to serve students at seven community colleges that are in both the tobacco region and the Rural Horseshoe target area (Central VA and John Tyler are not included). Matching funds have been revised to meet the new requirement, and include more than \$250,000 of funds in hand and \$115,000 yet to be raised by VFCCE. The in-hand funds are generally to come from existing non-TICR Great Expectations contributions being used to fund on-campus personnel administering GE program services such as counseling ("campus coaches"), recruitment, testing, etc.. Future funding will be addressed within the Rural Horseshoe Initiative's goal of raising \$21 million over the next decade. **Staff recommends award of \$364,000 contingent on demonstration of committed dollar-for-dollar matching funds and administration of the funds by the respective colleges to use TICR funds on tuition and mandatory fees only, for students who are not eligible for other state and federal financial aid in programs such as non-credit workforce training, and other STEM-H students with last-dollar financial needs.**

OTHER BUSINESS

Virginia Advanced Study Strategies, Inc.

AP Teacher Training & Incentive Program (#2411)

Request to repurpose funds for new project

In Fall 2011 the Commission funded a \$1 million competitive Education grant to VASS to continue its work across the tobacco region to increase Advanced Placement teacher training, student enrollment and test scores in conjunction with a large grant from the National Math & Science Initiative. VASS's relationship with NMSI has now ended, the subject grant remains 100% available, and VASS has subsequently secured a \$2.7 million federal Department of Education i3 (Investing in Innovation) grant to establish a Rural Math Excel Partnership Project "with the purpose of creating a focused partnership between local schools, local businesses, and students/parents to increase awareness of math skills required for technician-level jobs in STEM-H related fields." The Project will focus on seven high schools and seven middle schools in Charlotte, Cumberland, Halifax, Henry and Prince Edward Counties and the City of Martinsville. VASS requests that all funds under grant #2411 be repurposed for salaries and benefits (\$471,123), instructional supplies (\$420,000), and operational costs (\$108,877) for a three year period to match the federal i3 grant to implement the Rural Math Excel Project. Activities will include professional development for math teachers and content specialists, gap analysis of skills needed by businesses for STEM-H technician jobs, and other collaborations with businesses, schools, parents and students.

Staff comments: The requested change of scope has been discussed in general terms with VASS staff over the past few months, however the revised budget and brief description of the project have only been received in the past 10 days. In most cases further vetting would be desirable, however the commitment of substantial USDOE grant funds provides supportive evidence that this national model project has merit for the tobacco region. **Staff recommends approval of the requested repurposing, conditioned upon administrative approval by the TICR Executive Director of a more detailed budget, project milestones timeline and outcome estimates/reporting.**