



Manufacturing Skill Standards Council

OVERVIEW

The Manufacturing Skill Standards Council (MSSC) is a nationwide, industry-led organization that focuses on the *foundational* skills and knowledge needed by workers in the nation's advanced manufacturing sector. The MSSC Certification System offers manufacturing production workers the opportunity to demonstrate that they have mastered the skills increasingly needed in the high-growth, technical jobs of the 21st century.

The MSSC System awards the *Production Technician Certification* to new and incumbent workers who pass the four manufacturing-related modules: Manufacturing Processes and Production; Quality Assurance; Maintenance Awareness; and Safety. Applicable to all sectors of manufacturing, the MSSC System has the potential to certify millions of production workers against industry-recognized, federally-endorsed standards.

In creating this expanded pool of workers with the *foundational* skills needed to keep pace with technological changes, the MSSC can help alleviate the growing skills gap faced by many manufacturers. In its **2005 Skills Gap Report**, the National Association of Manufacturers (NAM) found that 90% of the respondents to its survey of indicated a shortage of skilled production workers. Nearly half reported inadequate employability and problem-solving skills and third reported insufficient reading, writing and communications skills.

The MSSC System provides industry with a new set of tools to ensure that both entering and incumbent workers are flexible, easily trainable, and highly motivated *knowledge workers* in high-performance work organizations. The MSSC assessments require 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. Just as "ASE" (Automotive Service Excellence) certification is the standard for quality in the automotive repair sector, the MSSC *Production Technician Certificate* will set the quality standard in our nation's factories as its use increases.

Today, the MSSC Production Technician Certification System offers several valuable benefits:

- 1) Decreased recruitment costs by providing job candidates with industry-recognized credentials;
- 2) Increased ROI for training by targeting skill enhancement to the most critical job-related success factors —
- 3) A diagnostic tool to benchmark those aforementioned factors against a high-performance national standard;
- 4) An aid to attracting, motivating and retaining qualified employees;
- 5) Workers with portable, nationally-recognized skills documentation, and;
- 6) Standards by which educators and trainers can align training curriculum with industry needs.

The MSSC was federally recognized in 1998 as the *Voluntary Partnership for Manufacturing*. It is a unique business-labor partnership whose governance members are drawn from major companies, unions, and national associations. The MSSC Board is chaired by Jim McCaslin, President and COO, Harley-Davidson Motor Company. Vice Chairs include John Rauschenberger, Ford Motor Company; Dr. Keith Romig, United Steelworkers; and Kim Green, National Association of State Directors of Career and Technical Education Consortium. The CEO is Leo Reddy, Founder of the National Council for Advanced Manufacturing.

Development of the MSSC's industry-led, federally-endorsed standards and subsequent assessment involved a public-private investment of some \$9 million and the participation of over 700 companies, 4,000 workers, and 300 subject matter experts.

National MSSC Production Technician Certification System

ELEMENTS AND STATUS

“MSSC is a nationwide, industry-based skill standards, assessment and certification system for all sectors of manufacturing.” U.S. Secretary of Labor Elaine Chao, November 8, 2004

The comprehensive MSSC Certification System includes the following elements:

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. Individuals are given 180 minutes to complete each assessment. Now that this assessment has been nationally validated, MSSC offers it commercially. 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 “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 compared 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 December 1, 2005, the MSSC certified 13 assessment sites with 32 more soon to follow in a total of 19 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 two types of curriculum: (1) intensive, short courses for each of the four modules in the assessment designed especially for incumbent workers; and (2) a more academic curriculum for use in both two-year colleges and high schools especially designed for students without the experience of incumbent workers.

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 Development – 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 Glencoe/McGraw-Hill *Instructor Resource CD* is an initial tool for teacher development, but MSSC still needs to develop courses designed to prepare teachers to prepare students and workers for MSSC certification and to train other teachers.

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 – MSSC produces standardized, copy-righted materials for skill standards, assessments, documentation and certification. It is also working with strategic partners, like Glencoe/McGraw-Hill, to build education and training materials, teacher development programs, assessment center criteria, teaching-training center, and other aids. While MSSC does not yet have a formally authorized MSSC Curriculum, it does provide technical assistance to curriculum developers in pilot states to ensure that curriculum aligns with MSSC standards. 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.

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 PA, FL, NY, IL.