

DUKE POWER COMPANY

POWER BUILDING

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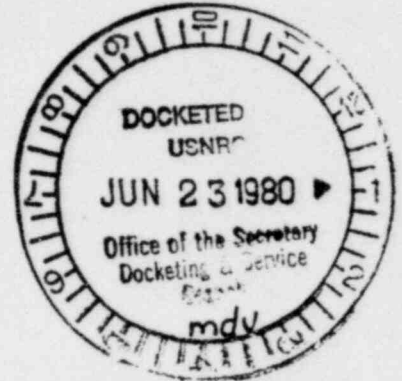
June 11, 1980

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PROPOSED RULE NUREG/CR-1280  
(45 FR 27855)

Secretary of the Commission  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Attention: Docketing and Service Branch

Subject: U. S. Nuclear Regulatory Commission  
NUREG 1CR-1280, Power Plant Staffing  
Duke Power Company Comments



Mr. Secretary:

Attached please note Duke Power Company's comments on the subject  
NUREG/CR-1280, Power Plant Staffing.

Very truly yours,

*William O. Parker, Jr.*  
William O. Parker, Jr. *By [Signature]*

RFJ:vr  
Attachment

Acknowledged by card. 6/23/80. mdy.

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DUKE POWER COMPANY  
COMMENTS ON POWER PLANT STAFFING  
REPORT TO NRC NUREG/CR-1280

1. It is unfortunate that the writer of this NUREG was unable to visit a civilian nuclear power plant. It is obvious from his report that he is not aware of the many positive aspects of the civilian program. This is particularly true when it comes to the type of selection process for personnel to work at nuclear power plants. Duke Power Company has a very detailed program for testing of individuals prior to employment. Another area that the writer did not consider is that our training program has certain criteria that must be met to continue in the program. There have been numerous individuals who have not met the minimum requirements throughout the program and have been dropped not only from the program, but from employment.
2. There are a number of differences between the Navy program and the civilian program which the writer does not cover. One of these is that the confinement of the personnel to such a small area and for such a long period of time, away from wives, children, and family, has a large impact upon the turnover rate in the Navy program. When such a large turnover occurs, there is a shortage of experience, therefore requiring an individual with the high degree of education (Engineering Officer of the Watch) standing watch over the less experienced enlisted personnel. Obviously, the civilian plants do not have this problem of long shift hours, confinement, etc. It should also be noted that the Navy program has been designed to narrow the individual's scope of knowledge to specific equipment and require that the individual know how to operate and perform very limited repair work on that equipment. The civilian program has been designed to scope the individual's job to a functional area (operation, maintenance, testing, chemistry, health physics, etc.) rather than to equipment. These two approaches are different in philosophy and one is certainly no better than the other. One can develop expertise in the operation and limited maintenance on equipment if he is not given too much equipment to operate or maintain and do all the other requirements necessary for the plant. The Navy program requires dual capability of the limited number of personnel on board since the crew must be self-sufficient once they are underway. Obviously, dual capability should not be a requirement for civilian plants.
3. It certainly should be emphasized that the Navy does not have an on-site inspector. We have to deal with the NRC on a daily basis. This requires a great deal of time and effort, even just listening to the NRC reports of what they have looked at. There is no similar program in the Navy. They are their own regulator. This is something the civilian program is attempting to achieve through the Institute of Nuclear Power Operations.
4. The writer of the NUREG refers to ANSI 18.1, 1971 Edition. We do not know when he started writing this report, but surely it was not prior to 1978. There is a 1978 edition of ANSI 18.1 on the "Selection and Training of Nuclear Power Plant Personnel."

5. We would certainly oppose the NRC getting into licensing of maintenance personnel. Just as in the Navy, the utilities should be made responsible for proper training of its personnel, not only in operation, but in maintenance, health physics, chemistry, and every other area for which they are responsible. We have a large capital investment involved and each utility certainly is very interested in protecting that investment. This can only come about by doing a responsible job of training personnel to properly operate and maintain the stations. The utilities must and will do this to fulfill our duty to protect the health and safety of the public. It is interesting to note that the ANSI 18.1 standard is being revised at the present time and should be issued some time this year or early 1981 which will give more direction toward the training and qualification of individuals, not only operators, but other nuclear power plant personnel. We do not need to go beyond this particular point other than having the NRC to audit to see that this particular thing is being done. NRC licensing of these individuals is costly and unnecessary.
6. The writer of the NUREG makes comments in respect to the screening of individuals particularly in the area of the use of illicit drugs. It might be worthy of note that the new security standard for nuclear power plants, ANSI 18.17, is being written to include a screening program that will require a check on the use of not only illegal drugs, but also excessive use of alcohol and other factors that might enter into a person's dependability and reliability.
7. The writer of the NUREG indicates that the utilities having hired an individual generally tolerate any level of performance. This is untrue. There have been individuals who have been disciplined, and in some cases, discharged for their improper level of performance at Oconee Nuclear Station.
8. It is worthy to note that the writer of the NUREG does not indicate that a shift supervisor should have a college degree. This is probably due to the fact that this would cut off the career paths of people lower in the organization including unlicensed operators as well as licensed operators so that they would not see the advancement and therefore could have less interest in doing a good job. This can also apply on up the line to operations manager or superintendent as well as the station manager.
9. The writer of the NUREG speaks about taking authority away from the station manager in respect to making certain changes in the plant design. We are not aware that this has been a problem anywhere. It would certainly seem that any plant manager would know when he was agreeing to a design that could or could not affect safety, and if there were any question in his mind, he would refer this to the proper authority. I do not believe that the writer gives the site managers credit for knowing what to do in such instances. Duke Power strongly suggests that because the station manager is ultimately responsible for the operation of his station he must continue to have the authority to agree/disagree with changes in plant design.

10. We think it would be well for the NRC to read very thoroughly the comment about Admiral Rickover's recognizing that they are rushing into making changes in the name of safety which were not well thought through and therefore could result in a less safe condition. In the present situation, the NRC is pushing too strongly and too rapidly and is not giving due consideration to the changes they are requiring. We too are concerned that all of these changes in totality may actually result in a less safe situation. It needs to be brought under control.
11. The charts attached to our copy were not legible, therefore, we withhold comment on the charts.

Duke Power has reviewed the specific paragraphs of the subject document and we submit the following specific comments. They are arranged in accordance with the paragraph numbers in the document.

#### IV.D.1

This section would require the licensing of a new category entitled, "Reactor Technician." It is our opinion that the licensing of Reactor Technicians by the NRC would not substantially improve the performance of these Maintenance personnel. General training is already provided on Quality Assurance, Radiation Protection, Site Emergency Systems, and Industrial Safety. The bulk of the 12 week recommended course of instruction is in Principles of Reactor Operation and Safety. Maintenance personnel do not need this knowledge in order to perform maintenance activities. Existing administrative controls on the part of licensed operators are required prior to tagging out any equipment that Maintenance personnel would work upon. The importance of doing a quality job regardless of whether or not the work is performed on the primary reactor plant, is a major function of Maintenance. An understanding of reactor theory will not improve this area. The administrative burden upon NRC for licensing of all these technicians would be quite great and not worth the relatively small possible improvement to safety.

#### IV.D.2

This section would include a requirement that the licensee submit for NRC review of a procedure which covers the performance of normal and preventive maintenance of reactor plant and other safety-related systems. The licensee's Quality Assurance Program which is already described in the FSAR, accomplishes this goal. All maintenance procedures for normal and preventive maintenance are already available for audit by the Office of Inspection and Enforcement. To formally submit these procedures to the Office of Nuclear Reactor Regulation will only further complicate the licensing process.

#### IV.D.3

This section would require the NRC to periodically check the applicant's audits of effectiveness of his Quality Assurance Program including maintenance. The NRC already periodically checks the licensee's Quality Assurance Program and audits various maintenance activities including periodic tests.



#### IV.D.4

This would require the Reactor Operator and Senior Reactor Operators to answer questions on maintenance in their written and oral examinations. We agree that the more information that a Reactor Operator or Senior Reactor Operator knows, the better is his ability to operate the plant. However, the requirement to learn unnecessary and unneeded information can only dilute the effectiveness and detract from safety. All that the Reactor Operator or Senior Reactor Operator must know about maintenance is when to initiate a request for maintenance and not that he know detailed maintenance procedure.

#### IV.D.5

This would require the utility to make provisions for maintenance items that are beyond the scope of station maintenance personnel. The utility has the most to lose by improper maintenance of equipment. The utility's motivation for seeking outside assistance from either its General Office or appropriate vendors already exists.

#### IV.D.7

This would require that one central repository other than the utility exists where all detailed technical information resides and where qualified people exist necessary to make technical decisions. Administrative controls already exist for the situation in which a malfunction occurs which is beyond normal routine maintenance procedures. The Technical Specifications describe all equipment which must be operable in order to operate the reactor. In the event that a piece of equipment is not operable or will not perform its intended function, appropriate action statements exist. The NRC through 10CFR50.59 has the opportunity to review unreviewed safety questions.

#### IV.D.8

This section would require the documentation of any instance of equipment or system failure or maloperation and the action taken to correct the problem. A program, the NPRDS System, exists for reporting failures to equipment. Also, the NRC non-routine reporting requirements also cover this item. To require documentation to an outside source of any malfunction regardless of its importance would only result in useless information overload.

#### IV.D.9

This would require the utility to address substitutions of specified parts. This already exists in the required Quality Assurance Program.

#### V.E.1

This proposes requirements on utility simulator operation for training. We agree with this recommendation.

### V.E.3

This proposes a level of pre-employment screening similar to that used by the Navy. Even though we presently do this, the NRC should address their requirements to the fact that the employee has been adjudicated as a trustworthy employee.

### V.E.4

This section points out that the Navy enforces a "No Tolerance" policy on the use of illegal drugs by its operators. We agree with this recommendation and this is our policy at Duke Power Company.

### V.E.5

This requires the use of written examinations as a means to determine acceptance into the program. Duke Power Company already does this, however, the NRC should concentrate their criteria on the end product - i.e., has successfully passed the training requirements.

### V.E.6

This requires minimum performance on Operator License courses. This is already enforced in most utilities.

### VI.E.1

This requires the creation of a new position entitled, "Shift Engineer." He would be a degreed engineer who would normally function within the technical organization but is assigned to the Operations Manager to provide shift engineering coverage. We feel this is totally unnecessary since requirements are being levied to upgrade the theoretical training necessary for shift supervision. Also, having a degreed engineer on call would be sufficient. In general, most shift engineers would be young, technically competent but inexperienced engineers. Due to their lack of plant experience, they could contribute very little during the course of an accident.

### VI.E.2

This recommends establishing a maximum period of time an individual could be on watch. This is a valid concern and possibly should be further investigated by the NRC. However, the Navy's present practices do not appear to be entirely satisfactory. In many instances, personnel in the Navy stand six hours of watch and six hours off for extended periods of time. Since they function on a seven day per week basis, they are essentially working 50% of their time with no time off. Recommendations on the maximum periods of time that individuals at utilities can work already is more restrictive than that required by the Navy.

### VII.D.1

This will place restrictions on the Senior On-Site Manager. This appears to be the same general thrust than ANS 3.1 is taking, and should be most appropriately addressed in that standard.

### VII.D.2

This section would require that except under emergency conditions, appropriate technical review and approval, external to the Senior On-Site Manager should be required. In the Navy, these changes are reviewed by the Commanding Officer who is available 24 hours per day, seven days per week. In the utility industry, it would not be practical for the off-site organization to provide advanced review and approval of design and procedural changes. The Navy does not maintain a technical staff aboard each ship where as Nuclear Utility Industry does provide a technical staff at each site location. Administrative controls are established to limit the changes of procedures and design. In general, the Station Manager must approve all design changes. Procedural changes, which generally are of smaller magnitude, are normally approved by the Superintendent of Operations, Maintenance, or Technical Services as their expertise would dictate. No changes to the existing program are recommended.

### Summary

NUREG/CR-1280, Power Plant Staffing, has been reviewed in detail by many members of our staff who have been in the Nuclear Navy. While this document attempts to detail the differences between the Navy Program and the Nuclear Utility Programs, we feel there is a certain amount of naivety present. Indeed, if the Navy actually performed as well as is indicated in this document, and the Nuclear Utility operated as poorly as portrayed in this document, some basis for the recommendations might exist. However, it is our feeling that the setup in the Navy and Nuclear Utilities must be different to accommodate for the vast increase in scope of the Nuclear Utility as compared to the Navy. The idea that the Station Manager must control reactor plant operations as closely as does the Commanding Officer in the Navy is not correct. Each Nuclear Utility has a several tier Management Structure at each station. In general, there are Operations Shift Supervisors, Assistant Operating Engineers, Operating Engineers, Superintendents of Operations, and Station Manager. Comparison of the Station Manager to the Commanding Officer is not altogether correct. As far as the operation of the reactor is concerned, a better comparison would be Shift Supervisor to Engineering Officer of the Watch, Operating Engineer to Engineer Officer, Superintendent of Operations to Commanding Officer.