Developing Skill Standards: A User's Guide

For Texas Industry Groups Applying for Skill Standards Recognition from the Texas Workforce Investment Council

Table of Contents

Introduction to the Texas Skill Standards Development User's Guide

This user's guide is based on the *Guidelines for the Development, Recognition and Usage of Skill Standards - Texas' Framework for Skill Standards* (*Guidelines for Development*). It assists industry technical advisory committees (ITACs) who are developing skill standards for which they intend to seek Texas Workforce Investment Council (TWIC) recognition. It assists these groups with their skill standards development effort and with their skill standards recognition request submissions.

This user's guide consists of eight chapters. The first seven chapters explain the essential steps for developing skill standards. The final chapter describes the recognition application requirements and process.

1. Identify the occupation and review resources for relevant information
2. Assemble the industry technical advisory committee
3. Determine existing information sources pertinent to the proposed skill standards development effort
4. Determine the plan, method of analysis and strategy for validation
5. Develop work-oriented information
6. Develop worker-oriented information
7. Analyze, synthesize and organize data
8. Recognition application process

What are Skill Standards?

Skill standards are performance specifications that identify the knowledge and competencies an individual needs to succeed in the workplace. They document the skills, knowledge, and performance standards that employers require from their workers, and serve as a vehicle to communicate that information to education and training providers. Skill standards are an ideal source of the industry-driven skills, knowledge, and outcomes required for competency-based curricula within Texas-based community and technical colleges.

Skill standards:

- Describe both the work itself (duties and tasks) and the worker characteristics (the skills and knowledge required to competently perform the work).
- Are for sub-baccalaureate occupations with strong employment and earnings opportunities.
- Are tools for communicating industry-required worker skills to education and training providers.

What Role Does the TWIC Play?

Established by the Texas Legislature in 1993, the TWIC has strategic planning and evaluation oversight of the Texas workforce development system. In 2015, the Texas Skill Standards Board was abolished and its powers and duties were transferred to this 19-member council composed of representatives from business, labor, education, and community-based organizations, as well as its five state agency partners.

The TWIC does not develop skill standards. Industry develops skill standards. The TWIC provides assistance and guidance during the skill standards development process and assists educators and training providers with incorporating skill standards into their training and education curricula.

The TWIC has the following four skill standards-related mandates:

- Validate and recognize nationally established skill standards to guide curriculum development, training, assessment, and certification of workplace skills;

- Convene industry groups to develop skill standards and certification procedures for industries and occupations in which standards have not been established or adopted and recognize the skill standards and certification procedures;
- Review skill standards developed by other states and nations and enter into agreements for mutual recognition of standards and credentials to enhance portability of skills, and;
- Promote the use of standards and credentials among employers.

Notification of Intent to Develop Skill Standards

Before an industry group begins its skill standards development effort, the group should notify the TWIC if it intends to seek recognition of its skill standards. The notification of intent to develop skill standards (NOI) formally indicates that a collaborative effort to develop skill standards is underway.

The NOI is a basic notification form that states the name of the ITAC, the proposed occupational area encompassed by the skill standards, an estimated date of completion and submission for recognition, and the skill standards effort contact name and address (normally the ITAC chair contact information). It is signed by the ITAC chair and mailed to the TWIC. Refer to Appendix A for an example of a NOI form. A blank NOI form is available on the Texas skill standards website at www.tssb.org/applications.

The ITAC should submit the NOI as soon as possible for project evaluation, and to ensure that TWIC staff can provide technical assistance and guidance at the beginning of the development process. Staff will then verify that no similar projects are underway elsewhere in Texas or in other states, and that no similar skill standards already exist. If another organization, ITAC, or state is pursuing similar standards, the ITAC will be notified. This saves a great deal of potentially duplicated time and effort. At that point, it is the ITAC's decision to either cease development or collaborate with the other group on the skill standards development.

In the event that skill standards have been independently developed within the previous 36 months by another industry group in Texas, the ITAC may submit those standards for recognition. In that case, no NOI is required but the ITAC must submit the application for skill standards recognition, which includes all the forms and documentation described in the next section.

Applying for Skill Standards Recognition

Applying for recognition is a thorough process that ensures that the skill standards:

- Have been formally defined and recognized by a representative group of employers and workers within an industry or occupational area
- Have been built using a procedurally valid development process
- Have content validity and have a commitment for ongoing review and update to ensure continued validity
- Comply with all civil rights laws and other applicable statutes
- Include all of the elements required for recognition organized in the Texas skill standards format.

The following items must be submitted as part of the application for skill standards recognition. They are all available on the Texas skill standards website at www.tssb.org/applications.

- NOI - This should have been filed early on in the process as described above.
- Cover letter to the TWIC chair from the ITAC chair, requesting recognition of the skill standards.
- Application for skill standards recognition packet which includes the following:
    - Application cover page
    - Rationale for selection of occupational area form

- Composition of the industry technical advisory committee form
- Assumptions related to skill standards form
- Description of skill standards development process form
- Review and update agreement form
- An electronic copy of the skill standards document entered into the Texas skill standards format template.

Cover letter

The cover letter is sent from the ITAC chair, on behalf of the ITAC, to the TWIC chair (contact the TWIC staff for this information). The letter formally requests that the skill standards be recognized at the next TWIC meeting, and may include statements on how the standards meet the TWIC criteria for procedural (e.g., ITAC composition, industry subject matter expert representation, skill standards development process) and content validity, and the significance of the standards to the industry's economic competitiveness in Texas. Refer to Appendix I for an example.

Application cover page

The application cover page includes a public access and storage agreement. The ITAC agrees that the skill standards will be public domain, and will be publicly available via the repository on the Texas skill standards website. Refer to Appendix E for an example.

In addition to the contact information about the ITAC and the indication of the occupational area, the application cover page should also identify:

- The project director
- The category of recognition sought (recognized or conditionally recognized)
- Signature of the ITAC chair

Rationale for selection of occupational area

Refer to chapter 1 – identifying the occupation and reviewing resources for relevant information, for information and instructions on how to complete this form. Refer to appendix B for an example.

Composition of industry technical advisory committee

Refer to chapter 2 – assembling the industry technical advisory committee, for information and instructions on how to complete this form. Refer to appendix C for an example.

Assumptions related to skill standards

Refer to chapter 3 - determining existing information sources pertinent to the proposed skill standards, for information and instructions on how to complete this form. Refer to appendix D for an example.

Description of skill standards development process

Refer to chapter 4 - determining the skill standards development project plan, method of job analysis, and strategy for validation, for information and instructions on how to complete this form. Refer to appendix F for an example.

Review and update agreement

This is a commitment from the ITAC to review and update the skill standards as necessary to ensure their continued currency and relevance as described in chapter 4. The review and update agreement is signed by the ITAC chair on behalf of the industry group. Refer to appendix G for an example.

Receiving Recognition

Skill standards are considered for recognition by the TWIC at one of its meetings. The meetings are held quarterly, typically in March, June, September, and December of each year. There are three possible outcomes:

1. Recognized
2. Conditionally recognized
3. Recognition not granted

Keeping in touch with the TWIC staff during the development process, and sending a preliminary copy of the skill standards for review and feedback well in advance of a meeting at which the ITAC wishes to request recognition can help ensure a successful outcome.

Recognized

Skill standards that are submitted by a Texas industry group, that provide evidence of a Texas-wide development and validation process, and are in the required format will be awarded the category of recognized. In general, these are skill standards developed for occupational areas where no standards previously existed.

> **Required skill standards format** – The required format refers to the way the work- and worker-oriented information must be organized and presented with the application for skill standards recognition. A template for the format is available to groups who are developing skill standards specifically for Texas recognition. After the work- and worker-oriented information has been developed, the developers enter the data into the template, clearly indicating all of the essential elements that comprise skill standards.

Conditionally recognized

The conditionally recognized category is granted to skill standards developed and validated outside of Texas. It is used to acknowledge skill standards developed in other states or nations by:

- The former National Skill Standards Board and/or its voluntary partnerships
- A national industry group that is recognized by its constituent industry/business base
- Another state's skill standards authority
- A foreign country's skill standards authority.

Conditional recognition does *not* indicate a lesser or temporary status. Standards in both categories have been fully scrutinized and are valid, reliable, and representative of the work they describe. They must include essentially the same work- and worker-oriented information required by the recognized category. They are granted conditional recognition because, although they must include the same work- and worker-oriented information required of the recognized category, the elements may be presented in a format other than what is required of skill standards to be included in the recognized category.

Further, conditional recognition allows building on work done in other states that may not be presented in the required Texas format, yet presents reliable and validated skill standards. Texas gets the benefit of an expanded list of recognized skill standards without the risk of duplicating efforts made by national industry groups.

Recognition not granted

In the event that skill standards do not meet all recognition criteria, neither category of recognition will be granted. TWIC staff will be available to provide comment on the skill standards and to work with the ITAC or industry group to develop a plan to ensure that all recognition criteria are met at the time of re-submission.

Chapter 1 – Identifying the Occupation and Reviewing Resources for Relevant Information

In order for skill standards to be formally recognized, the need for the standard must be demonstrated. The ITAC's objective at this stage is to demonstrate that the proposed skill standards will be broad-based and encompass multiple occupational titles and be accepted throughout the industry. The group must develop a rationale that will garner statewide industrial support and representation that is required, while generating data that will be used elsewhere in the process. The rationale for selection of occupational area form will help to establish rationale that will encourage representatives from throughout the target industry to join the effort.

Preparing the Rationale for Selection of Occupational Area Form

The rationale for selection of occupational area form contains information that is a justification as to why the ITAC chose this particular occupational area for skill standards development. The form should be completed to include the following:

Occupational area

The first step in the development of skill standards is to determine the occupational area on which the development effort will focus. The decision should be based on the following criteria:

- Does the occupational area encompass multiple occupational titles that are accepted throughout the industry in Texas?
- Are the occupational titles considered to be high-skill, high-wage? Do they have industry-wide significance and contribute, or will contribute, significantly to the health of the Texas economy?

The occupational area must be broad enough to encompass multiple occupational titles or a family of related jobs with similar purposes and functions in the industry. Webmaster and process technician are examples of occupational areas that encompass a multitude of related job titles.

Key purpose of occupational area

The key purpose states the primary goal of the occupational area; it is generally stated as an action. When composing the key purpose statement, keep in mind that it must match the level of responsibility or skill for the sub-baccalaureate occupational area. For example, a key purpose might be: "monitor and regulate chemical processes in a safe efficient environment." Another example of a key purpose is, "diagnose, service, and repair heavy equipment." Carefully defining the key purpose is critical; the key purpose, in part, determines the scope of the occupational area the skill standards will encompass.

Related standard occupational classification codes

The evaluation and definition of the various Standard Occupational Classification (SOC) titles and codes that are related to the occupational area determines the extent of skills and knowledge covered in the skill standards. This is a critical task that will assist the ITAC in developing a plan to gather and then validate the occupational skills and knowledge contained in the skill standards.

All SOC codes and their corresponding occupational titles related to the occupational area should be listed on the form. The website of the U.S. Department of Labor, Bureau of Labor Statistics contains current SOC codes, links to major groups, the complete SOC system hierarchical structure, broad occupational definitions, and detailed occupational definitions. In addition, the Texas Workforce Commission's SOCRATES (Standardized Occupational Components for Research and Analysis of Trends in Employment System) database contains employment and wage data for the more than 750 SOC code related occupations.

For example, the petrochemical occupational area may include the following SOC Codes and occupations:

SOC Code	Occupation
19-4036	Chemical technicians
51-9011	Chemical equipment operators and tenders
51-8091	Chemical plant and system operators
51-8093	Petroleum pump system operators, refinery operators, and gaugers
53-7071	Gas compressor and gas pumping station operators
51-8092	Gas plant operators

Information resources for related SOC codes and occupational titles include:

- Texas Workforce Commission (TWC) Labor Market and Career Information (LMCI).
- U.S. Bureau of Labor Statistics (BLS) – National statistics.
- U.S. Census Bureau's North American Industrial Classification System (NAICS) – NAICS replaced the old Standard Industrial Classification (SIC) system. Businesses using like processes to produce goods or services are grouped together and assigned a unique code. The NAICS website contains employer and industry information such as number of employees, number of establishments, payroll data, sales receipts, etc.
- TWC's SOCRATES database – Contains employment and wage data for more than 750 SOC code related occupations.
- Local workforce development boards (LWDB).

For many emerging occupational areas, SOC codes may not exist for the related job titles. In such cases, it is appropriate to use the closest acceptable SOC codes currently established.

Industry sectors

An identifying industry sector for the skill standards occupational area must be listed on the rationale for selection of the occupational area form. Texas skill standards are defined within 15 industry sectors. The ITAC must determine the industry sector to which the skill standards occupational area is most related. For example, a chemical/refining process technician corresponds to industry sector 7, manufacturing, installation, and repair.

The following is the list of industry sectors from the *Guidelines for Development*:

Industry	Name and Description
1	**Agriculture, Forestry, and Fishing** Crop production, Animal production, Veterinary services, Forestry and Logging, Fishing, Hunting, Trapping, and Landscaping.
2	**Business and Administrative Services** Human Resources, Employment Services, Management Consulting Services, Marketing Research and Public Opinion Polling, Services to Buildings, Facilities Support Services, Accounting, Tax Preparation, Bookkeeping, Payroll Services, Administrative and Support Services; other Business Services including Event Planning.

Industry	Name and Description
3	**Construction** Building, Developing, and General Contracting including residential and non-residential; Heavy Construction including highways, bridges, tunnels, pipelines, industrial, non-building construction, etc.; Special Trade Contractors including Plumbing, Heating, Air Conditioning, Electricians, Carpentry, Painting, Roofing.
4	**Education and Training** Child care and preschool, Elementary education, Secondary education, Postsecondary education, Job training, Vocational rehabilitation
5	**Finance and Insurance** Credit Intermediation including Banking, Savings and Credit Union institutions; Credit Cards and Sales, Financing, Consumer Lending, Mortgage and Loan Brokering, Trade Financing, Secondary Market Financing, Securities, Commodity Contracts and related activities; Credit Bureaus and Collection Agencies, Insurance and Employee Benefit Funds including pension funds, Funds, Trusts, and related activities; Public Finance and Administration of Government Economic Programs.
6	**Health and Human Services** Ambulatory Health Care Services, Hospitals, Nursing and Residential Care Facilities, Human Services and Social Assistance including Elderly and Disabled Services, Children and Youth Services, Community and Housing, Emergency Relief; Administration of Government Human Services Programs.
7	**Manufacturing, Installation and Repair** Food and Beverages, Textiles and Textile Products, Apparel, Leather, Furniture, Wood, Paper, Printing, Petroleum, Coal products, Chemicals, Plastics and Rubber products, Non-metallic Minerals, including Glass, Concrete; Primary and Fabricated Metals, Machinery, Computers and Electronics products; Electrical Equipment and Appliances; Transportation Equipment, Installation, Repair, and Contract Maintenance.
8	**Mining** Oil and Gas Extraction; other mining.
9	**Public Administration, Legal and Protective Services** Executive, Legislative, and general Government Administration (Federal, State, and Local); Legal Services, Justice, Public Order, and Safety programs (Federal, State, and Local); Investigation and Security Services including Security Guards and Private Investigators.
10	**Restaurants, Lodging, Hospitality and Tourism, and Amusement and Recreation** Restaurants and Drinking establishments, Hotels and Motels, Travel Services, Tourism Services including Sightseeing Transportation, Amusement and Recreation.
11	**Retail Trade, Wholesale Trade, Real Estate and Personal Services** Retail Trade (except Restaurants), Non-store Retailing, Wholesale trade, Rental and Leasing Services, Real Estate; Personal Services including Beauticians, Laundry, and Private Household Services.
12	**Scientific and Technical Services** Scientific Research and Development Services, Architectural, Engineering and related

Industry	Name and Description
	services; Administration of Government Housing, Urban Planning and Community Development Programs, Space programs, National Security and International Affairs.
13	**Telecommunications, Computers, Arts and Entertainment, and Information** Telecommunications, Computers and Computer Services, Motion Pictures and Sound Recording, TV and Radio Broadcasting, Arts and Entertainment, specialized Design Services, Photographic Services, Advertising, Publishing, Information Services including News Services and Libraries.
14	**Transportation** Air, Rail, Water, Trucking, Transit and Ground Passenger, Pipelines, Transportation Support Activities, Postal Service, Couriers, and Messengers.
15	**Utilities and Environmental and Waste Management** Electric Power, Natural Gas Distribution, Water, Sewage, and other systems; Waste Management and Remediation, Environmental Consulting Services, Administration of Government Environmental Quality Programs.

TWIC staff can provide guidance to help determine where, among the industry sectors, a proposed occupational area might most appropriately fit.

Importance to economic competitiveness

In this final section of the rationale for selection of the occupational area form, how the occupational area has or will have industry-wide significance, and how it contributes or will contribute to the Texas economy is explained. The explanation must include specific labor market data like projected job growth, wages, worker shortages, and emerging industrial bases that support the choice of the proposed occupational area. For example, in the following excerpt from the Chemical/Refining Process Technician skill standards application, statistics from SOCRATES are used as part of the justification:

> The petroleum industry is one of Texas' leading industries. Hence, the development of Skill Standards for Chemical and Refining Process Technicians is a natural focus for the states' Skill Standards efforts. In Texas' 28 Labor Workforce Development Areas (LWDA), chemical facilities and refineries dominate the coastal regions and are lightly scattered in other regions.
>
> The concentration of the industry in the Gulf Coast Region indicated the need for focus on companies in that locale. Over 95% of the refineries in the state are located in LWDA 28. According to SOCRATES data, the state's labor market information system, and to reports from industry spokespersons, employment for petroleum refinery and control panel operators will grow at 10% per year and shortages of qualified technicians has become a theme for conferences across the country.

Chapter 2 – Assembling the Industry Technical Advisory Committee

The ITAC provides the leadership for the skill standards development. Formation of an effective ITAC is the foundation of the entire effort. It is common for a group or individual representing education or industry to generate the idea for new skill standards; however, in order to formally develop skill standards under TWIC guidelines for recognition, an ITAC must be formed. There are various ways an ITAC may be assembled, including:

- Convened by an industry organization or alliance
- Organized by a group of employers within the industry
- Initiated by a training provider connected with a LWDB
- Facilitated by an educational institution like a community or technical college

Industry Representation

Validity of the skill standards is partially achieved through a valid ITAC composition. Industry representatives must constitute the majority of the ITAC membership. The ITAC must adequately represent the industrial sector to which the proposed occupational area belongs. If possible, the majority of the ITAC membership should be Texas-based and should be representative of how the industry is geographically distributed throughout the state.

The ITAC Chair

The ITAC chair must be an industry representative or employer. The ITAC chair may be the same individual who is leading the skill standards effort. The ITAC chair signs the NOI form, the cover page of the application for skill standards recognition, and the cover letter to the TWIC chair requesting skill standards recognition.

Non-Industry Representation on the ITAC

To ensure that the potential workforce is represented, the ITAC should also include members from labor, credentialing, and related licensing groups within the occupational area. In addition, at least two members should be education and/or training providers.

Formation of a Skill Standards Development Team

The ITAC should form a skill standards development team that is separate from the ITAC. The development team should include a project director who will establish a development project plan and drive the project, and a job analyst who will conduct the data collection for skill standards and academic and employability knowledge and skills (AEKS) information. Other members of the development team should include individuals who will participate in the job analysis and data collection process, and individuals who will participate in the process of determining AEKS information.

Finalizing the ITAC

Before the composition of the ITAC is finalized, the ITAC chair should verify the following:

- Is the ITAC representative of the industry in Texas?
- What would be the ramifications of one individual leaving the ITAC?
- Where appropriate, has labor representation been sought? Educational institutions? Accrediting bodies?
- Are all members of the ITAC prepared to take ownership for the content and the validity of the skill standards developed by the team?

Preparing the ITAC Composition Form

The application for skill standards recognition must include the ITAC composition form. This form includes the list of the ITAC members, the organization each represents, the size of the organization (if it is a business), and the organization's geographic location.

ITAC Members - List below the ITAC members, titles/positions, and organizational affiliations. For industry representatives, indicate the size of employing company and city where located. If the ITAC member is representing a company with branches throughout the state, indicate "Statewide" in the city column.

Member	Organization	Size	Location
Ames, Steve	ExxonMobil	3	Baytown, TX
Arevalos, Johnny	Valero Refining Company	4	Corpus Christi, TX

Organization size

This field is only for business members, not education or training providers. The number in the size column is a *category* representing the total number of employees in the company. For example, '3' would indicate a company size of 100-400 employees. Refer to the ITAC composition form for a complete list of size categories.

Location

If the ITAC member is representing company locations throughout the state of Texas, indicate "Statewide"; otherwise, list the geographic location in which the company operates.

Justification of ITAC

Following the membership table, the ITAC composition form contains three additional sections for completion. Together they make up a justification of the ITAC.

The first section requests a short explanation of how the ITAC membership is representative of the occupational area. Describe how the ITAC includes industry-wide representation, or indicate how the requirement for balanced representation will be met.

The second section requests confirmation that the ITAC membership includes representatives of labor and licensing authorities for occupations in industries where labor involvement and/or a credentialing or licensing authority is affiliated.

The third section requests information about education and training provider representation on the ITAC.

The following is an example of an ITAC justification from the Chemical/Refining Process Technician skill standards initiative. Each paragraph is associated with the first, second, and third sections, respectively.

All major chemical and refining employers in Texas are represented on the ITAC. No single employer dominates the ITAC.

Representatives of Labor and Licensing authorities are members of the ITAC. Participation in the skill standards process was extensive by companies with labor unions. Refinery operators in Texas are largely represented by a formal labor organization, PACE. The acceptance of the Skill Standards effort by technicians who are members of this group was critical to the project's success.

Education and training entities are represented on the committee. Texas' colleges and universities offering two-year degree programs in process technology are partners with the Gulf Coast Process Technology Alliance and Center for the Advancement of Process Technology. Together, these partners develop curriculum and are working on an assessment for program graduates. Faculty workshops, internships and curriculum revisions are supported by GCPTA and CAPT. CAPT is a National Science Foundation Center of Excellence.

Chapter 3 – Determining Existing Information Sources Pertinent to the Proposed Skill Standards

The development team must ensure that it is developing skill standards that are "future oriented," making the greatest use of research previously performed external to the ITAC. The output of this stage of the development process will include a summary of identified research and a draft of the initial assumptions related to the standards form, which is included as Appendix D.

Perform Review of all Relevant Information

The development team should conduct sufficient research to ensure that, to the maximum extent possible, available job analysis methods and other published materials relevant to this effort are identified and reviewed.

Generate Summary of Identified Research for ITAC Review

This step ensures that the outcomes of the review of relevant information are systematically cataloged and provided to the ITAC for review. ITAC members may know of other job analysis methods, publications, or information resources that could be included for consideration. Additionally, if the ITAC members have the opportunity to review the resources, they will be better informed and capable of developing preliminary assumptions regarding the development effort.

Generate a Preliminary List of Assumptions Related to the Effort

As part of the application for skill standards recognition, the ITAC and its development team must generate a list of assumptions upon which the development of the skill standards is based. This provides a basis for skill standards data reliability and validity verification.

The preliminary list of assumptions may include, but are not limited to, the following:

- Assumptions about the duties of the ITAC and its development team
- Assumptions about the industry and/or regulatory groups that will provide assistance and/or information
- An assumption that there is sufficient time, funding and other resources available to complete the effort

As the skill standards development progresses, it is likely more assumptions will be identified. The development team should document the process and ensure that newly developed assumptions are added to the preliminary list. When the application for skill standards recognition is submitted it must include all assumptions made during the development process.

Chapter 4 – Determining the Skill Standards Development Project Plan, Method of Job Analysis, and Strategy for Validation

Although it is not required, it is strongly recommended that the ITAC and its development team establish a project plan for the development of the skill standards. In this critical planning phase, the ITAC should determine parameters such as project scope and activities; resource requirements (personnel, equipment, and supplies); timelines; assumptions; and specific project deliverables.

Note

It is assumed that the project director, as the leader of the development team, has knowledge of project management and is able to apply project management skills to the effort.

Defining Resources, Tasks and Timelines

The following considerations may be helpful in determining the overall project scope:

- What are the expected outcomes of the project?
- What type of industry and employees will be affected?
- Will the project also create an assessment and certification system?

Once the scope is established, the development team should create a list of activities required to complete the skill standards project, including, at a minimum: timelines, anticipated date of completion, anticipated date of submission for recognition, resource requirements and costs, and any dependencies.

Choosing a Job Analysis Method and Engaging a Job Analyst

The use of a recognized job analysis method is required to collect the raw data for the skill standards. The job analysis must generate information that is broad and flexible enough to accommodate changing workplace requirements, while specific enough to be useful to employers. The job analysis method is critical for demonstrating procedural validity and establishing the content validity of the skill standards.

The TWIC does not endorse one particular method; many different forms of job analysis exist. Any job analysis method that can substantiate both content validity and reliability may be used. The *Guidelines for Development* lists several different job analysis methods.

The TWIC requires the engagement of a qualified (experienced and skilled) work or job analyst to conduct the skill standards development process. The job analyst will manage and/or perform the analysis and data collection process, and work with the development team to define the critical work functions, key activities, and performance criteria from the raw data. The job analyst should determine which method is most appropriate and may draw from the following:

- *Functional Job Analysis*; Sydney Fine
- *Critical Incident Technique*; John Flanders
- *Position Analysis Questionnaire*; Ernest McCormack & Associate, Purdue University
- *DACUM (Developing a Curriculum)* including modified DACUM and SCID (System Curriculum and Instructional Development) , as refined by Dr. R. Norton at Ohio State University
- *Job-Task Inventory (CODAP) and the Extended Search)*; Dr. R. Crystal for the U.S. Air Force.

Skill standards presented for recognition must meet the following criteria with regard to process and job analysis method in order to be recognized:

- The development process is procedurally valid and engages appropriate occupational subject matter experts, management, labor, job incumbents, related licensing or certification agents if applicable, and other interested stakeholders in the development of the skill standards.
- The stakeholders engaged in skill standards development and validation are representative of the broad occupational base for which the skill standards are being developed with regard to organization size and geographic and demographic diversity.
- The job analysis method uses a process that identifies both work- and worker-oriented information, including critical work functions; key activities; performance criteria; occupational skills, knowledge, and conditions; a rating of AEKS; and statements about how best to assess a worker's level of competency in a particular work function.
- The skill standards work-oriented information resulting from the development process is subjected to a rigorous Texas industry-wide validation to ensure content validity.
- The skill standards do not contravene any applicable federal, state, or local statutes, including the Equal Employment Opportunity Act (as amended) and the Americans with Disabilities Act.

Subject Matter Experts

The development team is responsible for identifying subject matter experts (SMEs) to participate in data collection and data validation. SMEs' qualification requirements vary depending on the role they play in the development of the skill standards. The table below suggests the different types of SMEs involved in the development effort.

SME Role	Ideal Number	Qualifications
Development of work- related information and occupational skills and knowledge	10 or more	• Have three (3) or more years' experience in the occupational area, and/or • Be a first line supervisor with at least one (1) year of experience supervising employees in the occupational area, and/or
Validation of work-oriented information	Based on occupational area's size (in number of workers) and geographic distribution.	• Same as above
Development of AEKS information (more fully described in Appendix H)	3-5, 7-10 where possible	• Five (5) or more years of experience in the occupational area **or** 1st line supervisor with at least three (3) years of supervising employees in the occupational area • Experience in training employees in the occupational area is desirable

Choosing a Data Validation Strategy for Work-Oriented Information

The development team is free to choose its own data validation strategy; however, data validation should be performed in accordance with the job analysis method used for data collection. Validation ensures that:

- Skill standards resulting from the data are representative of all Texas-based employers in that occupational area, not a subset.
- Work-oriented information resulting from the data is representative of the broad occupational area of the skill standards, not a subset of jobs in that occupational area.
- The skill standards' content validity is established and confirmed.

Methods of validation include surveys, focus groups, and SME reviews. The validation process requires that:

- SMEs who are involved in the validation process are adequately qualified, typically with three or more years of experience in the occupational area.
- Where a survey or focus group is used, the respondents sampled adequately represent the occupational area, and
- There is an adequate number of respondents for a statistically valid population.

The ITAC is also responsible for reviewing the data to ensure content validity and adequate representation of the occupational area.

Preparing the Description of the Skill Standards Development Process Form

The skill standards development process must be fully documented and described. As part of the application for skill standards recognition, the development team must include the description of skill standards development process form which requires descriptions of the chosen job analysis method and the validation strategy. The form also requires a summary of any conflicting ideas, objections, or differences that arose during the development process and a statement of how the team addressed and resolved the issues to reach a conclusion which gave all participants in the process the opportunity to have input and influence the outcome.

Signing the Review and Update Agreement

Skill standards require review and update in order to remain relevant and current. Recognition requires that the ITAC commit to review, and if necessary update, skill standards when there are substantive changes to the work-oriented information. As part of the application for skill standards recognition, the ITAC must include the review and update agreement form, signed by the chair, which states the group's commitment to review, and as necessary update, the skill standards and submit any updates to the TWIC.

Chapter 5 – Developing Work-Oriented Information

The real work of the development effort begins with the next steps: developing work- and worker-oriented information to include the seven elements required for skill standards recognition in Texas. The outcome of the Texas-based development effort must address all seven elements and be organized in required Texas skill standards format (described on page 4) in order to be considered for recognition. The seven elements are:

Element 1 – Critical work functions
Element 2 – Key activities
Element 3 – Performance criteria
Element 4 – Occupational skills, knowledge, and conditions
Element 5 – Academic knowledge and skills
Element 6 – Employability knowledge and skills
Element 7 – Statements of assessment

During the development of work-oriented information, it is very important that the development team focus on describing the work to be performed, not on the work*er* skills required to perform the work. Work-oriented data, as defined in the *Guidelines for Development* is:

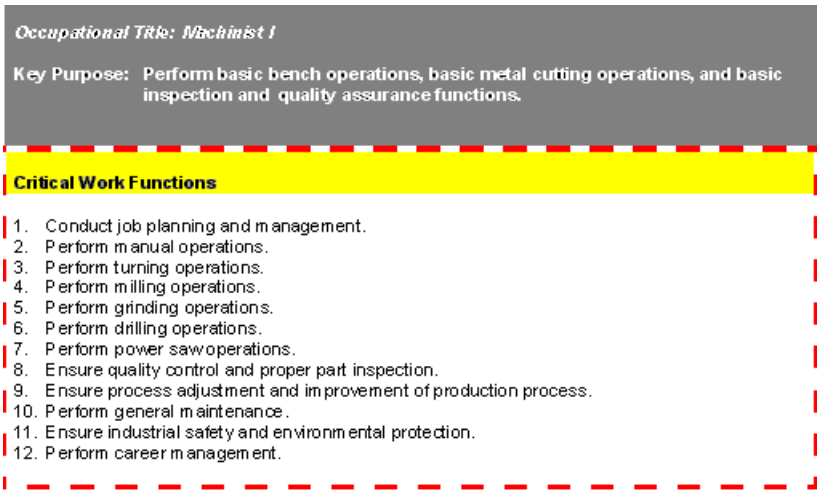
> "Information that describes work by the characteristics of the work to be done, encompassing the essential characteristics of critical work functions, key activities, and performance criteria. Products or services produced are included in work-oriented information."

Skill standards resulting from the raw, work-oriented data must accurately describe the work to be performed; if the data is faulty, it will be impossible to properly develop the work*er*-oriented elements of the skill standards. The "work-oriented" elements of skill standards are:

- Element 1 - Critical work functions – The principal duties required to carry out the job. For example, "Perform milling operations."
- Element 2 - Key activities – The major tasks required to carry out the critical work functions. For example, "Press holes and perform press fits."
- Element 3 - Performance criteria – The standards that indicate how to determine if a key activity is performed competently. For example, "Arbor presses are used to perform press fits."

Element 1 – Defining Critical Work Functions

First, skill standards break down an occupation into its principal responsibilities or critical work functions (CWFs). CWFs should identify the highest or broadest level in the hierarchy of work responsibilities; these are the work functions required to accomplish the key purpose of the occupation as it is defined in the rationale for selection of occupational area form.

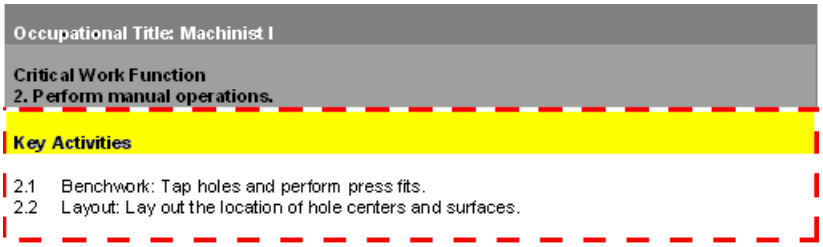


When defining CWFs from raw data, keep in mind that:

- Skill standards are usually composed of 10-15 CWFs.
- CWFs should begin with an action verb; for example: "*Perform quality control and inspection functions*."

Element 2 – Defining Key Activities

To accomplish each CWF, a worker must perform several steps or tasks. The relationship between CWFs and key activities is one-to-many: One CWF contains many key activities.



A key activity is typically written as a behavioral statement with an action verb. For example, "Inspect sample parts and prepare reports on parts compliance" would be a key activity.

When defining key activities from raw data, keep in mind that there are usually 3-6 key activities per CWF. This may require aggregation of tasks or the addition of a CWF that more accurately categorizes the activities.

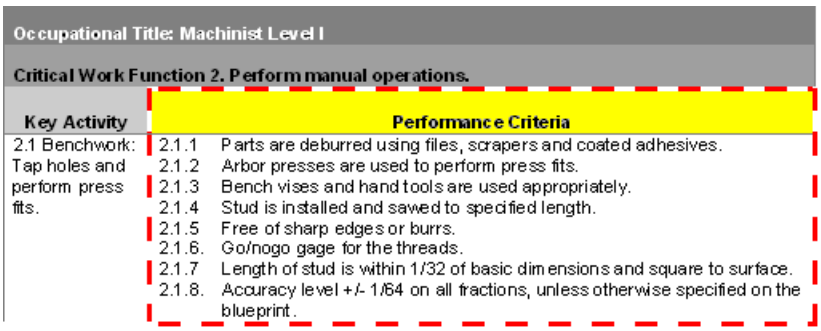
Element 3 – Establishing Performance Criteria for Key Activities

What does successful performance of a key activity look like? To what standards must workers perform? How good is good enough? These questions are addressed with the third element of skill standards: the performance criteria. Performance criteria specify the type, quality, and level of output (demonstrable behavior or product) required to successfully perform the key activity.

The number of performance criteria for any key activity is dependent upon what the SMEs feel is necessary in order to demonstrate the desired level of proficiency. Performance criteria are critical in that they serve as a benchmark for assessment of performance of the key activity. Also, note that the performance criteria must be demonstrable.

The intent of performance criteria is to give a complete picture of how employers define competent performance. Performance criteria describe *how* the activity would look, when competently performed; they measure the *work*, not the *worker*. For example, "Using precision tools and techniques" would be a performance criterion because it specifies *how* and/or at what level the work must be performed.

In the example below, eight performance criteria indicate the standards to which a machinist must perform key activity 2.1. The relationship between key activities and performance criteria is one to many: one key activity has multiple performance criteria.



Occupational Title: Machinist Level I	
Critical Work Function 2. Perform manual operations.	
Key Activity	**Performance Criteria**
2.1 Benchwork: Tap holes and perform press fits.	2.1.1 Parts are deburred using files, scrapers and coated adhesives. 2.1.2 Arbor presses are used to perform press fits. 2.1.3 Bench vises and hand tools are used appropriately. 2.1.4 Stud is installed and sawed to specified length. 2.1.5 Free of sharp edges or burrs. 2.1.6. Go/nogo gage for the threads. 2.1.7 Length of stud is within 1/32 of basic dimensions and square to surface. 2.1.8. Accuracy level +/- 1/64 on all fractions, unless otherwise specified on the blueprint.

Validation of Work-Oriented Data

A critical step in the development process is the validation of the work-oriented information. Identified by the SMEs, CWFs along with the relevant key activities and performance criteria, must be subjected to a process that determines that the content is valid, that the work-related information (the CWFs, the key activities, and the performance criteria) contained in the skill standards is representative of the work that would be required of someone employed in the occupational area.

Content validity can be established through a variety of methods and sampling procedures. Typically, a survey is administered to supervisors and/or those with training responsibilities. Alternatively, multiple focus groups may be used. The members of these groups must be the same as those that could participate in a validation survey.

Whatever method is chosen, the job analyst should document the process in detail, including the number, qualifications, experience, company, and location of the SMEs consulted to confirm content validity. The sampling must be consistent with the diversity of businesses and locations used to establish the ITAC and with the rationale for the selection of the occupational area. Too narrow a sample (all large companies or from only two geographic locations) or too few SMEs in the sample will fail to meet the recognition requirement. The TWIC staff can assist the job analyst if there are questions regarding the procedural requirements.

Chapter 6 – Developing Worker-Oriented Information and Statements of Assessment

While work-oriented information describes the job tasks and activities, work*er*-oriented information details the knowledge, skills, and conditions required to competently perform that work. The "work*er*-oriented" elements of skill standards are:

- Occupational skills, knowledge, and conditions – Technical skills and knowledge specific to the occupation like reading blueprints, knowledge of graphic design, combined with the tools, equipment and resources (i.e. drums, hoses, compressors, etc.) required to perform the work.

- AEKS data, which combines two elements:
  - Academic knowledge and skills – The four (4) basic knowledge areas of reading, writing, mathematics, and science.
  - Employability knowledge and skills – Thirteen (13) applied skills like listening, speaking, and working in teams.

Element 4 – Defining Occupational Skills, Knowledge and Conditions

For each key activity, the occupational skills, knowledge and conditions required to competently perform that activity must be defined. The relationship between key activities and occupational skills, knowledge, and conditions is one to many: one key activity typically has multiple occupational skills and knowledge sets, and multiple conditions.

Occupational Title: Machinist I			
Critical Work Function 2. Perform manual operations.		**Occupational Skills, Knowledge & Conditions**	
Key Activity	**Performance Criteria**	**Occupational Skills & Knowledge**	**Conditions**
2.1 Benchwork: Tap holes and perform press fits.	2.1.1 Parts are deburred using files, scrapers and coated adhesives. 2.1.2 Arbor presses are used to perform press fits....	• Interpret standard orthographic blueprints. • Recognize and apply basic measurement instruments. • Understand and apply metalworking theory including cutting theory, tooling, material properties, and cutting fluids and coolants.	A process plan, blueprint, access to hand tools including taps, micrometer, hacksaw, files, and scrapers, a newly machined part with holes prepared for tapping, a hole prepared for the press fit of a bushing, and a stud for one tapped hole.

Occupational skills and knowledge are *occupation-specific* skills and knowledge. Like key activities, these statements begin with an action; for example, "Interpret standard orthographic blueprints."

Conditions are a list of tools, equipment, and resources required to perform the work. These are things a worker must have available in order to accomplish the Key Activities. This should include specific tools and/or parts like "hacksaw" or "newly machined part with holes prepared for tapping," and general resources like "access to hand tools" or "access to personal computer." Conditions should also include necessary resources like "process plan," "appropriate OSHA, DOT, and EPA manuals", "guidelines of local building and energy safety codes" and "company guidelines."

Elements 5 and 6 – Defining Academic and Employability Knowledge and Skills

For each CWF, AEKS required to competently perform the work must be defined. AEKS uses a common nomenclature developed by the National Skill Standards Board (NSSB) and adopted for the Texas skill

standards system. There are four (4) academic and thirteen (13) employability knowledge and skills for a total of seventeen (17) areas:

Academic Knowledge and Skills	
Mathematics Science	Reading Writing
Employability Knowledge and Skills	
Adaptability Analyzing and solving problems Building consensus Gathering and analyzing information Leading others Listening Making decisions and judgments	Organizing and planning Self and career development Speaking Using information and communications technology Using social skills Working in teams

The AEKS development process

Prior to the start of the skill standards development process, the TWIC staff will provide the development team with the AEKS requirements document and the *Skill Scales Companion Guide*, a publication of the NSSB, which provides detailed information on each AEKS area and ratings. It is the primary resource when determining applicable AEKS areas and ratings for each CWF. The development of AEKS must be performed as described in the requirements by qualified SMEs, using the NSSB's *Skills Scales Companion Guide* as a reference. The AEKS requirements document is included as Appendix H.

Element 7 – Constructing Statements of Assessment

In the final step of skill standards development, the development team should consult the ITAC and compose a statement of assessment for each CWF.

The statement of assessment is a vehicle to suggest how the industry might determine the competency a worker has attained. For instance, a worker's competency could be assessed through a written exam, through demonstrating a solution to a typical workplace challenge, or through preparing and delivering a presentation on a workplace topic. This requirement gives the ITAC the opportunity to define any of several things:

- Define how industry should assess the level of competency a worker has attained in a particular CWF based on the performance criteria for all of the key activities associated with that CWF
- Define for trainers and educators how to assess the level of competency a student has attained relevant to a CWF and its associated key activities.
- Define the level of mastery of CWFs that indicates that a worker or student has achieved entry-level competency, intermediate-level competency, or an advanced level of competency.

Note

- Statements of assessment must not intentionally exclude any type of person, or be biased based on race, national origin, religious affiliation, age, or disability.

Chapter 7 – Synthesizing and Organizing Data

After the work-oriented information has been collected and validated, and the worker-oriented information collected, the data must be organized.

For recognition of skill standards developed by a Texas-based development effort, the development team must compile all of the final data into the Texas skill standards template, into which the data is organized into the required format for submission to the TWIC. Please call the office at 512/936-8100 to request a copy of the template.

Chapter 8 – Submitting the Application for Recognition

The following items must be submitted as part of the application for skill standards recognition. Each of the forms is described in the section titled Introduction to the Texas Skill Standards Development User's Guide beginning on page 1.

- Notification of intent (NOI) - This should have been filed early on in the process as described in Notification of Intent to develop skill standards on page 2.
- Cover letter to the TWIC chair from the ITAC chair, requesting recognition of the skill standards.
- Application for skill standards recognition packet which includes the following:
    - Application cover page
    - Rationale for selection of occupational area form
    - Composition of the industry technical advisory committee form
    - Assumptions related to skill standards form
    - Description of skill standards development process form
    - Review and update agreement form
    - One electronic copy of the skill standards, entered into the Texas skill standards format template.

Send the completed package to the TWIC for consideration well in advance of a regularly scheduled quarterly meeting, which typically convenes in March, June, September, and December of each year.

Appendix A – Notification of Intent to Develop Skill Standards

Instructions: Complete and submit a separate notification of intent to develop skill standards form for each occupation for which skill standards are being developed.

TWIC Use Only	
Date received:	_____
Logged in by:	_____

Name of industry technical advisory committee (ITAC) or industry stakeholder group:

_____

Mailing address:

_____

Street or post office box City State Zip

Project director or contact person:

_____

Name Phone # Fax # E-mail

Occupation for which skill standards are being developed: _____

Anticipated date of skill standards submission for recognition:

_____

Month Year

The signature of the industry representative named below indicates that the industry group: 1) intends to develop skill standards for Texas Workforce Investment Council recognition; and 2) understands that, in order to receive recognition, the skill standards must adhere to all requirements contained in the *Guidelines for Development, Recognition and Usage of Skill Standards*.

_____

Leader, industry group (typed name and title)

_____

Signature of industry leader Date

Mail this completed form to: Texas Workforce Investment Council
1100 San Jacinto Boulevard, Suite 1.100
Austin, Texas 78701

Appendix B – Rationale for Selection of Occupational Area

Submission Requirement: 1) Title and key purpose of target occupational area; 2) list of related Standard Occupational Classification (SOC) job titles and codes; 3) linkage to an industry sector; and 4) explanation of importance to economic competitiveness of state of Texas through supporting labor market data.

Instructions:

Occupational title -- State the title of the occupational area for which the skill standards are being developed. The occupational area is not a job title. Rather, it should represent a "family" of jobs across the industry with similar purposes and functions.

_____

Key purpose of occupational area - State the key purpose of the occupational area summarizing its primary goal. (Should be one sentence beginning with an action verb.)

_____
_____
_____

Related SOC job titles and codes - List all the related SOC job titles and associated 6-digit code numbers encompassed within the occupational area. *

Code	SOC job title	Code	SOC job title
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Industry sector - Indicate the industry sector and number (see chapter 1) under which the occupational area belongs.

Code	Sector title
_____	_____

Importance to economic competitiveness of Texas - Provide an explanation of the occupational area's importance to the economic competitiveness of Texas. Cite specific labor market data, such as projected job growth, number of employment openings, wage/earning indicators, skill shortages and/or emerging industrial base, which supports the ITAC's choice. (Attach additional sheets of paper.)

* SOC job titles and codes may be obtained from the US Department of Labor website.

Appendix C – Industrial Technical Advisory Committee Composition

Submission requirement: A list of ITAC members and their affiliations with majority industry representation and an explanation that the group is representative of the composition of employers within the industry or occupational area by size of company, geographic location in the state, and business diversity.

Instructions:

ITAC members - List below the ITAC members, titles/positions, and organizational affiliations. For industry representatives, indicate the size of employing company and city where located. If the ITAC member is representing a company with branches throughout the state, indicate "Statewide" in the city column.

Member	Title/Position	Organization	Size*	City

***Key to company size category** (by number of employees): Indicate 1 - micro (1 to 20 employees); 2 - small (21 to 99 employees); 3 - medium (100 to 499 employees); or 4 - large (500 employees and above). Note: Size refers only to businesses. Do not note size of education and training providers.

Industry Technical Advisory Committee Composition

Instructions (continued):

Industry-wide representation - Provide an explanation of how the ITAC membership is representative of employers within the industry. If a major employer in the industry is not included on the ITAC, explain how the requirement of inclusivity has been met. If the ITAC is dominated by any one company size, geographic location, or business interest, explain how the requirement of balance of interests within the industry has been met.

Labor and licensing/credentialing representation - The *Guidelines for Development* strongly suggest that in industries where labor involvement and/or a credentialing or licensing authority is affiliated with an occupational area, representatives of those groups be included on the ITAC. If labor and/or a credentialing/licensing body is not included on the ITAC, provide an explanation as to why.

Education and training provider representation - The *Guidelines for Development* recommend two "best practice" education and training providers be represented on the ITAC. Explain why the education and training providers listed are considered "best practice," or if no education and training providers are included, explain why not.

Appendix D – Assumptions Related to the Standards

Submission requirement: Any underlying assumptions determined by the ITAC to pertain across the skill standards statements for the specific occupational area.

If this application is in relation to an amendment to skill standards either recognized or conditionally recognized, explain the reason for the amendment and note the specific key activities (by key activity number) that have amended conditions. Additionally, describe how the ITAC determined that the amendment is applicable on a statewide basis.

Instructions:

List, with an explanation, any underlying assumptions determined by the ITAC to pertain across the skill standards statements.

Appendix E – Application Cover Page

TEXAS WORKFORCE INVESTMENT COUNCIL (TWIC)
Application for Skill Standards Recognition

TWIC Use Only	
Date received:	_____
Logged in by:	_____
Delivered via:	_____

Applicant: Name of ITAC or other submitting group

Mailing address

City, State, Zip

Project director or contact person Phone # Fax # Email

Occupation for which skill standards are being submitted

Recognition category sought (check one): ____ Recognized ____ Conditionally recognized

Skill standards submission type (check one): ____ New ____ Amendment ____ Update

Group seeking recognition (check category that applies):
_____ Texas industry group _____ NSSB vol. partnership _____ National industry group
_____ U.S. state authority _____ Foreign country
_____ Other (specify): _____

The authorized signature below by the chair indicates that the skill standards endorsed by the ITAC meet all the necessary recognition requirements contained in the *Guidelines for Development, Recognition and Usage of Skill Standards*; that the ITAC agrees that the attached skill standards are public domain and shall be available for deposit in the Texas skill standards repository for public access and storage; that an ITAC representative agrees to meet (as needed) with a TWIC representative prior to formal recognition consideration of the submitted skill standards; and that the signer has the authority to commit the ITAC to the statements of commitment and agreement contained herein.

Chair, ITAC (typed name and title)

Signature of ITAC chair Date

TEXAS WORKFORCE INVESTMENT COUNCIL USE ONLY

Staff Evaluation	**TWIC Action**
Recommendation: _____ Recognition _____ Recognized _____ No recognition _____ Conditionally recognized	Considered on TWIC meeting date: Outcome:
Signature of reviewer/Date	Signature of TWIC chair

Appendix F – Description of Skill Standards Development Process

Submission requirement - A description of the procedural steps undertaken to develop the skill standards, including the job analysis method that generated the raw data, and the validation strategy that ensures the resulting skill standards are valid and reliable.

Instructions:

Job analysis method - Describe the job analysis method used to generate the work- and worker-oriented information and statements of assessment from which the skill standards essential elements will be derived. (See Steps 4, 5, 6 and 8 of the *Guidelines for Development*.) Mention any existing skill standards/occupational data and/or best practice/high performance workplace examples used as a base of knowledge to commence the process. (See Step 3 of the *Guidelines for Development*.) Describe the use of subject matter experts (SMEs), including an explanation of how they are broadly representative of the occupational area by company size, geographic area, and demographic diversity. Attach additional documentation.

Appendix G – Review and Update Agreement

Submission requirement - A statement of commitment from the ITAC to review and update the skill standards, as needed.

Instructions:

Statement of commitment - On behalf of the ITAC or industry group submitting the skill standards, the signature below indicates agreement of the ITAC or industry group to review, and update as necessary, the skill standards submitted in this application when there are substantive changes to the work-oriented information, and to submit any updates to the TWIC. In the event that a quorum of the original ITAC membership is unable to reconvene for this purpose, another industry partnership may convene for the purposes of skill standards amendment or update.

Name of chair, ITAC/industry group

Signature of chair, ITAC/industry group

Date

Appendix H – AEKS Requirements

Participant Responsibilities and Qualifications for AEKS Data Collection

Participant	Responsibilities	Qualifications: M - Mandatory D - Desirable (Preferred)
Job Analyst	• Directs and facilitates overall AEKS process. • Convenes participants. • Trains AEKS SMEs in use of *Skill Scales Companion Guide* and AEKS process steps. • Conducts all steps of AEKS data collection process. • Debriefs participants at end of process.	Agent for development group. Works under the direction of the ITAC. **M -** Trained in the use of the *Skill Scales Companion Guide* and the process for AEKS data collection **M -** Highly skilled and experienced in facilitation of group sessions to identify work content **M -** Job analyst experience **M -** Trained DACUM or job analysis facilitator **D -** 3 or more years' experience in job analysis and the use of metrics/sophisticated measurement scales **D -** Masters, doctorate, or industrial and organizational (I.O.) qualification.
AEKS SMEs **(3-5 minimum per round; 7-10 where possible**	• Works under the direction of the job analyst. • Works with other AEKS SMEs to articulate AEKS scale and sub-scale levels for each CWF.	High performing SME in the occupational area. **M -** SME with 5 or more years of experience in the occupational area **<u>or</u>** First-line supervisor with at least 3 years supervising employees in the occupational area. **M -** Considered a "top" performer by supervisor or employer. **D -** Experience in training employees in the occupational area.

Process Stages for the Collection of AEKS Data

Stage	Participant(s)	Process Steps
Planning	Job analyst	• Identifies AEKS SME analysts with the assistance of the ITAC. • Identifies venue, tentative dates and times. • Finalizes AEKS data collection plan: dates, time(s), venue(s), and team assignments. • Notifies participants.
Orientation & Training	Job analyst: • AEKS SMEs	Convenes AEKS SMEs for orientation and training: • Briefs AEKS SMEs on the skill standards development process, and the collection of AEKS data. • Orientation – AEKS, goals of AEKS round • Introduction to and instruction in the use of the skill scales. • Carries out training in the use of the skill scales and the process of data collection. • Disseminates materials for data collection.
		Convenes AEKS SMEs for data collection. Conducts: • Setting expectations for participant responsibility in process (process vs. content) • Practice using the skill scales for critical work function (CWF) 1.
Data Collection	Job analyst • AEKS SMEs	Job analyst and AEKS SMEs progress through CWFs in sequential order using a 5-step process (see table below) to determine the AEKS relevant to each CWF, and to rate them on a 1 to 5 level of complexity using the skill scales.
Wrap Up	Job analyst	• Collects all documentation. • Ensures all documentation is complete. • Debriefs participants.

Five Step Process for AEKS Assignment and Rating

Step	At Level of	Action	For
1	CWF	Determine whether relevant or not relevant	Each of the 17 AEKS categories.
2	CWF	Rate the complexity sub-scales from 1 to 5; 1 being low, 5 being high.	Each of the AEKS determined to be relevant in the preceding step.
3	CWF	Rate the overall complexity from 1 to 5; 1 being low, 5 being high.	Each of the AEKS determined to be relevant and rated at the sub-scales in the preceding step.
4	CWF	Agreement on the rating in overall complexity	All AEKS, by the overall complexity rating determined in the preceding step.
5	CWF and relevant AEKS	Completion of all steps within the CWF.	Check to make sure that all AEKS have been determined either R or NR; relevant AEKS have been rated at both sub- and overall complexity scales from 1 to 5.
Repeat these steps until AEKS data have been assigned and rated for each CWF.			

Appendix I – ITAC Cover Letter Requesting Recognition (Example)

Submission Requirement: Cover letter formally requesting that the skill standards be recognized on a specific Texas Workforce Investment Council (TWIC) meeting date.

Instructions:

Address the cover letter to the TWIC chair from the ITAC chair and print it on the ITAC chair's company stationery. Indicate that the standards meet the procedural (e.g., ITAC composition, industry subject matter representation, skill standards development process) and content validity criteria, and note the significance of the standards to the industry in Texas. Request that the TWIC recognize the skill standards at a specific meeting. The example below is taken from a letter previously submitted for skill standards recognition in Texas.

Date

Mr./Ms. [Name of TWIC Chair]
Chair, Texas Workforce Investment Council
1100 San Jacinto Boulevard, Suite 1.100
Austin, Texas 78701

Subject: Digital Game and Simulation Programmer Skill Standards Recognition

Dear Mr./Ms. [Name of TWIC Chair]:

ITAC composition/Process and content validity criteria:
The Digital Game and Simulation Programmer Industry Technical Advisory Committee (DGSITAC) is composed of professionals from the gaming and simulation industry. We have overseen the development of the proposed skill standards for digital game and simulation programmer by subject matter experts representative of the industry statewide. The standards have been developed in accordance with Texas' *Guidelines for the Development, Recognition, and Usage of Skill Standards*, as detailed in the attached application. We endorse the standards for your consideration.

Significance of skill standards to the industry:
The members of the DGSITAC view the recognition of these skill standards as a significant step forward in accomplishing our goals to develop gaming and simulation career paths in community and technical colleges to provide graduates who meet our industry's needs. The Texas gaming and simulation industry faces significant competition in today's global market and we believe the recognition of these standards will give us a significant advantage in that competition and help contribute to the Texas economy.

Formal request for recognition consideration:
On behalf of the committee, I ask that the Texas Workforce Investment Council give full consideration to recognizing the Digital Game and Simulation Programmer skill standards at its June 5, 2015 meeting. We appreciate your time and efforts in this matter.

Sincerely,

Steve Tucker
Chair, Digital Game and Simulation Programmer Industry Technical Advisory Committee
Co-owner/Developer, Sharkbyte, LLC