THE MANUFACTURING SKILL STANDARDS SYSTEM
Standards, Assessment, Certification and Training

General Background

The Manufacturing Skill Standards Council (MSSC) manufacturing skill standards system is comprised of industry-validated skill standards, assessment, certification and training. The skill standards, launched in 2001, are intended to "raise the skill level of today's workforce and attract a new generation to the industry to create a new 'skills pipeline' that will supply manufacturers with skilled workers, while providing workers with portable certifications and access to good jobs." The Standards incorporate academic, employability, and occupational/technical knowledge/skill areas applicable to 14 manufacturing sub-industries. Together, they define the foundational knowledge, skills, and performance needed by frontline manufacturing workers (including front line supervisors) in high performance, value-added manufacturing environments.

The MSSC assessment and certification system, including a network of MSSC-certified assessment centers, cover four areas: manufacturing processes/production, quality/continuous improvement, maintenance; and safety. Certification requires mastery of foundational subjects such as math, science, reading, writing, communications, IT, analysis, problem-solving, teamwork, organization, planning, and basic technical skills--all in a manufacturing context. Individuals can be assessed and receive recognition in each module; passing the assessment for all four modules leads to full certification as a MSSC Production Technician.

The MSSC system also includes a training component. In addition to a textbook and supplemental material currently available, MSSC is developing teacher training/certification and three types of curriculum for workers and students. The curriculum will three levels of training, from an integrated 160 hour program to 15 hour "fast track" modules for experienced workers. National roll out of these new elements is expected in September 2006.

Wisconsin Involvement

Wisconsin, through the Milwaukee Area Technical College WISPASS program, is one of a growing number of states involved in piloting the MSSC assessment system. By the end of 2005, four institutions in Wisconsin were MSSC-certified assessment centers: three technical colleges (Milwaukee, Gateway, and Moraine Park) and UW Stout. MATC has been continuing efforts through a second U.S. DOL grant to increase the number of technical college assessment/certification centers and to develop related technical college curricula that can be used statewide. Some WDBs are using the manufacturing skill standards as the basis for partnering with employers to identify employer-specific workforce skill needs and training strategies to address those needs.

A Few MSSC System Specifics

- Assessment centers: $1,000 fee for certification, MSSC review of center capacity, and staff/proctor training.
- Assessment: on-line system, $50 to register, and $45 for each assessment module.
- Certification: "Recognition Award" for each module passed; "Production Technician Certificate" for all modules passed.
- Training: Curricula includes instructor led as well as on-line formats, enabling blended instruction. On-line multi-media training (through Amatrol, Inc.) includes simulations of actual floor operations/equipment. Specific cost information not yet available.

Attached is a full description of MSSC activities as of June 2006 (from MSSC web page)

Elements and Status
National MSSC Production Technician Certification System

"**Standards-setting** – The MSSC developed and validated national standards for all concentrations of production and production support work with nearly $9 million dollars in shared government and industry funding. Approximately 700 companies, 4,000 front-line workers, and 300 subject matter experts participated in this standards development process from 1998 to 2001. The U.S. Department of Labor's National Skill Standards Board formally endorsed MSSC standards in May 2001.

Assessment – The MSSC successfully completed development of an on-line assessment of the MSSC production standards in May 2004. For national validation purposes, the MSSC piloted 1500 tests nationwide between September 2004 and February 2005 in four modules: (1) processes and production; (2) safety; (3) quality practices and continuous improvement: and (4) maintenance awareness. Each module is composed of a timed multiple choice and simulation section with an average of 130 questions. Individuals are given 120 minutes to complete each assessment. Now that this assessment has been nationally validated, MSSC offers it for a fee. Developing and piloting this assessment has involved an additional $1 million public-private investment and the participation of 600 workers and students, 200 companies, and 25 assessment centers.

Documentation and Certification of Individuals – The fully designed MSSC documentation system consists of the following:

1. **Documentation for each assessment taker** that includes the scores for each module taken and an attractive "Recognition Award" that lists the skill areas for each module passed suitable for sharing with an employer.
2. **A formal, diploma-style "MSSC Production Technician" Certificate** suitable for framing for individuals who pass all four modules
3. **A detailed score report** identifying areas for improvement for each test taker.
4. **A detailed "Employer Diagnostic Tool"** documenting the strengths and weaknesses of a minimum number of 10 test-takers whose results are benchmarked against national scores.

Certification of Assessment, Education and Training Centers – MSSC uses a standardized procedure for determining the capability of an assessment center to deliver the MSSC assessment and training site proctors. The MSSC Assessment Center Certification Process has been established in order to ensure the integrity of the assessments, the privacy of participants and consistency in testing environment and administration. As of June 2006, the MSSC certified 34 assessment sites with 20 more soon to follow in a total of 20 states. It is planning to certify over 100 centers in 2006.

Curriculum - To prepare both workers and students to acquire the skills and knowledge needed for MSSC Certification, MSSC is working intensively with partner organizations to develop three types of curriculum: (1) an Integrated Course (about 160 hours) covering all 4 MSSC Modules designed primarily for intensive study in order to prepare for all four MSSC Assessments in the fastest period of time; (2) Modular Courses (about 40 hours) for each Module designed primarily for a somewhat less intensive regime of study; and (3) "Fast Track" Modular Courses (about 15 hours each) designed primarily for more experienced incumbent workers who need less preparation time. These materials will be available in both instructor-led and on-line formats, suitable for instruction at high schools, community colleges, company training centers and self-paced learning. These curricula will be released sequentially during the July-September 2006 timeframe.

MSSC Textbook and Supplements - In April 2005, Glencoe/McGraw-Hill, one of the nation's largest publishers of technical textbooks, released a handsomely illustrated textbook entitled, High-Performance Manufacturing: Portable Production Skills. Authored by the MSSC and bearing the MSSC logo, this book is based on MSSC standards and serves as a

valuable reference for building curriculum based on MSSC's industry-led standards. Glencoe/McGraw-Hill also published two supplementary items: a Manufacturing Applications Booklet and an Instructor Resource CD. The MSSC community is using these materials to build curriculum and training, seeking to link them into the public workforce training system.

Teacher Training and Certification – MSSC has long recognized the need to build a new cadre of teachers capable of teaching MSSC's foundational standards which are based on basic and cross-cutting academic, employability, and technical skills and knowledge, and not on instruction in traditional occupations (e.g., machinist, welder, metalworking, tool and dye maker, electronics technician, et al.). The MSSC is developing a Teacher Training program, delivered during a 4-5 day period, to enable teachers to become MSSC certified. This program is scheduled for release in July 2006.

Employer Engagement – A major MSSC System requirement for state and regional MSSC pilot projects is the creation of Advisory or Manufacturers Councils consisting of industrial corporate leaders and other major stakeholders, including representatives from state and local governments including economic development entities and Workforce Investment Boards; education entities such as community and technical colleges, career-technical high schools, and 4-year colleges and universities; manufacturing extension services; and trade and business associations. Active industry involvement is essential to ensure that companies recognize and reward individuals who secure MSSC documentation and certification. More work is needed to gain widespread industry buy-in to MSSC certification as an advantage for hiring, promotion, and training.

Union Engagement--Successful implementation of this nationwide system will require a concerted effort to assure workers that the assessments are fair, valid and will be used in a constructive manner. MSSC, through its participating unions, will provide a strong MSSC orientation program for workers in unionized firms. This program will include information on education, training and test preparation tools that can be used to improve prospects for MSSC certification.

Marketing – Marketing is an essential for building recognition and buy-in of the MSSC System across the broad stakeholder community that will benefit from this system. While most marketing activities will be carried out by the MSSC's established nationwide infrastructure of organizations, the MSSC will provide support through its regular "MSSC Updates," the MSSC Web Site, company testimonials, and examples of successful MSSC System stories and best practices.

System Coordination and Quality Control – One of the MSSC's major goals in all these activities is to develop common national tools and practices at a high level of quality, in order to build a world-class national certification system for all sectors of manufacturing. Ongoing review of MSSC standards, assessments and certification practices will ensure currency and state-of-the-art relevancy of the MSSC system for future generations of workers. MSSC reserves its prestigious logo only for MSSC-authored or developed products.

State Pilots – MSSC is rolling out its system primarily through a series of state and regional pilots. Funded pilots or feasibility studies are currently underway in CA, WI, IN, MN, MI, and DE. Active negotiations are underway in several other states, including TX, PA, FL, OH, NY, IL.

MSSC Web Page
June 2006