

ORIGINAL

NORTHWEST TENNESSEE WORKFORCE BOARD

2014 Labor and Education Alignment Program (LEAP)

Certified Production Technician (CPT) Pathway to Advanced Manufacturing Program

Northwest TN Workforce Board

IN PARTNERSHIP WITH

1. Higher Education Institutions: Dyersburg State Community College (fiscal agent), Tennessee College of Applied Technology – Covington, Tennessee College of Applied Technology – Jackson, Tennessee College of Applied Technology – McKenzie, Tennessee College of Applied Technology – Newbern, Tennessee College of Applied Technology – Paris, Tennessee College of Applied Technology – Ripley
2. LEA/School District Name: Benton County School System, Carroll County School System; Crockett County School System; Dyer County School System, Dyersburg City Schools, Gibson County School System; Henry County Schools, Lake County Schools, Lauderdale County School System, Obion County School System, Tipton County School System, Trenton Special School District, Weakley County Schools
3. Employer Partners: Unilever, Caterpillar, Ceco Door

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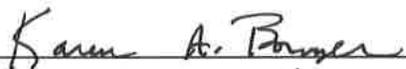
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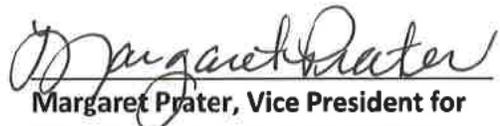
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Funding requested:

\$963, 684



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Project Abstract: *Certified Production Technician (CPT) Pathway to Advanced Manufacturing Program*

To respond to local manufacturing needs identified in a survey of local manufacturing employers in the Northwest Tennessee area, a coalition of postsecondary institutions, the local workforce investment board, secondary schools, and manufacturing partners is applying for the Labor and Education Alignment Program (LEAP) Grant. The *Certified Production Technician (CPT) Pathway to Advanced Manufacturing Program* will provide industrial readiness training to secondary school students through Dyersburg State Community College and Tennessee Colleges of Applied Technology located in Local Workforce Investment Area 12 (LWIA 12). This project is modeled after existing best practices throughout the state where employer demand has driven the creation of postsecondary training in Advanced Manufacturing and aligns with the TN Department of Labor and Workforce Development State Plan, Pathways to Prosperity, and the Governor's Drive to 55 vision to increase postsecondary credentials. The Manufacturing Skills Standard Council offers a Certified Production Technician (CPT) curriculum to recognize through certification individuals who demonstrate mastery of the core competencies of manufacturing production at the front-line. The CPT program will be offered in high schools in eleven counties in Local Workforce Investment Area 12 (LWIA 12) that can expand their Career Technical Education (CTE) capacity to offer new coursework.

Using data gathered in a 2011 Advanced Manufacturing Sector Analysis by the Northwest Tennessee (NWTN) Workforce Board and a Skills Gap survey of our local industries in October 2014, this proposal focuses on offering coursework in high schools that leads to the attainment of certificates in safety, quality control, manufacturing processes, and maintenance awareness as well as the Certified Production Technician (CPT) credential. Manufacturers respond consistently that the emerging workforce lacks basic industrial readiness knowledge and the soft skills necessary to become productive employees. The CPT Pathway Program includes four basic industrial skills modules, all of which have soft skills training embedded in the curricula. The Manufacturing Skill Standards Council (MSSC) will award five national credentials (one certificate from each module plus the CPT Certificate) to students who satisfactorily complete the four modules and MSSC assessments. Based on the Employer Skill Gap survey indicating production and technician-type jobs are the most difficult to fill due to a lack of appropriate credentials or occupational skills training, the MSSC CPT credential will prepare students to directly enter the workforce with an introduction to manufacturing processes and the soft skills needed to be successful. Additionally, the curriculum provides postsecondary credit that will matriculate to a variety of Advanced Manufacturing coursework available through DSCC or a TCAT, focusing on specific industrial skills such as welding, programmable logic controls, and robotics.

The proposal will provide grant funds to assess and remediate, as necessary, secondary students in participating high schools in up to 17 secondary school systems to achieve a Silver Level National Career Readiness Certificate (NCRC), thereby qualifying students to enroll in the CPT courses. Additionally, the LEAP Grant will provide grant funds to train CTE facilitators in local high schools; provide additional CPT instructors at DSCC and the TCATs; buy textbooks and materials; assess students after completion of each of the four modules; and provide for coordination with employer partners to offer job shadowing, mentoring programs, on-the-job training, and/or internships for eligible students. We project training 350 students through this initiative, involving several employers across 11 counties in LWIA 12.

The initiative will be sustained at the conclusion of the grant as each of the participating high schools will continue to offer the CPT modules to students either using a trained CTE instructor at the high school or through instruction at DSCC or a local TCAT. Workforce coordinators will continue to develop internships, mentorships, on-the-job training, and/or other work-based learning opportunities for eligible students with employer partners. The NWTN Workforce Board will convene quarterly meetings of the Steering Committee as a part of the Pathways to Prosperity initiative.

Program Proposal

Section 1. Program Need

The Northwest Tennessee Workforce Board commissioned an Advanced Manufacturing Sector Analysis in 2011 to determine the needs of employers in 19 counties in West Tennessee. Companies surveyed identified jobs in demand and made projections on how many jobs would be available in the next 5 years based on expansions and attrition. The study revealed that Total Manufacturing Estimated Employment in Local Workforce Investment Area 12 (LWIA 12) was 79,110 and the Total Annual Openings to 2016 would be 2,715.¹

The Advanced Manufacturing Sector Analysis data led the NWTN Workforce Board to increase the employability skills of the local workforce by offering more opportunities for On-the-Job Training grants to employers. Additionally, the NWTN Workforce Board began training ACT WorkKeys™ Job Profilers to work with employers to determine the knowledge, skills, and abilities of incumbent worker positions to best determine the skills needed by new hires. This led to an increase in the demand for the National Career Readiness Certificate (NCRC), a portable credential that demonstrates achievement and a certain level of workplace employability skills.

Additionally, the NWTN Workforce Board revisits its Sector Strategy in the Annual Strategic Plan for LWIA 12 to determine where best to invest in training for the emerging workforce, existing workforce, and transitioning workers. The Strategic Plan aligns with the TN Department of Labor & Workforce Development State Plan and the Governor's Vision to make Tennessee the #1 state for high-quality jobs in the Southeast. Building on the Sector Analysis conducted in 2011, Advanced Manufacturing has been identified as one of the top three Sectors for in-demand jobs for LWIA 12 every year since 2011, which is also confirmed through Labor Market Information (LMI) taken from www.jobs4tn.gov². Once the Advanced Manufacturing Sector was identified as a high demand industry, the NWTN Workforce Board determined the top occupations in demand by employers through LMI³ and drilled further into the data to

project the top production occupations through 2017 by county.⁴ The data was confirmed by a recent survey of local manufacturing employers conducted in October 2014. In the Employer Skills Gap Survey, respondents were asked to list the job titles of their most “difficult to fill” positions. Production and technician-type jobs were listed most often, with employers indicating the primary reason as “applicants lacked education credentials or occupational skills”.⁵ To further emphasize the need for production and technician-type skills in our region, empirical data from Economic Modeling Specialists International, (EMSI) indicates there were **310** total job postings for 17 Production Occupations in August 2014, of which **30** were unique. These numbers give us a Posting Intensity of **10-to-1**, meaning that for every 10 postings there is 1 unique job posting. This indicates that companies may be trying harder to hire this position.⁶

Although Northwest Tennessee lost thousands of manufacturing jobs during the recession, including nearly 2,000 when Goodyear Tire and Rubber closed, the area has recently experienced growth and replacement of job loss. To consolidate efforts in working with employers, the TN Career Center system, the NWTN Workforce Board, TN Department of Economic and Community Development, and other partners have formed a Business Services Team to identify and meet the needs of expanding and new industry prospects. Over 2,000 new jobs have been announced over the past two years from new companies locating in the area or from existing company expansions. Additionally, with the recent completion of the \$30 million Port of Cates Landing, which provides essential access to the Mississippi River for our region, and with the continued work on infrastructure to ready the Memphis Regional Megasite in Haywood County for occupancy, Northwest Tennessee is well positioned to develop a stream of new entrants into the manufacturing sector through the LEAP Grant opportunity.

The *Certified Production Technician (CPT) Pathway to Advanced Manufacturing Program* supports Governor Haslam’s priorities for Education & Workforce Development by creating a seamless path between high school, postsecondary education or training, workforce development, and employer partners. Jobs in the Advanced Manufacturing sector require a complete understanding and mastery of a

variety of skill sets. Workers need skills in health and safety to maintain a safe work environment, thereby reducing the cost of workman's compensation and increasing the competitiveness of the company. They need quality assurance and a continuous improvement mindset to ensure that products and processes meet quality requirements. Workers also need the basic knowledge of manufacturing processes in order to learn to set up, operate, monitor, and control manufacturing systems. Additionally, they need to be able to recognize potential maintenance issues with basic production systems and be able to perform preventive maintenance and repair. According to the October 2014 Employer Skills Gap survey, 41.8% of employers indicated that job applicants lacked education credentials, occupational skills, and/or soft skills.⁷

To address these gaps, the *Certified Production Technician Pathway to Advanced Manufacturing Program* offers four modules that teach each of these skill sets through a partnership between secondary schools, postsecondary institutions, workforce development, and local manufacturers. The purpose of the CPT Pathway Program is to recruit and train the emerging workforce to meet the needs of our manufacturing employers. Students demonstrating mastery of the core competencies of manufacturing production through successful completion of certification assessments will further close the skills gaps identified by employers. The CPT certification will raise the level of performance of production technicians, increasing opportunities for finding high-wage jobs, as well as helping employers increase productivity and competitiveness.

This proposal aligns with the TN Department of Labor and Workforce Development State Plan, Pathways to Prosperity, and the Governor's Drive to 55 goal to increase postsecondary credentials, and it fulfills employers' needs for more qualified job candidates who have industry-recognized certifications and soft skills training.

Section 2. Program Plan

Through the *Certified Production Technician Pathway to Advanced Manufacturing Program*, we are creating innovative workforce partnerships in order to develop a skill set that today's labor market

demands. The goal of the CPT Pathway is to offer 350 secondary students the opportunity to earn at a minimum the MSSC Safety Certificate, with the opportunity to earn three more certificates: Quality Practices & Measurement, Manufacturing Processes & Production, and Maintenance Awareness. The successful attainment of all four certificates culminates in a Certified Production Technician (CPT) credential. The following timeline provides an overview of the critical convenings, activities, and actions that will comprise the project.

Dates	Activities
January 2015	Project Director and Workforce Coordinators are identified, advertise the program. Meeting of program steering committee is held.
January –July 2015	High school, DSCC, and TCAT faculty are identified, trained, and certified as Certified Production Technician instructors. Begin identifying eligible participants in participating high schools.
April 2015	Meeting of project steering committee is held.
July 2015	Meeting of project steering committee is held.
July/August 2015	Approximately 200 students begin Safety course.
September/October 2015	Prepare for and hold Manufacturing Month activities with employer partners (plant tours/guest speakers/career fairs/etc.) and identify job shadowing and internship opportunities in all 11 counties in LWIA 12.
October 2015	Meeting of project steering committee is held.
November/December 2015	Students who successfully complete the Safety module will earn the MSSC Safety Certificate.
January 2016	Meeting of project steering committee is held.
January – May 2016	Approximately 180 students continue in the program by working on the Quality Practices & Measurement module.
January – March 2016	Begin identifying eligible participants for Fall 2016.
April – May 2016	Students who successfully complete the Safety and Quality Practices and Measurement modules will earn the appropriate MSSC Certificates.
May – July 2016	Approximately 70 completers of the Safety and Quality Practices & Measurement modules participate in some form of work-based learning activities (job shadowing, mentorships, plant tours, and/or work experience opportunities).
July/August 2016	Approximately 150 new students begin Safety course; Continuing seniors begin Manufacturing Processes & Production and Maintenance Awareness courses; Approximately 80 graduates will continue their training at either DSCC or a TCAT using TNPromise funding.
September/October 2016	Prepare for and hold Manufacturing Month activities with employer partners (plant tours/guest speakers/career fairs/etc.) and identify job shadowing and internship opportunities in all 11 counties in LWIA 12.
November/December 2016	New students who successfully complete the Safety module will earn the MSSC Safety Certificate; returning students who successfully complete the

	Manufacturing Processes & Production and Maintenance Awareness modules will earn corresponding MSSC certificates and the capstone CPT Credential.
Post-grant plans	After the grant period, the participating high schools and postsecondary institutions will continue to offer the CPT modules and MSSC assessments.

Measurable Objectives:

1. Twelve instructors/facilitators will complete Manufacturing Skills Standards Council (MSSC) certification as a Certified Production Technician (CPT).
2. 350 secondary school students will earn a Silver level on the National Career Readiness Certificate (NCRC).
3. At least 90% of secondary school students will achieve the Safety certificate from MSSC.
4. At least 75% of secondary school students will achieve the Quality Practices & Measurement certificate from MSSC.
5. At least 85% of secondary and postsecondary students will achieve the Manufacturing Processes & Production module from MSSC.
6. At least 85% of secondary and postsecondary students will achieve the Maintenance Awareness module from MSSC.
7. A post-grant survey of employers will indicate that 85% of employers feel that CPT students participating in work-based learning opportunities have satisfactorily met soft skills, safety and quality standards.

Project governance and accountability plan:

The *Certified Production Technician Pathway to Advanced Manufacturing Program* will be managed by a Project Director employed by the Northwest TN Workforce Board, Lead Entity for the LEAP Grant. The Project Director will lead a steering committee comprised of at least one member of each partnering agency to ensure all grant activities are deployed and tracked according to specifications set forth in future guidance. Decisions will be made by committee in accordance with Robert’s Rules of Order, as appropriate. DSCC, acting as fiscal agent, will be responsible for purchasing modules, textbooks, and

other class materials. Costs incurred for travel and administration will be submitted by each partner in accordance with Tennessee Board of Regents travel and purchasing policies.

Each quarter, the Project Director will convene a meeting of the Steering Committee, which consists of designees from the following institutions: NWTN Workforce Board – appropriate staff beyond the Project Director; Dyersburg State Community College – selected members of the President’s staff; Tennessee Colleges of Applied Technology – Directors and/or Assistant Directors from institutions in Covington, Jackson, McKenzie, Newbern, Paris, Ripley; secondary Schools – selected Career Technical Education (CTE) Directors from participating schools; representatives from Ceko Door, Unilever, Caterpillar, ABB and other Advanced Manufacturing companies that are currently participating in On-the-Job Training programs and Manufacturing Awareness Month activities.

Section 3. Strength of Partnership

Each partner plays an integral part in the implementation of the project. The NWTN Workforce Board will act as the lead economic development entity and will provide the Project Director and Workforce Coordinators. Workforce Coordinators will assess students on the NCRC exam in each of the participating high schools, identify work-based learning opportunities with employer partners for eligible students, and will plan Manufacturing Month activities in close coordination with local industries. DSCC will serve as the fiscal agent. DSCC and the area TCATs will provide the instructors for the courses during the grant period; these instructors will mentor the high school facilitators, which will prepare them to teach the courses in the sustainability phase. Additionally, the postsecondary institutions will provide MSSC-certified proctors to assess students at the completion of each module. The high schools will recruit interested students, provide counseling on the Advanced Manufacturing Career Pathway Program, and will provide computer labs for course instruction. Some high schools will provide instructors who will-serve as facilitators throughout the grant and who will be trained to teach the CPT curriculum after the grant period ends. Industry partners will provide speakers for Manufacturing Awareness Month activities, offer plant

tours for students and teachers, and coordinate with the Workforce Coordinators to offer a variety of work-based learning opportunities as company policies allow. Furthermore, industries will provide employment opportunities for program completers.

The NWTN Workforce Board and staff of LWIA 12, including the Vice President of Workforce Development, have managed workforce development activities through Workforce Investment Act and Job Training Partnership Act funds for over 30 years. Budgets have ranged from \$3 – 13 million annually. The program has been subject to State and Federal audits with no material findings. Staffing levels have ranged from 20-50+ over the years, including Youth Service and Business Service Coordinators who work with complementary initiatives, such as Pathways to Prosperity, ACT Work Ready Communities, Manufacturing Month Awareness activities, and Work Based Learning opportunities. The program has also successfully operated several Department of Labor grants, a Department of Transportation grant, and a Delta Regional Authority grant.

As members of the Tennessee Board of Regents, Dyersburg State Community College and the TN Colleges of Applied Technology are focused on preparing students for in-demand careers through programs of study leading to further education or entry into the workforce. DSCC, including the President, has served as Administrative Entity and Fiscal Agent for Workforce Investment Act funds for approximately 30 years and has managed multiple grant programs geared towards developing youth, such as Upward Bound. The institution also has a robust Continuing Education Department that works with local industries to provide customized training opportunities. Each postsecondary institution partner has developed new programs and initiatives with employer input and advisory councils. For example, DSCC recently went through a Developing A CURRICULUM (DACUM) session to develop a curriculum for an Associate of Applied Science degree in Advanced Integrated Industrial Technology. Seventeen industry leaders from across West Tennessee offered valuable insight into a program of study that combines occupational study and work experience in high-skill, highly technical industries. Industry representatives from Heckethorn

Manufacturing, Nordyne, Marvin Windows and Doors, and Caterpillar participated in this process and are active partners in the LWIA 12 ACT Workforce Ready Community initiatives and Pathways to Prosperity, as well as the NWTN Workforce Board's Manufacturing Month activities held each October. The TCATs also convene Employer Advisory Committees on a regular basis to discuss local workforce needs and have the capacity to quickly add new technical programs to meet employer demands. They conduct Labor Market research and submit new high demand training programs to the NWTN Workforce Board to be considered for funding through the State of Tennessee Eligible Training Provider List. Workforce Board staff is also in the development stages of establishing formal "Skills Panels" through a West TN Regional Alliance including all 21 counties. The initiative, modeled after the Middle TN Regional Alliance, will include the Advanced Manufacturing sector. The CTE Directors in the secondary schools work in conjunction with the Northwest Centers of Regional Excellence (CORE) and State Department of Education to offer coursework in high schools that directly links to jobs in the local area. For example, the Carroll County Technical Center was in the process of becoming a Manufacturing Skill Standards Council (MSSC) certified testing site when asked to partner in the *CPT Pathway to Advanced Manufacturing Program* proposal for LEAP Grant funding. They will serve as a model for other schools adding CPT modules as course offerings.

Section 4. Budget Plan

The majority of the \$963,684 in LEAP Grant funding will be utilized for personnel expenses toward instruction of the CPT classes in up to seventeen secondary school systems, including faculty members at the 6 TCATs, DSCC, and an additional 8 high school facilitators. To coordinate the linkage between secondary, postsecondary, and the Advanced Manufacturing employer community, the grant will be utilized to support up to 10% of time spent by the NWTN Workforce Board Workforce Coordinators who work across the 11 counties coordinating youth and business services, including on-going initiatives such as Pathways to Prosperity and ACT Work Ready Communities. A part-time Project Director and support staff will be hired by the NWTN Workforce Board to provide leadership for the project, facilitate steering

committee activities, and assure compliance/reporting, The next largest budget category is Printing and Publications, which includes not only the cost of promotional materials, but textbooks, module fees, and pre- and post-assessments for 350 students and instructor certification. The Travel line item will provide grant staff and proctor staff (salaries providing match) with funding for necessary travel (based on State Travel Regulations) across the 11-county region for training and instruction. The Conference and Meetings line item includes Certified Production Technician and Amatrol training for faculty and facilitators. The Non-Personnel costs include an expansion of Internet bandwidth in high schools and TCATs that do not have sufficient bandwidth. Additionally, small industrial-related teaching supplies will be purchased for each participating high school as needed. Administrative funds will be prorated among partners of the grant, based on high school students served by each institution and personnel dedicated to the project.

Matching funds will be provided by all partners. Manufacturing partners will provide industrial readiness training information and education on Advanced Manufacturing careers for secondary students through school outreach, mentorships, and/or plant tours and work-based learning opportunities. Postsecondary institutions will offer supervision of the high school facilitators and wages for faculty internships in participating manufacturing partners. Additionally, DSCC and the TCATs will utilize current instructors, MSSC certified proctors, and other instructional resources to teach CPT courses in their counties. The NWTN Workforce Board will provide ACT Workkeys Job Profiling and non-grant covered costs of NCRC testing. Secondary schools will provide the space and personnel necessary to recruit students and organize schedules for classes and teachers.

Section 5. Sustainability

Although the focus of the *Certified Production Technician Pathway to Advanced Manufacturing Program* is to train approximately 350 secondary students in skills currently needed by employers, the primary goal is to develop a model to sustain the program to meet future need by increasing the teaching capacity. By using LEAP Grant funds to train high school and postsecondary instructors in CPT coursework

and delivery methods, future students will have the option to attend classes at their local high school or a nearby postsecondary institution. This model provides additional high school students the opportunity to pass the CPT certification exams and earn dual credit at DSCC or the TCATs. Beyond the end of the LEAP Grant period, dual enrollment grants - funded through the Tennessee Education Scholarship (TELS) Lottery Program - are available to high school students to offset costs of the program. After graduation, additional credentials can be earned at postsecondary institutions through accessing the TNPromise, the HOPE Scholarship, Pell Grant, Tennessee Student Assistance Award, Workforce Investment Act training funds and other means of financial assistance. Students will be advised of manufacturing sector career paths developed through the Pathways to Prosperity initiative. NWTN Workforce Board Workforce Coordinators will continue to develop internships, job shadowing, mentorships, on-the-job training, and other work-based learning opportunities for eligible high school students with employer partners.

Secondary students completing all four modules of the *Certified Production Technician Pathway to Advanced Manufacturing Program* through the LEAP Grant (or sustainability model) will leave high school with a solid foundation for their employment “toolbox”. With a high school diploma, a Silver Level NCRC, and the CPT credential issued through MSSC, they will be ready to enter directly into employment or to continue postsecondary coursework to earn a diploma or associate degree from the TCAT or DSCC in Advanced Manufacturing-related curricula. Students seeking to enter directly into employment will be referred to the TN Career Center for assistance in writing resumes and cover letters, preparing for interviews, job search through www.jobs4tn.gov, and reinforcement of soft skills.

As the lead for Pathways to Prosperity and the ACT Work Ready Community initiative in LWIA 12, the NWTN Workforce Board will continue to convene the steering committee to support the development of further career pathways in Advanced Manufacturing, thus providing more opportunities for postsecondary credentials and furthering the Governor’s Drive to 55 Mission.