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DOE GUIDELINE

GUIDE TO GOOD PRACTICES FOR ON-THE-JOB TRAINING

U.S. Department of Energy
Washington, D.C. 20585

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FOREWORD

The purpose of the Department of Energy (DOE) *Guide to Good Practices for On-the-Job Training* (OJT) is to provide DOE contractor organizations with information that can be used to modify existing programs or to develop new programs. This guide replaces the *Guide to Good Practices for On-the-Job Training* that was distributed to DOE and DOE contractors in 1987. DOE contractors should not feel obligated to adopt all parts of this guide. Rather, they can use the information in this guide to develop programs that apply to their facility.

This guide can be used as an aid in the design and development of a facility's OJT programs and to assist the instructors who conduct OJT and performance tests in the areas of facility operations, maintenance, and technical support.

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1. INTRODUCTION

1.1 Purpose

Training programs at DOE facilities should prepare personnel to safely and efficiently operate and maintain the facilities in accordance with DOE requirements. This guide presents good practices for performance-based on-the-job training and OJT programs. This guide should be used in conjunction with the Training Accreditation Program (TAP) Manual, TAP 2 Performance-Based Training Manual, to develop performance-based OJT programs. This guide expands the guidance provided in TAP 2. DOE contractors may also use this to modify existing OJT programs that do not meet performance-based training criteria.

This guide is based on good practices used by a variety of facilities, both within and outside of the DOE contractor system. Good practices are not requirements; they are guidelines that contractors should use as they develop and conduct OJT programs.

1.2 Background

DOE and various DOE contractors identified a need for generic guidance regarding performance-based OJT and OJT programs. DOE/ID-10177, *Guide to Good Practices for On-the-Job Training* was developed in 1987, and preceded the TAP Manuals in providing guidance for the development of Performance-Based Training (PBT). The bulk of the PBT information has been removed from the guide because TAP 2 has broad applicability to all performance-based training programs.

1.3 Application

All OJT programs at DOE nuclear facilities should be performance-based. DOE facilities subject to accreditation should use this guide as a means of cross-checking to assure that necessary elements are contained in their OJT programs. DOE facilities not subject to accreditation should also use this guide as they develop training programs to comply with DOE Order 5480.20, "Personnel Selection, Qualification, Training, and Staffing Requirements at DOE Reactor and Non-Reactor Nuclear Facilities;" DOE Order 5480.19, "Conduct of Operations;" DOE Order 4330.4A, "Maintenance Management Program;" and once issued, 10 CFR 830.330, "Training and Certification."

2. DEFINITIONS

Exception is the release of an individual from portions of a training program through prior education, experience, and/or testing.

On-the-Job Training (OJT) is formal training that is conducted and evaluated in the work environment.

OJT Checklist (Qualification Card/Performance Evaluation Checklist/Practical Factor Card) is a document issued to an individual which lists training program qualification requirements for a specific position and which is used to document on-the-job training and performance evaluation results on a task-by-task basis. (OJT checklists may also be used to document the evaluation of theory, equipment, systems, and procedural knowledge.)

OJT Guide (OJT Lesson Plan) is an instructor's document that outlines instructor and trainee activities, learning objectives, training content, and resources necessary for the consistent conduct of on-the-job training.

Performance Test is a practical (hands-on) demonstration by the trainee of the knowledge and skills required to perform a task that is evaluated by a qualified instructor. Performance tests may be used to evaluate the competency of any employee (e.g., craft personnel, radiation workers, facility operators, maintenance personnel, and security personnel).

Performance Test Level of Accomplishment is the level of accomplishing a performance test where perform (P), simulate (S), observe (O), or discuss (D), are defined as:

P - Perform the specified task using approved procedures and observing all applicable safety and administrative requirements. This includes a thorough discussion (usually prior to performing the task) that addresses safety implications, the elements involved, the effects on associated equipment or systems, and abnormal situations which may arise while performing the task.

S - Simulate performance of the specified task. Using approved procedures, "walk through" the task and simulate all actual manipulations (valves, switches, tools, etc.) an employee would perform. Describe applicable safety and administrative requirements and the parameters (meters, charts, measurements, etc.) an employee would observe/monitor during actual performance of the task. Conduct the same discussion as required for a perform signature.

O - Observe an individual performing the specified task. Conduct the same discussion as required for a perform signature.

D - Discuss the specified task using applicable procedures, piping and instrumentation drawings, blueprints, etc., including the discussion as required for a perform. Demonstrate knowledge of the task by describing the manipulations required and the parameters that may be expected to change.

Subject Matter Expert (SME) is an individual qualified (or previously qualified) and experienced in performing a particular task. A subject matter expert may also be an individual who by education, training, and/or experience is a recognized expert on a particular subject, topic, or system.

3. OJT PROGRAM DEVELOPMENT

This section of the guide addresses each phase of the Performance-Based Training (PBT) process. Where possible, the guide provides specific guidance for OJT and OJT programs. DOE contractors should use the detailed guidance contained in TAP 2 to identify and document PBT requirements that are derived from tasks for each position or job classification. DOE contractors should use TAP 2 and this guide as they construct or modify their performance-based OJT programs. In addition, the quality of a facility's OJT programs will be significantly enhanced if they involve line management and job incumbents in all aspects of PBT.

OJT is designed to prepare employees for job performance through training and performance testing that is conducted by qualified OJT instructors in the actual work environment. It provides practical hands-on experience, and has the advantage of providing training on tasks that are of immediate need to the employee. OJT is limited to those situations where it is administratively and physically possible to conduct the training (i.e., where facilities are adequate, where OJT can be conducted without significant interference to facility operations, and where qualified personnel are available to conduct and manage the OJT Program.)

The ultimate success of any training program requires a strong commitment to training by both line organization management and training management. The concurrence of these organizations regarding goals and content of an OJT Program is essential for effective training. (Training review/steering groups have been an important link in this process at several facilities.) However, the facility's line organization has the ultimate responsibility for the proper training of their personnel.

Contractors should maintain accurate records that document the actions and decisions made during each OJT program's construction and revision, and serve as the "audit trail." An audit trail should be maintained on an ongoing basis throughout the lifetime of each training program. The critical portion of an audit trail is not necessarily the decisions themselves, but the rationale that led to making them.

3.1 Analysis Phase

Training requirements can be identified by performing needs analysis, job analysis, and task analysis. Correctly done, these analyses provide assurance that training is appropriate for the expected performance, and identify requirements that serve as the basis for the design and development of each performance-based OJT program at a DOE nuclear

facility.

TAP 2 contains procedures which enable contractors to systematically determine their training needs, develop and maintain valid task lists, and select tasks to be trained on for each position or job classification.
TAP 2 recommends that each validated task list be entered into a Task-to-Training Matrix which allows training to be tracked for each task. This enables the systematic revision of training due to facility and/or procedural changes.

3.2 Design Phase

Design phase activities include among other things the writing of terminal objectives, the selection of appropriate training settings, the development of a Training/Evaluation Standard (TES) for each task selected for training, and the writing of a Training Development and Administrative Guide (which is a management tool for the administration of an individual training program). It is during the development of the TES that the bulk of the tasks are analyzed, enabling objectives written, and decisions made regarding how training will be conducted and evaluated.

3.2.1 Writing Terminal Objectives

When writing a terminal objective, the training setting must be considered. The selected setting should be consistent with the task, but balanced against available resources and facility constraints. Guidance on writing learning objectives is contained in TAP 2 and the DOE *Guide to Good Practices for Developing Learning Objectives*.

3.2.2 The OJT Setting

Instructional technologists (designers/developers) should be aware of the potential advantages and disadvantages of OJT when selecting training settings. Though OJT has its drawbacks, the advantages normally far outweigh the disadvantages. By knowing the advantages and how to mitigate the disadvantages, the instructional technologist can make better training setting selection decisions.

3.2.2.1 Advantages of the OJT Setting. Training takes place in the actual work environment. This is very significant--the trainee is surrounded with the sights, sounds, smells, etc., of the job. Nothing is left to the trainee's imagination. The instructor demonstrates the task at the job site using the same tools and/or equipment the trainee will use to perform the task. The trainee then practices the task and gains hands-on experience.

OJT instructors can tailor their training to meet the needs of each trainee. This is possible because the instructor has the option to change the pace, order, depth, and the length of instruction to allow the trainee to best learn the task.

3.2.2.2 Potential Disadvantages of the OJT Setting. Not everyone can be an OJT instructor. They must be effective communicators and possess technical and training skills to conduct OJT and evaluate trainee achievement of the learning objectives. OJT instructors must also be highly motivated.

In some instances the learning process could be improved or enhanced if the order of task elements could be changed, but this is usually not possible. In some cases the instructor cannot isolate one difficult task element and is unable to provide additional training where that element can be repeated until acceptable performance is accomplished.

The actual job site may not present the best place for training. The equipment at the job site may not be available for a length of time sufficient to conduct OJT. Training may have to take a "back seat" to the requirements for production; that is, the equipment may simply not be available for training due to production goals or commitments.

The cost of OJT may be high. OJT is usually conducted one-on-one, and this method of training and performance testing takes a great deal of time. In some cases, an instructor can train more than one trainee; however, trainee performance tests should always be done one-on-one.

Certain equipment may be dangerous in the hands of a trainee, even if closely supervised. (A simulator training setting would be a more desirable setting for tasks that fall in this category.) There is also a small chance that a trainee may damage equipment in the process of learning how to operate it.

3.2.3 Training/Evaluation Standard (TES)

A Training/Evaluation Standard is developed for each task selected for training (TAP 2 contains detailed instructions and procedures for the development of a TES). The TES specifies elements, criteria, and conditions required for adequate task performance. Each TES contains two parts: a training standard and an evaluation standard. The training standard contains the task title and number, the terminal and enabling learning objectives, and any applicable references. The information in the training standard is used to establish entry-level requirements and forms the basis for training development activities. The evaluation standard contains a performance test that includes prerequisites, amplifying

conditions and standards, and instructions to the trainee and the evaluator. A performance test measures the adequacy of a trainee's knowledge and skills on each task. The evaluation standard is used to administer a performance test. It defines the conditions (cues) that signal a person to perform a specific task, establishes conditions under which actions occur, and establishes standards that measure knowledge and performance. Figure 1. depicts the relationship of a task to a terminal objective to a TES and the output of the TES.

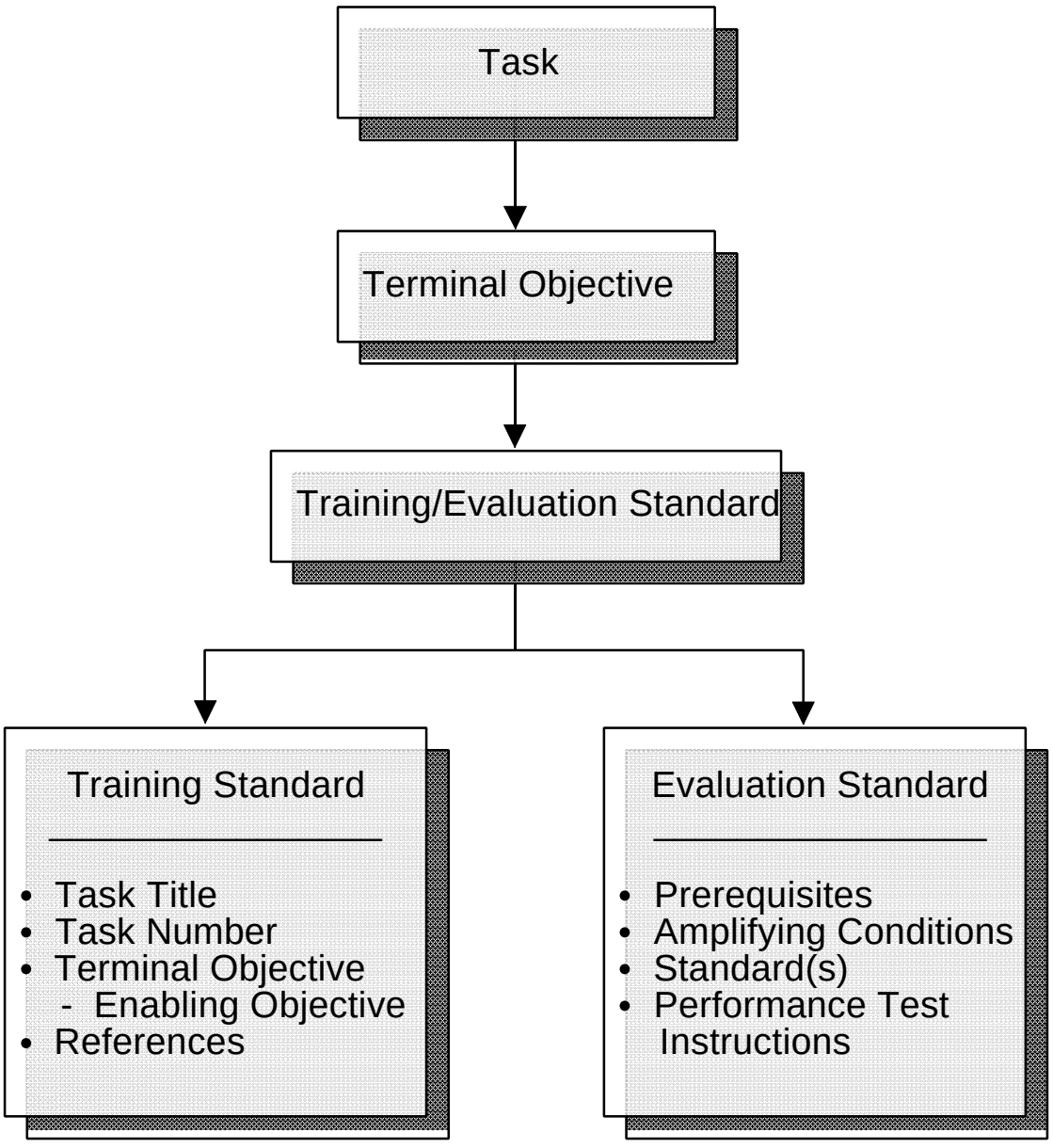

Figure 1. Training/Evaluation Standard.

Instructional technologists should design each evaluation standard so that different instructors will administer the test consistently. The test should require actual task performance if

possible. The DOE *Guide to Good Practices for Design, Development, and Implementation of Examinations* contains detailed guidance for the development of performance tests.

The methods of conducting OJT and the required level of accomplishing performance testing is determined during the TES development process. The acceptable level or levels of accomplishment (perform, simulate, observe, discuss) should be specified in each task's TES. Certain tasks should require that a trainee demonstrate achievement of the terminal objective through actual task performance. A core of "must perform" tasks that are most critical to the job position should be identified by line and training management. Some facilities may require those tasks identified as the most critical to be repeated several times for qualification.

Regardless of the designated performance code, the training and performance testing an employee receives should lead to qualifying that individual to perform the task. Therefore, the majority of tasks should be performance coded as either "perform" or "simulate." The "observe" and "discuss" performance codes will probably have very limited use. "Observe" and "discuss" are primarily used for knowledge assessments. Appendix A, Performance Test Code Guidelines, may be used to help determine the most applicable level or levels of accomplishment for a given task.

3.2.4 Training Development and Administrative Guide

TAP 2 recommends that a training development and administrative guide should be written for each training program. This is a management tool for administering an individual training program. It is used to receive management approval of the program and to guide development and implementation efforts. In addition to the items addressed in TAP 2, this guide should address the following for an on-the-job training program:

- OJT program coordinators
- OJT instructor selection, training, and evaluation
- OJT instructor continuing training
- Entry-level testing of trainees to identify necessary remediation required prior to program entry
- Trainee pre-testing for exceptions to portions of the training program
- Specific guidance on oral examinations (checkouts) should be provided if oral examinations are used in the training program
- Maintaining records of trainee performance for qualification
- Trainee counseling and remedial action(s) resulting from unsatisfactory performance.

3.3 Development Phase

The development phase activities include the writing of training materials, OJT checklists, qualification standards, and OJT guides. Additional activities include the selection and training of OJT instructors.

3.3.1 Training Materials

The specifications generated in the design phase are used to develop an OJT Program and all required training materials. Care should be taken to keep OJT materials simple and usable. TAP 2 addresses the development of training support materials.

3.3.2 OJT Checklists

OJT checklists (qualification cards) that are specific to an individual OJT program (or task/duty area qualification if used by the facility) should be developed to document training and performance testing. OJT checklists should be based on knowledge and skills required by the training and evaluation standards that were written during TES development. Required level/levels of accomplishing performance testing should be specified for each task. Appendix B contains examples of OJT checklists that are in use at DOE nuclear facilities. These examples are provided are only provide to depict two of the possible OJT Checklist formats, they do not incorporate all of the good practices suggested by this section of the Guide.

While many options exist for the format of an OJT checklist, only two general formats will be presented in this Guide. The first, and probably the most common, is simply a list all of the tasks required for qualification and the required level/levels of performance test accomplishment. (The Reactor Area Practical Factors Card in Appendix B is an example of this format.) In this case the OJT checklist is used as a signature record card to document the performance testing for each task. It is recommended that the completion of training for each task should also be documented on the OJT checklist. An OJT checklist should reference the OJT guides used to conduct the training and the evaluation standards used to conduct the performance tests. The OJT checklist depicted as format number one (Figure 2.) is simply a list of all program/position tasks and a reference list of OJT guides and evaluation standards.

A second format used by some facilities includes each task's evaluation standard as a part of the OJT checklist, it may also contain each task's OJT guide as a part of the OJT checklist. (The Berthold Hand/Foot Monitor "OJT Guide/PEC" in Appendix B is an example of this format.) This format, depicted as format number two (Figure 3.), usually

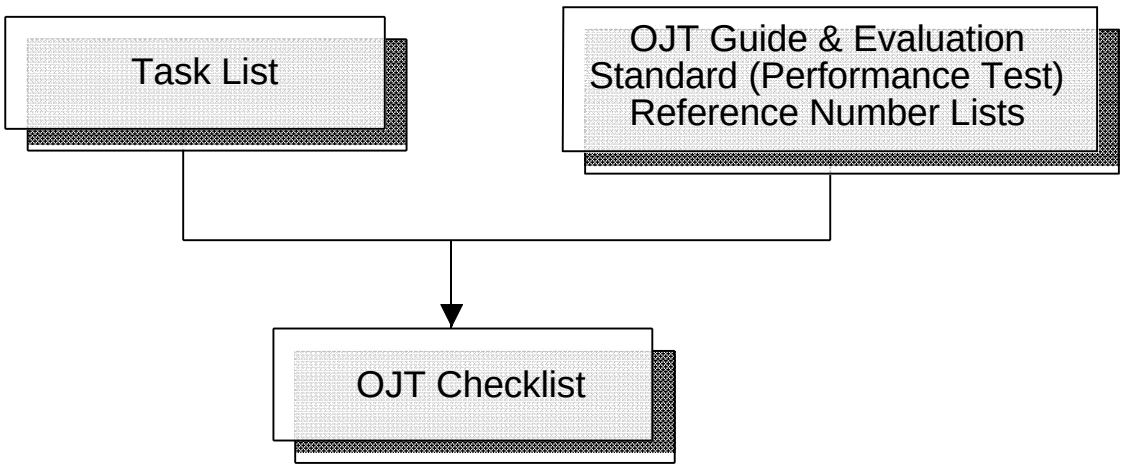

Figure 2. OJT Checklist (format number one).

results in a much larger OJT checklist. If a facility qualifies trainees on a duty area or a task basis, this approach may be workable. If the trainee must be trained and performance tested on a number of tasks to become qualified, then format number one is usually the best. Whichever format is used, the trainee's name should appear on any page signed by the instructor.

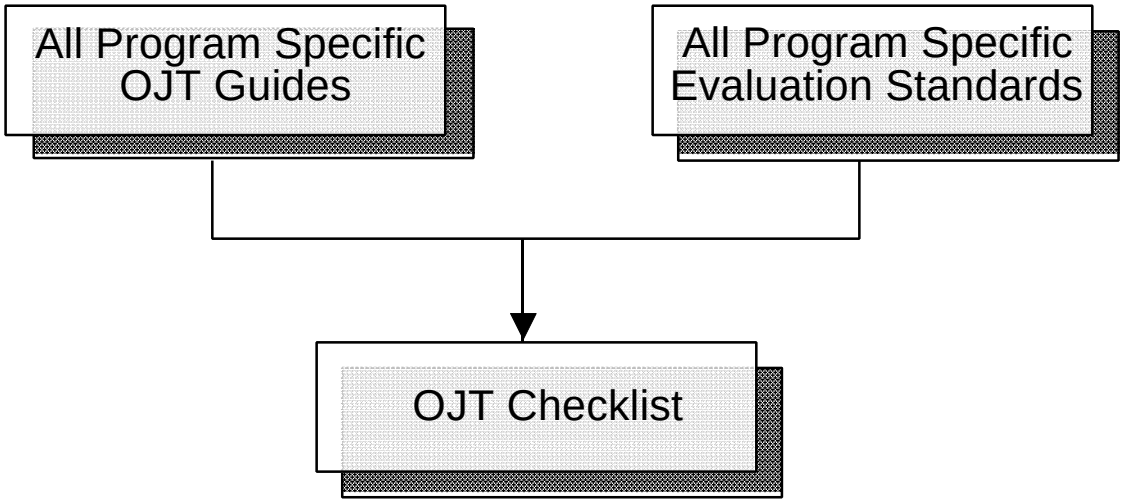

Figure 3. OJT Checklist (format number two).

The use of an OJT checklist that has two instructor signatures for each task helps to ensure that OJT is conducted and evaluated as a two-part process; the trainee is taught the task using an OJT guide and is then performance-tested using the evaluation standard.

OJT checklists may contain tasks that have both "simulate" and "perform" specified as the acceptable levels of accomplishment. At the time of conducting the OJT and/or the performance test, the OJT instructor should select the highest level of accomplishment that is supported by facility conditions. The OJT guide and the evaluation standard for a task that has multiple levels of accomplishment should be written to support the training and the evaluation at either level of accomplishment.

For tasks with a single level of accomplishment, there may be times that facility conditions do not support performance testing at the specified level of accomplishment. If this is the case, the instructor should inform the OJT program coordinator. The program coordinator may then reschedule the performance test or, with management's documented concurrence, the specific level of performance test accomplishment may be lowered. This documented concurrence should be attached to, and become a permanent part of, the trainee's OJT checklist. The downgrading of training and/or performance testing must be fully documented, or the credibility of a training program may be questionable.

3.3.3 Qualification Standards

Qualification standards are documents that contain the knowledge and skill requirements necessary for the successful completion of a training program. A qualification standard should provide explicit guidance to the instructor and to the trainee to aid in the preparation for and the consistent administration of performance tests. A qualification standard should include all program-specific evaluation standards to be used during performance testing.

Facilities that qualify employees on a task basis need not develop a qualification standard. In this case, the OJT instructor and the trainee only need the task's evaluation standard.

A qualification standard should be prepared consistent with the program's OJT guides and evaluation standards. It should list the specific procedures and training resource materials required for each task (e.g., operating procedure xxx, system descriptions, fundamentals text). The qualification standard may also include reading assignments, self-study requirements, study questions, problem analysis exercises, figures and diagrams, and amplifying information. The qualification standard should not include copies of facility procedures or training manuals/materials; it should instead reference these resources. A qualification standard is depicted in Figure 4. to illustrate the inputs to this document.

Trainees in an OJT program that requires self-study should find the qualification

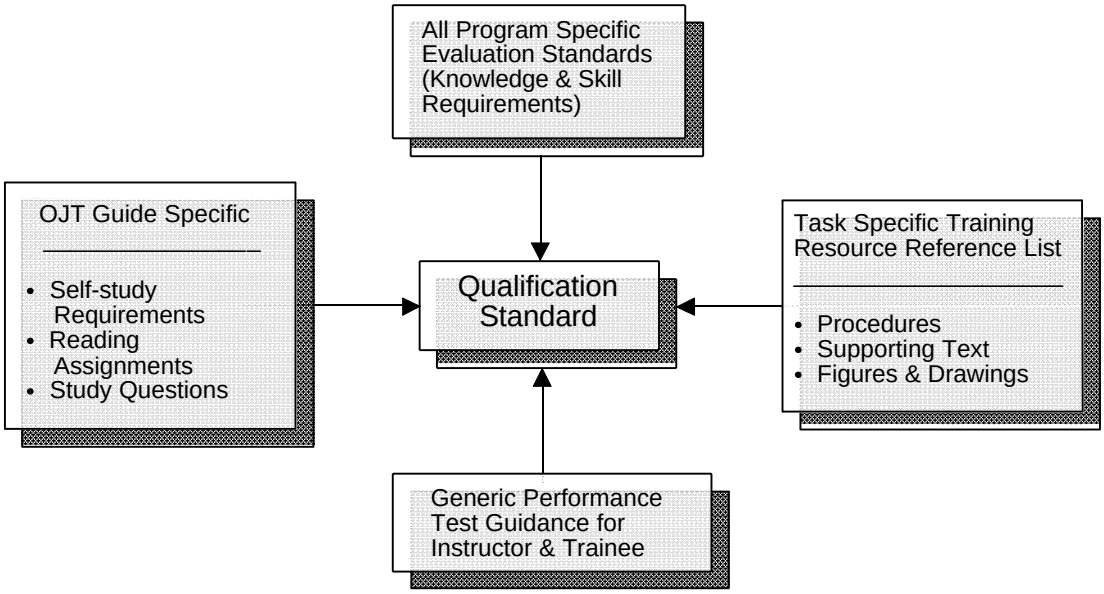

Figure 4. Qualification Standard.

standard a very useful document. It provides them with information on what to study, where this information may be found, and guidance on what they need to learn (i.e., when to stop studying).

A qualification standard should contain a section that provides a trainee entering an OJT program with information on how that specific program operates, what will be expected of him/her, and how/where to obtain training-related help. It should provide the trainee with information regarding the use of the OJT checklist and how to use the qualification standard. This section of the qualification standard should also address:

- Facility restrictions on unsupervised trainee operation of facility equipment/systems
- Guidelines on self-study
- Guidelines on improving listening habits
- Established goals and how trainee progress will be tracked
- How the trainee interacts with the OJT program coordinator
- How to prepare for performance tests
- Comprehensive testing/evaluation required at the program's completion.

3.3.4 OJT Guides

Performance-based training programs should require the use of OJT guides to ensure consistent delivery of training. An OJT Guide is a document that outlines instructor and trainee activities, learning objectives, training content, and the resources (equipment, material, etc.) necessary for the consistent conduct of training. The contents of an OJT guide for a specific task should be based on the training standard portion of the TES. An OJT guide should identify trainee prerequisites, learning activities, training equipment, and materials needed for training and specific guidance for their use. OJT guides also provide specific direction to the instructor for guiding the learning process. The relationship of an OJT guide to the TES and the OJT guide's content is depicted in Figure 5.

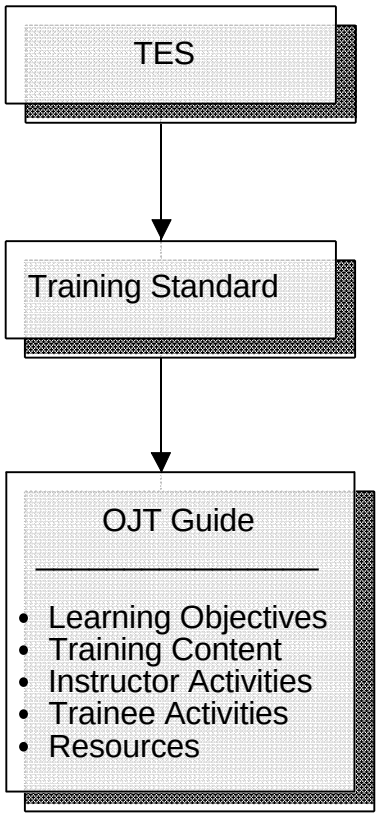

Figure 5. OJT Guide.

Some may question the necessity of OJT guides for on-the-job training. However, one of the most frequently asked questions is "How can we ensure consistent training from one instructor to the next?" One way to ensure this is by the use of the OJT guide. It may be a part of the OJT checklist or a stand-alone document; in either case it should reference the specific task it supports and should be organized and formatted to enhance the one-on-one learning process.

OJT guides should not contain copies of facility procedures. Rather, they should reference the appropriate procedures and provide the instructor with guidance to enhance the learning process. This practice helps ensure that the system/facility is operated only with approved procedures (which adds realism to the training), rather than with training materials, and will minimize revisions to the OJT guide as facility procedures are revised.

OJT guides should be prepared by instructional technologists with the assistance of the OJT instructor serving as the subject matter expert (SME). They should be reviewed by an additional SME who was not directly involved in their development, and should be approved prior to use by supervisory members of the training staff and the work group for which the training was developed.

There are numerous factors which can have a significant influence on a trainee's learning and motivation during the OJT process. Instructional technologists should use these factors as they develop OJT guides. Appendix C discusses learning and motivation as they apply to OJT.

There are many OJT guide formats that could be successfully used for on-the-job training. They normally consist of a cover page, a body, and a conclusion.

The cover page should provide the instructor with the following information:

- Task title, number, and estimated time to complete the training
- Tools, materials, equipment, and references required
- Safety precautions and procedural limitations
- Reference to relevant facility procedures, facility conditions, and whose permission is required
- Terminal and enabling objectives
- Trainee prerequisites
- Notes to the instructor--guidance/suggestions
- OJT guide review and approval signature(s).

The body is the blueprint for the instructional process and is comprised of the following major sections:

- Introduction
- Explanation
- Demonstration
- Practice under supervision.

The conclusion of the training is comprised of the following elements:

- Summary
- Additional motivation
- Documentation of Training.

3.3.5 Instructor Selection and Training

The credibility of a training program (and OJT programs in particular) depends on the quality of the instructors. OJT instructors should be qualified to deliver on-the-job training and/or conduct performance tests. The selection of OJT instructors is for each facility's line and training management; however, recommended first choices for OJT instructors are the first-line supervisor and senior job incumbents. OJT instructors should be trained and qualified in accordance with the guidance recommended in the DOE *Guide to Good Practices for Training and Qualification of Instructors*.

Several factors should be considered when selecting personnel to become OJT instructors. OJT instructors should be technically competent. They should have the skills necessary to train and evaluate assigned trainees. Another (and possibly the most important) instructor quality is the desire to teach others. Additional factors to be considered when selecting OJT instructors include recognition of responsibilities, professionalism, maturity, judgment, integrity, safety awareness, communication skills, personal standards of performance, and a commitment to quality.

The options normally available for selecting OJT instructors are the first-line supervisors and senior job incumbents or an instructor from the training department. The supervisors and job incumbents are usually SMEs who supervise or perform the job. As such, they have first-hand knowledge of the job. An instructor from training may well be an expert on training but will typically not be as knowledgeable or proficient about the specifics of the job as a supervisor or senior incumbent in the job. In these two situations it is usually better to train the supervisor or senior incumbent to be an effective instructor than to train the instructor to be a job expert. When OJT is conducted and evaluated using actual facility equipment, the instructor must be qualified to perform the task.

OJT instructors should receive instructor training in advance to allow sufficient time to develop instructor competency prior to working with trainees. When instructors have not yet attained the required instructional qualifications or only instruct occasionally, training quality may be maintained through mock training exercises and appropriate supervision and assistance.

All OJT instructors should be given the opportunity to enhance their technical competency and instructional skills. Continuing training that is based on periodic instructor performance evaluations should be provided to all qualified instructors. Instructor evaluations should include direct observation by a training supervisor during training sessions, and should address technical competency, instructor skills, and overall effectiveness in facilitating the trainee's achievement of the learning objectives. Both announced and unannounced evaluations are appropriate.

3.4 Implementation Phase

Implementation phase activities for an OJT program include implementing the OJT program's Training Development and Administrative Guide, implementing the OJT program, conducting in-training evaluations, and maintaining training records.

3.4.1 Implementation of the Training Development and Administrative Guide

A Training Development and Administrative Guide is a management tool for the administration of an individual training program. For an OJT program this guide should also address the selection and responsibilities of the OJT program coordinator.

3.4.1.1 OJT Program Coordinator. Each OJT program at a DOE facility may have many instructors for training and performance testing. However, one person from the line organization staff or the training department staff should be designated as an OJT program coordinator. An OJT program coordinator may have responsibility for one or more OJT programs. The duties of an OJT program coordinator should include:

- Issuing OJT checklists and qualification standards
- Tailoring an OJT program to an individual trainee
- Providing the trainee with a list of instructors qualified to conduct the OJT and/or performance testing
- Providing assistance to instructors and trainees
- Tracking trainee progress and setting target dates to reach qualification milestones/goals
- Ensuring proper documentation of training and performance tests
- Providing program feedback by evaluating the effectiveness of program materials and instructors
- Scheduling training to take advantage of unusual or infrequent job-related activities
- Counseling and assigning remedial training as a result of unsatisfactory performance

- Maintaining communication with the instructor(s) regarding the OJT program and the qualification progress of individual trainees.

3.4.2 Implementation of the OJT Program

Implementing an OJT program involves evaluating entry-level knowledge and skills, tailoring the program to the individual trainee, providing the trainee with an overview of the OJT program, preparing instructors, delivering the training, and evaluating trainees.

DOE contractors should evaluate the knowledge and skills of trainees entering an OJT program. Evaluation is used to determine if they meet the entry-level requirements for that specific OJT program and to identify necessary remediation prior to program entry.

An advantage of a formal OJT program is the ability to tailor it to the individual trainee to provide the training that is actually required. Personnel previously qualified at other facilities who have satisfactorily completed training programs with comparable content and performance standards may be granted an exception from portions of training on a case-by-case basis. Exception from training should be based on a review of their previous training records, personal interviews, and may include a pre-test based on the objectives stated for the training program. Pre-tests readily support exceptions from training when the trainee can demonstrate mastery of specific learning objectives. (The pre-test results of many trainees may provide useful data to justify modification of an OJT program based on common strengths and weaknesses.) All exceptions granted should include written justification and appropriate line and training management approval.

When the trainees have entered the OJT program, they need to learn how that program operates and what will be expected of them. They should be provided with an OJT checklist, a Qualification Standard, and other supporting self-study materials.

It is important to remember that OJT consists of two separate and distinct parts (phases); training and evaluation. Section 4 of this guide contains detailed information on conducting on-the-job training and Section 5 contains detailed information on evaluating performance.

Key factors in successful OJT instruction and performance testing are as follows:

- The learning objectives should be clearly understood by the instructor and the trainee
- The standards for successful completion of the training should be clearly understood by both the instructor and the trainee

- The instructor should have the knowledge and the ability to instruct and evaluate the trainee in accordance with the learning objectives and the performance test
- The training and the performance tests should be documented to meet training record requirements and to provide feedback to the training program.

3.4.3 Conduct of In-Training Evaluations

In-training evaluations are necessary to provide data which will be used in the evaluation phase of the PBT process. In-training evaluations usually consist of:

- Instructor critique of training
- Trainee critique of training
- Trainee performance data (pre-tests, progress, and post-tests)
- OJT program coordinator's evaluation of instructor and trainee performance.

3.4.4 Training Records

Auditable records of each individual's participation and performance in, or exception(s) granted from, the training program(s) should be maintained. Individual training records should include the following (as appropriate):

- Verified education, experience, employment history, and most recent health evaluation summary
- Training programs completed and qualification(s) achieved
- Latest completed checklists, graded written examinations (with answers corrected as necessary or examination keys) and operational evaluations used for qualification (this requires controlled access to training records to maintain examination security)
- Lists of questions asked and the examiners's overall evaluation of responses on oral examinations
- Correspondence relating to exceptions granted to training requirements (including justification and approval)
- Records of qualification for one-time-only special tests or operations
- Attendance records for required training courses or sessions.

A historical record that documents initial qualifications on each position qualified should be maintained as part of individual training records. For example, if an individual initially qualified in 1986, the record should contain the date and name of the qualification. If more than one qualification is achieved and maintained, the individual training record should contain documentation to that effect.

For presently held qualification(s), the completed examinations, completed checklists, completed operational evaluations, etc., should be maintained in the record. (Some facilities may prefer to maintain a separate file of completed examinations with answer keys for each individual.) When an individual holds qualification on multiple positions, records that support current qualifications for each position should be maintained. Duty area or task qualification should be documented using a similar method (for facilities/positions that use duty area or task qualification instead of position qualification). Supervisors should have access to qualification records, as necessary, to support the assignment of work to qualified personnel.

Upon requalification, records that supported the previous technical qualification may be removed from the record and replaced with the information documenting present qualification. Superseded information should be handled in accordance with procedures contained in DOE Order 1324.2A, "Records Disposition."

In addition, records of the OJT programs (which should include an audit trail documenting the development of and modifications to each program) and evaluations of the effectiveness of those programs should also be maintained.

3.5 Evaluation Phase

The evaluation phase of performance-based training takes place to determine the effectiveness of training programs and to identify program changes that may be required. TAP 2 contains detailed information and example forms that may be used to conduct this component of the PBT process. Line management should also be actively involved in the evaluation of an OJT program's effectiveness. Line management's observation of facility activities that reflect improving or declining job quality and efficiency are a very important source of feedback for an OJT program.

An OJT program's content should be continuously monitored and revised as a result of changes affecting policies and/or procedures, system or component design, job requirements, regulatory requirements, and industry guidelines or commitments. Facility and industry operating, maintenance, and safety experiences should be monitored to identify employee performance problems.

If training related employee performance problems exist, the solution may involve revision of existing materials or repeating portions of the analysis, design, and development activities. Because of the work and cost involved, the decision to modify the training program should first be based on safety considerations and then on a cost versus benefit

basis. In some cases, problems uncovered during evaluation are serious enough to warrant immediate changes to the OJT program. In other cases, the problems should be documented (the audit trail) and implemented during routinely scheduled revision. To ensure that programs remain effective and efficient, management's full concurrence on all programmatic changes should be required.

4. CONDUCTING OJT

During this phase of OJT, the instructor explains and demonstrates to the trainee how to perform a task and supervises the trainee's practice of the task. This phase of the OJT process is separate and distinct from the evaluation phase of OJT.

Instructors should use the "Three Ts" of effective training as they conduct training. The first "T" is "tell them what you are going to tell them," the second is "tell them," and the third is to "tell them what you told them." Use of the three Ts helps to ensure effective on-the-job training.

The primary instructional method used in the on-the-job training setting is the demonstration-performance method. In this method, the instructor tells and shows the trainee how to perform the task. The shop foreman teaches the apprentice almost entirely by some version of this method, and the flight instructor uses it to teach flying skills. The instructor explains and demonstrates the particular task to the trainee and then coaches while the trainee practices the task. This method is based on the principle that trainees learn best by doing. During the practice under supervision the instructor points out errors and helps the trainee improve techniques or eliminate errors in performance. Following the training and any additional practice as necessary, the trainee is evaluated using a performance test.

When conducting OJT, the instructor should prepare for task performance, introduce it, explain it, demonstrate it, and then coach the trainee as he/she performs the task. The trainee is allowed repeated practice to achieve the terminal objective. When a trainee has satisfied the objectives, the instructor concludes the training and documents it on the trainee's OJT checklist.

4.1 Preparation Step

Instructors should adequately prepare prior to conducting OJT to ensure consistent and effective training. A major portion of preparation should be a review of the OJT Guide. This should concentrate on the equipment and/or tools required, expected trainee preparations, training reference materials, safety precautions, and may include a review of the factors that influence trainee learning and motivation. (Refer to Appendix C for the factors of learning and motivation.) The instructor should review the procedures referenced by the OJT guide and prepare the job site and ensure that all necessary tools, materials, and procedures are available. The instructor should ensure that sufficient time for the training has been scheduled.

4.2 Introduction Step

The instructor needs to put the trainee at ease. It is natural for a trainee to be somewhat nervous at first, especially if this is the first contact with the instructor. Time spent putting the trainee at ease will normally be time well spent. A relaxed trainee will be much more receptive to the OJT process.

The instructor should motivate or arouse the trainee's interest in the training session. The better the instructor performs this task, the more successful training will be. An adult likes to see a direct link between his/her job and the skills and knowledge presented during the training. To help to establish this link, the trainee needs answers to the following questions:

- What's in it for me (WIIFM)?
- Why do I need to learn this?
- When will I use this information?
- How will I use this information?

The trainee should understand the terminal and enabling learning objectives. The instructor should state and discuss the objectives with the trainee to ensure that the trainee understands the required performance, how well it should be performed, and under what conditions.

The instructor should provide the trainee with the first "T" of effective training, "tell them what you are going to tell them." The instructor should present an overview of the task that stresses not only what will be learned, but how it will be presented. This process may also help to tie this training into previous or future training. The instructor should make sure the trainee understands that he/she can ask questions anytime during the training. The overview should be brief and stress safety measures and compliance to procedures.

The instructor should continue to stress safety while establishing the "ground rules" regarding how he/she intends to conduct the training. Explain under what circumstances you will interrupt to demonstrate if needed and under what circumstances you will stop the evolution if personnel or equipment safety concerns arise. The instructor should stress that while performing OJT, facility procedures (administrative, operations, maintenance, radiological, etc.) will be adhered to at all times. These include procedural compliance requirements, industrial safety, lockout and tagout requirements, etc.

The instructor should find out what the trainee already knows about the particular job

or task. The instructor should then tailor the training based on a combination of the trainee's experience, education, and training completed to date. By briefly reviewing what the trainee knows and then progressing to new material, the risk of losing the trainee's attention will be minimized.

The instructor should do his/her best to minimize interruptions during the training process. The presence of co-workers at the training site is a problem because the trainee needs to be able to practice, make errors, and receive corrective instruction without personal embarrassment. Although elimination of all co-workers from the vicinity of the training is difficult or impossible, some degree of privacy is needed.

The last step in the introduction is to express confidence that the trainee will learn to perform the task quickly and well. You want the trainee to begin the training with a feeling of confidence and a desire to meet the challenge.

4.3 Explanation Step

With a simple task the instructor may combine the explanation and demonstration steps of OJT. With a complicated or hazardous task, however, it is usually better if the instructor separates these two steps.

The instructor tells the trainee how to perform the task, the second "T" of effective training. The instructor should clearly describe the action(s) the trainee is expected to perform. An important consideration in this step is the language used. Instructors should speak on a level the trainee understands and fully explain technical terms.

The instructor should stress key points and critical steps during the explanation of the knowledge and skills required to perform a task. This helps the trainee differentiate between the important (critical) and the not-so-important information. The instructor should make full use of being at the job site to explain the task and bring to the trainee's attention any cues and or stimuli related to the task. The instructor should explain why and in what order procedural steps or task elements are done to reinforce learning and should stress safety by his/her words and actions.

An effective explanation requires two way communication between the instructor and the trainee. The instructor should ask the trainee questions to verify comprehension during the explanation and should be patient and willing to explain something as many times as necessary. The instructor should answer any questions the trainee asks.

Most skills lend themselves to a sequential pattern where the instructor explains the skill in the same order in which it is performed. When the instructor can relate material to what a trainee already knows, the known-to-unknown strategy may be used effectively. When teaching more than one skill, the simple-to-complex strategy works well. By starting with the simplest skill, trainees build confidence and are less likely to become frustrated when faced with more complex skills. The instructor should not describe short cuts or unapproved alternative methods of performing a task. The instructor shouldn't try to impress the trainee with his/her knowledge, because performance-based training should be trainee centered.

4.4 Demonstration Step

During the demonstration step the instructor shows and explains to the trainee how to perform the task. The instructor may demonstrate the complete task and then expect the trainee to perform it or they may do the demonstration and practice steps together on an element-by-element-basis. A well written OJT guide should provide the necessary guidance to the instructor regarding the most effective techniques to use.

It is important that the instructor demonstrate the skill correctly and safely the first time. If the instructor demonstrates a skill incorrectly, the instructor's credibility is reduced and the trainee will have to "unlearn" the incorrectly presented material before he/she can learn it correctly. The instructor should stress safety and compliance with facility procedures, and the best way to do this is by his/her own personal actions. Since the trainee generally imitates the instructor's performance, the instructor should demonstrate the task exactly the way the trainee should perform it. The instructor should ask the trainee frequent questions and explain or demonstrate task elements again as necessary. The instructor should proceed slowly and continue the demonstration only after it is clear that the trainee understands.

4.5 Practice Under Supervision

The instructor should closely supervise the trainee's initial practice to ensure safe and correct task performance. An effective method of conducting the practice step is to have the trainee talk through the operation and demonstrate the main steps and key points of the task. During the practice session, the instructor should ask the trainee questions as to what is being done, why it is done, and what indications they are looking for. The trainee should practice at his/her own pace without unnecessary interruption or too much instructor assistance. As the trainee gains proficiency, the instructor should reduce or fade his/her coaching. However, the instructor should never hesitate to stop the trainee if a mistake can be

prevented or has been made. The instructor should correct improper actions without belittling the individual. The trainee will usually know what he/she did wrong, and very little correction should be necessary. The instructor should be patient and provide positive comments on the trainee's initial efforts.

The instructor should schedule sufficient time to allow for trainee practice. Depending on the difficulty a trainee is having performing a task, the instructor may have to schedule additional training and practice at a later date. The time to identify and correct errors is during the training rather than the performance test.

The OJT guide should specify the degree of supervision that is required when the trainee practices under supervision. Facility procedures and the degree of hazard or complexity of the task should be the overriding factor in this requirement. In both of the following cases the instructor supervises the trainee, but the degree of supervision is different:

- Controlled--The instructor closely supervises the trainee. The trainee works at his/her own pace but the instructor is always ready to stop him/her to prevent or correct mistakes
- Independent--The instructor allows the trainee to practice the task at his/her own pace following the demonstration. This method has limited usefulness for facility operators but may work quite well in a shop or laboratory environment. The instructor closely supervises the trainee the first time he/she practices the task and then allows the trainee to practice independently, periodically checking and coaching as necessary.

Regardless of the method used, the end result should be sufficient trainee practice to develop proficiency in task performance (i.e., performance satisfies the learning objectives).

4.6 Conclusion

The conclusion of the training phase of OJT usually consists of three important elements. The first element is a summary of the training and is the last "T" of effective training, "tell them what you told them." The summary consists of a review of the learning objectives and the task steps. The instructor should make positive comments and praise what the trainee did well. This should be done even during review of an area in which the trainee had difficulty. However, it is equally important to discuss the areas in which the trainee had difficulty, because suggestions for ways to improve specific difficulties is also important feedback.

The second element is to provide additional motivation for the trainee. Reinforce how this training will help him/her perform on-the-job and discuss how it relates to previous and future training.

The last element is to document the training. Facility training procedures should specify how the instructor documents completion of training. One method is to document the training on the individual's OJT checklist. Each task has two signatures: one to document completion of training, the other to document the performance testing.

4.7 Common Training Errors

OJT instructors are sometimes ineffective in their role as trainers for a variety of reasons. This section contains common errors that OJT instructors sometimes commit.

Trying to Teach Too Much--No one can really learn a very complex task all at once. Rather, people should be taught elements of the task (enabling objectives) and develop skills in doing those elements before they are taught the total operation. In short, don't try to teach a complex task as a complete unit. Break the task into understandable parts.

Attempting to Teach the Individual Too Fast--Another common error is attempting to teach the task too rapidly. This forces the trainee to perform a task when he/she is not ready. Many instructors feel that training can sometimes be done more rapidly than it can. This usually happens when they are very familiar with the task and feel it's easy to accomplish.

Lack of an Overview--A third common error is to skip the overview during the introduction. OJT instructors sometimes commit this error because they know the job very well, and feel the trainee should be able to "follow" their explanation and demonstration without the first "T" of effective training.

Failure to Recognize Individual Differences in Trainees--Every trainee is different. Some trainees learn more quickly and easily than others because people vary in their working knowledge and skills (mental and/or physical dexterity, visual acuity). Learning speed is a function of both mental and physical skills. Effective instructors adapt their training styles to the individual differences and capabilities of their trainees.

Failure to Provide Practice Time--Being proficient at anything requires practice. There is no such thing as a natural born athlete or skilled mechanic. All tasks which require mental and physical skills require some practice. Olympic athletes train every day and

skilled mechanics apply their skills daily. The point to recognize here is that there is a difference between knowing how to perform a task and being proficient at performing it. The instructor should give the trainee time to practice to develop proficiency before evaluating the trainee's performance.

Failure to Show the Trainee the Overall Objective--The trainee should understand how the job fits into the line organization. The instructor should tell the trainee the importance of and how his/her products or services will be used.

Failure to Give Reinforcement--Providing positive reinforcement of a trainee's efforts is an effective motivational practice. It is usually not enough for an individual simply to be motivated to try a job. Without some kind of reinforcement for learning, people find it very difficult to sustain a high level of motivation.

The reinforcement or encouragement given to the trainee need not be in a tangible form (promotion, pay raise, bonus). Intangible rewards are also meaningful. Vocal encouragement and praise in front of others have positive benefits in encouraging a person. If a trainee can develop a feeling of personal progress and accomplishment on the job or the mastering of a skill, he/she will usually be highly motivated. Reinforcement of both tangible and intangible values tend to work together far more effectively than either kind does independently.

Some instructors feel that an important part of the reinforcement process is punishment. They feel that they should reward the trainee for success and punish the trainee otherwise. Experience has shown that positive reinforcement works, but that punishment will usually compound a trainee's difficulties. Effective instructors normally give deserved praise and other positive reinforcement to the trainee in the presence of others. Punishment should be avoided unless it is absolutely justified and then given tactfully in private.

Intimidation of Trainees--Some instructors may be ineffective as trainers because they intimidate trainees. They can do this in a variety of ways. Some use their position over the trainee in an effort to enhance their own ego. Others, by their behavior and attitude, do it unwittingly and unknowingly. Yet others feel that being very demanding is a good training practice. They may have good intentions but end up intimidating trainees.

Recognizing that an instructor is intimidating trainees is often difficult. Evaluation (reaction) forms should be provided to trainees in an OJT program. The OJT program coordinator or a line/training supervisor should review these forms and conduct periodic

evaluations of OJT instructors. They should be able to determine if intimidation is taking place, and if necessary, counsel the instructor in ways to eliminate it.

5. EVALUATING PERFORMANCE

During the evaluation phase of OJT the instructor (evaluator) administers a performance test. The purpose of a performance test is to ssess the trainee's performance against predetermined performance standards. The evaluation phase of OJT should be separate and distinct from the training phase of OJT. During the evaluation phase of OJT, the instructor tests the trainee; the time for instruction has ended.

5.1 Performance Testing

A performance test (sometimes called a practical factor) is a practical hands-on demonstration by the trainee of the knowledge and skills required to perform a task. Performance tests should be given and evaluated by qualified OJT instructors. The instructor uses an Evaluation Standard from a TES to determine if the trainee has the knowledge and skills to perform the task. A performance test should consist of assessments of knowledge and skill. A trainee's knowledge may be assessed prior to, during, or following task completion. It is suggested that safety related questions should be asked prior task performance, a limited number of questions may be asked during the performance test if they will not distract the trainee from the task's performance, with the remaining questions asked following task completion.

The trainee is performance tested following the completion of training and any additional practice necessary to develop proficiency. Just as in the training phase of OJT, the evaluation phase consists of several distinct steps. To conduct a performance test the trainee and the instructor should prepare for the test. The instructor should then brief the trainee, conduct the performance test, debrief the trainee, and document the performance test.

5.1.1 Preparing for a Performance Test

5.1.1.1 Trainee Preparation. The trainee should review the evaluation standard and the OJT checklist to determine the required level of accomplishment. If there has been a time lag between the completion of training and the scheduled performance test, the trainee should study and/or practice the task under an OJT instructor's supervision to help ensure the maintenance of competency. The trainee should check to confirm the scheduled evaluation time, review safety requirements, and obtain any necessary safety equipment.

5.1.1.2 Instructor Preparation. The instructor should confirm scheduled evaluation time with the trainee and verify that the trainee has completed all prerequisite training. The

instructor should prepare for the performance test by reviewing the materials that will be used for the performance test (the OJT checklist, the evaluation standard for the task, and the procedure). If time permits, the instructor may want to walk through the task to ensure he/she is current on task specifics.

The instructor should ensure that required facilities, equipment, personnel, materials, etc., will be available at the scheduled time, and that facility operations will not be adversely impacted by the level of accomplishment specified for the performance test.

5.1.2 Briefing the Trainee

Prior to conducting a performance test the instructor should provide the trainee with an overview of the performance testing process and explicit instructions (ground rules). That is, the instructor should provide clear and complete instructions as to what the trainee is allowed to do. The instructor should explain under what circumstances he/she will stop the trainee (such as danger to personnel or equipment).

The instructor should review the evaluation standard with the trainee and explain the standards of acceptable performance. The instructor should tell the trainee that any answer or action that would place personnel, the facility, or system in danger is an immediate failure of the performance test regardless of the acceptability of other responses.

5.1.3 Conducting the Performance Test

A performance test is not an instructional process. The intent is to evaluate the trainee's skills and knowledge. To prevent performance test compromise, the instructor should not coach or prompt the trainee by giving hints, by asking leading questions, or by his/her actions. If a task requires the trainee to go to a location, the instructor should not lead the way. If the evaluation standard references a procedure, that procedure should be available to the trainee during the test but should not be handed to the trainee by the instructor. Part of the performance test is to assess the trainee's use of procedures and understanding of their importance. A procedure prompt by the instructor would be a method of coaching.

With most tasks, the instructor should be able to determine if the trainee is performing the task correctly by observing and comparing the trainee's actions to the evaluation standard and the procedure. The instructor should evaluate if the trainee can:

- Obtain the needed reference material and tools without difficulty?

- Use the references and tools correctly and in the proper sequence?
- Observe applicable facility safety rules when performing the task?
- Manipulate the equipment in a deliberate and timely manner?
- Recognize equipment status (such as, does he/she recognize when a valve is open or a pump is running)?

Usually it is not enough for employees to only possess the skills to operate a tool, a component, or a system. Knowledge of the underlying theory/principles of operation, interactions with other systems, and what to do if the equipment or system doesn't operate properly should also be required. To assess a trainees knowledge, the instructor must ask questions to verify the trainee's understanding of the task; however, the instructor should not ask questions to distract the trainee. All questions asked during a performance test should be related to the task's terminal and enabling learning objectives. The instructor should start with the easier questions that are associated with the task. This technique tends to build confidence and puts the trainee at ease. The instructor may then progress to more thought-provoking questions. The instructor may also ask the trainee to "talk through" the task as he/she performs it. This technique significantly reduces the number of questions the instructor needs to ask and has the added benefit of allowing the instructor to stop the trainee before he/she makes a serious mistake. The questions used to assess a trainee's knowledge may be written in the evaluation standard (preferred method) or generated by the instructor during the performance test. If required by facility procedures or if compromise of the questions written into the evaluation standard is a concern, approved questions may be maintained in a question and answer bank and inserted into appropriate sections of the evaluation standard prior to conducting a performance test.

Benefits of developing written questions for the instructor to ask as a part of the performance test include standardizing the knowledge assessment portion of the performance test, and minimizing the diversion of the instructors attention from the trainee's answer (the instructor may be thinking about what to ask next while the trainee is answering the current question). Wrong responses may then go unnoticed, thus reinforcing in the trainee's mind that what he/she said was correct when, in fact, it was not. The questions asked during the performance test should test understanding and judgment as well as factual knowledge.

If the evaluation standard was developed with detailed questions and answers built into it, the instructor should be able to select appropriate questions to spot-check the trainee's knowledge. Questions asked by the instructor during the performance test need not be restricted to those stated verbatim in the evaluation standard. The instructor may rephrase or expand them as appropriate. The instructor should also keep in mind that the trainee's answer will usually not be a verbatim answer. The instructor should record on the

evaluation standard whether the trainee's response was satisfactory or unsatisfactory, and if unsatisfactory, the given response.

If questions are not included as a part of the evaluation standard, the instructor should ask questions to assess knowledge and record them as previously described.

The instructor has the option of asking several different types of questions during the performance test. (This applies equally well to the instructional technologist developing questions as part of an evaluation standard or to the instructor who is administering a performance test that was developed without questions.) The two most common question types are the open-ended question and the closed-ended question. A good mix of these two types of questions should provide the instructor with enough information to determine whether or not the trainee has adequate knowledge.

The open-ended question places the burden of conversation on the trainee and gives the instructor time to analyze what the trainee is saying. It reduces the total number of questions asked. It is very useful when starting a line of questioning in a new subject area. Open-ended questions also minimize the trainee's use of "key words and tricky phrases" by reducing the chance of a pat answer straight from the text book. The following are two examples of open-ended questions:

- Describe the procedure for starting the recirculation pump
- Explain how other systems are affected by performing this task.

Closed-ended questions are specific questions that are often answered with only one or two words (e.g., Yes, No, Open, Closed, 150 psig). They may be used to clarify a statement the trainee made in response to an open-ended question. Closed-ended questions place the burden of conversation on the instructor in that he/she spends much more time thinking of and stating the question than it takes the trainee to answer it. The following are two examples of closed-ended questions:

- Is there a danger of electrical shock while working on an energized motor controller?
- What indications of a loss of pump prime are available to you at this control panel?

The instructor's use of leading questions should be minimized or avoided altogether. In a leading question the instructor gives the trainee a partial answer and expects the trainee to complete it, or gives the complete answer and expects the trainee to agree or disagree with it. The trainee will usually say whatever he/she thinks the instructor wants to hear.

All questions asked during a performance test should relate to the evaluation standard. Questions asked during a performance test may include theory, system equipment, and a discussion of routine and/or emergency procedures. Most facilities require the trainee to memorize the immediate actions of an emergency procedure and expect the trainee to be able to rapidly locate the supplementary or follow-up actions in the procedures. In many instances an employee in the trainee's job classification does not perform all of the steps in a procedure. The instructor should ask why the trainee does not perform these procedural steps, who does, how the actions of others affect the task, and how he/she would know when to continue with his/her part of the procedure.

The trainee may answer a question incorrectly during the course of a performance test. The instructor's response to the wrong answer should be as neutral as possible. The instructor may rephrase the question and if the trainee still does not know record it in the evaluation standard and go on to a different area. At the completion of the performance test, the instructor may clarify any misconceptions or have the trainee look up what he/she did not know.

The instructor should remember that the evaluation standard contains 100% of the required knowledge. With regard to most tasks, the trainee is usually not required to know everything in the evaluation standard. Many facilities require that the trainee accomplish the skills portion of a performance test with 100% accuracy and achieve at least 80% of the information required by the evaluation standard. Other facilities require 100% accuracy on the skill requirements and a satisfactory or unsatisfactory assessment of the knowledge requirements. Facility specific procedures written in the training management manual or the OJT program's training development and administrative guide should set the task-specific skill and knowledge levels.

At the completion of a performance test the instructor needs to make a judgment call, compared to the evaluation standard--did the trainee have satisfactory knowledge and skills or not? The use of a detailed evaluation standard which includes questions and answers will reduce the subjectivity of this decision. There are many possible outcomes of a performance test. The following three are generic examples:

- Satisfactory skills and knowledge; no weak points. The instructor signs the trainee's OJT checklist.
- Satisfactory skills and knowledge; the trainee lacked information on some minor details. The instructor may cover those details during the debrief and signs the trainee's OJT checklist.
- Unsatisfactory; the trainee lacked necessary skills or showed a significant lack of

knowledge and understanding. The instructor should counsel the trainee as to what additional training is required and what to practice or study and request the OJT program coordinator to reschedule additional training and another evaluation for this trainee. The instructor should discuss the trainee's performance with the OJT program coordinator and/or the trainee's supervisor.

5.1.4 Debriefing the Trainee

At the completion of a performance test the instructor and the trainee should conduct a detailed review of the trainee's performance. The instructor should tell the trainee if he/she passed or failed the performance test. The instructor should make positive comments while reviewing the performance test results. Based on the outcome of the test, the instructor should either discuss with the trainee the knowledge items missed or require the trainee to find the correct answers.

5.1.5 Documenting Performance Test Completion

If the trainee has satisfactorily performed the task, the OJT checklist should be signed and dated by the instructor. If the task has multiple levels of accomplishment, the instructor should indicate on the OJT checklist the level at which it was accomplished.

APPENDIX A
PERFORMANCE TEST CODE GUIDELINES

PERFORMANCE TEST CODE GUIDELINES

1. The following questions may help determine the most applicable performance code for a given performance test item. For each question, circle an "S" or a "P."

	YES	NO
Can the task be performed under actual job conditions?	P	S
Is the task observable under actual job conditions?	P	S
Is the task hazardous or does it involve any unnecessary exposure to radiation or other hazardous conditions?	S	P
Is performing the task on the job costly?	S	P
If performed, could the task adversley affect facility operations?	S	P

2. After the results have been determined, use the table below as an aid in determining the performance code:

Results	Performance Code
All Ps	Perform
Ps and Ss	Perform or Simulate
All Ss	Simulate

For the cases where "Simulate" is indicated as the result of the table, but where manipulative skill demonstration is important to the evaluation of adequate task performance, a "Perform" may still be warranted. Conversely, if a "Simulate" is indicated, but the cost, the effect on facility operations, or the risks involved due to radiation exposure and/or other hazards are considered excessive, a "Discuss" may be the recommended performance code. Additionally, if manipulative skills are not a

factor and group evaluation is considered adequate, "Observe" may be an acceptable performance code recommendation.

APPENDIX B
EXAMPLE OJT CHECKLISTS

COOLANT AREA PRACTICAL FACTORS CARD

NAME: _____

INSTRUCTIONS: The trainee must perform, simulate, or observe (as required and indicated by the X's) all practical factors listed on this card. Activities indicating a single NPPO action **may not** be changed: activities indicating more than one NPPO action (perform, simulate, observe) may be satisfied by completing any one. The order of preference for the actions shall be (1) perform, (2) simulate, (3) observe.

Upon satisfactory completion of each activity, a qualified operator shall circle the action taken, and sign (using full signature) and date in the appropriate space.

FUNCTIONAL LOGS	Perform	Simulate	Observe	Signature	Date
Complete Log 1-A (Section 6)	X				
Complete Log 1-A (Section 7)	X				
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Shift primary-pump MG-clutch cooling-water strainer	X				
Shift SBB cooling-water strainer	X				
Shift secondary-pump cooling-water strainer	X				
Start up primary pumps	X				
Start secondary-pump MG set	X				
Shift running equipment (primary)	X				
Shift running equipment (secondary)	X				
Start-up secondary recirc. system	X	X			
Shift sodium recirc. pumps	X	X			
Drain secondary sodium system	X	X			
Fill secondary sodium system	X	X			
Heat up:	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Primary system (350 to 700°F)	X	X			
Secondary system (ambient to 580°)	X	X			
Cool down:	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Primary system (700 to 350°F)	X	X			
Secondary system (580 to 350°F)	X	X			
Secondary system (350°F to ambient)	X	X			
Start up secondary purification system	X	X			
Start up primary purification system	X	X			
Start up RSCL	X	X			
Reset control setpoints on TRICA 540	X	X			
Plugging run:	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Primary	X	X	X		
Secondary	X	X	X		
Shift vapor traps on PTCGSSS	X	X			
Shift pumps on PTCGSSS	X	X			
Control primary-tank pressure from manual control station	X	X			
Bypass FHT vapor trap	X	X			
Melt out the secondary gas recirc. system vapor trap	X	X			
Place emergency argon manifold in service	X	X			
Add argon to primary-tank heaters	X	X			
Adjust GLASS flow for normal first and second reductions	X				

COOLANT AREA PRACTICAL FACTORS CARD (contd)

	Perform	Simulate	Observe	Signature	Date
Convert GLASS teletype data into a cu/ml with conversion factors	X				
Start and secure increased argon purge system	X	X			
Start up FERD loop	X	X			
Start flow through CGCS from primary tank	X				
Isolate CGCS from primary tank	X				
Start single tag on CGCS	X				
Replace filter on PTCGSSS	X	X			
Maintain RSCL in hot-standby and bypass modes	X	X			
Control primary-tank annulus pressure	X	X			
Start continuous tag on CGCS	X	X			
Secure continuous tag con CGCS	X	X			
Start up the cryo. pumps	X	X			
Check the CGCS sump radioisotopic inventory	X				
Dump the CGCS sump	X	X			
Start argon purge on CGCS	X	X			
Simulate operation of reactor building MET-L-X system		X			
Simulate operation of SBB MET-L-X systems		X			
Reduce pressure control of primary cover gas	X	X			
Reduce pressure control of secondary cover gas	X	X			
Reset primary-purification ventilation inlet dampers	X				
Adjust thimble-cooling dampers for proper operation	X				
Adjust shield-exhaust dampers for proper operation	X				
Cross-connect thimble cooling to shield-cooling exhaust		X			
Place primary purification system in hot standby	X	X			
Operate primary-purification NaK dump system (dump & fill)	X	X			
Start up and shut down primary auxiliary pump	X	X			
Manually operate shut down cooler dampers	X	X			
Demonstrate how to operate the following radiation-monitoring equipment:	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
a. High-range beta-gamma portable survey instrument	X				
b. Intermediate-range beta-gamma portable survey instrument	X				
c. Low-range beta-gamma portable survey instrument	X				
d. Alpha meter	X				
e. Hand and foot monitors	X				
Demonstrate how to decontaminate the following:	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
a. Hands	X				
b. Shoes	X				
c. Tools	X				
d. Flat surfaces	X				
Don and remove a set of full anticontamination clothing	X				
Demonstrate how to properly enter and leave a controlled boundary	X				

COOLANT AREA PRACTICAL FACTORS CARD (contd)

	Perform	Simulate	Observe	Signature	Date
Demonstrate how to properly rezero a self-reading pocket dosimeter	X				
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
LOG READINGS	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Take six sets of primary and secondary coolant log readings: two at 0830, two at 1630, and two at 0030	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Monday 0030	X				
0030	X				
0830	X				
0830	X				
1630	X				
1630	X				

I hereby verify that the named individual has satisfactorily completed all coolant-area practical factors and has demonstrated the necessary abilities and maturity to perform the indicated activities.

_____

Alternate Reactor Shift Supervisor Date

POWER PLANT AREA PRACTICAL FACTORS CARD

NAME: _____

INSTRUCTIONS: The trainee must perform, simulate, or observe (as required and indicated by the X's) all practical factors listed on this card. Activities indicating a single NPPO action **may not** be changed: activities indicating more than one NPPO action (perform, simulate, observe) may be satisfied by completing any one. The order of preference for the actions shall be (1) perform, (2) simulate, (3) observe.

Upon satisfactory completion of each activity, a qualified operator shall circle the action taken, and sign (using full signature) and date in the appropriate place.

FUNCTIONAL LOGS	Perform	Simulate	Observe	Signature	Date
Complete Log 1-A (Section 3)	X				
Complete Log 1-A (Section 10)	X				
Complete Log 1-D	X	X			
Complete Log 7-B	X				
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
FEEDWATER AND CONDENSATE SYSTEMS	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Fill the hotwell and condensate system (including No. 2 feedwater heater)	X	X			
Fill yard lines	X	X			
Recirc. yard lines	X				
Fill the steam drum with SUFWP	X				
Line up to fill steam drum with MFP's	X				
Line up to fill steam drum with ECP	X	X			
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
COOLING-WATER SYSTEMS	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Start up condenser cooling-water system	X	X			
Route CCW to tower basin using local operators	X	X			
Drain main cooling-tower basin	X	X			
Cross-connect cooling-water systems		X			
Reset main cooling-tower-fan vibration switch	X	X			
Put steam on cooling-tower basin	X	X			
Drain main cooling-tower risers	X	X			
Monitor and control basin level	X	X			
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
MAIN STEAM SYSTEM	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Draw vacuum on main condenser	X				
Warm up main steam header	X				
Warm up turbine chest	X				
Place auxiliary steam cross-connect in service	X				
Shift gland seal to main steam	X				
Blow down superheaters during standby	X				
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
TURBINE GENERATOR	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Start up oil system on turbine generator and test	X				
Test overspeed trip of turbine generator	X				
Shift and inspect L.O. strainers	X				
Start up turbine generator	X				

POWER PLANT AREA PRACTICAL FACTORS CARD (contd)

	Perform	Simulate	Observe	Signature	Date
Route generator H, to atmosphere	X				
Route generator H, to casing	X				
Purge generator with CO,	X	X			
Reset auto transfer scheme	X				
Parallel turbine generator with INEL loop	X				
Place both LO coolers in service	X	X			
Fill generator with H,	X	X			
Place turbine generator on turning gear	X				
Shift and replace hydrogen bottles	X				
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
POWER-PLANT EVOLUTIONS	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Plant heat up	X	X			
Plant cool down	X	X			
Start up power plant from hot standby to full power	X				
Shut down power plant from power to hot standby	X				
Cool down and drain steam, feed, and condensate systems	X	X			
Recover from loss of normal power	X	X			
Perform monthly running equipment switchover	X				
Place a sight glass in service	X				
Chemical analysis of all water chemistry			X		
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
LOG READINGS	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Take six sets of power-plant log readings: Three sets must be 0030 readings (midshift), and one set (0030) readings on Monday (midshift).	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
No. 1 - 0030 (midshift)	X				
No. 2 - 0030 (midshift)	X				
No. 3 - 0030 (midshift)	X				
No. 4 - 0030 Monday, (midshift)	X				
No. 5	X				
No. 6	X				

I hereby verify that the named individual has satisfactorily completed all power-plant-area practical factors and has demonstrated the necessary abilities and maturity to perform the indicated activities.

_____

Alternate Reactor Shift Supervisor Date

ELECTRICAL AREA PRACTICAL FACTORS CARD

NAME: _____

Instructions: The trainee must perform, simulate, or observe (as required and indicated by the X's) all practical factors listed on this card. Activities indicating a single NPPO action **may not** be changed: activities indicating more than one NPPO action (perform, simulate, observe) may be satisfied by completing any one. The order of preference for the actions shall be (1) perform, (2) simulate, (3) observe.

Upon satisfactory completion of each activity, a qualified operator shall circle the action taken, and sign (using full signature) and date in the appropriate space.

	Perform	Simulate	Observe	Signature	Date
Complete Log 1-A (Section 1)	X				
Start up and parallel generator to INEL loop	X				
Recover from trip of the auto transfer scheme	X				
Recover from loss of normal power	X				
Rack out a 13.8-kV or 2400-V breaker	X				
Place constant power on one UPS using output breakers and bus tie		X			
Place MCC S1A on MCC S1B		X			
Manually start 400/100-kW diesel	X				
Shift 125-Vdc distribution system to No. 1 UPS battery		X			
Manually separate the turbine-generator from the INEL loop	X				
Properly tag out electrical equipment	X				
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
LOG READINGS - Take six sets of electrical log readings	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
No. 1	X				
No. 2	X				
No. 3	X				
No. 4	X				
No. 5	X				
No. 6	X				

I hereby verify that the named individual has satisfactorily completed all electrical-area practical factors and has demonstrated the necessary abilities and maturity to perform the indicated activities.

_____

Alternate Reactor Shift Supervisor Date

REACTOR AREA PRACTICAL FACTORS CARD

NAME: _____

Instructions: The trainee must perform, simulate, or observe (as required and indicated by the X's) all practical factors listed on this card. Activities indicating a single NPPO action **may not** be changed: activities indicating more than one NPPO action (perform, simulate, observe) may be satisfied by completing any one. The order of preference for the actions shall be (1) perform, (2) simulate, (3) observe.

Upon satisfactory completion of each activity, a qualified operator shall circle the action taken, and sign (using full signature) and date in the appropriate space.

FUNCTIONAL LOGS	Perform	Simulate	Observe	Signature	Date
Complete Log 1-A (Section 2)			X		
Complete Log 1-A (Section 4)	X				
Complete Log 1-A (Section 5)			X		
Complete Log 1-A (Section 8)	X				
Complete Log 1-A (Section 9)	X				
Complete Log 1-C	X	X			
Complete Log 7-A	X				
Complete Log 7-M	X				
Complete Log 7-S	X				
Complete Log 8-T	X				
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Participate in reactor startup or restart	X	X	X		
Perform reactor startup or restart	X				
Participate in reactor shutdown (anticipatory)	X	X	X		
Perform reactor shutdown (normal)	X				
Plot CO/CN during startup	X				
Perform control-rod rebank	X				
Complete ascending PRD calculation	X				
Participate in reactor interlock checks (at console)	X				
Participate in fuel-handling interlock checks (at console)	X				
Complete reactivity plot calculation	X				
Compute reactor MWhr	X				
Complete control-rod calibration	X				
Perform rod drops at power	X	X			
Complete calorimetric determination of power (Log 7-B)	X				
Complete CO/CN plots during unrestricted fuel handling	X				
Perform control-rod comparison without use of DAS		X			
Calculate reactor 60-s period	X				
Calculate critical rod position for reactor restart, then 60-s period	X				

I hereby verify that the named individual has satisfactorily completed all reactor-area practical factors and has demonstrated the necessary abilities and maturity to perform the indicated activities.

_____

Alternate Reactor Shift Supervisor Date

FUEL HANDLING AREA PRACTICAL FACTORS CARD

NAME: _____

Instructions: The trainee must perform, simulate, or observe (as required and indicated by the X's) all practical factors listed on this card. Activities indicating a single NPPO action **may not** be changed: activities indicating more than one NPPO action (perform, simulate, observe) may be satisfied by completing any one. The order of preference for the actions shall be (1) perform, (2) simulate, (3) observe.

Upon satisfactory completion of each activity, a qualified operator shall circle the action taken, and sign (using full signature) and date in the appropriate space.

FUNCTIONAL LOGS	Perform	Simulate	Observe	Signature	Date
Complete Log 1-E	X				
Complete Log 1-F	X				
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Transfer a subassembly from FMF to reactor building	X	X	X		
Dimensionally check two subassemblies and load them into auxiliary coffin	X				
Transfer a subassembly from FUM to basket	X				
Transfer a subassembly from basket to IBC	X				
Transfer a subassembly from basket to FUM with reduced argon temperature	X				
Operate FH console during a restricted transfer	X				
Perform unrestricted fuel handling (Sequence A)	X				
Perform six round trips (12 sequences in the unrestricted fuel-handling mode (4 must be performed as the FH console operator):	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
No. 1	X				
No. 2	X				
No. 3 (FH console operator)	X				
No. 4 (FH console operator)	X				
No. 5 (FH console operator)	X				
No. 6 (FH console operator)	X				
Perform unrestricted fuel handling (Sequence B)	X				
Participate in large-plug seal cleaning	X				
Participate in small-plug seal cleaning	X				
Set up seal heaters for unrestricted fuel handling	X				
Manually operate the core-gripper elevation drive	X				
Manually operate the FUM-gripper elevation drive	X				
Manually operate the FUM shield	X				
Manually operate the FUM port seal	X				
Start up the argon cooling system	X				
Perform ACS emergency-valve operation	X				
Complete a purge on the IBC	X				
Action required for loss of cooling to a subassembly requiring cooling:	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
In IBC		X			
In FUM		X			

FUEL HANDLING AREA PRACTICAL FACTORS CARD (contd)

	Perform	Simulate	Observe	Signature	Date
Transfer an IBC containing a subassembly to HFEF-S	X				
Receive an IBC from HFEF-S	X				
Transfer a subassembly to IBC when IBC port cannot be closed		X			
Participate in safety-rod thimble replacement	X	X			
Participate in safety-rod replacement	X	X			
Participate in control-rod and INCOT-thimble replacement	X				
Participate in 180° rotation of subassembly in:	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Storage basket	X	X			
Reactor	X				
Perform core-gripper and hold down manual force calibration		X			
Participate in locking subassembly replacement	X	X			
Complete Log 7-W (N-1 nozzle pressure monitoring)	X				
Complete FUM-port and fuel-transfer-port torque measurement (Log 7-R)	X				
Change spacer and key bar in auxiliary coffin	X				
Manually operate IBC port	X				
Decontaminate IBC	X				

I hereby verify that the named individual has satisfactorily completed all fuel-handling-area practical factors and has demonstrated the necessary abilities and maturity to perform the indicated activities.

_____

Alternate Reactor Shift Supervisor Date

ON-THE-JOB TRAINING GUIDE AND PERFORMANCE EVALUATION CHECKLIST (PEC)

MODULE NO:_____
ISSUED:_____REVISED:_____
PAGE 1 OF 6

TASK(S): USE THE BERTHOLD HAND/FOOT MONITOR WITH FRISKER.

TRAINEE/INCUMBENT:_____**DEPT:**_____**BADGE:**_____

OPERATING PROCEDURE(S):

DUTY AREA: **BUILDING(S):**

TRAINEE/INCUMBENT'S GUIDELINES:
* Read the operating procedures.
* Observe demonstration of the task elements by the OJT Instructor.
* Answer each question correctly.
* Perform, simulate, observe or discuss the task elements as directed by the OJT Instructor or Evaluator.
* Sign and date each page of the PEC in the spaces provided.

OJT INSTRUCTOR'S GUIDELINES:
* Conduct an in-depth walk-through of the system with the trainee/incumbent.
* Demonstrate the task elements following the prescribed operating procedures.
* Cover the operating procedures with the trainee/incumbent.
* Ask the trainee/incumbent the questions on the PEC and credit each correct answer by placing your initials in the space provided.
* Coach the trainee/incumbent during a hands-on practice session using the operating procedure and the PEC as guides.
* Observe the trainee/incumbent as he/she performs the task elements and credit satisfactory performance by placing your initials in the spaces provided.
* Coach the trainee/incumbent until satisfactory, unassisted performance is attained and all questions are answered correctly by the trainee/incumbent.
* Sign and date each page of the PEC and the On-The-Job Training section(s) on the back page of the PEC as training is completed.
* Return the PEC to the Technical Trainer.

EVALUATOR'S GUIDELINES:
* Ask the trainee/incumbent the questions on the PEC.
* Observe the trainee-incumbent as he/she performs the task elements.
* Grant Task Qualification if the trainee/incumbent answers all questions and performs all steps according to the training/evaluation standards.
* If Task Qualification is not granted, see the Technical Trainer to initiate remediation using for A-2263.

OJT INSTRUCTOR SIGNATURE:_____BADGE:_____DATE:_____
EVALUATOR SIGNATURE:_____BADGE:_____DATE:_____
TRAINEE/INCUMBENT SIGNATURE:_____BADGE:_____DATE:_____

TRAINING / EVALUATION (T/E) STANDARDS

MODE OF EVALUATION:
The following T/E Codes are found next to each task element and question on the PEC to indicate the mode of evaluation acceptable for that element:

P	=	Perform	D	=	Discuss
S	=	Simulate	O	=	Observe

In order for the trainee/incumbent to successfully pass the PEC and be Task Qualified:

- "perform" items (P) MUST be performed.
- "simulate" items (S) must be simulated and may be performed if conditions permit.
- "discuss" items (D) must be discussed and may be simulated or performed if conditions permit.
- "observe" items (O) must be observed and may be discussed, simulated, or performed if conditions permit.

STANDARDS AND CONDITIONS:
Standards and conditions are listed for each task element as appropriate. These standards and conditions amplify and clarify those stated or implied in the terminal and enabling objectives. For example, the overriding OJT evaluation standard, "WITHOUT ERROR," may be amplified to achieve a more precise performance measurement.

STANDARDS may relate to the process or product of performance.
Process standards:

- procedural steps which must be performed sequentially are coded "S." Steps which must be performed without deviation from procedure, are deemed critical, and coded "C." The designation "S" and/or "C" in the column provided, indicates that the step must be performed sequentially AND without deviation. A trainee's inability to meet process standards constitutes immediate failure during evaluation.

Product of performance standards:

- criteria for judging acceptability of performance, e.g., calibrating an instrument to within a specified tolerance.

CONDITIONS are requirements that exist for task performance. They define such aspects as:

- Facility conditions, e.g., breaker open, pump shut down.
- Safety conditions, e.g., wearing a respirator; with backup tools.
- Information and resources available (or not) to the trainee.

OJT INSTRUCTOR SIGNATURE:_____BADGE:_____DATE:_____
EVALUATOR SIGNATURE:_____BADGE:_____DATE:_____
TRAINEE/INCUMBENT SIGNATURE:_____BADGE:_____DATE:_____

INSTRUCTOR/EVALUATOR CUE: Beginning with this page, you will find OJT enabling objectives (as applicable) followed by pertinent questions and task elements which are numbered in procedural sequence. Attach actual forms, checklists, and tags as applicable if used as a part of your OJT instruction and/or performance evaluation.

TERMINAL OBJECTIVE: Without using reference material, the trainee/ incumbent will use the Berthold monitor to check for radioactive contamination on hands, feet and body, in the proper sequence without error.

ENABLING OBJECTIVE(S): (1) Demonstrate the proper use of the Berthold monitor to check for contamination on hands and feet. (2) Demonstrate the proper use of the Berthold monitor to check for contamination on the body.

OJT ENABLING OBJECTIVE NO. 1: DEMONTRATE THE PROPER USE OF THE BERTHOLD MONITOR TO CHECK FOR CONTAMINATION ON HANDS AND FEET.

STEP NO.	**S/C CODE**	**T/E CODE**	**TRAINEE PROMPT**	**INITIALS OJT/EVAL**
1	C	P	Position feet on foot detectors, making sure toes touch bar stop.	___/___
Standard:			“Ready for Use” must be displayed on monitor.	
Standard:			High heeled shoes must not be placed on the detectors.	
2		P	When “I.D. Card” prompt appears on display, pass I.D. card through bar code reader with bar code on the right-hand side.	___/___
Standard:			If “I.D. Card” prompt does not appear, report it to supervision.	
Standard:			Entire monitoring cycle must be completed once I.D. card has been recognized.	

OJT INSTRUCTOR SIGNATURE:_____BADGE:_____DATE:_____
EVALUATOR SIGNATURE:_____BADGE:_____DATE:_____
TRAINEE/INCUMBENT SIGNATURE:_____BADGE:_____DATE:_____

STEP NO.	S/C CODE	T/E CODE	TRAINEE PROMPT	INITIALS OJT/EVAL
3	C	P	When "Insert Hands" prompt is displayed, insert hands into detector openings, pressing the ends of the fingers firmly against the stoppers so that the outer detectors press against hands.	___/___

Standard: Jewelery that may damage the detector should not be worn on hands.

Standard: Remain in this position until count is complete.

OJT ENABLING OBJECTIVE NO. 2: DEMONSTRATE THE PROPER USE OF THE BERTHOLD MONITOR TO CHECK FOR CONTAMINATION ON THE BODY.

STEP NO.	S/C CODE	T/E CODE	TRAINEE PROMPT	INITIALS OJT/EVAL
1		P	Remove frisker from the hook before moving feet.	___/___
2	C	P	Frisk starting at the top of your head. Proceed downward, checking your nose, mouth and neck.	___/___
3		P	Check shoulders, arms, then the torso and finally the legs and feet.	___/___

Standard: Move the frisker a maximum of 2 to 3 inches per second. This is necessary to allow the meter time to respond. If you move the probe too fast, you may pass over contamination and not record it. If an audible increase in the count rate is noted, return the probe to the spot and hold for a minimum of five seconds to determine if contamination is actually present.

OJT INSTRUCTOR SIGNATURE:_____BADGE:_____DATE:_____
EVALUATOR SIGNATURE:_____BADGE:_____DATE:_____
TRAINEE/INCUMBENT SIGNATURE:_____BADGE:_____DATE:_____

STEP NO.	S/C CODE	T/E CODE	TRAINEE PROMPT	INITIALS OJT/EVAL

Standard: The probe should be held less than 1/4 inch from the surface area being monitored. Infrequent light probe contact with the surface is permitted but should be minimized.

Question: What do you do if contamination above the alarm point is found?

Answer: Contact your supervision and remain in the area. ___/__

OJT INSTRUCTOR SIGNATURE:_____BADGE:_____DATE:_____
EVALUATOR SIGNATURE:_____BADGE:_____DATE:_____
TRAINEE/INCUMBENT SIGNATURE:_____BADGE:_____DATE:_____

ON-THE-JOB TRAINING GUIDE AND PERFORMANCE EVALUATION CHECKLIST (PEC)

MODULE NO:_____
ISSUED:_____REVISED:_____
PAGE 6 OF 6

TASK(S): USE THE BERTHOLD HAND/FOOT MONITOR WITH FRISKER.

TRAINEE/INCUMBENT:_____**DEPT:**_____**BADGE:**_____

OPERATING PROCEDURE(S):

DUTY AREA: **BUILDING(S):**

ON-THE-JOB TRAINING	INSTRUCTOR SIGNATURE	BADGE	DATE
OJT ENABLING OBJECTIVE NO. 1			
OJT ENABLING OBJECTIVE NO. 2			

TASK PERFORMANCE EVALUATION

THE TRAINEE/INCUMBENT HAS COMPLETED CLASSROOM AND OJT REQUIREMENTS AND IS READY FOR PERFORMANCE EVALUATION ON TASK NUMBER(S)_____

TECHNICAL TRAINER
SIGNATURE:_____BADGE:_____DATE:_____

EVALUATOR
SIGNATURE:_____BADGE:_____DATE:_____

TASK QUALIFICATION GRANTED_____ TASK QUALIFICATION DENIED_____

TRAINEE/INCUMBENT
SIGNATURE:_____BADGE:_____DATE:_____

FOR COMPUTER USE ONLY

COMPUTER
ENTRY BY:_____BADGE:_____DATE:_____

APPENDIX C

FACTORS THAT INFLUENCE LEARNING AND MOTIVATION

FACTORS THAT INFLUENCE LEARNING AND MOTIVATION

Numerous factors can have a significant influence on a trainee's learning and motivation during the OJT process. Instructional technologists should consider these factors as they develop OJT guides. OJT instructors should be familiar with and use these factors to improve their delivery of training.

Prerequisites--Trainees are more likely to learn something new if they have satisfied all the prerequisites. Past learning may be the most important factor in determining success or failure in learning. Completion of prerequisite tasks should be documented by the instructor's signature(s) on the OJT checklist.

Meaningful--A trainee may be motivated by relating to previous experience, future goals, interests, and values. Explain to the trainee how this subject relates to the job, his/her previous experience, and how this increases his/her potential for advancement. The trainee should then be able to see a direct link between OJT and the job.

Positive Conditions and Consequences--A trainee is more likely to continue learning if the conditions during instruction are made as pleasant as possible. Instructors should be aware of and try to minimize any negative conditions to which a trainee may be exposed. The following negative conditions are often associated with OJT:

- Trainees may be bored if the instructor does not tailor the training to the individual trainee. Teaching material that the trainee already knows, or that is not meaningful, will contribute to boredom. (Pre-testing and exceptions to training may minimize this factor.)
- Trainees may be frustrated by being given OJT when they have not completed prerequisite training.
- Trainees may be subjected to unpleasant physical conditions. Extreme heat/cold, radioactive contamination, high noise levels at the job site (exposure to these conditions may be minimized by the use of a mockup or simulator followed by limited time at the actual job site), and distractions such as the presence of peers during OJT may contribute to unpleasant physical conditions.
- Trainees may be hurt emotionally. The instructor should make positive comments, avoid making comparisons to other trainees, and never ridicule the trainee's efforts. Trainees need to be rewarded (positive reinforcement) for their efforts; at first for doing the task nearly correctly, and after proficiency is accomplished for doing the task correctly.

Open Communications--A trainee is more likely to learn if OJT is structured so that the instructor's messages are open to the trainee's inspection. To improve open communications the instructor should:

- Clearly state the terminal and enabling learning objectives. The learning objectives tell the trainee exactly what is expected of him/her.
- Point out relationships. Give cues and prompts to the trainee to be sure he/she understands what has been said.
- Avoid using technical terms without explaining them to the trainee (do not assume that he/she knows).
- Talk about a system or component of that system at the location of the item if possible. Make full use of being at the job site to stimulate as many sensory inputs (sight, sounds, smell, touch) as possible. Make sure the trainee can see and hear everything that is explained and demonstrated as it takes place.
- Ask the trainee questions to verify comprehension. Open communication is a two-way street--the trainee should also feel free to ask the instructor questions.

Modeling--This is the very foundation of on-the-job training. The instructor provides a model performance for the trainee to emulate. It is very important that the instructor presents the material in the proper sequence and observes all applicable procedures and safety requirements. The trainee will emulate improper performance just as readily as proper performance. Therefore, the instructor must perform the task correctly.

Active Appropriate Practice--Learning is more likely to take place if the trainee takes an active part. OJT is an active hands-on process. Practice should be as similar to the actual job task as possible.

Distributed Practice--A trainee is more likely to learn if practice is scheduled in short periods distributed over time. It is a good idea to limit practice sessions to one hour or less with a break between sessions. By distributing practice over a period of time, you can minimize mistakes that are caused by exceeding the trainee's attention span or fatigue limits during the practice session.

Fading--A trainee is more likely to learn if the instructor gradually withdraws instructional assistance. Following the initial practice session the instructor should systematically withdraw or decrease the coaching and helpful hints. The rate of fading is important: too slow and the trainee becomes dependent on the prompts--too fast and the trainee makes errors.

CONCLUDING MATERIAL

Review activities:

DOE Facilities

ANL-W, BNL, EG&G Idaho, EG&G Mound, EG&G Rocky Flats, LLNL, LANL, MMES, ORAU, REECo, WHC, WINCO, WEMCO, and WSRC.

DOE Program Offices

AD, DP, EH, EM, ER, NP, NS, RW.

DOE Field Offices

AL, CH, ID, NV, OR, RL, SR, SAN, RF.

Preparing activity:

DOE - NE-73

Project Number 6910-0008