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OFFICE OF SECRETARY  
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(21)

Mr. Samuel J. Chilk, Secretary  
U.S. Nuclear Regulatory Commission  
Attn.: Docketing and Service Branch  
Washington, D.C. 20555

SUSQUEHANNA STEAM ELECTRIC STATION  
COMMENTS ON PROPOSED RULE ON  
TRAINING & QUALIFICATION OF  
NUCLEAR POWER PLANT PERSONNEL  
PLA-3744 FILES R41-2/A17-11

Docket Nos. 50-387/NPF-14  
and 50-388/NPF-22

Dear Mr. Chilk:

Pennsylvania Power & Light Company is providing the attached comments on the "Training and Qualification of Nuclear Power Plant Personnel" proposed rulemaking (57FR537) for your consideration.

Although PP&L does not believe that formalized rulemaking in this area is required because of the successful industry programs currently in place, we recognize that to comply with the April 1990 DC Circuit Court of Appeals decision, rulemaking in this area is unavoidable. We also recognize that the proposed rulemaking is performance based in focus and attempts to parallel industry training and qualification activities. However, as with any rulemaking we are concerned that there may be a potential for inconsistent and inappropriate application by individual NRC inspectors and examiners and therefore implementation needs to be carefully monitored.

Attached are a number of specific comments to the proposed rulemaking.

PP&L appreciates the opportunity to comment on the proposed rule.

Very truly yours,

H. W. Keiser

Attachment

cc: NRC Document Control Desk (original)  
NRC Region I  
Mr. G. S. Barber, NRC Resident Inspector  
Mr. J. J. Raleigh, NRC Project Manager

## SPECIFIC COMMENTS

1. Paragraph; 50.120 (b)(9)

Change On-site technical staff and managers to On-site direct Engineering support personnel.

This change will make the rule consistent with the National Academy for Nuclear Training approach to Engineer Training. Existing words add training requirements for an undefined "manager" category of station personnel.

2. The same change noted in (1) above should be made under "Discussion of Proposed Rule". (see attached FR page 538)
3. The second paragraph under "Actions Proposed in Response to the Court Decision" (see attached FR page 538) could be interpreted as requiring a job and task analysis for each position at each licensed facility. The following sentences should be added: Various approaches to identifying training needs are utilized. These training needs "analyses" may be completed through cooperative generic industry efforts and applied, as appropriate, at individual facilities.
4. Under "Discussion of Proposed Rule" (see attached FR page 538) item number 4 concerning auditing programs, either delete the phrase "and associated programs" or list the programs that need to be "readily audited." Without identifying what associated programs are to be included, inadequate guidance is available to facilities or inspectors.
5. The eighth paragraph under "Discussion of the Proposed Rule" states (see attached FR page 539) "these evaluations are normally completed within a three to six week period following completion of the training program" and "periodic evaluations of the overall training programs are being done within the four year industry accreditation cycle." Although both of these statements are generally correct, their inclusion in the document could codify them and inhibit future improvements.

The systematic approach to training specifies an evaluation step but many effective evaluation approaches and time frames are acceptable. Suggest rewording this section as follows: These evaluations are normally performed after completion of the training program. Periodic evaluations of the overall training programs are being done within the industry accreditation program.

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The proposed rule would amend 10 CFR part 50 to require training programs be derived from a systematic analysis of job performance requirements.

Current industry programs have been developed consistent with this approach. From the NRC's monitoring of industry training programs since the 1985 policy statement went into effect, the NRC has concluded that these programs have been generally effective in ensuring that personnel have qualifications commensurate with the performance requirements of their jobs.

#### Discussion

The safety of nuclear power plant operations and the assurance of general public health and safety depend on personnel performing at adequate performance levels. The systematic determination of qualifications and the provision of effective initial training and periodic retraining will enhance confidence that workers can perform at adequate performance levels.

Qualifications in the context of this rule means that nuclear power plant personnel have completed the training program, or parts thereof, as evidenced by meeting the job performance requirements, and are permitted to independently perform specific activities. The Commission has taken an

approach in this proposed rule that would specify the process to be implemented by applicants and licensees by which job performance criteria and associated personnel training would be derived. This approach provides for flexibility and site-specific adaptations in the training programs. No additional cost is anticipated with this approach for licensees with accredited programs because the proposed rule is believed to be consistent with existing industry practice for personnel training.

Approaches to the rulemaking other than that proposed, which establishes requirements consistent with the programs already largely developed and implemented by the industry, were not evaluated in detail. There is no evidence that any other approach would provide greater protection of the public's health and safety than the site-specific training programs called for in the proposed rule. At the same time, other approaches would involve greater costs to the industry and the NRC.

#### Summary of Proposed Rule

Each applicant for and each holder of an operating license for a nuclear power plant would be required to—

- (1) Establish a training program for certain nuclear power plant personnel

who perform operating, maintenance, and technical support activities:

- (2) Use a systems approach to training;
- (3) Incorporate instructional requirements to provide qualified personnel who can safely operate the facility in all modes of operation;
- (4) Periodically review, evaluate and revise the training program; and
- (5) Maintain and keep available for NRC inspection sufficient records to verify the adequacy of the training program.

Although no written response would be required, licensees would be expected to review their license and other commitments for consistency with the new rule.

The Commission has also developed conforming amendments to 10 CFR parts 50 and 52 to accompany the proposed rule. Two changes, to parts 50 and 52, would update information collection requirements for OMB approval and are considered minor. The other change to part 52 is more substantive and has been developed to ensure that applicants for a combined license (construction and operation) will establish, implement, and maintain a training program in accordance with the requirements in 10 CFR 50.120. The proposed rule is not intended to preclude vendor training programs developed in conjunction with standardization of design.

#### Discussion of Proposed Rule

A new section, § 50.120, would be added to 10 CFR part 50, entitled "Training and qualification of nuclear power plant personnel."

The proposed rule would establish the requirements for and the essential elements of the process to be used by applicants and licensees to—

- (1) Determine training and qualification requirements for all appropriate personnel; (2) develop corresponding personnel training programs to ensure that qualified personnel are available to operate and maintain the facility in a safe manner; and (3) implement and maintain these programs effectively on a continuing basis.

Paragraph (a), "Applicability," indicates that the proposed rule would apply to each applicant for and each holder of an operating license for a nuclear power plant.

Paragraph (b), "Requirements," would require that each applicant and licensee establish, implement, and maintain a program for training nuclear power plant personnel which addresses all modes of operation and is derived from a systems approach to training (SAT). The SAT

was selected because it has the following characteristics:

- (1) Training content and design are derived from job performance requirements;
- (2) Training is evaluated and revised in terms of the job performance requirements and observed results on the job;
- (3) Trainee success in training can predict satisfactory on-the-job performance; and
- (4) Training and associated programs can be readily audited because they involve clearly delineated process steps and documentation.

The SAT process contains five major elements and is intended to require a training system that will ensure successful performance on the job by trained individuals. The elements are—

- (1) Analysis of job performance requirements and training needs;
- (2) Derivation of learning objectives;
- (3) Design and implementation of the training programs;
- (4) Trainee evaluation;
- (5) Program evaluation and revision.

The SAT process also provides a sequential method of generating the type of documentation needed for training review. Use of SAT will obviate the need for additional documentation for NRC review.

The SAT process is a generic process, and its application is not limited to a certain subject matter or to specific licensee personnel. Training programs based on job performance requirements have been successfully used by the military for over 20 years, and by the nuclear industry for much of the past decade. Furthermore, the Commission has recognized the appropriateness of using this approach to training in its requirements for operator licensing prescribed in § 55.31(a)(4), and for operator requalification prescribed in § 55.59(c).

The rule would provide for the training and qualification of the following nuclear power plant personnel:

- (1) Non-licensed operator.
- (2) Shift supervisor or equivalent.
- (3) Shift technical advisor.
- (4) Instrument and control technician.
- (5) Electrical maintenance personnel.
- (6) Mechanical maintenance personnel.
- (7) Radiological protection technician.
- (8) Chemistry technician.
- (9) On-site technical staff and managers. Licensed operators, such as control room operators and senior control room operators, are not covered by this rule. They will continue to be covered by 10 CFR part 53 for both

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initial and requalification training. Because some senior control room operators may also be shift supervisors, only those aspects of training related to their shift supervisor function would be covered by the proposed rule.

The rule would require that training programs be periodically evaluated and revised as appropriate, and also be periodically reviewed by management for effectiveness. Current industry criteria in this regard involve the evaluation by management of individual training programs on a continuing or periodic basis to identify program strengths, weaknesses, and effectiveness. These evaluations are normally completed within a three to six month period following completion of the training programs. The sum of these evaluations results in a comprehensive review. Periodic evaluations of the overall training programs are being done within the four-year industry accreditation cycle. The Commission expects the above practices to continue in conformance with this rule.

Determination of job performance requirements and training needs is part of analysis in the SAT process and is reflected in qualification requirements. It will be the responsibility of the facility applicant or licensee to ensure that all personnel, licensee and contractor, within the scope of the proposed rule have qualifications commensurate with job performance requirements for those tasks for which they are assigned. Initial and continuing training, as appropriate, is expected to be provided to job incumbents in positions covered by the proposed rule.

Each applicant and licensee would be required to maintain and keep available for NRC review and inspection the materials used to establish and implement required training programs for the affected personnel. Current industry criteria in this regard involve retention of those records necessary to support management information needs and to provide required historical data. In general, these include records of program development, evaluation, and revision related to the existing training program. The NRC inspection of training programs has found that sufficient records are being retained for periods that are adequate for regulatory purposes. The Commission believes that no additional guidance for recordkeeping is necessary.

No written response is required by the proposed rule. However, applicants and licensees would be expected to compare their current training commitments and licensing bases with the requirements of the proposed rule. Licensees should use the results of this comparison to

evaluate and revise, as appropriate, existing technical specifications (e.g., perhaps deleting Standard Technical Specification Section 6.4—Training) and/or previous commitments. This approach will ensure a common understanding of training commitments (between applicants and licensees and the NRC staff) when future inspections are conducted.

#### *Impact of the Rule on Existing Industry Training Programs*

The rule, if adopted, would supersede the Policy Statement on Training and Qualification of Nuclear Power Plant Personnel. The Commission believes that the rule would not result in any change to accredited training programs. Inspections by the NRC have found the programs to be generally acceptable. The Commission concludes that those training programs accredited and implemented consistent with the industry program objectives and criteria would be in compliance with the requirement of this regulation. This conclusion is based both on inspections by the staff which have found the programs to be generally acceptable, and the staff's review of documents which provide the industry program objectives and criteria. An applicant or licensee could also comply with the requirements of the proposed rule without being accredited.

An existing Memorandum of Agreement between INPO and the NRC assures that the NRC will be aware of any modifications or updates to the industry's program objectives and criteria documents which would warrant any modification in the NRC's position expressed above. The NRC will continue to monitor the industry accreditation process by—

(a) Nominating individuals who are not on the NRC staff to serve as members of the National Nuclear Accrediting Board with full voting privileges;

(b) Having an NRC staff member attend and observe selected National Nuclear Accrediting Board meetings with the INPO staff and/or the utility representatives;

(c) Having NRC employees observe INPO accreditation team site visits;

(d) Reviewing any modifications in the program objectives and criteria as currently described in the National Academy for Nuclear Training document "The Objectives and Criteria for Accreditation of Training in the Nuclear Power Industry" (ACAD 91-015); and

(e) Verifying licensee programs through the NRC inspection process.

As noted above, the NRC has the ability to verify compliance with this regulation through the inspection program and will do so as appropriate. In their inspections the NRC staff will use Inspection Procedure 41500, "Training and Qualification Effectiveness," which references the guidance in NUREG-1220, "Training Review Criteria and Procedures." Based on NRC inspections conducted to date, the Commission believes that the criteria and procedures in NUREG-1220 provide sufficiently clear guidance to allow applicants and licensees to implement effective training programs in compliance with the rule. Therefore, the Commission does not believe it is necessary to issue a regulatory guide to provide additional guidance for complying with the rule.

#### *Vendor-Developed Programs*

In 10 CFR part 52, the Commission articulated the goal of safety through standardization of design. The Commission believes that the benefits of standardization could involve the standardization of some types of training associated with the 10 CFR part 52 design certification. Therefore, nothing in the proposed rule is intended to preclude standard training programs being developed or implemented by a vendor. For example, the initial training for instrument and control technicians related to a particular standard design may be conducted by a vendor. As a result, there could be a pool of technicians trained by the vendor on the certified design available for hire at a nuclear power plant site. The personnel, however, would need to complete site-specific training related to the administrative and operating philosophy of the site as well as any other specific requirements of the licenses.

Thus, the requirements for personnel training programs prescribed by § 50.120 do not prevent a vendor from training personnel or from developing a training process. However, it is important to note that vendor training programs are not governed by the proposed rule and that the licensee is ultimately responsible for ensuring that personnel are qualified.

<sup>1</sup> Copies of NUREG-1220 may be purchased from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 37082, Washington, DC 20513-7082. Copies are also available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. A copy is also available for public inspection and/or copying at the NRC Public Document Room, 2120 L Street, NW., Lower Level of the Gelman Building, Washington, DC.

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