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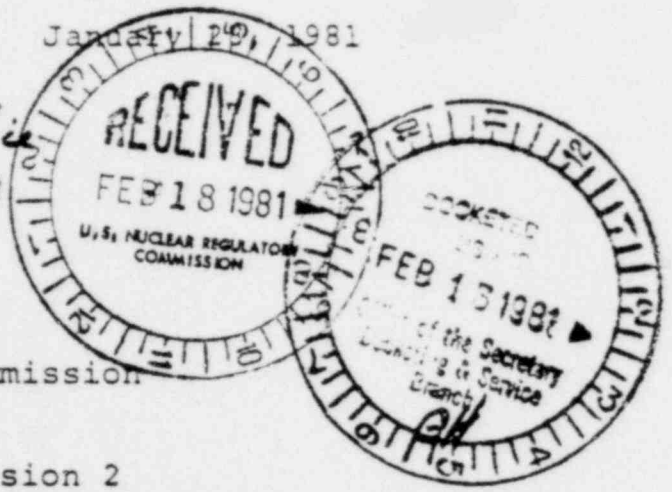
INPO INSTITUTE OF NUCLEAR POWER
1820 Water Place
Atlanta, GA 30339
(404) 953-3600

January 29, 1981

PROPOSED RULE PR misc notice Reg Guide



Mr. William J. Dircks
Executive Director for Operations
United States Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: Regulatory Guide 1.8, Revision 2
Personnel Qualifications and Training

Dear Mr. Dircks:

In our December 5, 1980, letter we advised you of the INPO position on the subject Regulatory Guide. Although we did not submit specific comments, we indicated concern for issuance of Revision 2. Following our review of Draft NUREG-0731, "Guidelines for Utility Management Structure and Technical Resources," September, 1980, we expressed additional concern for regulatory duplication in our December 30, 1980, letter to Mr. H. R. Denton (copy enclosed for information). These concerns centered around (1) the inclusion of utility management as a regulatory action, (2) prescriptive criteria of doubtful safety improvement, and (3) unrealistic demands on the existing trained manpower pool. Both communications expressed a desire to cooperate with the regulatory process in the joint development of achievable standards.

We note with distress that representatives of NRC feel that industry, in general, was not concerned enough about subject Regulatory Guide to make a significant quantity of inputs through established procedures. On the contrary, our interaction with the industry has indicated many and serious concerns about Revision 2 of Regulatory Guide 1.8. Numerous letters, telephone conversations and input through group meetings have expressed serious concern over a mere strengthening of ANSI STD ANS 3.1, especially since it represents concensus rather than a set of standards based on scientific research. We understand that many letters of non-concurrence with extensive comment have been submitted to the NRC by various utilities.

We believe that post-TMI requirements should be based on sound research and validated by industry experience gained from years of experience in safe plant operations. You are aware of INPO plans and programs underway to effect changes in industry training programs.

Acknowledged by card 2/13/81

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We recognize that certain improvements need to be made on a timely basis and have attached for your consideration our comments on subject Regulatory Guide 1.8, Revision 2. Although we have responded to items in the format of the Guide, we ask that they not be considered in that context alone. We urge you to consider delaying issuance of this Guide until the knowledge and experience of the industry can be factored into a program that can be achieved without further impact on operational safety.

Respectfully,

E P Wilkinson

E. P. Wilkinson
President

adw
Enclosures

cc: The Honorable Bruce Babbitt, Chairman
Nuclear Safety Oversight Committee
Mr. J. Ed Smith, Chairman
ANS-3 Subcommittee
Mr. R. G. Smith, Acting Director
Office of Standards Development, NRC

INPO INSTITUTE OF NUCLEAR POWER OPERATIONS
1820 Water Place
Atlanta, GA 30339
(404) 953-3600

December 30, 1980

Mr. Harold Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Denton:

The Institute of Nuclear Power Operations (INPO) would like to comment on Draft NUREG 0731, "Guidelines for Utility Management Structure and Technical Resources," dated September 1980.

INPO is an independent organization dedicated to fostering excellence in operation of the nation's nuclear power plants. As such, our comments are broad in scope and directed toward "best operating practices" in an industrywide sense.

Our concerns with Draft NUREG 0731 fall into three general categories: (1) The inclusion of utility management as a regulatory activity, (2) Prescriptive criteria of doubtful safety improvement, and (3) Unrealistic demands upon the trained manpower pool. Further discussion of each of these categories follows:

I. Utility management structure and philosophy are difficult topics for regulatory documents. The assessment of management effectiveness is subjective and requires in-depth experience in the nuclear utility industry. NRC should recognize that those attributes that make an organization function effectively are difficult to quantify and translate into the hard and fast rules required in regulation. Adding to the complexity of the process is the wide range of variations in corporate structures within the industry.

INPO recommends that NRC move the quantifiable aspects of this NUREG which are appropriate to either Reg. Guide 1.8 or Reg. Guide 1.33 and delete the remainder. Such action would help alleviate concern about the overlap, duplication and inconsistencies between NUREG 0731, NUREG 0737, and Reg. Guides 1.8 and 1.33. Evaluations of utility management will be performed by INPO. These evaluations will address the effectiveness and adequacy of utility nuclear operations but will allow flexibility as to organizational philosophies and methods.

II. The guidelines and criteria related to staffing and training are quite prescriptive. Of concern is that they are prescriptive in many areas where it is not obvious that the requirements are "best operating practices" or will serve to improve overall plant safety.

INPO is suspicious of and opposed to prescriptive criteria where there are both pros and cons regarding the requirement and where there has not been a measured assessment by experienced personnel which demonstrates a significant safety improvement.

III. INPO is concerned about the acute shortage of experienced personnel in the utility nuclear operations field. The substantial additional staffing and training requirements contained in NUREG 0731 is only one source of requirements for additional experienced people. While most of these requirements, viewed in isolation, may appear to be desirable, the aggregate of them is severely overloading the available personnel. We are concerned that the increasing pressures arising from this situation are exacerbating it further as experienced personnel are becoming demotivated to the point of leaving the industry.

NRC should recognize the finite limits of personnel resources in its regulatory actions. NRC and the industry should work together in the prioritizing of new requirements so they can fit within the envelope of the available experienced work force and the industry's ability to acquire new personnel. INPO would be pleased to be a part of such an effort and would suggest that a joint industry, INPO, NRC study group be formed to tackle the problem.

Sincerely,

E. P. Wilkinson
President

EPW/jrm

INPO INSTITUTE OF NUCLEAR POWER OPERATIONS
1820 Water Place
Atlanta, GA 30339
(404) 953-3600

December 5, 1980

Mr. William J. Dircks
Executive Director for Operations
United States Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Dircks:

The purpose of this letter is to advise you of INPO's position on proposed Regulatory Guide 1.8, "Personnel Qualifications and Training." Based upon our review of the draft documents and initiatives we have taken to conduct a review of this area, we believe it would be inappropriate to issue Regulatory Guide 1.8 at this time.

In our September 16, 1980, testimony before the Nuclear Safety Oversight Committee, we expressed the belief that the most realistic and effective standards for personnel qualifications and training could be developed through the combined efforts of the best talent in government and the private sector. We have since formed a task force composed of representatives from the industry, the education community, DOE and INPO. I understand that the NSOC and the NRC will have representatives attend task force meetings as observers. A list of persons who have agreed to serve on the task force is enclosed for information. Members were selected by INPO, taking into consideration suggestions made by the NSOC and the NRC. The first task force meeting is planned for December 18, 1980.

It is our recommendation that Regulatory Guide 1.8 not be issued until such time as the task force findings can be considered and factored into the final document.

Respectfully,

E P Wilkinson

E. P. Wilkinson
President

adw
Enclosure

cc: The Honorable Bruce Babbitt, Chairman
Nuclear Safety Oversight Committee
Mr. H. L. Green, Chairman
ANS-3 Subcommittee
Mr. R. G. Smith, Director
Office of Standards Development, NRC

TASK FORCE MEMBERS

Dr. Robert Urig
Vice President
Florida Power and Light Company

Dr. Thomas Elleman
Vice President
Carolina Power and Light Company

Mr. W.T. Ulrich
Philadelphia Electric Company

Dr. Forrest Remick
Pennsylvania State University

Dr. Robert L. Seale
University of Arizona

Dr. Eric Gardner
Syracuse University

Mr. A. Pressesky
Department of Energy

Dr. Manson Benedict
Massachusetts Institute of Technology

Mr. H.B. Tucker
Manager, Nuclear Division
Duke Power Company

Dean W. R. Kimel
University of Missouri-Columbia

ENCLOSURE 1

Based on a review of Regulatory Guide 1.8, Revision 2, the Institute of Nuclear Power Operations submits the following comments. These comments are referenced to specific items and page numbers in the September 1980 draft.

COMMENTS:

1. Item 1.2, page 2-3, Relationship to National Standards Effort

   This section reflects an endorsement of the December 1979 draft of ANSI/ANS 3.1 and does not recognize the existence of a more recent draft of that same document (May 19, 1980).

2. Recommended Revisions to Part 55 and Part 50

   a. 2.2.2.C, page 6

      The need to review training programs more closely is probably warranted. However, we see no real gain from the NRC administering certification exams. A periodic review of a certification program and how it is implemented should suffice to ensure quality. Implementation of this would not only require additional manpower for OLB but also present a scheduling problem for the utility in scheduling NRC certification exams. One should consider that in the event a licensing candidate is certified with less than desirable knowledge and skills he/she must still pass the NRC administered licensing exam, usually including a demonstration of operating skills on a simulator.

   b. 2.2.2.d, page 6

      We feel that an effective requalification program is essential. Our recommendations for requalification programs have been issued and we believe this will be helpful, along with NRC review of training efforts, i proving the utilities' requalification programs. We, too, are recommending an annual exam as part of the program. We do see a need for some independence from the training organization in the annual exam process. This may be accomplished by utilization of persons such as the Operations Superintendent as examiners.

This approach should accomplish the objective of verifying the annual exams are adequate and minimize the reaction by Licensed Operators to "excessive examinations". It is important that we consider this aspect since many licensed personnel are being demotivated.

3. 2.2.5, page 8, Shift Technical Advisor

We do not believe it is practical to require utilities to have "fully-qualified" Shift Technical Advisors on shift by 1/1/81. We believe a more realistic date is required. Each utility should have been progressing toward the goal by 1/1/81.

4. 2.2.6, page 8, Comparison of NRC, Commercial, and Naval Procedures for Qualification of Personnel

Related to any use of the BETA report, NUREG/CR-1280, when power plant staffing requirements are put forth, it is noted that the report was based on out-dated standards and practices.

That report, Attachment 1 to Appendix A of the draft, Reg. Guide 1.8, recommends establishing an "on-shift" position titled Shift Engineer. We believe this additional advisory position is not justified.

Listed below are some factors considered in reaching this conclusion:

a. Qualifications of non-degreed Shift Supervisors will be improved by acquisition of additional education in the appropriate engineering disciplines and additional training in transient/accident analyses to improve analytical/diagnostic skills.

b. Engineering support is available from off-shift plant engineers who can report onsite within a short time when the need arises.

c. Improved response from offsite support groups can provide emergency engineering support when needed at the plant.

d. This requirement would further reduce the number of qualified engineers available to the industry for more meaningful and needed duties.

5. 2.2.7, page 9, Requirements for Licensing of Operators

INPO is presently developing guidelines for qualifications of personnel in the "skilled positions" including licensed operators. Most of these guidelines should be issued for use by the utilities early in 1981. These guidelines address sub-topics a, b, c and e.

We believe utility use of these guidelines will result in better-qualified personnel filling these positions. Sub-task (d) methods to be employed for maintaining a "highly motivated and dedicated work force," is more complex and will be studied later.

6. Section 2.2.8, Page 9-10

The proposed date of January 1982 will present significant problems to utilities trying to develop and implement an academic program in the near term. The INPO procedure for accreditation will provide relief in this area.

7. 1.2, Temporary Personnel Replacements

a. 1.2.1, page 11, Field-Specific Experience

We concur with ANS 3.1 in allowing a position to be filled up to three (3) continuous months by a subordinate who may not meet all requirements of the superior position. A continuous period of approximately this duration might be required to improve or meet position requirements for education. For example, a quarter of full-time college work would require absence from duty of about three months. We do agree that each case must be justified by upper-level management.

b. 1.2.2, Training

We are concerned with the possible interpretation of the requirement that temporary employees receive, a minimum, general employee training as described in ANS 3.1, section 5.4. For example, a welder hired for three days, with escorted access and close supervision does not need training in all topics outlined. Each case should be reviewed by the utility and training needed to perform his job function provided.

8. Item 1.3 Definition of College-Level Education, page 12

This definition should recognize those utility developed and implemented training programs which are intended as alternatives to courses which would be presented at a college or university, if found acceptable as a result of a review by the Institute of Nuclear Power Operations in the accreditation process.

9. Reference Section 1.4 "Interim Regulatory Position Related to Anticipated Rules," page 12

In general, the qualification requirements for personnel (SRO's, Shift Supervisors and off-site support personnel) are too prescriptive and unnecessarily restrictive. The guidelines should permit consideration of equivalent experience and training. It is important that well-qualified people are not excluded from serving in various positions because they do not have the prescribed educational backgrounds. For example, Sections 1.4.c and 2.3 contain academic requirements which are too specific. There must be general provision for equivalent experience in lieu of a formal college degree. The use of a specific degree as a training requirement shows a misunderstanding of the nature of engineering experience. One's college field may have little or nothing to do with one's field of expertise after 5 or 10 years of actual work experience. The limiting of a licensee's choice of personnel by adherence to these simplistic rules of qualification will deprive utilities of the services of highly experienced and well-qualified individuals. This practice would not be in the best interest of protecting the health and safety of the public. In addition, by this approach, the person filling any of these positions may feel unable to advance due to unattainable qualification requirements thereby leading to low morale. We recommend that the specific academic requirements be deleted. The specification of required experience levels and the judgement of company management of an individual's qualifications for each area of expertise are more relevant.

10. Section 1.4.a, page 12

The requirement that a person have one year experience as a licensed operator before obtaining his Senior Operator's License exam is unduly restrictive since the majority of SRO positions cannot fulfill their supervisory requirements as set forth in regulations with only a reactor operator's license. This program would have the deterrent of placing degreed engineers on shift since these people would be required to spend an entire year doing non-supervisory functions just to meet this qualification.

11. Section 1.4.c, page 13

The terms "Reactor Thermodynamics" should be "Thermodynamics." Reactor thermodynamics is too specific for a college level course.

The intent of requiring a minimum of 60 semester hours of college level education in technical subjects is valid since the knowledge is highly desirable. However, the mechanism for meeting the intent has several significant shortcomings.

Implicit in the requirement for a minimum of 60 semester credit hours is the assumption that college instructors will know what should be taught. Considering the fact that the NRC Operator Licensing Branch has been criticized for the use of part-time examiners (many of whom are from the academic community), it appears inappropriate to give colleges such a major role in determining course content.

Also, implicit in the requirement for a minimum of 60 semester credit hours is the assumption that this amount of education will result in a certain level of attainment. The requirement has a fallacy in that it does not specify what that level is nor does it specify a point from which the 60 credit hours begins. Given the wide disparity in the approaches taken by various educational institutions to granting credits for prior training (e.g., Navy Nuclear Program, NRC Operator and Senior Operator License), the actual extent to which classes will be attended specifically to meet NRC requirements may vary considerably with no assurance that the level desired by the NRC will be attained. There should be a means (e.g., standard comparable entity) of meeting the NRC requirements without making the process so dependent on the practices of the post-secondary education system. This will not only be more effective as a process, but will cause a more objective look to be taken at what is actually desired.

To facilitate the efficient use of available manpower within the facility, the requirement of Section 1.4.d should be clarified to allow a reactor operator, acting as a senior operator applicant on shift, to fulfill one of the operator license requirements of the plant Technical Specifications.

12. Section 1.4.e, pages 13-14

This section indicates that site specific simulator training will be mandatory. This requirement should not be applicable to the older nuclear units if they have an adequate on-thejob licensing and requalification program as indicated by past experience and an NRC audit of their programs.

13. 2.1, page 14, Limited Number of Exceptions to Required Qualifications

In some cases, exceptions should be allowed for the Plant Manager, Operations Manager and Radiation Protection Manager as well as other management positions. An additional criterion that should be considered, along with those criteria listed, is whether the subordinate position meets the requirements of the superior position.

This section indicates that exceptional individuals without college degrees should be limited to 5% of all the positions covered in ANS 3.1. We disagree with this arbitrary position since it's not possible in advance to determine how many exceptional personnel will be acquired at any given site to fulfill the positions set forth in ANS 3.1. We also take exception to this paragraph's deletion of the Plant Manager, Operations Manager, Radiation Protection Manager or Shift Supervisor as positions that cannot be filled by non-college degreed personnel. Past experience in the industry has indicated that many personnel without full college degrees have the managerial requirements to fulfill positions in this standard. It is important to note that any exception must stand up to an NRC audit and therefore should not be arbitrarily ruled out by this Reg. Guide.

14. Section 2.2.2, page 15

Recommendations for maintenance manager includes words such as familiarity, knowledge, and understanding. This is a very subjective requirement which may be difficult to obtain.

> The requirement for understanding of codes and standards should be limited to that needed to perform maintenance functions. Codes and standards are mostly oriented toward design considerations.

15. 2.2.3, page 15, Radiation Protection: Training and Experience

a. Candidates for the RPM position should be tested by means of a comprehensive oral and/or written examination(s) administered by the utility.

b. The examination(s) must be based on the knowledge and skills required for the RPM position at each plant. Usually the knowledge and skills requirements are delineated in the RPM's job description.

c. Test guidelines for this examination should be written by INPO to standardize, as much as possible, the generic knowledge and skills requirements.

In draft ANS 3.1 and the subject guide there is no requirement for the RPM to have any management skills.

The guide should include the requirement for the RPM to possess the management skills necessary to effectively carry out the radiation protection program.

Section 4.5.2 of draft ANS 3.1 requires all technicians to have 3 years of working experience in their specialty. Numbers of years of experience is no guarantee that an individual will possess the requisite knowledge and skills to perform his/her job in a competent manner.

Rather than prescribing 3 years of experience for the Radiation Protection Technician, allow the industry to develop well-defined performance criteria and job factors examinations and reduce the experience requirement to 1 year.

16. 2.3.1, page 15, Shift Supervisor Education Requirements

We do not believe requiring the Shift Supervisor to have a degree will significantly improve performance of persons in this position within the industry. Indeed it may be counterproductive. Alternative 3, as described in Appendix A with some modification, appears to be the most practical approach to providing the educational needs of the position.

Additionally, a course in Advanced Reactor Transient/Accident Analysis designed to improve analytic and diagnostic skills is needed.

We believe the education described above, technical training currently required for licensing at the SRO level and the required nuclear plant experience, should provide qualified Shift Supervisors.

17. Section 2.3.1, pages 15 and 16

The problems described above that relate to the Shift Supervisor's requirements to have a Bachelor of Science degree also are applicable to the Instrumentation and Control Supervisor. It is unrealistic to expect the industry to have the numbers of "hands-on" qualified I & C personnel required that also possess degrees.

18. Section 2.3.2 "Corporate Certification of Candidates", page 16

It may not be appropriate in all organizations for the management official in overall charge of nuclear power to personally sign certification for operators, senior operators and nuclear plant personnel in the category of management and/or to establish and approve the qualification requirements for all off-site staff management positions which support safety related activities at the plant. Flexibility must be provided to allow the top managemnt officials to ensure this objective is achieved and allow the organization to best operate in a posture which meets a commitment to operate nuclear facilities safely, legally, and efficiently.

19. Section 2.4.1, page 16

We do not agree that the group leaders indicated in Sections 4.4.2 and 4.4.3 of ANS 3.1 need the same requirements as that of the reactor engineering group leader set forth in Section 4.4.1. The reactor engineering group leader has many more responsibilities directly related to nuclear fuel and core operations and safety than the other group leaders mentioned in this paragraph. Based on experience in the nuclear industry, there does not appear to be justification for such an additional requirement.

20. Section 2.4.2, page 16-17

The comments in this section are unclear since the latest draft of ANS 3.1 indicates that a vendor certified chemistry and radiochemistry certification program may be equivalent to six months plant experience; therefore, this section does not appear to be appropriate.

21. Section 2.8.c, Page 18

How is "the type and magnitude of potential radiological hazard for each plant system" to be determined? Does the NRC have a criteria usable for this purpose?

22. Section 3.1, Page 19

It is not understood why the NRC staff believes that task analysis is a short-term action. To be effective training should be based on the job, not vice-versa.

23. Section 3.2.2, Page 20

In-plant drills should be used only for those tasks which cannot be better performed on a simulator (e.g., locating equipment, familiarization with equipment not simulated, etc.). In-plant drills can quite easily become perfunctory and, as a result, counter-productive.

24. Section 3, page 30

Most college students are not going to be far sighted enough to focus their entire engineering curriculum to satisfy the NRC's arbitrary requirements for becoming a Shift Supervisor in the nuclear industry. To preclude a college graduate who possesses a B.S. degree in engineering from entering a training program leading to qualification as Shift Supervisor because he/she is lacking some credits in specified courses has no rational basis.

25. Section 4, Page 31

There is a need for a case-by-case review of personnel who have held or do hold NRC licenses, but the results of the review need to be obtainable in a time frame allowing necessary remedial action to be completed without necessitating a rescinding or a last-minute denial of NRC licenses.

26. Section D "Implementation"

The requirement to have shift supervisor qualifications upgraded to include a Bachelor of Science degree is considered inappropriate (see paragraph 1 above). However, if the requirement remains unchanged, the January 1, 1986, schedule for full compliance is totally unrealistic. To expect many shift supervisors with no college experience to obtain a 4-year Bachelor of Science degree in 5 calendar years while working 40 to 60 hours a week is over-optimistic

and prohibitive. If these individuals were taken off shift for the time required to acquire a degree, they would take with them years of experience. This experience could not be supplemented by any interim replacement, and would be counter to the safety of the plant.