The Process for Accreditation of Training in the Nuclear Power Industry

III NATIONAL
ACADEMY
FOR NUCLEAR
TRAINING

THE PROCESS FOR ACCREDITATION OF
TRAINING IN THE NUCLEAR POWER INDUSTRY

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NATIONAL ACADEMY FOR NUCLEAR TRAINING

Plant Area:
Training

Key Word:
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FOREWORD

The National Academy for Nuclear Training, formed in 1985, focuses and unifies industry efforts to improve training and promote professionalism of nuclear plant personnel.

The National Academy operates under the auspices of the Institute of Nuclear Power Operations (INPO) and is comprised of three components:

- nuclear utility training activities

- the National Nuclear Accrediting Board

- INPO's training-related activities

With the support of National Academy members, INPO develops accreditation objectives and criteria; develops training guidelines; assists member utilities in developing, implementing, and maintaining performance-based training programs; and evaluates the quality and effectiveness of utility training programs.

This document, ACAD 91-016, Revision 01, addresses the initial accreditation and accreditation renewal processes and is an amplifying revision of the original document. ACAD 91-015, *The Objectives and Criteria for Accreditation of Training in the Nuclear Power Industry*, complements this document.

Changes in the accreditation process described in this document recognize that utility-managed accredited training has matured during the past 11 years. These changes are intended to streamline and enhance the accreditation process and to improve the effectiveness and efficiency of industry training. The following summarizes substantive changes:

- The time between submittal of the accreditation self-evaluation report and the National Nuclear Accrediting Board review has been reduced from about ten to five months. This provides the Accrediting Board with more timely and relevant information. The Accrediting Board reviews the results of the accreditation team visit, recognizing that there will typically be less time to correct problems before the Accrediting Board review. This

change allows utility managers to consider all station needs when establishing priorities and applying resources to correct training problems.

- The final accreditation renewal report is forwarded to the utility chief executive officer shortly after the Accrediting Board meeting. The report includes the utility self-evaluation report, results of the accreditation team evaluation, and an executive summary that encompasses the utility self-evaluation report, the accreditation team evaluation, and the Accrediting Board deliberations. The executive summary provides a convenient overview of strengths and key issues identified during the accreditation renewal process. When the accreditation renewal results reflect important training deficiencies, a six-month status report to the executive director, National Academy for Nuclear Training, will be requested that briefly describes training improvements.

- The biennial self-evaluation letter to the executive director, National Academy for Nuclear Training, has been eliminated. Emphasis is placed on effective utility-managed self-evaluations. This removes unnecessary reporting and emphasizes individual utility responsibility to use ongoing training evaluation and feedback to maintain quality training.

- Appendix A provides additional guidance for conducting critical self-evaluations and for correcting weaknesses. The guidance is intended to address fundamental self-evaluation principles and methods, characteristics of high quality training, and the identification of utility-identified strengths and weaknesses. Appendix B provides guidance for preparing candid accreditation self-evaluation reports, including report format and content.

- Guidance for administrative withdrawal of accreditation for permanently shutdown plants is provided.

The National Academy for Nuclear Training welcomes suggestions to improve the accreditation process, objectives, and criteria. Suggestions should be provided to the executive director, National Academy for Nuclear Training. National Academy members are encouraged to use this document to guide day-to-day decisions concerning accredited training programs.

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OVERVIEW

General

The process for achieving and maintaining accreditation of training programs is described in this document. The accreditation process assists National Academy for Nuclear Training members in establishing and maintaining training programs that produce well-qualified, competent nuclear professionals to safely and reliably operate and maintain the nation's nuclear power plants.

INPO establishes training standards and assists members in achieving and maintaining these standards. The independent National Nuclear Accrediting Board makes the final determination regarding whether or not these standards are met by awarding, renewing, or withdrawing accreditation. The accrediting authority of the Board is derived from INPO's members.

Nuclear power plants are awarded accreditation for the on-site and off-site training and qualification programs listed below. Personnel who perform duties typically associated with these positions should participate in appropriate portions of the accredited initial and continuing training programs.

The accreditation process formally recognizes when nuclear utility initial and continuing training programs meet accreditation objectives (see ACAD 91-015, *The Objectives and Criteria for Accreditation of Training in the Nuclear Power Industry*) for the following training programs:

Operations Area

1. nonlicensed operator
2. reactor operator
3. senior reactor operator
4. shift supervisor
5. continuing training for licensed personnel
6. shift technical advisor

Supporting Technical Areas

7. instrument and control technician
8. electrical maintenance personnel
9. mechanical maintenance personnel and supervisor

10. chemistry technician
11. radiological protection technician
12. engineering support personnel

The accreditation process consists of the following major activities:

- utility training program development, implementation, and evaluation

- utility self-evaluation and weakness correction

- on-site accreditation team evaluation

- decision by the independent National Nuclear Accrediting Board

- utility maintenance of accredited training programs

Training Program Development, Implementation, and Evaluation

Training programs subject to accreditation should be developed, implemented, and evaluated for completeness and effectiveness before initial fuel load. Additional programs to be accredited should be ready for accreditation within the time frame established by the applicable training guidelines. Training programs are ready for accreditation when analysis and design of the programs have been completed, the supporting training materials are developed for presentation, and the programs are being implemented and evaluated for completeness and effectiveness.

Self-Evaluation and Weakness Correction

Utility staff conducts a critical self-evaluation using the accreditation objectives and corrects any identified weaknesses. Self-evaluation involves the following key principles:

- Senior utility managers oversee the self-evaluation to ensure critical identification, candid description, and lasting correction of training weaknesses.

- Line and training managers and their staffs actively participate in the self-evaluation.

- The self-evaluation of training is internally motivated, systematic, and effectively organized and managed.

- Self-evaluation addresses those characteristics that define high quality training and provides identification of strengths and weaknesses, including root causes and corrective actions. The key characteristics of high quality training are derived from and complement the accreditation objectives. The focus on quality training enhances utility self-evaluation efforts by linking training to effective personnel and plant performance.

Appendix A provides guidance for conducting self-evaluation including a discussion of quality training and utility-identified strengths and weaknesses.

Self-evaluation results are described in the accreditation self-evaluation report. The accreditation self-evaluation report is a candid, comprehensive, and stand-alone document that briefly describes the utility training programs and reflects a critical self-evaluation using the accreditation objectives. The report narrative includes areas such as the following for each accreditation objective:

- a brief description of how training covered by the objectives is conducted

- a discussion of how well each accreditation objective is met and how well training meets plant and personnel needs, including examples and anecdotal experience

- a description of significant changes made or planned since initial accreditation or the last accreditation renewal

- a discussion of strengths and weaknesses within each training program, including corrective actions taken or planned

Appendix B provides additional guidance for preparing the accreditation self-evaluation report, which should be forwarded to the executive director of the National Academy for Nuclear Training about two months before a scheduled accreditation team visit.

Accreditation Team Evaluation

INPO selects an accreditation team to visit plant and training sites. For initial accreditation, an accreditation team visit will be scheduled when the utility submits a comprehensive self-evaluation report. For accreditation renewal, visits typically are scheduled about three months before the National Nuclear Accrediting Board review date. The accreditation team consists of INPO and utility personnel with collective expertise in nuclear power plant operations, nuclear utility training, instructional processes, and training evaluation in the positions corresponding to the training programs being evaluated. An on-site previsit normally occurs about five weeks before each accreditation team visit. The previsit begins the evaluation process and allows the accreditation team manager to meet with line and training managers to discuss the purpose and scope of the accreditation team evaluation. During the previsit, materials for team preparation are collected, the self-evaluation report is discussed, and areas of strength and weakness are identified.

Before the on-site accreditation team evaluation, team members prepare by reviewing the self-evaluation report; various training materials collected during the previsit; plant operating experience data; and previous accreditation, plant, and corporate evaluation reports. Team members also meet to discuss the materials, review training schedules, and identify potential areas of strength and weakness.

During the evaluation, team members observe training activities; interview line and training personnel; examine facilities, equipment, and training materials; review instructor qualifications and training procedures; and examine training program content and the self-evaluation process. Training is evaluated using the accreditation objectives. Evaluation results are discussed with line and training managers and their staffs.

The accreditation team report describes the results of the on-site evaluation and provides the basis for a follow-up exit meeting. The resulting draft accreditation report combines the utility self-evaluation report, the accreditation team evaluation, the utility responses describing corrective actions taken or planned, and a current status. The draft accreditation report is submitted to the National Nuclear Accrediting Board for review and deliberation.

National Nuclear Accrediting Board Decision

Five members of the National Nuclear Accrediting Board meet as a voting board to consider the training programs for accreditation or accreditation renewal. The composition of the voting board normally includes two individuals (minimum of one) from INPO member utilities and always includes one individual from a non-nuclear industrial training organization, one from the postsecondary education community, and one nominated by the Nuclear Regulatory Commission. Therefore, a majority of each voting board is always from outside the nuclear utility industry.

For initial accreditation, the Accrediting Board considers training programs based on an INPO review of the adequacy and status of corrective actions for any identified problems. For accreditation renewal, the Accrediting Board reviews training programs at about four-year intervals.

At the Accrediting Board meeting, board members review the training programs and interact with utility managers. The Accrediting Board decision is based on a comparison of the training programs to the accreditation objectives and interactions with utility managers during the meeting. For each program, the Accrediting Board will make one of the following decisions:

- Award initial accreditation.

- Defer initial accreditation pending utility corrective actions and additional Accrediting Board review.

- Renew accreditation.

- Place accredited training programs on probation. A training program placed on probation retains accreditation status.

- Withdraw accreditation.

Utilities are encouraged to notify the Nuclear Regulatory Commission if their training programs are placed on probation or accreditation is withdrawn.

For new plants, training programs should be accredited prior to initial fuel load. Accreditation is awarded when the analysis and design bases for the programs have been completed, the supporting training materials are developed for presentation, and the programs are being implemented and evaluated for completeness and effectiveness. An accreditation

team review visit is conducted after initial power operations to verify that the accredited training programs are being revised based on plant operating experience.

Maintenance of Accreditation

If accreditation or accreditation renewal results reflect significant utility-identified weaknesses, INPO-identified problems, or adverse trends in training, the utility managers may be asked to provide a status report to the executive director, National Academy for Nuclear Training, after the receipt of the final report and about six months after the Accrediting Board meeting. The six-month status report should briefly discuss improvements made in training in response to the executive summary commentary, significant utility-identified weaknesses, and INPO-identified problems. The status report also should discuss how applicable lessons learned from the training programs reviewed by the Accrediting Board are being used to improve the other accredited training programs.

Utilities maintain training program accreditation by ongoing evaluation of individual training programs using the accreditation objectives to identify and correct weaknesses. Training effectiveness feedback and other ongoing self-evaluation results are needed to provide timely detection and correction of weaknesses. A periodic and comprehensive review of training also is needed to confirm that the ongoing self-evaluation and improvements have been effective in maintaining training programs that meet the accreditation objectives.

By various means (for example, from INPO plant evaluations), INPO may learn that one or more accreditation objectives are not being met for an accredited training program. For each reported problem, the executive director of the National Academy for Nuclear Training will initiate a review commensurate with the apparent magnitude of the problem. The executive director will inform utility managers of the problem and will either request additional information or will have a team conduct an on-site review of the affected training program. If appropriate, utility managers will be asked to demonstrate to the National Nuclear Accrediting Board that accreditation of the affected training program should be continued.

Administrative Withdrawal of Accreditation

Accreditation of training programs will be administratively withdrawn if the utility's membership in INPO is withdrawn. A plant loses its status as a branch of the National Academy for Nuclear Training if

accreditation is administratively withdrawn from all accredited training programs at the plant. Similarly, utility membership in the National Academy is withdrawn if accreditation is administratively withdrawn from all accredited training programs at all of its plants.

Accreditation of a plant's training programs will be administratively changed to include only the remaining operating units if a unit of a multiple-unit plant is permanently shut down and defueled, the utility does not intend to operate the defueled unit in the future, and the operating license for the defueled unit is changed to a possession-only license.

Accredited training programs are maintained during plant shutdown and decommissioning until accreditation is administratively changed or withdrawn as described above. Training programs should be adjusted to support job needs during the shutdown, defueling, and decommissioning period. Training on jobs most related to nuclear safety should be emphasized. The training should support job performance needs in a changing plant environment with increased attention given to evaluation and feedback for verifying training content and effectiveness. Instructors or line personnel who deliver training should maintain adequate instructional skills and familiarity with plant status and activities.

APPENDIX A

CONDUCTING SELF-EVALUATION AND CORRECTING WEAKNESSES

APPENDIX A

CONDUCTING SELF-EVALUATION AND CORRECTING WEAKNESSES

OVERVIEW

Purpose   This appendix provides guidance on conducting critical self-evaluation and correcting weaknesses. The guidance is intended to address fundamental self-evaluation principles and methods, characteristics of quality training, and the identification of utility-identified strengths and weaknesses.

In this
appendix   This appendix discusses the following topics:

I. SELF-EVALUATION PROCESS

Background

Effective line and training manager involve.nent in and support of quality training are the foundation of the industry accreditation effort. This effort includes the use of critical self-evaluation to judge training effecti.eness and to identify strengths, weaknesses, and other improvement areas of less significance that . .uld enhance the quality of training.

Principles

Critical self-evaluation involves the following key principles:

- Senior utility managers oversee the self-evaluation to ensure critical identification, candid description, and lasting correction of training weaknesses.

- Line and training managers and their staffs actively participate in the self-evaluation.

- Self-evaluation of training is internally motivated, systematic, and effectively organized and managed.

- Self-evaluation addresses those characteristics that define high quality training and provides identification of strengths and weaknesses, including root causes and corrective actions.

II. ELEMENTS OF SELF-EVALUATION

Ongoing review and evaluation of training effectiveness

Line and training managers and staff continually use the accreditation objectives to review individual training program effectiveness as follows:

- The content and conduct of training are evaluated based on the accreditation objectives to determine the quality of training and identify any strengths, weaknesses, and other areas for improvement.

- Corrective actions that address the fundamental weakness are developed.

- Oversight and follow-through to verify thorough and lasting correction of weaknesses are provided.

Sources of ongoing evaluation and feedback information include the following:

- Managers and supervisors provide feedback on worker performance and knowledge.

- Managers, supervisors, students, and former students provide feedback on training effectiveness.

- Training delivery is evaluated.

- Changes in plant design and procedures are evaluated for inclusion in training.

- Lessons learned from personnel performance and plant operating experience are evaluated for inclusion in training.

- Lessons learned from industry operating experience are evaluated for inclusion in training.

- Training problems and weaknesses from previous evaluations are reviewed to verify effectiveness of corrective actions and that similar situations have not recurred.

II. ELEMENTS OF SELF-EVALUATION *(continued)*

Periodic and comprehensive self-evaluation of training

A comprehensive self-evaluation of training and qualification programs is conducted periodically for the following reasons:

- The effectiveness of ongoing evaluation and feedback is confirmed and the need for additional evaluation effort is determined.

- The training programs are evaluated to determine if the accreditation objectives continue to be met.

- Improvements or shortfalls in personnel and plant performance and any relation to training are determined.

- Training strengths are identified.

- Weaknesses are identified and corrective actions taken.

- The effectiveness of corrective actions is determined.

III. STEPS FOR CONDUCTING A PERIODIC AND COMPREHENSIVE SELF-EVALUATION

1. **Review the results of ongoing evaluation and feedback.**

   Periodically, the effectiveness of ongoing evaluation and feedback sources for improving training is determined. If any of these sources of ongoing evaluation or feedback are determined to be not effective, additional self-evaluation effort may be needed. The following are examples of sources of ongoing training evaluation and feedback:

   - Managers and supervisors provide feedback on worker performance and knowledge.
   - Managers, supervisors, students, and former students provide feedback on training effectiveness.
   - Training delivery is evaluated.
   - Changes in plant design and procedures are evaluated for inclusion in training.
   - Lessons learned from personnel performance and plant operating experience are evaluated for inclusion in training.
   - Lessons learned from industry operating experience are evaluated for inclusion in training.
   - Training problems and weaknesses from previous evaluations are reviewed to verify effectiveness of corrective actions and that similar situations have not recurred.

   A composite of some of the ongoing evaluation and feedback sources listed above can be trended in a manner that supports the self-evaluation.

2. **Review other selected aspects of training.**

   Other aspects of training not adequately addressed by ongoing program evaluation and feedback are reviewed. Review activities include conducting additional observations of training, interviewing line and training managers and staffs, and reviewing additional materials. The following are examples of aspects of training that industry experience has shown may warrant additional review:

   - Training is not interrupted for an extended period of time when long-duration operational matters exist, such as extended outages or corrective efforts for plant performance weaknesses.
   - Personnel attend scheduled training, and missed training is made up.
   - Continuing training content addresses lessons learned from operating experience and meets plant and personnel needs.
   - Completed examinations are graded consistently, and measures are in place to minimize the possibility of examination compromise.
   - Long-term contractors complete appropriate training and qualification activities for independent work assignment.

III. STEPS FOR CONDUCTING A PERIODIC AND COMPREHENSIVE
SELF-EVALUATION *(continued)*

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3. Evaluate training using the accreditation objectives.

The information collected from ongoing training program evaluations and other key aspects of training is evaluated using the accreditation objectives to determine the following:

- How well do the training programs meet the accreditation objectives?

- How has training improved personnel and plant performance? (See section starting on page A-9 for key characteristics of quality of training.)

- What training strengths exist? (See page A-13 for description.)

- What training weaknesses exist? (See page A-14 for description.)

- Have corrective actions been implemented?

- Have corrective actions for previously identified weaknesses been effective?

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4. Identify training that has improved personnel and plant performance.

Responses to questions such as those listed below demonstrate how training improves personnel and plant performance.

- How has classroom training improved personnel and plant performance or avoided ineffective performance?

- How has laboratory training improved the ability of workers to analyze equipment problems and make repairs?

- How have laboratory and in-plant training improved worker skills?

- How has simulator training improved plant operations?

III. STEPS FOR CONDUCTING A PERIODIC AND COMPREHENSIVE
SELF-EVALUATION *(continued)*

5. **Evaluate each weakness.**

   Each weakness is evaluated to identify the following:

   - What is the fundamental overall weakness?

   - What positions and training programs are affected by the weakness?

   - Why does the weakness exist?

   - What are the consequences or impact of the weakness on training and/or worker performance?

   - What is the scope and significance of the weakness?

6. **Compare the weakness with previous weaknesses.**

   Each weakness is compared to previously corrected weaknesses within other accredited training programs to identify trends that warrant increased attention.

7. **Develop a corrective action plan and schedule.**

   A corrective action plan and schedule are developed that address the following:

   - Each fundamental overall weakness is addressed.

   - The actions needed to correct the weakness, individuals assigned, and milestones for completing corrective actions are identified and accomplished.

   - Lessons learned from correcting the weakness are applied to other accredited training programs as appropriate.

8. **Provide line and training manager oversight.**

   Line and training manager oversight and follow-through verify that actions taken correct the weakness and prevent recurrence.

III. STEPS FOR CONDUCTING A PERIODIC AND COMPREHENSIVE
     SELF-EVALUATION *(continued)*

9. Write a self-evaluation report.

Critical self-evaluation results are candidly described in an accreditation self-evaluation report, which is submitted by appropriate line and training managers for approval. The report should be a stand-alone document that also briefly describes how the areas of training covered by the accreditation objectives are conducted. Appendix B provides guidance for writing the accreditation self-evaluation report.

IV. QUALITY OF TRAINING

Introduction

An awareness of quality training during the self-evaluation can provide meaningful insight into the effectiveness and efficiency of training programs. Utilities are encouraged to consider how training has improved personnel and plant performance through the application of key characteristics of quality training. Anecdotal experience of how quality training has improved personnel and plant performance may be obtained from routine student and supervisor feedback and manager oversight activities.

Utilities should emphasize reviewing the quality of training, identifying positive aspects of training, and identifying and correcting areas needing improvement. The results of reviewing the quality of training provide a more comprehensive and evaluative view of training. Positive aspects of training and areas of training needing improvement do not necessarily constitute "Strengths" or "Utility-Identified Weaknesses" that are reported in the self-evaluation report. Rather, they supplement strengths and weaknesses to provide a more critical self-evaluation of training.

Note: *The accreditation team evaluation and the Accrediting Board decision will be based on how well the training programs meet the accreditation objectives. The key characteristics of quality training are derived from and complement the accreditation objectives. The focus on quality of training enhances utility self-evaluation efforts by linking training to effective personnel and plant performance.*

IV. QUALITY OF TRAINING *(continued)*

Key Characteristics of Quality of Training

1. Training is relevant to the job.

Training is based on job performance needs and is changed as needs change. For example:

- Training conveys and reinforces line manager philosophy and expectations.

- Training promotes pride and nuclear professionalism.

- Training promotes nuclear and industrial safety.

- Feedback from line managers and supervisors, job incumbents, and students identifies job incumbent performance needs.

- Training supports job tasks.

- Training is provided to correct job incumbent performance weaknesses.

- Training supports changing personnel and plant needs.

- Training and evaluation address fundamental principles used on the job.

2. Training is timely.

Training occurs at an appropriate time to support changing job performance needs and is sequenced from lower-order to higher-order knowledge and skills. For example:

- Training sequence supports scheduled plant evolutions and individual job assignments.

- Task frequency, difficulty, and importance are considered in selecting training content.

- Fundamental principles and other prerequisite training are provided prior to training on more complex knowledge and skills.

IV. QUALITY OF TRAINING *(continued)*

3. Training is instructionally effective and challenging.

Training uses instructional techniques that involve students in the learning process and intellectually challenge students to think and learn. For example:

- Training provides hands-on application of fundamental principles.

- Lesson plans and other training materials contain appropriate instructor guidance for effective delivery.

- Instructors use innovative instructional techniques.

- Students participate in training to fulfill their responsibility to learn.

- Training encourages additional and relevant study by the student that goes beyond the scope of the training delivered.

4. Training is technically accurate.

Training materials are technically accurate and up to date. For example:

- Lesson plans, student handouts, examinations and examination answer keys, and other training materials are technically accurate and current.

- Examination results are used to improve training content and delivery.

- Instructors maintain technical knowledge and skills.

- Training materials reflect important lessons learned from plant and industry operating experience and changes in plant equipment and procedures.

IV QUALITY OF TRAINING *(continued)*

5. Training improves student performance.

Training improves student knowledge, skills, and attitudes. For example:

- Oral, written, and performance examinations support the learning objectives and job performance expectations.

- Job performance is improved due to effective training.

6. Training effectively and efficiently uses resources.

Training effectively and efficiently uses available resources. For example:

- Effective training is delivered that reflects efficient use of training resources.

- Training is delivered that enhances teamwork and involves efficient use of student time, such as multidiscipline crew training.

- The length of training sessions is optimum for training to be delivered and learning to occur.

- Training is enhanced using instructional techniques and instructor innovation without costly training aids.

V. UTILITY-IDENTIFIED STRENGTHS AND WEAKNESSES

Introduction

Line and training managers and staff continually identify areas where training is improving personnel and plant performance and areas where training could be enhanced. As discussed under quality of training, these aspects of training should be noted and used as part of the ongoing training improvement effort.

Strength Description

A **strength** is a training-related activity that adds significant value to personnel or plant performance and includes the following key elements:

- The strength clearly and directly enhances training, personnel, or plant performance.

- The strength is successfully implemented.

- The strength makes efficient use of training resources.

- The strength could serve as a model for other plants.

Rationale for Determining if a Strength Should Be Included in the Self-Evaluation Report

If line and training managers can provide a positive response to questions such as the following, the training activity should be considered as a "Strength" in the self-evaluation report. Otherwise, the activity could be discussed as a positive aspect of training quality.

- How does the activity improve training, personnel, or plant performance? Give examples or anecdotes.

- How long has the activity been used? What are some examples of successes derived from the activity?

- Has the effectiveness of the activity been quantitatively or qualitatively measured? What were the results?

- What savings or better uses of available resources have been realized by adopting the activity?

- Have most other plants adopted the activity? If not, what benefit could other plants gain by adopting the activity?

V. UTILITY-IDENTIFIED STRENGTHS AND WEAKNESSES *(continued)*

Weakness Description

A **utility-identified weakness** refers to deficiencies in training such as the following:

- One or more accreditation objectives are not fully met.

- Training, personnel, or plant performance needs are not met.

- A breakdown in the systematic approach to training detracts from the conduct of effective training.

- Conditions exist that will adversely impact future training effectiveness.

Rationale for Determining if a Utility-Identified Weakness Should be Included in the Self-Evaluation Report

Line and training managers determine the scope and significance of a weakness. The following guidance should be used to help determine when a training weakness is of sufficient scope and significance to be included in the self-evaluation report as a "Utility-Identified Weakness."

- What is the fundamental overall weakness?

- Is there a breakdown in the systematic approach to training?

- How has the breakdown contributed to the weakness?

- What aspects of the applicable accreditation objective are not being met?

- What job positions or training programs are potentially impacted?

- How will or could the condition or weakness impact personnel and/or plant performance? What are the potential consequences?

- Why does the weakness exist?

- What is the scope of the weakness?

- Is the weakness similar or related to weaknesses from previous evaluations? If so, why was the corrective action ineffective?

- What corrective actions have been implemented? When will the corrective actions be completed?

V. UTILITY-IDENTIFIED STRENGTHS AND WEAKNESSES *(continued)*

The following are examples of conditions that normally would **not** be included in the self-evaluation report as a "Utility-Identified Weakness." However, the conditions could be discussed in the report as an area of quality training needing improvement.

- Areas of training improvement or enhancement that are evolutionary normally should not be identified as a weakness.

- Minor weaknesses, such as training practices that do not conform to internal training procedures, also should not be identified as a weakness.

APPENDIX B

PREPARING THE ACCREDITATION SELF-EVALUATION REPORT

APPENDIX B

PREPARING THE ACCREDITATION SELF-EVALUATION REPORT

OVERVIEW

Purpose   This appendix provides guidance on preparing a candid self-evaluation report and addresses report format and content.

In this appendix   This appendix discusses the following topics:

I. INTRODUCTION

General Guidance for Preparing the Accreditation Self-Evaluation Report

Self-evaluation results are described in the accreditation self-evaluation report on an objective-by-objective basis. Utilities are encouraged to use tables and graphs, to be brief and concise especially in describing programs and processes, and to be critical in evaluating training and candid in describing weaknesses.

The accreditation self-evaluation report is a stand-alone document that briefly describes how the training areas covered by the accreditation objectives are conducted. The report also describes the results of a comprehensive and critical self-evaluation based on the accreditation objectives. Each criterion need not be addressed since the accreditation objectives can be met without meeting each criterion.

The following are also included in the report narrative:

- How well is each accreditation objective met and how well does training meet plant and personnel needs? Examples and anecdotal experiences should be used to illustrate these areas. (Appendix A, Section IV, "Quality of Training " and Section V, "Utility-Identified Strengths and Weaknesses" provide descriptions of the kinds of evaluative information to be included.)

- What significant changes have been made or planned since initial accreditation or accreditation renewal? Significant changes should be briefly addressed under each appropriate objective with a current status.

- What strengths were identified during the self-evaluation process? Strengths should be described under each appropriate objective and be identified as a "Strength." (See the description of a strength on page A-13.)

- What weaknesses were identified during the self-evaluation? Weaknesses should be described and corrective actions taken or planned should be discussed under each appropriate objective. This includes significant weaknesses that were identified and corrected since initial accreditation or accreditation renewal. The weakness should be identified in the report under "Utility-Identified Weakness." (See the description of a utility-identified weakness on page A-14.) Weaknesses that do not meet the intent of a utility-identified weakness should be addressed as an aspect of quality training or as a comment in the self-evaluation report.

The utility self-evaluation report together with the accreditation team evaluation is forwarded to the utility chief executive officer and the National Nuclear Accrediting Board and should be written with that audience in mind.

A single accreditation self-evaluation report is prepared for all training programs being submitted for initial accreditation or accreditation renewal. Typically, six programs are submitted at a time representing the operator training programs or the maintenance and technical support programs as listed in the "Overview" on page 1.

Two copies of the self-evaluation report are sent to the executive director of the National Academy for Nuclear Training.

II. SELF-EVALUATION REPORT FORMAT AND CONTENT

Cover Page

The cover page contains the following information:

- The name of the report is stated (for example, Accreditation Self-Evaluation Report or Accreditation Renewal Self-Evaluation Report).

- The utility and plant names are listed.

- The names of the training programs evaluated are listed.

- The date that the report is submitted to the executive director, National Academy for Nuclear Training, is noted.

Table of Contents

The table of contents denotes the following information and its respective page number:

- Each accreditation objective is listed separately by title.

- Each training program reviewed is listed by title under Objective 1, "Training Program Content." (See "Overview" on page 1 for the order of presentation.)

- Any attachments to the report are listed (for example, organizational charts).

Introduction

The introduction section contains a description of how the self-evaluation was conducted and an overview of the training programs.

The introduction section also contains a tabular summary of training program data. Figure 1, "Summary of Training and Qualification Programs," on page B-13 is to be used.

II. SELF-EVALUATION REPORT FORMAT AND CONTENT *(continued)*

Objective 1, Training Program Content

Program descriptions

The description of individual training programs in Objective 1 includes a **brief and concise** discussion of the following items.

- These program features are described:

  — training prerequisites

  — an overview of the positions and the functions performed

  — basis (task, duty area, building, or job qualification) for training, qualification, and independent work assignment

- Shift supervisor and mechanical maintenance supervisor selection processes and professional development activities are described.

- Shift supervisor attendance at the Shift Supervisor Professional Development Seminar is provided.

- A flowchart similar to Figure 2 on page B-15 that shows student progression through the initial training and qualification program is included.

II. SELF-EVALUATION REPORT FORMAT AND CONTENT *(continued)*

Evaluation narrative

The evaluation narrative for Objective 1 briefly, concisely, and candidly addresses how well initial and continuing training programs establish, maintain, and improve student knowledge and skills to support job performance. Emphasis should be placed on describing the effectiveness of continuing training. Strengths, weaknesses, and other areas of improvement that are common to two or more of the programs under review are identified. The description should address the programmatic aspects of the training as well as the quality of the training, as described in the characteristics of quality training. For example, the timeliness and relevance of the training to the job are training quality characteristics that should be addressed under this objective.

The following areas **may** be discussed if noteworthy:

for initial training

- Discuss the sequencing of training from fundamental principles to higher-order knowledge and skills.

- Discuss significant changes since accreditation or last renewal.

- Identify positive aspects of training and areas needing improvement that apply to the specific program under review.

- Identify strengths and weaknesses that apply to the specific program under review.

for continuing training

- Describe the process used and personnel involved in selecting and approving continuing training topics.

- Discuss the effectiveness of continuing training in improving personnel knowledge and skills including examples and anecdotal experiences.

- Provide examples to illustrate that training is timely in supporting job needs.

- Provide a listing of continuing training topics presented each year since initial accreditation or last renewal.

- Discuss significant changes since initial accreditation or last renewal.

- Identify positive aspects of training and areas needing improvement that apply to the specific program under review.

- Identify strengths and weaknesses that apply to the specific program under review.

II. SELF-EVALUATION REPORT FORMAT AND CONTENT *(continued)*

Objective 2, Organization and Management of Training

The evaluation narrative for Objective 2 briefly, concisely, and candidly focuses on how well utility managers direct and support plant training activities and how training is integrated into day-to-day operations by the management team. The description should include examples that illustrate the effectiveness of line manager involvement in training. Strengths, weaknesses, and other areas of improvement are identified. The description should address the programmatic aspects of the training as well as the quality of the training, as described in the characteristics of training quality. For example, the effective and efficient use of resources is a training quality characteristic that should be addressed under this objective.

The following areas **may** be discussed if noteworthy:

- Discuss how line managers support training using illustrative examples.

- Describe and provide examples of how nuclear professionalism is addressed in training (for example, protection of the reactor core, conservative decision-making, procedure adherence and compliance, self-checking, questioning attitude, and supervisor selection and professional development).

- Provide examples of changes resulting from training committee member interactions, line manager monitoring of training activities, feedback from personnel and plant performance, and feedback from incumbents and supervisors.

- Provide examples in which training helped correct performance problems.

- Briefly describe the process for using previous education, training, and experience to exempt personnel from training.

- Briefly describe how training attendance or timely makeup of missed training are assured. Include examples of past attendance problems and corrective actions if not addressed as a utility-identified weakness.

- Briefly discuss how the training and qualification of long-term contractors are accomplished to support independent work assignment.

II. SELF-EVALUATION REPORT FORMAT AND CONTENT (continued)

Objective 3, Development and Qualification of Staff

The evaluation narrative for Objective 3 briefly, concisely, and candidly focuses on how well instructor initial and continuing training maintains and improves instructor knowledge and skills to support job performance. Strengths, weaknesses, and other areas of improvement are identified. The description should include the programmatic aspects of the training as well as the quality of the training, as described in the characteristics of quality training. For example, relevance of the training to the job is a training quality characteristic that should be addressed under this objective.

The following areas **may** be discussed if noteworthy:

- Describe the role of instructors in conveying professionalism to students.

- Provide examples of improvement in instructor performance based on evaluation feedback and continuing training effectiveness.

- Discuss how instructors maintain technical knowledge and familiarity with the plant.

- Provide examples that illustrate the level of instructor credibility with line personnel.

Objective 4, Analysis, Design, and Development

The evaluation narrative for Objective 4 briefly, concisely, and candidly focuses on how training is developed to support job performance needs. Strengths, weaknesses, and other areas of improvement are identified. The description should address the programmatic aspects of the training as well as the quality of the training, as described in the characteristics of quality training. For example, technical accuracy of the training is a training quality characteristic that should be addressed under this objective.

The following areas **may** be discussed if noteworthy:

- Describe how the technical accuracy of training materials is maintained.

- Provide examples that illustrate the effectiveness of incorporating changes in plant design, procedures, and important lessons learned from plant and industry operating experience into the training materials.

- Provide examples that illustrate the effectiveness of examinations to evaluate student comprehension of training.

II. SELF-EVALUATION REPORT FORMAT AND CONTENT *(continued)*

Objective 5, Conduct of Classroom Training and Individualized Instruction and Trainee Evaluation

The evaluation narrative for Objective 5 briefly, concisely, and candidly focuses on how well classroom training and individualized instruction are delivered to promote learning and how well student performance during classroom training and individualized instruction is evaluated. Strengths, weaknesses, and other areas of improvement are identified. The description should address the programmatic aspects of the training as well as the quality of the training, as described in the characteristics of quality training. For example, instructionally effective and challenging training that improves student performance is a training quality characteristic that should be addressed under this objective.

The following areas **may** be discussed if noteworthy:

- Discuss instructional techniques that actively involve students in the learning process and intellectually challenge them to think and learn.

- Discuss examination validity and reliability in measuring student comprehension and provide examples of how examinations contribute to improved student performance.

- Discuss a   ue examples of how training reinforces line manager philosophy and expectations.

- Provide examples of how training reinforces self-checking and procedure use and adherence.

- Describe the effectiveness of remedial training and retesting to correct weaknesses in student comprehension.

II. SELF-EVALUATION REPORT FORMAT AND CONTENT *(continued)*

Objective 6, Conduct of Laboratory and In-Plant Training and Trainee Evaluation

The evaluation narrative for Objective 6 briefly, concisely, and candidly focuses on how well laboratory and in-plant training are delivered to promote student mastery of job-related knowledge and skills and how well student performance is evaluated prior to qualification and independent job assignment. Strengths, weaknesses, and other areas of improvement are identified. The description should address the programmatic aspects of the training as well as the quality of the training, as described in the characteristics of quality training. For example, instructionally effective and challenging training that improves student performance is a training quality characteristic that should be addressed under this objective.

The following areas **may** be discussed if noteworthy:

- Discuss and provide examples of the effectiveness of laboratory training in providing hands-on application of principles covered during classroom training.

- Discuss and provide examples of laboratory and on-the-job training instructional and coaching techniques used to develop student analytical skills.

- Describe how laboratory training and/or on-the-job training improves the ability of personnel to analyze and troubleshoot equipment problems and make repairs.

- Discuss and provide examples of how training reinforces line manager philosophy and expectations.

- Provide examples of how training reinforces self-checking and procedure use and adherence.

- Describe the effectiveness of methods used to evaluate student performance during laboratory and on-the-job training and provide examples of how the evaluations contribute to improved personnel and plant performance.

- Describe the effectiveness of remedial training and reevaluation to correct weaknesses in student performance.

- Discuss the effectiveness of on-the-job training in providing hands-on application of principles covered during classroom training.

- Discuss the effectiveness of task performance evaluations in verifying independent performance ability.

- Describe the distinction made between on-the-job training and task performance evaluation and provide examples of how this distinction is reinforced with trainers and evaluators.

II. SELF-EVALUATION REPORT FORMAT AND CONTENT *(continued)*

Objective 7, Conduct of Simulator Training and Trainee Evaluation

The evaluation narrative for Objective 7 briefly, concisely, and candidly focuses on how well simulator training is delivered to promote mastery of job-related knowledge and skills and how well performance is evaluated. Strengths, weaknesses, and other areas of improvement are identified. The description should address the programmatic aspects of the training as well as the quality of the training, as described in the characteristics of quality training. For example, instructionally effective and challenging training that improves student performance is a training quality characteristic that should be addressed under this objective.

The following areas **may** be discussed if noteworthy:

- Discuss simulator training techniques that provide hands-on training on operational concepts.

- Describe the effectiveness of methods used to identify and critique operator performance weaknesses.

- Describe how the role of each control room team member is identified and evaluated.

- Discuss simulator training techniques that provide for recognition and control of normal, abnormal, and emergency plant conditions.

- Discuss and provide examples of how training reinforces line manager philosophy and expectations.

- Provide examples of how training reinforces self-checking and procedure use and adherence.

- Describe the effectiveness of the simulator configuration control system.

- Describe significant differences between the plant and the simulator that affect training and how these differences are addressed during training.

- Provide specific examples where simulator training has improved operator and plant performance.

II. SELF-EVALUATION REPORT FORMAT AND CONTENT *(continued)*

Objective 8, Systematic Evaluation of Training Effectiveness

The evaluation narrative for Objective 8 briefly, concisely, and candidly focuses on how well the results of a systematic evaluation are used to modify and improve the content and conduct of training. The narrative also focuses on the self-evaluation process including who was involved, who from the management team provided oversight and review, and how the self-evaluation was conducted. Strengths, weaknesses, and other areas of improvement are identified.

The following areas **may** be discussed if noteworthy:

- Briefly discuss improvements made to the content and effectiveness of training based on feedback from managers, supervisors, students, and former students.

- Briefly discuss the evaluation results for each accredited training program under review showing trends in quality of training.

- Provide examples that illustrate the effectiveness of methods for identifying, tracking, evaluating, and incorporating change actions and important lessons learned from plant and industry operating experience into the training materials. Comment on the timeliness of making corrections to training materials.

- Briefly discuss improvements made that demonstrate the effectiveness of the self-evaluation process.

- Provide examples that illustrate the commitment of line and training managers to critical self-evaluation and verification that actions taken correct weaknesses and prevent recurrence.

- Briefly discuss how examination results are used to modify and improve training.
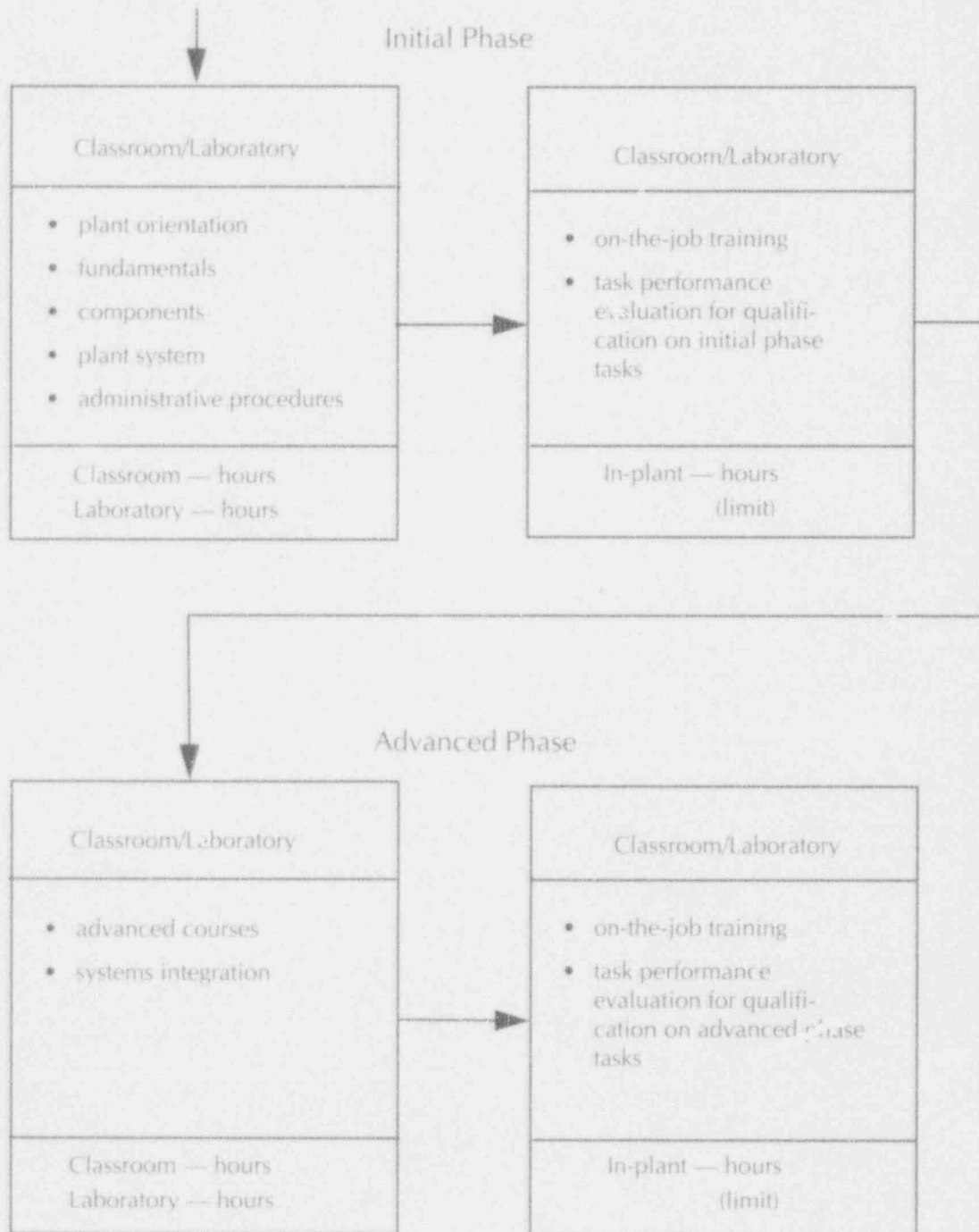
Updated as of: _____

Training Program	Population of Program (Number Utility Personnel/ Number Contract Personnel)	Frequency of Initial Training and Typical Number of Students Enrolled	Number of Classes and Students Since Initial Accreditation or Renewal	Completion Date of Last Initial Training Class and Number of Students Enrolled	Number of Instructors Supporting Initial Training (Utility Personnel and Contract Personnel)	Number of Students Attending Continuing Training	Annual Continuing Training Hours Since Initial Accreditation or Last Renewal	Number of Instructors Supporting Continuing Training
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**Appendix B
Figure 2
Example
Flowchart of Training and Qualification Sequence**

Initial Phase

Classroom/Laboratory
• plant orientation • fundamentals • components • plant system • administrative procedures
Classroom — hours Laboratory — hours

Classroom/Laboratory
• on-the-job training • task performance evaluation for qualification on initial phase tasks
In-plant — hours (limit)

Advanced Phase

Classroom/Laboratory
• advanced courses • systems integration
Classroom — hours Laboratory — hours

Classroom/Laboratory
• on-the-job training • task performance evaluation for qualification on advanced phase tasks
In-plant — hours (limit)

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The Process for
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Power Industry

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Telephone 404-644-8543

February 8, 1994

MEMORANDUM FOR: Darlene Huyer
Anstec, Inc.

FROM: Tremaine Donnell, INPO Coordinator
Records and Archives Services Section
Information and Records Management Branch
Division of Information Support Services

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