

PetroSkills®



PETROSKILLS COMPETENCY SYSTEM PCS

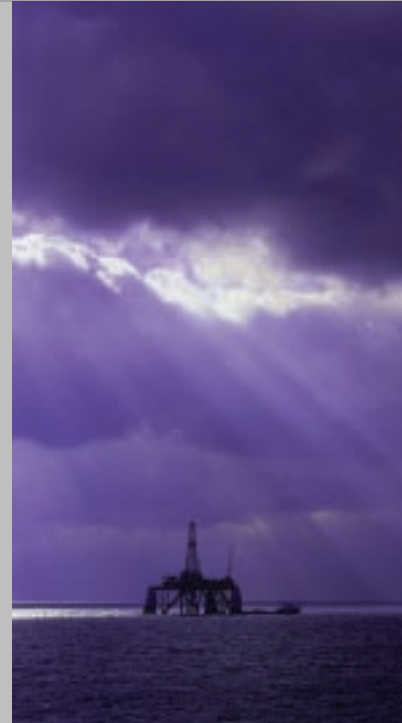
COMPETENCY DEVELOPMENT • MANAGEMENT • ASSURANCE

Competent People - Competent Workforce

PETROSKILLS COMPETENCY SYSTEM (PCS)

The development of engineers and technicians in a cost-effective and timely manner is essential to business success in the global Oil and Gas industry.

Developing and, where appropriate, assuring the skills or competencies of individuals is the key to a successful workforce and a successful business. This requires the adoption of structured and competency-based personnel development planning. Competency-based training is the foundation of PetroSkills. Through the PetroSkills training alliance, we are providing competency-based training tailored to the needs of the industry.



The industry has to address the problem of developing its changing workforce needs to an appropriate level of competence in the shortest possible time. This must be done in a cost-effective way that ensures an appropriate Return On Investment (ROI). Structured competency-based training reduces time to competency and shows a positive Direct Return On Investment.

The basic requirement is a process for identifying and defining, in a measurable and objective way, the competencies required by each individual in order to perform the job-related tasks. Competency can refer to Knowledge, Skill, or Attitude, all of which can be part of the overall task performance: knowing what to do (knowledge), being able to do it (skill) and understanding the need for application of the skill (attitude).

If any manager or supervisor was asked the question, "Do your personnel need to be competent in their job?" the designed response is that they would all say "yes, of course." The next question would be, "How do you define that competence?" The answers would almost certainly vary from "I use competency-based task definitions" to "I have been doing the job for years, so I just know what's involved"

When you attend a PetroSkills program, you can be sure that it will fit into your overall career development program, and will be the best training available. PCS is designed to set the course for career planning and training for all personnel within their respective company or corporation.

Competency Wheel The Competency Wheel, as shown to the right, illustrates the steps within the process starting with 'Define Job Competencies' progressing through assessment and skills gaps, to training activities that close defined gaps. The wheel concept is important, as it demonstrates that this is an interactive development process that ensures the continued development of individuals and the workforce.

The PetroSkills Competency System utilizes a globally-recognized standard for the Oil and Gas industry, based on the requirements defined by the PetroSkills Alliance, to implement the competency wheel in a sustainable way.

The PetroSkills Alliance provides industry insight and know-how that few, if any other companies, can provide. The deep industry collaboration between PetroSkills and its alliance members ensures that PetroSkills content and processes are leading edge solutions. These solutions are strategically aligned to address the global nature of Oil and Gas competency and talent management challenges.

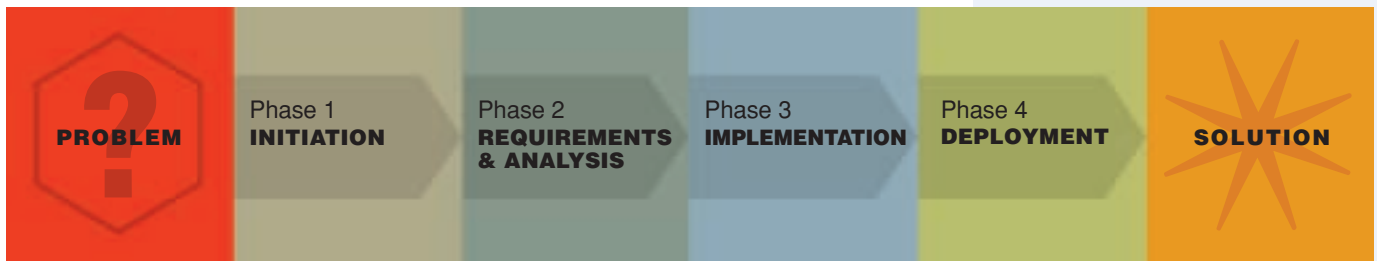


Figure 1:
The Competency Wheel –
The Sustainable Process

COMPETENCY ANALYSIS METHODOLOGY (CAM)

The PetroSkills Competency System (PCS) consultants use the Competency Analysis Methodology (CAM) as the core process to ensure that the correct solution is created and implemented. CAM is a project management process that moves from problem to solution in a structured way. Each phase builds on the previous phase to ensure that the financial, process and innovation steps are carefully aligned to achieve effective deployment and sustainability of the competency system. The PCS provides all four components that are essential for effective implementation of a competency solution. They are:

- A Proven set of implementation and deployment business processes
- A framework of competency definitions – Competency Map (CMAP) – created by PetroSkills and supported by subject matter experts - consultants to refine the map to fit your business need.
- The proven PCS software that ensures the effective implementation and sustainability of the competency solution.
- Learning & Development solutions, including the globally-delivered PetroSkills training courses and the development of training materials for On-Job Training.



Competency Solution Processes

PetroSkills Competency Solutions: The success of PCS is due to tested and proven business practices implemented in major projects worldwide. PetroSkills incorporates proven processes that ensure the sustainability and success of our solution sets. Our expert teams transfer methodologies and practices to our customers. These processes can be tailored to meet unique customer culture and business requirements.

Competency Maps

Competency Maps (CMAPs): provide accurate, relevant, and up-to-date definitions of what is required for an individual to be competent in the discipline or job covered by the CMAP. Each skill is given four levels of competency; in essence the required level of proficiency in that skill: Awareness, Fundamental Application, Skilled Application and Mastery. PetroSkills has created a series of industry-standard CMAPs that can be used to create distinct 'job families' to meet the specific needs of a user organization, thus benefiting from the ability to create 'tailored maps' while using the industry standard competency statements.

Sustainability: It is essential that all competency definitions and respective CMAPs remain accurate and relevant, reflecting any changes in the Application and Mastery. PetroSkills Course Content is based on detailed skill and competency maps developed with our member companies. The Alliance members work together to clearly define the skills that are needed in each discipline for a range of skill levels. To achieve this, the PetroSkills industry standard CMAPs are reviewed by the subject matter experts and amended as required, keeping the maps relevant.

INDUSTRY-STANDARD COMPETENCY MAPS ARE USED TO CREATE CUSTOM SOLUTIONS TO MEET SPECIFIC BUSINESS NEEDS

Competency Map Definitions: The definitions used within the PetroSkills CMAPs are Discipline, Skill Group, Skill, Skill Description and Proficiency Level (as shown in Figure 1), with the latter being divided into the four levels of Awareness, Fundamental Application, Skilled Application and Mastery.

1. Discipline: This is the overall title of the CMAP; for example 'Well Construction Competency Map' in Figure 2 (this is only an extract of the map). A map for each discipline has been developed.

2. Skill Group: Each CMAP is divided into a number of Skill Groups, which are in essence a way of grouping together related skills to make the overall competency definition easier to model and use. Most CMAPs have 5-12 Skill Groups, but the number varies depending on the specific discipline.

3. Skill: Each Skill Group can be further sub-divided into individual skills that together make up the total Skill Group. The number of individual Skills will vary depending on the complexity or requirements of the Skill Group.

4. Skill Description: This is the actual competency definition that states in clear and measurable terms what the individual has to do in order to be competent in that skill – at that level of proficiency. The Learning and Development activities can be linked to this level.

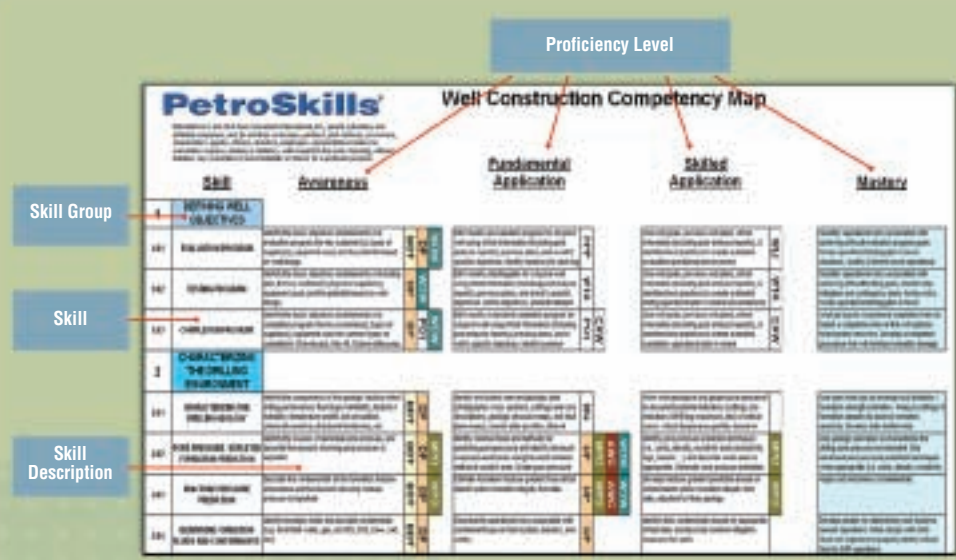


Figure 2: Extract of a Typical Competency Map (CMAP)

The Proficiency Levels define, in objective terms, the skill content requirements, from the lowest level ('Awareness' – knowledge of the subject) to the highest level ('Mastery' – the company 'go-to person' for that subject). In a developed company the majority of people would be at the Skilled Application. This means they are competent to perform the task without assistance, in a variety of situations and to the required conditions and standards. The competency system is the proven method of getting people to this level in the shortest possible time. The consultants work with client management and Subject Matter Experts to ensure that the precise business needs are met.

REFINING THE CMAP

When refining the CMAP, we use the Competency Analysis Profile (CAP) process to create the detailed skill profiles at the task level for the specific job role or specific plant/unit. PCS solution consultants work with you to refine the basic maps, or create maps from first principles. They derive the maps necessary to meet development, assurance or compliance requirements. PetroSkills understands that each of our clients may have unique business requirements or challenges that require customization of our frameworks, CAP provides an adaptive process to address unique needs. CAP is a structured approach used to:

- Define specific task components and job processes
- Define and create Learning & Development links, materials, and assessments
- Validate organizational structure to determine gaps in processes or learning structure and material

The CAP process will determine the competency framework or frameworks that best meet the defined needs. This will be a combination of:

- PetroSkills CMAPs, either "as is" or customized to Job Family/Job Positions
- Specific CMAPs, created by your Company or acquired from other sources

- Work Experience Inventories, to provide detailed OJT guidance for individuals and mentors
- Competency Profiles - task inventories for a particular unit within a particular plant for assurance

The outcome of this phase of the CAM is an accurate definition of the competencies for individual and workforce development and assurance – based on industry-standard definitions and processes but tailored to meet your business needs. This forms the foundation for:

- All levels of Talent Management and Workforce Development
- Sustainable skills-based development on a global basis
- Nationalization of work force
- Recruitment and Retention
- ...and many other Organizational Development issues and requirements

To be effective in a practical way, the competency framework requires a software system; the CMAPs can be placed within a suitable existing corporate system or they can be entered into the PCS software.

COMPETENCY ANALYSIS TOOL (CAT ENTERPRISE)

CAT ENTERPRISE is a web based software program that has been primarily designed to allow individuals to direct their own career development through the identification of skill gaps and the learning activities needed to close those skill gaps. It also provides an effective system to organize, measure, and manage development requirements. The three main access levels and functions are:

INDIVIDUAL USERS (also referred to as 'Learners' or 'Participants') assess their current skills against pre-determined industry or Company competency maps, "what do I know and what do I not know", then identify skill gaps and create Professional Development Plans to close those gaps.

SUPERVISORS play a crucial role in the assessment and development of the individuals and groups for whom they are responsible. CAT provides an efficient and powerful tool for this purpose. In addition to the assessment of an individual, this information can be used as a basis for discussion of development needs. Supervisors then have the ability to create reports for a group.

ADMINISTRATORS manage the company's CAT site and prepare organizational reports for a variety of purposes. CAT can also be integrated into a company's ERP system.

COMPETENCY WHEEL USING CAT ENTERPRISE

1. Tailored Functional Competency Map:

The appropriate tailored (customized CMAP) is allocated to an individual.

2. Individual Assessment of Competency:

The individual 'assesses' current competency against a series of CMAP Skill Descriptions: Figure 3 shows two typical Skills that have been assessed by the individual, with Green showing that the person has 'All' of that Skill Description, yellow showing 'Some' and Red showing 'None'. This process would be completed for all the appropriate Skill Groups in order to produce a complete self-assessed profile of the individual's current competency.

3. Supervisor Assessment: The mentor, coach or supervisor can cross-assess the competency, using the same color code system; this provides a level of assurance, and more importantly from a development perspective, a focus for supervisor-employee discussion.

4. Skill Gap Analysis: The next stage is to identify what the individual requires in order to meet the required competencies; this is defined as determining the Skill gap. Figure 3 shows the Gap Analysis view of a CMAP, from which it is evident where the individual has gaps (the red and yellow areas). The highlighted area shows where a Development Activity (training) has been overlaid on the report to indicate the coverage of that activity.

5. Create Professional Development Plan: Having defined the Skill gap, the next stage is for the individual to devise a Professional Development Plan (PDP) to close that Skill gap. This can be achieved through a variety of Development Activities, from formal courses to work experience/on-the-job training and other learning and development options. These Development Activities are linked to the competencies in the CMAPs. The Development Activities selected on the Gap Analysis page can be sent to the Professional Development Plan.

6. Execute Professional Development Plan: Once authorized by the supervisor, the PDP is then completed and the individual updates their competency inventory as required, thus providing an on-going and accurate view of both individual and group competency.

7. Management Reporting: The CAT has comprehensive reporting features that allow individual, group and managerial level reports to be created.



Figure 3:
The CAT Enterprise
Competency Wheel

TRACCESS CI

TRACCESS CI is designed to address the unique requirements of delivering, managing, tracking and assuring the knowledge and capability of operator and maintenance (O&M) technicians. The system provides a self directed method of monitoring compliance and building competence of all process operations personnel. CI has a large variety of roles that can be defined within the system but there are two that are primary:

1. INDIVIDUAL USERS (also referred to as 'Learners' or 'Participants') are assigned process tasks to learn according to the asset unit operation areas assigned for their job role.

2. SUPERVISORS play a crucial role in the assessment and development of the individuals and groups for whom they are responsible. CI provides an efficient and powerful tool for this purpose. In addition to the assessment of an individual and the use of this information as a basis for discussion of development needs, the supervisor can also create reports for a group.

COMPETENCY WHEEL USING TRACCESS CI

1. Tailored Competency Map: The appropriate tailored (customized CMAP) is provided and customized for specific unit operations resulting in a competency profile suited to an asset and the individual job roles.

2. Gaps Defined: Guidelines, policies, procedures and critical task related information is inventoried, validated and then compared to job role requirements and compared to individual qualifications and experience.

3. Development Plan: Technicians and their supervisor agree on an annual development plan that draws from the entire competency framework and is tailored to the individual skill requirements for specific technician roles and responsibilities. Development plans provide learning content, knowledge and capability assessment. Development plans are self directed and supported by expert coaches.

4. Knowledge Assessments: Knowledge assessments are created and provided according to the assurance and compliance requirements of the specific business process tasks. Technician knowledge is assessed and scored according to standardized online or paper exams.

5. Practice with the Coach: On-job training with appropriate seasoning time is provided until they have the capability to perform field tasks to a safe and reliable standard.

6. Capability Assessments: Technicians are provided with a performance standard for work processes conducted within the field. Supervisors observe and score the performance of the technician according to the performance standard and verify the learner's capability and competence.

7. Management Reporting: The CI system tracks all records and histories for process and task competency achievements across the entire operations organization. CI provides comprehensive reporting features. A data warehouse capability to view competency achievement over the dimension of time is also provided.



LEARNING AND DEVELOPMENT

Two issues face the industry over the next few years that make effective learning and development even more important. They are:

- Current demographics in the Oil and Gas industry demonstrate the need for the development of entry-level personnel ('new hires') and current junior personnel to fill upcoming requirements – the so-called 'Big Crew Change' is underway.
- The loss of experienced personnel provides the additional challenge of capturing their skills and knowledge to ensure that job performance requirements are transferred into effective training.

The PetroSkills Competency System ensures that all appropriate Learning and Development is linked to the competencies, thus ensuring focused training and effective determination of training need for individuals and groups. Learning and Development covers the whole spectrum of knowledge transfer methodologies, from formal classroom training to self-study on-line modules and On-Job Training work experience. This is the third element of a competency system, and by requiring that all L&D is competency-based, it ensures that it is relevant and effective, which minimizes training cost and decreases time to competency.

SUPPORTING METHODOLOGIES

SPEAKDOC

SpeakDOC is a digitally enhanced method of capturing knowledge and information from workplace experts and transforming that captured essential know-how into various media formats for use in operations, maintenance or training. SpeakDOC allows you to:

- Quickly and accurately capture process and procedure events and knowledge.
- Digitally record each task 'step by step'
- Identify potential hazards of specific equipment (safety critical tasks)
- Document this key data without interruption to normal working

The digital results can be used by your company to produce the appropriate regulatory-compliant procedures, interactive learning modules, or paper-based unit manuals and other similar material. However, we recognize how busy your experts are with their normal working routines and that it is often impossible for them to undertake the creation of these materials. We can provide integrated teams of seasoned experts to complete the technical writing tasks and produce the required materials, which are then validated and signed-off by your experts.

For more information on SpeakDOC and the technical writing services, request a copy of our SpeakDOC brochure, or download this at www.petroskills.com/pcs/speakdoc.

PCS-Find

PCS-Find is a browser-based information management framework and search tool for reviewing, searching and accessing job-related information and resources. We customize the browser structure and design to give immediate access to your mission-critical information.

PCS-Find catalogs existing resources and indexes them with up to six levels. We can then link all or part of a resource to other applications, including the PCS software.

PCS-Find allows you to:

- Rapidly access content in the PCS-Find framework
- Navigate the system through a user-friendly tree and 'point and click' commands
- Use the search engine from a server, stand-alone workstation, or CD
- Access an on-line tutorial system for orienting users to PCS-Find
- Participate in the change-management process by submitting comments on specific content pages, via the web browser

For more information on PCS-Find, request a copy of our PCS-Find brochure, or download this at www.petroskills.com/pcs/PCS-Find.



CAT Enterprise and Traccess CI Client List

| | | | |
|----------------|----------------|-----------------------|----------------------|
| Apache | PTTEP | Swift Energy | Sahara Petrochemical |
| Baker Hughes | IBN ZAHR | Tullow | Shell Eastern |
| BG | Nexen | Woodside Energy | Talisman |
| BHP Billiton | Oxy | Atlantic Methanol | Tasnee Petrochemical |
| BP | Petro-Canada | YANSAB | Total |
| ConocoPhillips | Pertamina | Caltex | Williams Co. |
| Chevron | Petro SA | Eastern Petrochemical | SAFCO |
| DONG | Repsol-YPF | EnCana Oil & Gas | |
| Halliburton | Saudi Aramco | Huntsman | |
| Marathon | Spectra Energy | Husky | |

Contact and Registration Information

UNITED STATES

Exploration & Production - Tulsa +1 918 828 2500
24 Hour Emergency Only +1 918 671 6242

PetroSkills Conference Center +1 832 426 1200
- Houston

PetroSkills Facilities - Norman +1 405 321 1383

Toll Free (US and Canada) +1 800 821 5933
training@petroskills.com

CANADA

Calgary +1 403 668 4526
Canada@petroskills.com

EUROPE

PetroSkills E&P, HSE +44 (0) 208 123 2173
uk-enquiries@petroskills.com

MIDDLE EAST

PetroSkills PCS +973 383 58624
middleeast@petroskills.com

SOUTH EAST ASIA

Singapore +65 6725 8000 ext. 53080
Malaysia +60 3 2168 4751
ap-enquiries@petroskills.com

SOUTH AMERICA

Argentina +5411 4394 3359
petroskillscastellano@petroskills.com

WEST AFRICA

Angola +244 222 328405
waa-enquiries@petroskills.com

Nigeria +234 803 583 3988
wa-enquiries@petroskills.com

For more information on these and other PetroSkills programs, visit www.petroskills.com