



REGIONAL EMPLOYMENT BOARD
OF HAMPDEN COUNTY, INC.

Precision Manufacturing Training Project (PMTP)

Business Impacts

Goal 2

Interim Report- No. 2

Introduction

The **Precision Manufacturing Training Project (PMTP)** is a strategic venture of the Regional Employment Board of Hampden County, Inc. (REB), in collaboration with the following partners, to respond to the skills shortage issue in the precision manufacturing industry in the Pioneer Valley Region:

Vocational Technical High School	Community College	Training Provider/Sector Partner
Westfield Vocational Technical	Springfield Technical Community Coll.	MA Career Development Institute
Putnam Vocational Technical	Asnuntuck Community College	Smith and Wesson
Pathfinder Regional Vocational	Greenfield Community College	
Smith Vocational & Agricultural		
Chicopee Comprehensive		

The Precision Manufacturing Training Project has two goals:

Goal 1- Training in Machine Tool Technology for 40 Unemployed/Underemployed Individuals.

Goal 2- Skills Enhancement Training in 40 Training Slots for 60 Incumbent Employees.

This **Interim Report NO. 2** focuses on Business Impacts for **Goal 2** and presents findings from a survey of precision manufacturing companies whose employees voluntarily participated in a series of skills enhancement courses that were offered at the educational institutions and private sector company identified above, during the time period of September 2008-April 2009. The analysis of the findings is intended to provide baseline data and information on the impact of the workforce development intervention on the incumbent employees and the companies.

The REB is hopeful that the on-going findings from the Goal No. 2 Business Impact Survey will provide critical business intelligence that will allow for creative and sustainable workforce development programming and interventions that will benefit the incumbent employees, and create cluster-wide innovation and expansion resulting in increased market share on the regional, national and international levels for the precision manufacturing companies.

A final survey will be conducted in September 2009, and will cover the two year project cycle from September 2007- April 2009. Findings from that survey will be combined with the information contained in the initial Interim Report and this Interim Report No. 2 and will be detailed in a comprehensive Final Report that will be presented to Commonwealth Corporation on or before December 15, 2009.

June 2009

OVERVIEW

The **Interim Report-NO. 2 on Business Impacts** for Goal No. 2 of the Precision Manufacturing Training Project (PMTP) presents findings from a workforce development intervention that involved incumbent employees from precision manufacturing companies who **voluntarily** attended industry aligned skills enhancement courses that were conducted after or before their normal work hours in two, eight week, 20 hour cycles from September 2008-April 2009.

The decision to conduct the specific courses (Attachment A) that prepared the incumbent employees to acquire skills competencies for their present employment position as well as future employment opportunities was intentional.

Nineteen (18) companies (Attachment B), representing twenty-nine (29) unduplicated incumbent employees, responded to the Survey (Attachment C) which was conducted in the spring 2009. The company response rate was 86%, compared to a 52% response rate to the survey that was used to prepare the initial Interim Report.

The Report can also be viewed on the web site of the Regional Employment Board of Hampden County Inc. at www.rebhc.org, and on the web site of the Western Massachusetts Chapter of the National Tooling and Machining Association at <http://www.wmntma.org/members-resources/industry-reports/>.

The Precision Manufacturing Training Project is funded by the Workforce Competitiveness Trust Fund managed by Commonwealth Corporation. Matching in-kind funds are provided by the lead agency, the Regional Employment Board of Hampden County, Inc., and other project partners.

CONTACT INFORMATION

For additional information on the **Interim Report- No. 2** or on the Precision Manufacturing Training Project (PMTP), please contact David M. Cruise at 413-755-1362 or dcruise@rebhc.org.

For information on Commonwealth Corporation, please visit their web site at www.commcorp.org.

Precision Manufacturing Training Project (PMTTP)

Business Impacts

Interim Report- No. 2

I. Description of the Precision Manufacturing Cluster

High technology precision manufacturing is one of the most important industry clusters in the Pioneer Valley Region. The high technology precision machining companies in the Region, led by the Western Massachusetts Chapter of the National Tooling and Machining Association (WMNTMA), are contract manufacturers that are primarily engaged in supplying precision mechanical components and sub-assemblies to major commercial manufacturers, aircraft engine builders, and military equipment contractors in the United States and internationally. The companies perform value-added precision manufacturing processes and operations utilizing high technology equipment and world class technology development.

The companies in the cluster have invested extensive resources on building manufacturing capacity by improving operating processes and due to high demands in the aerospace and defense markets are currently experiencing high business volumes. Since these markets are cyclical, the long term prosperity and growth of the precision machining firms as part of various supply-chains might be jeopardized by global changes. The sector faces a shrinking workforce, increased competitive strains from off-shore suppliers, and market pressures that might jeopardize business and employment growth in the Region.

The precision manufacturing cluster in the Region is led by the regular member companies of the Western Massachusetts Chapter of the National Tooling and Machining Association. In calendar year 2008 the regular members of the WMNTNA experienced the following growth in employment levels and estimated gross sales:

Estimated Gross Sales of Regular Member Companies: Adjusted for Changes in Company Membership in WMNTMA

Year	No. of Companies	No. of Employees	Estimated Gross Sales
2005	24	899	\$108 Million
2006	29	993	\$155 Million
2007	33	1281	\$229 Million
2008	39	1386	\$252 Million
Change '07-'08	(+) 6	(+) 105 (8.2%)	(+) \$23 Million (10%)
Change '05-'08	(+) 15	(+) 487 (54.2%)	(+) \$144 Million (133%)

The dollar added value per employee was \$181,818, which is 16.5% higher than the reported state-wide average of \$156,065. In addition, the sectors multiplier effect (4.0) generates comparable growth within their supplier and support network. This level of productivity was achieved with an 8.2% increase in the number of employees, and affirms the sectors commitment to investment in new equipment, and implementation of lean manufacturing processes.

II. Goals of the Precision Manufacturing Cluster

The cluster has established the following goals that define and validate its commitment to develop true cluster identity and collaborative actions that will result in job retention, wealth creation, job growth, and continued economic development in the Region and the State:

Goal 1. Transform Industry Capability to Improve Manufacturing Processes and Operations

Goal 2. Strengthen Cluster Development and Increase Business Competitiveness

Goal 3. Build a Well-Educated, Technologically Skilled and Highly Adaptable STEM Workforce.

Goal 4. Develop a Marketing Plan to Promote the Economic Viability of the Precision Manufacturing/Machining Industry.

III. The Workforce Development Intervention

The workforce development intervention that is described in this Interim Report- No. 2 involved incumbent employees from precision manufacturing companies **voluntarily** attending industry aligned skills enhancement courses that were conducted after or before their normal work hours. The courses were conducted in two cycles-September- November 2008, and January-April, 2009. Each course, with the exception of college credit courses which were conducted on a standard semester schedule, was conducted for eight weeks for a total of 20 hours. The 29 employees referenced in this report represent an unduplicated count. The courses that were conducted fall into the following two categories:

- ✚ Courses that presented information that would increase the employee's skills competencies in their current employment position.
- ✚ Courses that presented information that would position the employee's to move into more advanced machining positions at higher wages, at some time in the future.

The decision to conduct courses that prepared employees to acquire skills competencies for their present employment position as well as future employment opportunities was intentional. The precision machining sector in the Region, with its focus on aerospace and defense work, is very agile and is positioned to respond quickly to surges in demand. In order to respond to these surges, they need to maintain a flexible workforce that has the skills sets to move seamlessly to more advanced machining work. In analyzing the impact of this workforce intervention, it is important to look at the findings with the understanding that the Supervisor's Comments that resulted

in the Business Impact Ratings reflect their evaluation of current skills competencies acquired by the employees as well as future competencies, which are more difficult to assess and measure.

IV. Business Impact Levels

This Interim Report- No. 2 is using the business impact levels derived from the original work of Donald Kirkpatrick¹ to provide some basic understanding relative to the impact of a workforce development intervention on worker effectiveness. This analysis is also grounded in information and guidance provided by Commonwealth Corporation². The following is a basic summary of each level:

Level of Impact	Description
I	Employers and participants satisfaction with workforce development intervention.
II	Attainment, in concrete terms, of specific skills or knowledge of participants, or changes in participants' attitudes.
III	Changes in employees behaviors as a result of the programmatic interventions.
IV	Change in business practices and outcomes.

V. Business Impact Findings

KEY:

Business Impact Rating: (1= Significant Impact to 4 = Minimum Impact)

Sources: (DP) = Daily Production Sheet, (WP) = Weekly Production Report, (SR) = Supervisors Report, (SC) = Supervisors Comments

Degree of Impact: % Increase/Reduction

No. of Companies: 19 **No. of Incumbent Employees:** 29

Business Impact Objective	Business Impact Rating		Sources				Degree of Impact			
	1 Sig. ←————→ 4 Min.		DP	WP	SR	SC	<u>% Increase</u>			
	Interim # 1	Interim # 2					1-5	6-10	11-19	20+
1. Increase Overall Employee Safety Awareness	2.69	2.64			2	9	2	2	1	4
2. Increase Overall Employee Productivity and Efficiency	2.53	1.84			2	10			3	9
3. Increase Employee Stability (Retention, Turnover)	2.69	2.00			2	10	2	1		9
4. Improve Employee Attitude, Motivation and Work Habits	2.30	1.94			2	9	1	1		9
5. Increase Communication between Co-Workers	2.76	2.05			2	10	1			11
6. Increase Communication with Front Line Supervisors	2.38	1.83			2	10		1		11
7. Improve Equipment and Controls Set-Up and Operating Time	2.38	1.89			2	10	1	3		8
8. Increase Employee Ability to Complete More Complex Machining Tasks	2.23	1.83			3	10	2	2		9
9. Reduce Over-the-Shoulder Training Time	2.38	1.94			2	9		<u>% Reduction</u>		
							1	1	1	8
10. Increase Managements Ability to Quote on New Work	3.63	2.80	Comment				Comment			
11. Increase Managements Ability to Perform New Value-Added Work	3.18	2.43	Comment				Comment			
12. Help to Improve the Company's Profit Margins	2.80	2.54	Comment				Comment			

¹Evaluating Training Programs, Kirkpatrick, D., American Society for Training and Development, 1975.

² Business Impact Primer: Speaking the Language of Employers, Commonwealth Corporation, 2007

VI. Analysis of Business Impact Findings

In analyzing the findings from the initial study of the impact of this workforce development intervention, we have categorized the Business Impact Objectives by their Level of Impact. This allows us to more clearly understand and measure the impact of the intervention on worker effectiveness, as well as its immediate and future impact on the company.

Business Impact Objective	Business Impact Rating		Sources				Degree of Impact			
	1 Sig.	←————→ 4 Min.	DP	WP	SR	SC	% Increase			
	Interim # 1	Interim # 2					1-5	6-10	11-19	20+
Level I										
1. Increase Employee Stability (Retention, Turnover)	2.69	2.00			2	10	2	1		9
Level II										
2. Increase Overall Employee Safety Awareness	2.69	2.64			2	9	2	2	1	4
3. Increase Overall Employee Productivity and Efficiency	2.53	1.84			2	10			3	9
4. Improve Employee Attitude, Motivation and Work Habits	2.30	1.94			2	9	1	1		9
5. Improve Equipment and Controls Set-Up and Operating Time	2.38	1.89			2	10	1	3		8
6. Increase Employee Ability to Complete More Complex Machining Tasks	2.23	1.83			3	10	2	2		9
Level III										
7. Increase Communication between Co-Workers	2.76	2.05			2	10	1			11
8. Increase Communication with Front Line Supervisors	2.38	1.83			2	10		1		11
Level IV										
										<u>% Reduction</u>
9. Reduce Over-the-Shoulder Training Time	2.38	1.94			2	9	1	1	1	8
10. Increase Managements Ability to Quote on New Work	3.63	2.80								
11. Increase Managements Ability to Perform New Value-Added Work	3.18	2.43								
12. Help to Improve the Company's Profit Margins	2.80	2.54								

- ✚ The Rating for Objective # 1 in **Level I** is significant at this point in the project. The 2.00 rating is a significant change from the Interim Report #1 rating of 2.69, and appears to suggest that employee stability, although not a persistent issue in the responding companies is being positively impacted by the intervention. The trend is favorable, and it will be important to monitor this important objective in the final evaluation.
- ✚ The primary evaluation Source is **Supervisors Comments**, and to a lesser degree from Supervisors Reports. There was no information provided that indicated that the Source of the rating was either from the Daily Production Sheets or the Weekly Production Reports. This may indicate that either the companies do not use these two tools as part of their production control

process, or that the intervention has not yet created an impact at the production level. We believe clearly that the findings are trending to the absence of these two tools a part of the internal control processes of the responding companies.

- ✦ The Ratings for Objectives # 4, 5, 6 in **Level II**, ranging from 1.83-1.94, reflect a significant change from the Interim Report #1 rating range of 2.23-2.38, and appear to indicate that the intended outcomes of the workforce development intervention, which were to provide the incumbent employees with real time and future skills competencies that would increase productivity and efficiency on the factory floor, and improve the attitude, motivation and work habits of the incumbent employees, are being realized. This change has been impressive, and we will continue to monitor this trend going forward.
- ✦ The Degree of Impact for Objectives # 4, 5, 6 in **Level II** is significant and is consistent with the results from Interim Report #1. The majority of the responding companies saw an increase of 20% or more in those objectives, with several companies indicating a degree of impact increase of 50% or more. These increases, based on the 20 hour program design and course mix, indicate that the workforce development intervention is continuing to provide targeted and relevant content, and is beginning to impact the manufacturing process on the factory floor.
- ✦ The Rating for Objective # 3 in **Level II**, of 1.84 in overall employee productivity and efficiency is the most significant change in Level II. The Degree of Impact is also significant in that 12 responding companies reported an increase of 11% or more, with significantly higher trending in the 20%+ category, where 9 of the 12 companies indicated an increase of 20% or more. This increase in **overall** employee productivity and efficiency, at this stage of the intervention, is noteworthy. We will continue to closely monitor this specific business impact.
- ✦ Improvement in the Rating for Objective # 4 in **Level II** is significant, and indicates that the intervention is having the desired impact on employees' attitude, motivation and work habits. The 1.94 rating, compared to the 2.30 rating in Interim Report #1, reflects a positive trend as does the 20% or more degree of impact increase reported by the responding companies. We continue to believe that the result from this particular objective is significant for employees and employers going forward, and is an essential component of increasing the business impact ratings in **Level IV**.
- ✦ The Rating for Objective # 3 in **Level II**, of 1.83 is the highest rating from the survey and is an indicator that the design of the intervention, and in particular, the courses being presented, is having the desired outcome of increasing the incumbent employees ability to complete more complex machining tasks. As companies introduce new technology into the manufacturing process, the ability of employees to have the competencies to transition to more complex machining processes and operations will be important.

- ✦ The Ratings for Objectives # 7, 8 in **Level III**, ranging from 1.83-2.05, are significant. Nearly 90% of the companies responding to this impact objective reported a more than 20% increase in communication between the employees themselves and equally important between the employees and front line supervision. This marked improvement from the ratings in Interim Report #1 is an indication that the intentional intervention is contributing to an improvement in communication which has a direct correlation to the increases indicated in Objectives # 3, 4, 5, 6, in **Level II**. Given the importance of employees working as a production team on the floor, these are important indicators and will be watched closely in subsequent reports.
- ✦ The Rating and Degree of Impact for Objective # 9 in **Level IV** is significant, and continues to have a direct, positive correlation with the impact ratings in Objectives #3, 4, 5, 6 in **Level II**, and Objectives #7, # 8 in **Level III**. The 1.94 rating is trending in the right direction, and we believe that this cross-level correlation continues to support the findings from Interim Report # 1 that the intentional design of the workforce development intervention is beginning to positively impact business operations, and perhaps business outcomes.
- ✦ The Rating for Objective # 10 in **Level IV** shows the most significant change of all the business impact objectives in Interim Report #2 with an increase of .83. Management's confidence to quote on new work in today's business climate is critical, and having the appropriately trained and agile workforce to be able to complete the work is critical to management's ability to complete new work orders and deliver them on time and according to specifications. We note this positive trend, and will be interested in its development as the evaluative process continues.
- ✦ The 2.54 rating for Objective # 12 in **Level IV**, although not yet significant, is a marked improvement from the 2.80 rating in the first report and is an early indicator that the intervention is beginning to impact a critical factor in measuring true sectoral change. We will be monitoring this objective carefully in subsequent reports.
- ✦ The Rating of 2.43 for Objective # 11 in **Level IV**, shows an increase of .75 from the rating in Interim Report #1, and appears to be consistent with the lowest impact rating in the survey of 1.83 in Objective #6 in **Level II**. The ability to perform more value- added work is one of the critical outcomes that the intervention is hoping to achieve. We will continue to monitor the correlation between these two important business impact objectives.
- ✦ The overall Ratings in **Level IV** indicate a positive trending, and at this early stage of true sectoral change are very encouraging.

VII. Observations Going Forward

1. The REB believes that the Business Impact measurement instrument used to evaluate this workforce development intervention is appropriate and will continue to use the instrument in future data collection and reporting.
2. The workforce development intervention is clearly aligned within industry's needs, and the data in Interim Report #2 indicates that the intentional intervention appears to be having the desired business impact.
3. The REB will continue to monitor the anticipated change in impact at Level IV to determine the depth and breadth of change that the intervention will create going forward.

VIII. Conclusion

The Interim Report-No. 2 of the Precision Manufacturing Training Project (PMTP) has provided some important and significant data on the impact of this intentional workforce development intervention. The analysis of the findings is intended to provide data and information that will inform our collaborative decision making, allow for mid-course corrections, if required, and insure that the project attains its goals.

We are encouraged by the business impact findings in Interim Report- No. 2. We will continue to use the project as a unique opportunity to develop strategies, interventions and programs that will position the precision manufacturing industry in the Pioneer Valley Region to strengthen its present business, expand into new and emerging markets, retain the existing workforce, generate job growth, and be a significant contributor to the economic development of the Region and the Commonwealth. We look forward to presenting additional data to Commonwealth Corporation.

June 2009

FREE PRECISION MACHINING COURSES-SEPTEMBER 2008

Attachment A

The Regional Employment Board of Hampden County Inc. (REB) is sponsoring industry specific skills enhancement courses for incumbent precision manufacturing company employees in the Pioneer Valley Region. These courses are being offered at no cost to you, and are customized to enhance your work skills and assist you in your responsibilities at your company. A *Technical Certificate of Completion* will be awarded to each employee who successfully completes each course. The Western Massachusetts Chapter of the National Tooling and Machining Association (WMNTMA), and your employer support these course offerings and encourage your participation.

No.	Course Title	Location	Description of Course	Schedule
1	Interpreting Engineering Drawings I	Westfield Voc.Tech	Basic principles of interpreting engineering drawings and blueprints including symbols and standards, terminology, related technical information.	<u>WEDNESDAY</u> Sept. 17-Nov. 5
2	Tool Room Milling Machine Set-Up	Westfield Voc.Tech	Hands-on course (interactive numerical control) designed to utilize a Proto-Trak control to maximize productivity in vertical milling machine setup and operation. Pre-Requisite: Manual milling machine set-up experience	<u>WEDNESDAY</u> Sept. 17-Nov. 5
3	Geometric Dimensioning & Tolerancing I	Westfield Voc.Tech	Basic principles of interpreting and inspection setups of Geometric Dimensioning and Tolerancing symbols and their purpose on engineering drawings and blueprints. Pre-Requisite: Ability to interpret engineering drawings	<u>TUESDAY</u> Sept. 16-Nov. 4
4	CAD/CAM I	Westfield Voc.Tech	Fundamentals of creating solid models and part drawings using AutoDesk Inventor and importing them into Delcam's FeatureCam software systems to create toolpath files that run CNC machine tools. Pre-Requisite: Basic knowledge of CNC set-up and manual programming.	<u>TUESDAY</u> Sept. 16-Nov. 4
5	CNC Machine Set-Up & Operation	Pathfinder Regional	Learn basic hands-on set-up and operation, along with simple G and M codes, for a variety of Computerized Numerical Control (CNC) machines/controls.	<u>TUESDAY</u> Sept. 16-Nov. 4
6	Computer Numerical Control Programming I	Pathfinder Regional	Basic and intermediate applications in manually creating various CNC programs utilizing a Fanuc-based program model for a CNC vertical machining center.	<u>WEDNESDAY</u> Sept. 17-Nov. 5
7	Interpreting Engineering Drawings I	Chicopee Comp.	Basic principles of interpreting engineering drawings and blueprints including symbols and standards, terminology, process notes, and other related technical information, with the use of CAD software.	<u>WEDNESDAY</u> Sept. 17-Nov. 5
8	Introduction to Solid Modeling	Chicopee Comp.	Basic principles of creating three-dimensional solid modeling using Autodesk Inventor, feature-based parametric solid modeling CAD software. Employees will learn to create mechanical objects and simple orthographic drawings with dimensions and notes. Pre-Requisite: Inter. Engineering Drawings I or basic CAD experience.	<u>THURSDAY</u> Sept.18-Nov.6
9	CNC Machine Set-Up & Operation	Chicopee Comp.	Learn basic hands-on set-up and operation on Computerized Numerical Control (CNC) machines/controls focusing on the Proto TRAK milling machine and HASS TL-1 lathe.	<u>MONDAY</u> Sept.15-Nov.10
10	Master CAM Programming	Dean Technical	Basic application and use of Master CAM to create drawings and blueprints. Three Sections. Enrollment limited to <u>10 employees</u> in each class section. <u>Please select preferred evening.</u>	<u>MONDAY</u> Sept.15-Nov.10 <u>TUESDAY</u> Sept. 16-Nov. 4 <u>WEDNESDAY</u> Sept. 17-Nov. 5
11	Milling and Grinding Concepts I	Dean Technical	<u>Hands-on introductory</u> course will involve learning Bridgeport (manual) operations including indexing head, rotary table, super spacer and fixtures. Grinding operations will include surface grinding and O.D. grinding.	<u>WEDNESDAY</u> Sept. 17-Nov. 5
12	Solid Works	Smith Vocational	Creation of part models, blueprints and assemblies using Solidworks Software.	<u>MONDAY</u> Sept.15-Nov.10
13	3-D CAD Drafting	Franklin County Technical School	Creation of part models, blueprints and assemblies using Autodesk Inventor Software	<u>MONDAY</u> Sept.15-Nov.10
14	CNC Machine Set-Up & Operation	Smith & Wesson	Learn basic hands-on set-up and operation, along with simple G and M codes, for a variety of Computer Numerical Control (CNC) machines/controls.	<u>WEDNESDAY/</u> <u>THURSDAY</u>

				<u>Sept.17-Nov.6</u>
15	CNC Machine Set-Up & Operation	Smith & Wesson	***** Second Shift Employees ***** Learn basic hands-on set-up and operation, along with simple G and M codes, for a variety of Computer Numerical Control (CNC) machines/controls.	<u>TUESDAY</u> <u>Sept.16-Nov. 4</u>
16	Fundamentals of Computer Numerical Control (CNC) (MECH 150)	Springfield Technical Comm. College.	<u>3 Credit College Course- 14 Weeks</u> - Class Limited to 15 Employees Hands-on set-up and operation of CNC mill and lathe. Writing simple programs to perform contouring and hole operations for milling machine centers, and programs for lathe operations including turning, facing and treading. Understanding of typical G and M Codes will be covered. Pre-Requisite: Completion of high school or college Algebra	<u>THURSDAY</u> <u>5:30PM-9:15PM</u> Sept. 4-Dec. 11
17	Engineering Graphics with Solid Works (MECH 160)	Springfield Technical Comm. College.	<u>3 Credit College Course- 14 Weeks</u> - Class Limited to 10 Employees Overview of Solid Work's sketching environment. Create 2D objects such as lines and arcs. Definition including numerical dimensions and geometric relationships, Pre-Requisite: Familiarity with engineering graphics.	<u>TUESDAY</u> <u>6:00PM-9:45PM</u> Sept. 2-Dec. 9

Schedule Information

All courses, with the exception of the courses at STCC, are conducted for 8 weeks, and are held from 5:30 PM-8:00PM., with the exception of the CNC Machine Set-Up & Operation course at Smith & Wesson for Second Shift employees which is being held from 11:30AM-2:00PM. The CNC Machine Set-Up & Operation course at Smith & Wesson for FIRST Shift employees will be held on alternating Wednesday and Thursday nights. Classes will NOT be conducted on Columbus Day October 13, 2008, Veteran's Day November 11, 2008 and Thanksgiving Day November 27, 2008.

You will be notified via regular mail of the status of your Registration for these courses by July 11, 2008. Please retain the top section of this flyer for future use.

----- Cut Here and Return -----

Registration Form

You may register for more than one course. Please look closely at the course schedule before selecting the course(s).

Please circle the course number(s) that you are interested in attending: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

Please complete the information below and return this Registration Form by June 23, 2008 to David M. Cruise, REB, 1441 Main Street, Springfield, MA 01103.

PLEASE PRINT

Name: _____ Company: _____

Home Address: _____ (Please include the CITY)

Home Telephone: _____ E-Mail: _____

REB USE ONLY

Course: _____ Course No. _____ Accepted: _____ Wait List: _____

FREE PRECISION MACHINING COURSES-JANUARY 2009

Attachment A

The Regional Employment Board of Hampden County Inc. (REB) is sponsoring industry specific skills enhancement courses for incumbent precision manufacturing company employees in the Pioneer Valley Region. These courses are being offered at no cost to you, and are customized to enhance your work skills and assist you in your responsibilities at your company. A *Technical Certificate of Completion* will be awarded to each employee who successfully completes each course. The Western Massachusetts Chapter of the National Tooling and Machining Association (WMNTMA), and your employer support these course offerings and encourage your participation.

No.	Course Title	Location	Description of Course	Schedule
1.	Interpreting Engineering Drawings I	Westfield Voc.Tech	Basic principles of interpreting engineering drawings and blueprints including symbols and standards, terminology, related technical information.	<u>THURSDAY</u> Jan. 15-March 12
2.	Tool Room Milling Machine Program- Set-Up & Operate	Westfield Voc.Tech	Hands-on course (interactive numerical control) designed to utilize a Trak type control to maximize productivity of a vertical milling machine. Course will include programming, setup and operation of vertical milling machine. Pre-Requisite: Manual vertical milling machine set-up experience	<u>WEDNESDAY</u> Jan. 14-March 11
3.	Geometric Dimensioning & Tolerancing I	Westfield Voc.Tech	Basic principles of interpreting and inspection setups of Geometric Dimensioning and Tolerancing symbols and their purpose on engineering drawings and blueprints. Pre-Requisite: Ability to interpret engineering drawings	<u>TUESDAY</u> Jan. 13-March 10
4.	CAD/CAM II	Westfield Voc.Tech	Intermediate techniques of creating solid models and part drawings using AutoDesk Inventor and importing them into Delcam's FeatureCam software systems to create toolpath files that run CNC machine tools. Pre-Requisite: CAD/CAM I or Basic knowledge of CNC set-up and manual programming.	<u>TUESDAY</u> Jan. 13-March 10
5.	Interpreting Engineering Drawings I	Chicopee Comp.	Basic principles of interpreting engineering drawings and blueprints including symbols and standards, terminology, process notes, and other related technical information, with the use of CAD software.	<u>WEDNESDAY</u> Jan. 14-March 11
6.	Introduction to Solid Modeling	Chicopee Comp.	Basic principles of creating three-dimensional solid modeling using Autodesk Inventor, feature-based parametric solid modeling CAD software. Employees will learn to create mechanical objects and simple orthographic drawings with dimensions and notes. Pre-Requisite: Inter. Engineering Drawings I or basic CAD experience.	<u>THURSDAY</u> Jan. 15-March 12
7.	Master CAM Programming	Dean Technical	Basic application and use of Master CAM to create drawings and blueprints. Enrollment limited to <u>10 employees.</u>	<u>TUESDAY</u> Jan. 13-March 10
8.	Milling and Grinding and Lathe Concepts II	Dean Technical	Hands-on introductory and intermediate level course will involve learning Bridgeport (manual) operations including indexing head, rotary table, super spacer and fixtures. Grinding operations will include surface grinding and O.D. grinding. Toolroom lathe operations will also be included.	<u>WEDNESDAY</u> Jan. 14-March 11
9.	Solid Works	Smith Vocational	Creation of part models, blueprints and assemblies using Solidworks Software.	<u>MONDAY</u> Jan. 12-March 16
10.	Interpreting Engineering Drawings I	Franklin County Technical School	Basic principles of interpreting engineering drawings and blueprints including symbols and standards, terminology, process notes, and other related technical information, with the use of CAD software.	<u>MONDAY</u> Jan. 12-March 16
11.	CNC Machine Set-Up & Operation	Smith & Wesson	Learn basic hands-on set-up and operation, along with simple G and M codes, for a variety of Computer Numerical Control (CNC) machines/controls.	<u>THURSDAY/</u> <u>WEDNESDAY</u> Jan. 15-March 11
12.	CNC Machine Set-Up & Operation	Smith & Wesson	***** Second Shift Employees ***** Learn basic hands-on set-up and operation, along with simple G and M codes, for a variety of Computer Numerical Control (CNC) machines/controls.	<u>TUESDAY</u> Jan. 13-March 10
13.	Engineering Graphics with Solid Works (MECH 160)	Springfield Technical Comm. College.	<u>3 Credit College Course- 14 Weeks- 10 Openings Available</u> Overview of Solid Work's sketching environment. Create 2D objects such as lines and arcs. Definition including numerical dimensions and geometric relationships. Pre-Requisite: Familiarity with engineering graphics.	<u>THURSDAY</u> <u>6:00PM-9:45PM</u> Jan. 22- April 30

Schedule Information

All courses, with the exception of the course at STCC, are conducted for 8 weeks, and are held from 5:30 PM-8:00PM. The CNC Machine Set-Up & Operation course at Smith & Wesson for Second Shift employees is being held from 11:30AM-2:00PM. The CNC Machine Set-Up & Operation course at Smith & Wesson for FIRST Shift employees will be held on alternating Thursday and Wednesday nights. Classes will NOT be conducted on school vacation week of February 16-20, 2009, at STCC on March 19, 2009 and on Martin Luther King Jr. Holiday on January 19, 2009.

You will be notified via regular mail of the status of your Registration for these courses by December 31, 2008. Please retain the top section of this flyer for future use.

----- Cut Here and Return -----

Registration Form

You may register for more than one course. Please look closely at the course schedule before selecting the course(s).

Please circle the course number(s) that you are interested in attending: 1 2 3 4 5 6 7 8 9 10 11 12 13

Please complete the information below and return this Registration Form by DECEMBER 17, 2008 to David M. Cruise, REB, 1441 Main Street, Springfield, MA 01103.

PLEASE PRINT

Name: _____ Company: _____

Home Address: _____ (Please include the CITY)

Home Telephone: _____ E-Mail: _____

REB USE ONLY

Course: _____ Course No. _____ Accepted: _____ Wait List: _____

Precision Manufacturing Training Project (PMTTP)

Business Impacts

Interim Report No. 2

Participating Companies

- + Berkshire Industries Inc.**
- + Hardigg Industries**
- + Smith and Wesson**
- + Hoppe Tool Inc.**
- + Tell Tool Inc.**
- + WGI Inc.**
- + B&E Tool Group, LLC**
- + Lenox**
- + Ben Franklin Design and Manufacturing Co.**
- + Sisson Engineering Corp.**
- + Advance Manufacturing**
- + Valley Steel Stamp**
- + Whip City Tool and Die**
- + G&L Tool Inc.**
- + Thorn Industries**
- + Boulevard Machine and Gear**
- + Marox**
- + LPI, Inc.**

Precision Manufacturing Training Project (PMTTP)

Incumbent Employees Technology Clusters Skills Enhancement Courses

Measuring Business Impact: Developing a Plan

Company: _____ Contact Person: _____ Employees: _____

Using a **Business Impact Rating** from 1-4 (1= Significant Impact to 4 = Minimum Impact), please rate the impact on your employees overall job performance as a result of their voluntary participation in the fall 2007 and/or winter 2008 skills enhancement courses funded by the WCTF, and sponsored by the REB-WMNTMA, and the value-added to your overall manufacturing and business operations of this workforce development initiative.

Please select **one or more** of the following **Sources** that serve as the basis for your rating for **each** Business Impact Objective. **1. = Daily Production Sheet (DP)** **2. =Weekly Production Report (WP)** **3. =Supervisors Report (SR)** **4. =Supervisors Comments (SC)** **5. =% Increase (Please Indicate %)**. Please use separate sheet to **Comment** on **Numbers 10-12**.

Business Impact Objective	Business Impact Rating				Sources				Degree of Impact
	Sig.	←	→	Min.	DP	WP	SR	SC	
1. Increase Overall Employee Safety Awareness	1	2	3	4	1	2	3	4	___ % Increase
2. Increase Overall Employee Productivity and Efficiency	1	2	3	4	1	2	3	4	___ % Increase
3. Increase Employee Stability (Retention, Turnover)	1	2	3	4	1	2	3	4	___ % Increase
4. Improve Employee Attitude, Motivation and Work Habits	1	2	3	4	1	2	3	4	___ % Increase
5. Increase Communication between Co-Workers	1	2	3	4	1	2	3	4	___ % Increase
6. Increase Communication with Front Line Supervisors	1	2	3	4	1	2	3	4	___ % Increase
7. Improve Equipment and Controls Set-Up and Operating Time	1	2	3	4	1	2	3	4	___ % Increase
8. Increase Employee Ability to Complete More Complex Machining Tasks	1	2	3	4	1	2	3	4	___ % Increase
9. Reduce Over-the-Shoulder Training Time	1	2	3	4	1	2	3	4	___ % Reduction
10. Increase Managements Ability to Quote on New Work	1	2	3	4	Comment				Comment
11. Increase Managements Ability to Perform New Value-Added Work	1	2	3	4	Comment				Comment
12. Help to Improve the Company's Profit Margins	1	2	3	4	Comment				Comment
13. OTHER	1	2	3	4					

2. Please describe any changes that have occurred in your manufacturing operations as a result of your employees' participation in this workforce development initiative.

3. Please identify any technical areas that would positively impact your manufacturing operations, that we should consider in developing future skills enhancement courses for your employees.
