# PRACTICAL COMPETENCE MANAGEMENT

TDS | *Where excellence develops*

Training & Development Systems, Inc. (TDS)
16902 El Camino Real, Suite 2B • Houston, Texas 77058
800-480-1128
**tdshou.com**

# Today's Case for Competence

Political turbulence, shifting regulatory focus, accelerating workforce dynamics and ongoing market pressures have created a perfect storm for high hazard industries. Each of these factors brings its own type of uncertainty for industries that already spend a great deal of time analyzing, mitigating and controlling process risks. These current conditions can present new challenges and variables that will test an organization's risk management system and framework.

Uncertainty adds risk, most certainly. Accepted best practices, such as the bow-tie risk analysis method, help determine and narrow down modes of potential failures. When the focus of these analyses is a plant system or process, the range of potential equipment failures, control variables and human errors are identified and then mitigated through a myriad of measures. These can include anything from new procedures, design changes and modified operational methods to increase surveillance that might include more frequent inspections or preventive maintenance measures.

## Why Competence Management?

When conditions present uncertain outcomes, the best practice is to check, verify and isolate the factor that appears to present the greatest risk exposure. In high hazard industries, a worker's ability to perform their job safely and effectively can, and often does, have a direct impact on equipment performance and process safety. Direct assessment of worker competency is crucial for maintaining the human layer of protection accident barrier.

Solving complex problems doesn't always require complex solutions. While systems and processes tend to take on the complexities of the organizations in which they exist, the path to implementing effective competency assurance can benefit from many years of best practices and practical advice available from global experts and practitioners.

"The wider chemical industry now has in place or is working toward embedding Competency Management Systems within their organizations to ensure that the right people have the right skills to manage and maintain major hazard controls on site."

*[1]Buncefield Ten-Year Report -COMAH Strategic Forum UK*

This paper presents five best practices that can help organizations develop and implement a competency management system. Each of these can be adapted to fit individual organizations and cultures and can minimize good programs running into insurmountable obstacles.

- **Start with the end in mind**
- **Engage, then communicate**
- **Manage expectations**
- **Maintain assessment integrity**
- **Track, feedback and follow-up**

These best practices come from lessons learned on projects for numerous organizations, industries and countries that include the U.S., UK and Asia. The assessment of worker competence against established performance criteria is a growing global standard that has delivered proven results for numerous organizations.

*"Direct assessment of worker competency is crucial for maintaining the 'human layer of protection' accident barrier."*

# Practical Competence Management

Building an effective competency management system (CMS) starts where all effective programs start — at the beginning. For this reason, the first best practice comes from the guru of effectiveness, Stephen Covey. In his global best seller, *7 Habits of Highly Effective People*[2], Covey provides sage advice that applies to numerous program and project situations including the task of developing and implementing a CMS.

## Start with the end in mind

The second of Covey's habits suggests that we always begin with the end in mind. His premise for this habit is that everything is created twice — visually and physically and that starting with a visual foundation is one of the best ways to ensure that you accomplish what you're setting out to do. In developing and implementing a CMS, there are two tools that can help you visualize the program before you begin to build it.

COMPETENCY TOOLS

- Competency Profiles
- Competency Task Maps

**Figure 1** depicts a typical **Competency Profile Diagram** for a Mechanic. These diagrams present a high-level view of all the competency units required for a given discipline or role. This first level breakdown can help you ensure that all the functions for a role have been identified. Each block on the diagram represents a "unit" that will include multiple competency "elements" as the role is broken down. Profile diagrams are very useful for verifying and discussing competencies with Subject Matter Experts (SMEs) since they provide a clear view of the scope of competencies without presenting too much detail. Presenting an excess of detail too early in the process can slow down the analysis as SMEs may begin to focus on task elements before defining the overall structure. Just imagine trying to determine the proper type and quantity of nails and screws required before the house is even designed. Use the profiles to visualize each discipline competency set.

Once the competency profile has been validated and verified by the SMEs, the next step is to identify the actual competency elements for each module or unit.  Elements are the actual tasks that are performed in a role and they describe observable and measurable performances. This listing of tasks can be presented in a variety of forms from spreadsheet lists to procedure-like outlines.

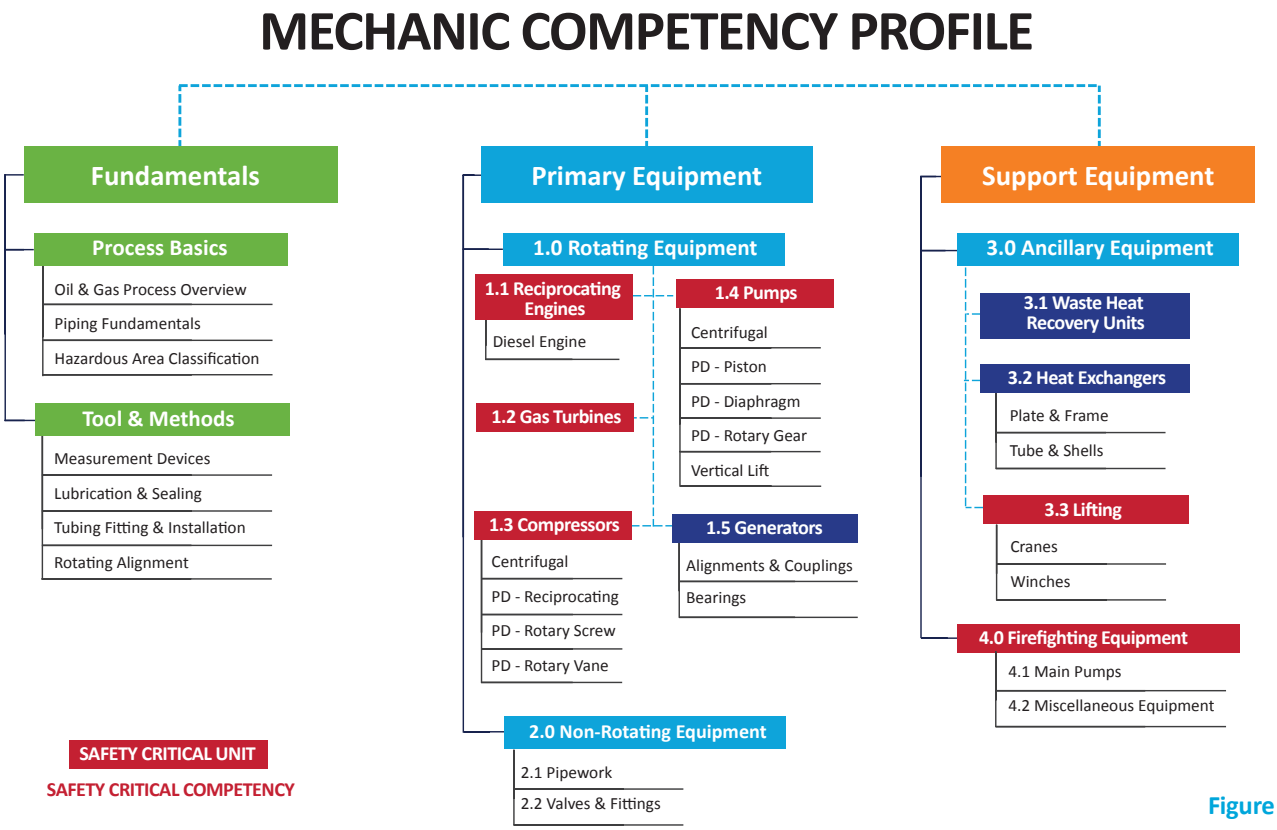


Figure 1

A task map, like the one depicted in **Figure 2**, is a practical way to visualize the next level of detail for each competency unit. The task map can be used during the design and development stages of the program to ensure effective and adequate validation by SMEs, and can then be included in program standards and policies to define the criteria for competency assessment.

For each of the 'units' identified in the competency profile, a task map breaks down the function into discreet competency elements. The element (e.g., 1.1, 1.2) is usually the level at which the competency will be assessed for a given competency unit. In some cases, it is helpful to go one step further and identify the sub-elements (e.g., 1.1.1, 1.1.2). The sample task map in Figure 2 includes both the element and sub-element levels. Sub-elements provide the steps required to perform each competency element and can be useful when developing the detailed assessment guidelines.

Both tools allow you to "visually create" the competency framework for each job, role or discipline and can save time and rework in later stages of program development or "physical creation." Because competency management programs can include numerous job roles and thousands of competency elements, it is vital to first visualize the program scope so that you can begin with the end in mind. These tools can help you do just that.

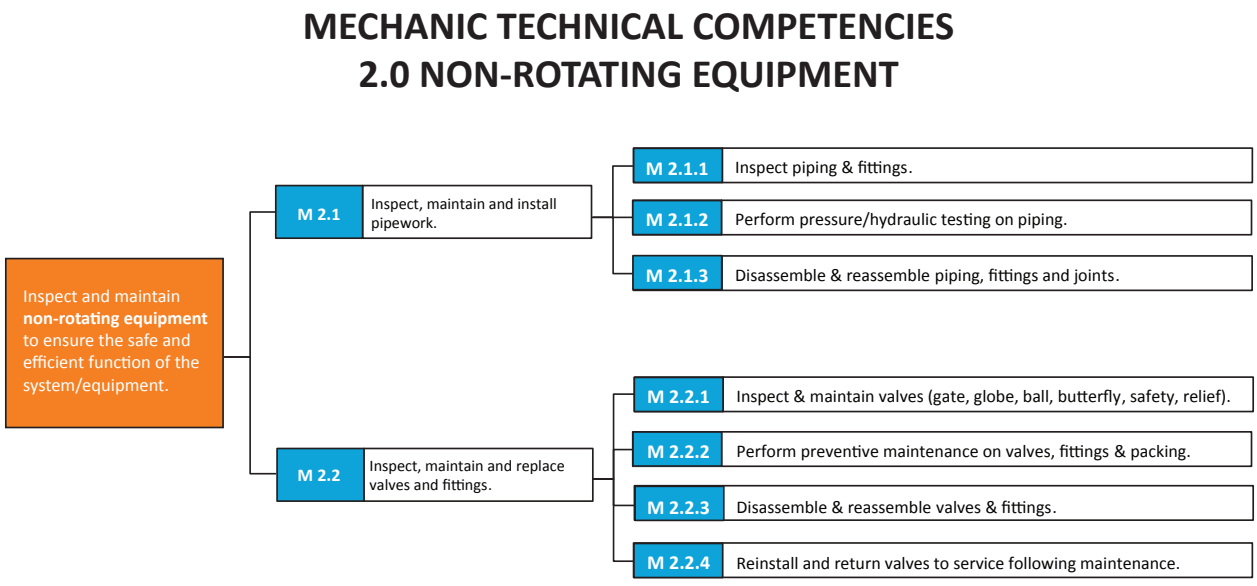


**Figure 2**

## Engage, then... communicate, communicate, communicate!

> "To learn something but not to do is really not to learn. To know something but not to do is really not to know."
> — *Stephen R. Covey*

Ownership creates commitment and accountability. If managers, supervisors, technicians and operators are all involved in building a new program and are informed of the objective, schedule and requirements, there is a much higher probability of success. When building a CMS, it is vital to involve all levels of the organization throughout multiple phases of the project.

### Program Design

Early in the process, include supervisors and technicians in workshops to help build the competency profiles and then task maps. These sessions provide a first opportunity to communicate the importance of their knowledge and experience in building the program. Managers can lend support by also attending these sessions, even though they may not directly participate.

### Program Validation

Once the competency profiles and task maps have been created, ensure that the respective discipline supervisors and lead technicians have the chance to confirm the accuracy, completeness and validity of the identified competencies. This is important since these charts provide the basis for developing the overall Competency Standard and Assessment Guide documents which serve as the basis for individual assessments.

### Program Pilot and Launch

Before any program is formally implemented, a pilot with a smaller group of individuals in a selected role can help to fine-tune and confirm various aspects; from timing and scheduling to adequacy of support materials and facilities. While supervisor involvement for the formal roll-out of the program may appear obvious, it is equally important for them to take part in launching the initial pilot efforts.


These smaller groups will quickly communicate their opinion of the program to their colleagues and this first impression should be supported by interest and involvement from all levels of supervision and management.

During the formal launch and kick-off of the CMS program, a standard presentation will help ensure consistency of the message. It is critical that the presentation also include words of support from senior management. The right message will confirm upfront how important the program is to the organization and to each member of the team. **Figure 3** illustrates a sample outline for the CMS program kick-off:

### COMPETENCY MANAGEMENT SYSTEM (CMS) PROGRAM LAUNCH

- **Introduction and message from senior management**
- **CMS program objective and intent – Why are we doing this?**
- **CMS program phases**
  - Evidence collection
  - Evidence review
  - Knowledge assessment
  - Performance assessment
  - Feedback session
- **Program documents**
  - Profile and Task Map
  - Competency Standard
  - Evidence Binder
  - Assessment Guide
  - Assessment Summary
- **Individual responsibilities**
- **Schedule**
- **Feedback process**

Figure 3

Establishing clarity about the reasons for and benefits of competency assurance and the intent of the organization will go a long way to prevent rumors and misinformation that can derail even the most well thought-out program. As mentioned, it is also vital that the workforce hear directly from senior management before the start of the program to show their support and enthusiasm. Knowing that the program is a focus of management, has input from supervisors and technicians, and is being conducted following the highest industry standards will establish a strong foundation for success.

### Evidence Collection

EVIDENCE COLLECTION

Collecting evidence of previous training, certifications, work experience and witness testimonies will save time during the actual assessments since this step provides Assessors a basis for their questions. Most importantly, the evidence binder helps Assessors know areas that won't require as much time and attention because the individual has had extensive experience and formal training. This allows more time on areas that may uncover skill or knowledge gaps that will be identified and used for individual plans.

Each individual should have accountability to compile their own evidence binder so that they develop ownership and pride in what they have accomplished. In many industries, evidence binders of past experience and training are taken from project to project or company to company by the individual. This is especially true in industries where regulators may ask to review previous training certificates and records with minimal notice. Perhaps more importantly, this effort will instill pride in the workforce and will help to create a sense of ownership in the overall competency program.

## Manage Expectations

Whenever evaluations or assessments are involved, people get nervous. While reactions can vary depending on situations and circumstances, the source is often a misunderstanding or lack of knowledge about expectations. A competency system based on an established standard is the best way to communicate expectations in an objective and straightforward manner. The Competency Standard document clearly defines the knowledge requirements and performance criteria for each competency. This is the first step to establish and communicate expectations. The standard should, as a minimum, specify the:

- Performance Criteria – what is the task to be performed?
- Product Evidence – what documentation is produced?
- Knowledge Criteria – what is the knowledge required?
- Knowledge Evidence – what are the questions used to verify knowledge?

**94%** of respondents believe that effective **competency management** would **prevent safety** and **compliance issues.**

*Source: [3]2015 Survey of 100 US executives and HR professionals [Independent research firm, Reputation Leaders]*

Once these expectations have been established, it is also important to provide clear criteria for assessment ratings. In most competency assurance programs, individuals are assessed to the Competency Standard and rated either *"Competent"* (C) to perform the task(s) or "*Not Yet Competent"* (NYC), due to gaps in either the knowledge required or the actual performance portion. When a single competency unit includes several competency elements, there is a chance that an individual may be rated Competent on only a portion of the elements. In this case, there must be clear criteria that defines the percent of "C" vs. "NYC" required on all elements in order for a unit to receive a "C" rating. For many companies in high hazard industries, the criteria are very often 100% competency rating on all elements in order to receive an overall "C" for a competency unit.


ASSESSMENT RATINGS

A comprehensive feedback and gap closure process (discussed later) will alleviate the majority of concerns regarding how the assessment will impact an individual's job standing. Competency assessment should never be viewed or portrayed as a means to eliminate individuals, but rather as a means to develop individual performance excellence.

## Maintain assessment integrity

Assessments are the point at which individual performance and knowledge is compared to the established standard. Integrity in all aspects of this process is paramount. From the qualifications of the Assessors to the location selected for the actual assessment to the independent verification of Assessors, any compromise can endanger the credibility and validity of the program. You can help to ensure the integrity of your assessment process by following these industry best practices:

### Verify Assessor qualifications

The global standard[4] for Assessor qualifications is the OPITO organization in the U.K. (http://www.opito.com). This standard requires that Competence Assessors:

- ✓ be technically competent in the discipline being assessed, and
- ✓ hold a recognized Assessor's qualification (e.g., L&D9DI, L&D9D, A1, A2, D32, D33).

In lieu of putting these standards in place, in the U.S. it is generally accepted that Assessors with technical experience in the discipline being assessed may be considered "qualified" if they complete an "Assessor in the Workplace" or "Qualified Assessor" training program that includes both knowledge and practical evaluation of participants. This training should be conducted by facilitators who possess the recognized A1, A2, etc., Assessor qualifications.

### Maintain confidentiality

Final reports are generally maintained to document worker competency. These reports should always be treated as confidential information, and should be kept in secure locations to prevent release of individual performance ratings. In most cases, these records will be maintained electronically in a computerized Competency Management database. In these instances, security levels are assigned based upon the need to know.

### Invest in independent verification

The verification step is an easy one to omit because it adds cost to the overall process. However, the value that independent verification of assessment results adds to any competency management system outweighs the added expense in the validation it will provide. Independent verification can be done with either internal or external resources. In either case, it is crucial to confirm the qualifications5 of verifiers just as is done for assessors.

Programs that rely exclusively upon internal assessors for implementation may, on occasion, produce results that can be suspect to outside auditors or regulators. Auditors (and verifiers) typically look for consistent application of established standards during the assessments. Two effective prevention measures are to remove the opportunity to apply individual opinions by using established standards, and avoid having Assessors assess their direct reports. The added security of an independent verification can further minimize any potential inconsistencies or appearances of subjectivity or favoritism.

"Verification is a quality assurance role; essential so that all those involved in assessment carry out assessment consistently."

*Source: [5]Internal Verifier Training Standard OPITO Standard Code: 9020*

## Track, feedback and follow-up

TRACK, FEEDBACK & FOLLOW-UP

The objective of any competency management program is to ensure and improve the capability of the workforce to perform their jobs. One of the most valuable outcomes from a competency assessment is the identification of opportunities for improvement. While these may be identified initially as "gaps" in skills or knowledge, there is much greater value to be gained if we use the information to generate individual development plans that address areas where individuals may have been rated as "NYC." These plans may identify additional training, mentoring or assigned job experience that will ultimately allow the individual to achieve full "C" ratings in all areas.

The following best practices can help your program to maintain continuous improvement in the skills and competencies of your workforce:

### Conduct assessment review summaries with supervisors and individuals

Following each round of assessment, a summary report should be prepared for each individual by the Assessor indicating C/NYC status in each competency unit. These summaries are then provided to the supervisors for them to review with each of their direct reports. In these reviews, supervisors should emphasize overall successes and areas for further work and improvement and confirm that each person felt they were assessed objectively and fairly against the competency standards.

### Develop, implement and assign accountability for gap closure plans to supervisors

Since the supervisors control work assignments, they are in the best position to use the information in the Assessment Summary to develop and implement gap closure plans. These plans are typically developed in concert with Human Resources and Training departments since they may impact career and job progression. Each plan should clearly specify training to be attended or self-study to be completed. Plans should also identify specific work activities, and should assign a mentor or senior technical person to demonstrate proper methods and supervise the individual until they are prepared for re-assessment.

### Track and trend NYC results

Keeping track of assessment results across each discipline provides the data required to identify trends in skill and knowledge gaps that may impact job performance. For example, if the results from assessments conducted for all mechanics indicated a high incidence (e.g., greater than 10% for all individuals) of NYC ratings for competencies related to compressors, it may be worth comparing these results to any equipment or operational issues in the recent past.

It is not uncommon for competency assessments to uncover potential human performance root causes for equipment reliability or failures. Depending on hiring processes and the experience diversity of work groups, there may be competency units where the "NYC" ratings outnumber the "C" ratings. Especially during these lean staffing times, there is a higher possibility that technicians might be assigned to tasks where they were not yet competent but had never been evaluated. Fortunately, in most cases there are fully competent workers present to oversee and direct the work of these not quite competent technicians.

This is a key value of the competency assurance process — identifying critical skill gaps so they can be addressed and, in doing so, raise the overall capability of the workforce and organization.

Implementing an effective competency assurance program is a challenging endeavor, but programs can benefit from any of the industry best practices and experience shared here. The real key is to adopt and adapt these practices to fit the organizational issues, priorities and culture. Competency assurance can be and has been successful in a range of organizations from large multi-nationals to smaller domestic operators. An effectively implemented program will assess and confirm competency levels across critical disciplines, identify opportunities for improvements (gaps), and raise the overall cultural focus on safe and competent performance of all job functions.

So, where to start? Remember our first best practice and visualize where it is you'd like to be in the end.

Start there.

"There are known knowns. These are things we know that we know. There are known unknowns.

That is to say, there are things that we know we don't know. But there are also unknown unknowns.

There are things we don't know we don't know."

**— Donald Rumsfeld**

"… saying that most accidents were due to human error … is true in a sense but …a bit like saying that falls are due to gravity."

*— Dr. Trevor Kletz, Father of Process Safety*

## About the Authors

**TDS [tdshou.com]** - TDS provides workforce learning and development solutions and has served the oil and gas industry since 1993. TDS collaborates with companies in the oil and gas, pipeline, petrochemical and refining industry to improve workforce performance and bring out the best in their most valuable asset – their people. Expertise in the industry, as well as in adult learning and competency management, provides TDS a keen understanding of your business, and our flexibility allows us to deliver customized solutions quickly and efficiently. **+1 281.488.1128**

## Sources:


1. *Buncefield Ten-Year Report, COMAH Strategic Forum UK.*
2. *Covey, Stephen R. The 7 Habits of Highly Effective People, Free Press, 1989.*
3. *2015 Survey of 100 US executives and HR professionals, Conducted by independent research firm Reputation Leaders.*
4. *Assessment Guidance for Mentors, Expert Witness Advisors (EWA) Assessors and Internal Verifiers, OPITO, A.G. Revision D, October 2013.*
5. *Internal Verifier Training Standard OPITO Standard Code: 9020, Revision 1 Amendment 3, 10-January 2013.*