

Trainer Competencies

API Central Committee on Training and Development

API Publication 1210
First Edition, December 1994



American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005



STEP

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API ENVIRONMENTAL MISSION AND GUIDING ENVIRONMENTAL PRINCIPLES

The members of the American Petroleum Institute are dedicated to continuous efforts to improve the compatibility of our operations with the environment while economically developing energy resources and supplying high quality products and services to consumers. The members recognize the importance of efficiently meeting society's needs and our responsibility to work with the public, the government, and others to develop and to use natural resources in an environmentally sound manner while protecting the health and safety of our employees and the public. To meet these responsibilities, API members pledge to manage our businesses according to these principles:

- To recognize and to respond to community concerns about our raw materials, products and operations.
- To operate our plants and facilities, and to handle our raw materials and products in a manner that protects the environment, and the safety and health of our employees and the public.
- To make safety, health and environmental considerations a priority in our planning, and our development of new products and processes.
- To advise promptly appropriate officials, employees, customers and the public of information on significant industry-related safety, health and environmental hazards, and to recommend protective measures.
- To counsel customers, transporters and others in the safe use, transportation and disposal of our raw materials, products and waste materials.
- To economically develop and produce natural resources and to conserve those resources by using energy efficiently.
- To extend knowledge by conducting or supporting research on the safety, health and environmental effects of our raw materials, products, processes and waste materials.
- To commit to reduce overall emissions and waste generation.
- To work with others to resolve problems created by handling and disposal of hazardous substances from our operations.
- To participate with government and others in creating responsible laws, regulations and standards to safeguard the community, workplace and environment.
- To promote these principles and practices by sharing experiences and offering assistance to others who produce, handle, use, transport or dispose of similar raw materials, petroleum products and wastes.

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FOREWORD

The API Central Committee on Training and Development has prepared this publication as a “road map” to assist the industry in defining the professional development needs of its training organizations. Sets of trainer competencies were developed to provide industry with easily understandable and measurable guidelines for answering the broad question “What is a competent trainer?”

Note: Each set of competencies described by this publication represents an ideal set from which an organization or any of its sites can select those competencies required of its training group. The competencies are not required by government agencies. Accordingly, employers, their employees, and federal and state agencies should not construe them as *de facto* requirements.

With other oil industry and professional organizations, the API Refining Group’s District Training Conferences of the Central Committee on Training and Development promote and enhance trainer development and networking. To industry organizations, the Central Committee offers specialized conferences that train people in how to train industry employees. (See the appendix.)

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Trainer Competencies

SECTION 1—INTRODUCTION

1.1 Scope

This publication presents the four essential areas of expertise required of a complete training program. Each of the four areas of expertise is needed to establish a comprehensive and effective training program.

Note: The terms used for the four areas of expertise (see Section 2) do not necessarily identify specific positions within a training group.

A general description of the trainer competencies required by the areas of expertise is presented in Section 2.

Details of the trainer competencies required by each area of expertise are presented in Section 3. For each area of expertise, typical position titles, objectives, and activities are described. Also, for each area, a list of the competencies in training that are required of its trainers is presented. The list can be used to measure a trainer's proficiency in that area.

1.2 General

Typically, a specific industry organization or one of its sites has designated one or two employees as trainers. They—as the training group—coordinate all training functions. Otherwise, the industry relies on external vendors, consultants, program developers, program designers, trainers, and the like to train its employees.

Most organizations designate as trainer candidates those employees who are respected by fellow workers and supervisors for their industry skills and knowledge and who demonstrate the desire and ability to impart their skills and knowledge to other employees. An organization's training group might include employees in various positions—such as program developer, full-time trainer, part-time trainer, first line supervisor, and industry specialist—and these employees might have various amounts of training expertise. Many trainers in refineries, chemical plants, and gas processing plants do not have degrees in education or training. Some employees can become trainers through a combination of train-the-trainer workshops, informal day-to-day coaching by experienced trainers, and on-the-job assignments in training other employees.

However, the key ingredient in any successful training program in an organization is the involvement of *all* levels of the organization—operations, maintenance, compliance, and management—in the training process.

With other oil industry and professional organizations, the API Refining Group's District Training Conferences of the Central Committee on Training and Development promote and enhance trainer development and networking. To industry organizations, the Central Committee offers specialized conferences that train people in how to train industry employees. (See the appendix.)

SECTION 2—TRAINER COMPETENCIES

Trainer competencies may be divided into four major areas of expertise:

- a. Program management.
- b. Session delivery.
- c. Resource assistance.
- d. Application and evaluation.

Some competencies appear in only one area of expertise. Some competencies appear in more than one. All of the trainer competencies can help the industry organization define and tailor the needs of its training group in developing the competencies of the training group staff.

The term *competencies* is used because training is more than instructional delivery. Most of the training effort is not expended during classroom presentation but before and after

it. The out-of-class effort might include on-the-job training (OJT) and the design, development, monitoring, auditing, and administration of training. The training group might be staffed by training coordinators, full- and part-time trainers serving in staff or line positions, specialists, and line supervisors.

As trainers develop their training competencies, they become more efficient and effective in transferring their industry knowledge and skills to other employees. Consequently, the trainers become more valuable to their organizations. While each of the positions corresponding to typical training group employees (training coordinators, full- and part-time trainers serving in staff or line positions, specialists, and line supervisors) has specific training-related functions and therefore requires unique competencies, all of the training positions focus on improving worker performance.

SECTION 3—THE FOUR AREAS OF TRAINING EXPERTISE

3.1 Program Management

3.1.1 TYPICAL POSITION TITLES

Typical position titles in the program management area of expertise follow:

- a. Training manager/supervisor.
- b. Program developer.
- c. Coordinator.

3.1.2 MAIN OBJECTIVES

The main objectives of the program management area of expertise follow:

- a. To help identify with management the training and development needs of the organization.
- b. To develop training objectives and cost-effective programs that improve worker safety, efficiency (doing the job right), and effectiveness (doing the right job).

3.1.3 TYPICAL ACTIVITIES

Typically a trainer in the program management area of expertise does the following:

- a. Plans for current and future training needs.
- b. Determines the current levels of each employee's industry knowledge, skills, and abilities.
- c. Develops needs analyses of the organization to ensure that problems or situations are properly and adequately defined.
- d. Directs the development of learning objectives and training programs to improve worker performance (efficiency and effectiveness).
- e. Evaluates training courses and programs in the workplace to ensure that they meet organizational needs and that they comply with regulatory requirements.
- f. Determines who should be the instructor.

3.1.4 TRAINING COMPETENCIES

A trainer in the program management area of expertise competently

- a. Translates company goals into learning and behavioral objectives.
- b. Applies adult learning theory in the design and delivery of training.
- c. Develops simple and practical ways to describe complex ideas in understandable ways, to improve learning.
- d. Analyzes and evaluates the tasks of each position; identifies the industry skill requirements of tasks and positions; and identifies the training needs associated with the tasks and positions.

- e. Prepares clear learning objectives that lead to company goals.
- f. Selects the appropriate mode of delivery to maximize the benefit of training.
- g. Prepares written material and recommends mode(s) of delivery to accomplish learning objectives.
- h. Uses appropriate techniques to evaluate training skills of the trainers.
- i. Constructs effective trainee evaluation methods, including tests. Evaluates training courses and programs to ensure that learning takes place.
- j. Maintains knowledge of systems used for delivering and managing training, such as computer-based training, interactive video, and programmed learning material.

3.2 Session Delivery

3.2.1 TYPICAL POSITION TITLES

Typical position titles in the session delivery area of expertise follow:

- a. Full-time trainer.
- b. Part-time trainer.

3.2.2 MAIN OBJECTIVE

The main objective of the session delivery area of expertise follows:

- a. To achieve the increase in safety and job performance desired by the organization.

3.2.3 TYPICAL ACTIVITIES

Typically a trainer in the session delivery area of expertise does the following:

- a. Develops lesson materials and organizes training sessions. Suggests who should attend.
- b. Acquires special tools, equipment, and the most appropriate materials and supplies needed considering budget constraints.
- c. Determines the following aspects of how to deliver the session:
 - i. The best vehicle of instruction, such as one of the following:
 - 1. OJT.
 - 2. In-class training.
 - 3. In-shop training.
 - ii. How much time should be spent on each topic.
 - iii. How to ensure that learning has taken place, through designing the following:
 - 1. Pre-testing and post-testing.

- 2. Effective instruction delivery, demonstration, documentation, follow-up, and the like.
- d. Evaluates effectiveness of training sessions by reviewing plant performance indicators and observing on-the-job performance.

3.2.4 TRAINING COMPETENCIES

A trainer in the session delivery area of expertise competently

- a. Gathers information from various sources; identifies, evaluates, and uses information specialists, services, and learning aids.
- b. Prepares study guides and other written trainee materials that are appropriate for the trainee and that accomplish their objectives; is able to break down complex material into simple, easy-to-follow steps.
- c. Delivers and manages the training process and selects an appropriate system to improve job performance.
- d. Plans and coordinates training session in an efficient and cost-effective manner.
- e. Applies adult learning theory in the design and delivery of training.
- f. Establishes a positive and interactive instructor-trainee relationship and is sensitive to the industry trainee's self-esteem.
- g. Exhibits confidence, poise, and professionalism in front of trainees.
- h. Is flexible and patient with individual differences in learning styles and skill levels of industry trainees.
- i. Is able to identify circumstances when individual coaching may be necessary: when a trainee shows a learning deficiency or an accelerated development.
- j. Communicates information, observations, and conclusions logically, using illustrative examples, so that concepts are understood and learning objectives are achieved by the industry trainee.
- k. Uses thought-provoking questions to probe for information from the industry trainee.
- l. Uses a broad range of ideas and methods in the training process.
- m. Records training data in a form in which the data is easily retrievable.
- n. Demonstrates listening skills.

3.3 Resource Assistance

3.3.1 TYPICAL POSITION TITLES

Typical position titles in the resource assistance area of expertise follow:

- a. Subject matter expert.
- b. On-the-job (part-time) trainer.
- c. Specialist.

3.3.2 MAIN OBJECTIVE

The main objective of the resource assistance area of expertise follows:

- a. To assist with the development, preparation, delivery, and evaluation of instruction, thereby improving safety and job performance of the industry trainee.

3.3.3 TYPICAL ACTIVITIES

Typically a trainer in the resource assistance area of expertise does the following:

- a. Assists with the development, preparation, delivery, and evaluation of instruction, thereby improving safety and job performance of the industry trainee; observes that new skills and abilities are practiced on the job by the industry trainee.
- b. Assists in reinforcing newly learned behavior in the industry trainee.
- c. Recommends modifications to the design and/or delivery of training programs as appropriate.

3.3.4 TRAINING COMPETENCIES

A trainer in the resource assistance area of expertise competently

- a. Can list the requirements of the industry job in relation to his or her operating unit.
- b. Can explain how the operating unit functions and how the systems interrelate; can explain basic economic parameters of the operating unit:
 - i. Materials.
 - ii. Labor.
 - iii. Energy.
 - iv. Other economic parameters.
- c. Communicates information, observations, and conclusions logically, using illustrative examples, so that concepts are understood and learning objectives are achieved by the industry trainee.
- d. Establishes an open, positive, and interactive trainer-trainee relationship.
- e. Exhibits confidence, poise, and professionalism in front of a group of industry trainees.
- f. Uses thought-provoking questions to probe for information from the industry trainee.
- g. Demonstrates listening skills.

3.4 Application and Evaluation

3.4.1 TYPICAL POSITION TITLES

Typical position titles in the application and evaluation area of expertise follow:

- a. First line foreman.
- b. Supervisor.

3.4.2 MAIN OBJECTIVES

The main objectives of the application and evaluation area of expertise for OJT follow:

- a. To ensure worker safety and health; to observe worker performance; to compare its quality to that desired; and to thereby improve and develop employee competence and performance.
- b. To determine areas for improved performance.
- c. To communicate daily to employees the methods, skills, and procedures that the job requires of them and that they are expected to apply to the job.

3.4.3 TYPICAL ACTIVITIES

Typically a trainer in the application and evaluation area of expertise does the following:

- a. Observes worker performance to recognize, reinforce, and improve actual versus expected work results, and employee safety, health, environmental, and work rules and procedures.
- b. Provides productive and timely feedback and instruction to maintain or improve the quality, quantity, accuracy, and timeliness of work.

3.4.4 TRAINING COMPETENCIES

A trainer in the application and evaluation area of expertise competently

- a. Can explain policies, rules, operating procedures, and safe work practices to employees and contractors.
- b. Observes employee and/or contractor work under his or her jurisdiction, looking both for potential hazards associated with each job and for the proper operating procedures, safe work practices, and protection necessary to perform each job safely. Conscientiously enforces these practices.
- c. Can list the existing engineering controls and the proper uses of required personal protective equipment.
- d. Provides periodic reinforcement of training for all employees under his or her control, including contract workers.
- e. By observing the behavior of subordinates and discerning their industry knowledge, recognizes whether they have learned to do competently what they were trained to do.
- f. Participates in development of job-task analyses.
- g. Establishes open, positive, and interactive supervisor-subordinate relationship.
- h. Uses proper job instruction techniques.
- i. Encourages informal sharing of industry skills and knowledge in a manner consistent with proper procedures and work practices.
- j. Uses thought-provoking questions to probe for information from the industry trainee.
- k. Feeds back to trainers and program developers any plant and job performance deficiencies and any day-to-day process and procedural changes.

APPENDIX—API REFINING GROUP'S DISTRICT TRAINING CONFERENCES OF THE CENTRAL COMMITTEE ON TRAINING AND DEVELOPMENT

With other industry and professional organizations, the API Refining Group's District Training Conferences of the Central Committee on Training and Development promote and enhance trainer development and networking. To industry organizations, the Central Committee offers specialized conferences that train people in how to train industry employees.

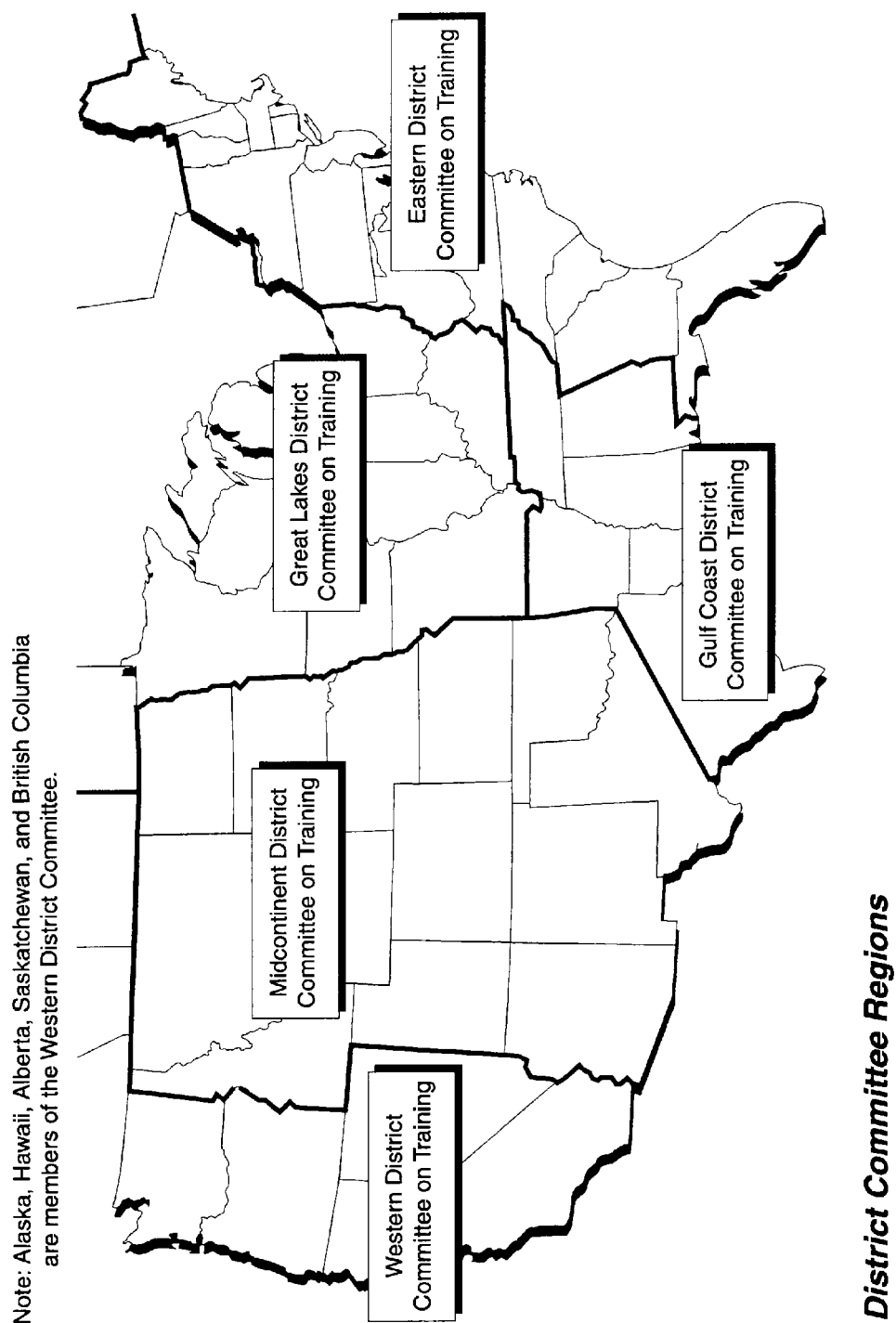
The Central Committee on Training and Development is one of ten standing committees supporting the API General Committee of Refining. The Central Committee promotes the development and use of effective training techniques in the refining, petrochemical, and gas processing industries. Its goals are to improve plant operations and maintenance, reduce occupational injuries and illnesses, reduce the incidence of fires, maintain effective environmental controls, and improve plant security. The members of the Central Committee manage or direct the training of refinery and/or petrochemical plant workers or are themselves line managers whose duties include such training functions. The work of the Central Committee focuses on the training of hourly and craft workers. The Central Committee routinely meets twice a year: in spring at the API Refining Midyear Meeting and in fall at the API Refining Autumn Meeting.

The Central Committee on Training and Development is the parent committee of five district committees: the Eastern District Committee on Training, the Great Lakes District Committee on Training, the Gulf Coast District Committee on Training, the Midcontinent District Committee on Training, and the Western District Committee on Training. These district committees, organized along geographic lines, are shown in Figure A-1.

Most of the activity of the Central Committee on Training and Development occurs within the district committees, through the District Committee Training Program. Each district committee sponsors two training conferences each year. These conferences are organized to provide forums in which site trainers can exchange information on plant training programs, vendors can display and demonstrate industry-specific training materials, and speakers can cover training issues to help site trainers perform effectively. The program is conducted on a regional basis to minimize travel expenses for the participants.

The Central Committee on Training and Development has also developed the API PILOT Series. This series presents an effective method for training plant operators in basic operator and maintenance skills or for improving their skills. It involves more than 200 hours of training in such areas as stationary equipment, fire fighting, and process operations. When the Central Committee identifies a need for a new training course, the development of its individual training modules is assigned to a district committee that works with a professional training company and industry specialists to develop a realistic and effective training package. After completion, the new training course is validated at a selected refinery, petrochemical, or gas processing plant to ensure its effectiveness.

For more information on the activities of the Central Committee or the District Committee, please contact the secretary of the Central Committee on Training and Development, American Petroleum Institute, 1220 L Street, Northwest, Washington, D.C. 20005.



Note: Alaska, Hawaii, Alberta, Saskatchewan, and British Columbia are members of the Western District Committee.

Figure A-1—API District Committee Regions

API PUBL*1210 94 0732290 0542833 744

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Order No. 823-12101