RECORD #20

TITLE: Clarification of Reg. Guide 1.8 on Qualification of Radiation Protection Manager

DF03

Docket

OCT 1 1 1977

Docket Nos. 50-269
50-270
and 50-287

Duke Power Company
ATTN: Mr. William O. Parker, Jr.
Vice President
Steam Production
Post Office Box 2178
422 South Church Street
Charlotte, North Carolina 28242

Gentlemen:

By letter dated March 9, 1977, we requested that you determine if the individual performing the function of Radiation Protection Manager (RPM) at the Oconee Nuclear Station, meets the minimum qualifications of Regulatory Guide 1.89, September, 1975. We further stated that if the RPM is so qualified, you should propose a technical specification which states that the RPM shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975. On the other hand, if the present incumbent does not meet the minimum requirements of the guide, we requested that you advise us of this fact and provide a written commitment that the successor to the incumbent will be so qualified and that you will propose a technical specification to that effect at the time a successor enters that position.

By letter dated May 13, 1977, you responded to our request by taking exception to the provisions of Regulatory Guide (R.G.) 1.8. Your principal objections were that the RPM should not be required to have a bachelor's degree and an additional 5 years experience.

This letter is to advise you that R.G. 1.8 does not require the RPM to have a bachelor's degree. Rather, the Guide says that he shall have a bachelor's degree or the equivalent in a science or engineering subject. To provide clarification of this point, our definition of "equivalent" in the context of R.G. 1.8, is as follows:

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(a) 4 years of formal schooling in science or engineering,
(b) 4 years of applied radiation protection experience at a nuclear facility,
(c) 4 years of operational or technical experience/training in nuclear power, or
(d) any combination of the above totaling 4 years.

It should be noted that the above requirement is in addition to the requirement for five years of professional experience in applied radiation protection as specified in the Guide.

It is our position that the ANSI 18.1-1971 standard does not provide the appropriate qualifications required for the on-site RPM whose responsibility is to manage a radiation program with an annual man-rem budget such as that at Oconee, and, that the requirements of R.G. 1.8 are necessary for the RPM at the station to assure that exposures from normal operations, maintenance, etc., are maintained at levels that are as low as is reasonably achievable.

Accordingly, we reiterate our request that you adopt the provisions of R.G. 1.8 for any replacement of the current RPM in accordance with our letter dated March 9, 1977. Please respond within 45 days of receipt of this letter.

Sincerely,

/S/

A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

cc: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

AUG 2 9 1977

MEMORANDUM FOR: Karl R. Goller, Assistant Director for Operating Reactors
Division of Operating Reactors

FROM: Brian K. Grimes, Chief, Environmental Evaluation Branch,
Division of Operating Reactors

SUBJECT: RESPONSE TO DUKE POWER COMPANY LETTER REGARDING RADIATION PROTECTION MANAGER (TAC - 6888)

In a Duke Power Company letter to Rusche, dated May 13, 1977 (Attachment 1), the licensee takes exception to the NRC position with respect to the qualification of the onsite Radiation Protection Manager (RPM) (Attachment 2), as recommended by Regulatory Guide 1.8. Duke proposes to use the guidance specified in ANSI 18.1, 1971 (Attachment 3).

We have reviewed Duke's position and recommend the response to them as shown in Attachment 4. We feel that the ANSI 18.1, 1971 standard does not provide the appropriate qualifications required for the onsite RPM whose responsibility is to manage a radiation protection program with an impressive annual man-rem budget. For example, personnel exposures from all three units at the Oconee Station were 517 man-rem in 1974, 457 man-rem 1975, and 990 man-rem in 1976. Although these values are not unique in the nuclear power reactor industry, they are still impressive with respect to all other nuclear facilities. Consequently, they should be managed by professional experts who are at the station to assure that exposures from normal operations, maintenance, etc. are maintained at levels that are as low as is reasonably achieveable (ALARA).

The licensee claims that the RPM presently assigned at Oconee meets the qualification specifed in ANSI 18.1, 1971. He therefore should provide a commmitment that his successor will be qualified in accordance with Regulatory Guide 1.8. We do not feel that Duke will suffer an unnecessary hardship under these circumstances since industry respons to Attachment 2 has otherwise been positive.

Brian K. Grimes, Chief
Environmental Evaluation Branch
Division of Operating Reactors

cc: See following page

Contact: S. Block, EEB/DOR
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DATE ▶	8/29/77	8/29/77	8/29/77			

ATTACHMENT 1 (2)

DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

TELEPHONE AREA 704
373-4083

May 13, 1977

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

Attention: Mr. A. Schwencer, Chief
Operating Reactor Branch #1

Reference: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287

Dear Sir:

Your letter of March 9, 1977 provided guidance concerning the criteria which should be met by "Individuals Qualified in Radiation Protection Procedures". It is our opinion that the criteria listed in your letter are adequate to assure that the responsible individuals provide proper radiation protection at an operating shift crew level. Personnel assigned shift coverage pursuant to the technical specification requirements delineated in Oconee Technical Specification Table 6.1-1, Note 5, meet these criteria.

Additionally, your letter requested that the Oconee Technical Specifications be revised to require that the individual performing the function of Radiation Protection Manager (RPM) meet the minimum qualification requirements of Regulatory Guide 1.8, September, 1975. With regard to the qualifications of the Radiation Protection Manager (RPM), designated as the Station Health Physicist in the Oconee organization, it is our position that the qualifications established in ANSI N18.1-1971 are appropriate minimum requirements for this position.

ANSI N18.1-1971 states that "the responsible person shall have a minimum of 5 years experience in radiation protection at a nuclear reactor facility. A minimum of 2 years of this 5 years experience should be related technical training. A maximum of 4 years of this 5 years experience may be fulfilled by related technical or academic training". The minimum qualifications of the Station Health Physicist (PPM) at Oconee Nuclear Station are based on these requirements.

Regulatory Guide 1.8 requires the RPM to have 9 years of training and experience (a Bachelor's Degree plus an additional 5 years experience, 3 of which must be in radiation protection). The requirements for station Manager and Technical Services Superintendent, as established by ANSI N18.1-1971 and as deemed acceptable by Regulatory Guide 1.8, are 10 years and 8 years of experience, respectively, with a degree not being a requirement. In the Oconee organization, the Station Health Physicist (RPM)

reports directly to the Technical Services Superintendent who in turn reports to the station Manager. Therefore, while the critical importance of the RPM position is recognized, it is not considered that experience commensurate with that of the station Manager, or the Technical Services Superintendent, the two levels of management directly above the RPM, is necessary for the fulfillment of the responsibilities of this position.

Additionally, the requirement for a Bachelor's Degree is not considered to be germane to the specific functions of the RPM. The only position at the station which presently requires a Bachelor's Degree is that of the Reactor Engineer. The attributes of a good RPM are considered to be gained almost exclusively by specialized on-the-job, practical and supervisory experience rather than through the broad generalized academic training received by a Bachelor's Degree.

Regulatory Guide 1.8 states that "The Radiation Protection Manager (RPM) should be an experienced professional in applied radiation protection at nuclear facilities dealing with radiation protection problems and programs similar to those at nuclear power stations. The RPM should be familiar with the design features and operations of nuclear power stations that affect the potential for exposures of persons to radiation. The RPM should have the technical competence to establish radiation protection programs and the supervisory capability to direct the work of professionals, technicians, and journeymen required to implement the radiation protection programs". This paragraph implies that the RPM is the sole storehouse of technical knowledge who will establish, implement and audit the radiation protection program of the nuclear station.

In Duke's unique situation, however, the Station Health Physicist (RPM) and the Station Health Physics organization are supported by a General Office Health Physics staff called the System Health Physics unit. This staff presently consists of eleven people, nine of whom are professionals in the field of Health Physics. The staff has four people with Masters Degrees and three with Bachelors Degrees. The System Health Physics Unit represents over sixty man-years of direct power reactor health physics experience. The System Health Physicist is presently certified by the American Board of Health Physics and several other staff members are also in the process of becoming certified. The Duke Power Company System Health Physicist and his staff establish the Health Physics Program for each nuclear power station; provide technical direction for conducting these programs; establish the environmental radioactivity monitoring program and the emergency plan; audit the efficacy of these programs and modify them as required, and coordinate a centralized Radiological Laboratory which provides personnel dosimetry, instrument calibration and environmental monitoring services to each station.

The Station Health Physicist (RPM) is responsible for conducting the established Health Physics Program. It is his duty to measure and control the radiation exposure of personnel; to continually evaluate and review

the radiological status of the station; to make recommendations for control or elimination of radiation hazards; to train personnel in radiation safety; to assist all personnel in carrying out the radiation safety responsibilities, and to protect the health and safety of the public both on-site and in the surrounding areas.

The Station Health Physicist is further supported by two levels of responsible management, the Technical Services Superintendent and the station Manager, as previously mentioned. The Technical Services Superintendent supervises the on-site professional - technical groups which deal with the areas of health physics, chemistry, biology, performance and technical services, and he assures that radiation safety is maximized by the proper application of the Health Physics Program and good interaction between the Station Health Physics organization and other station organizations. The station Manager has the final responsibility for the protection of all persons against radiation and for compliance with NRC regulations, station technical specifications, etc.

Thus, to accomplish the goals of Duke's Health Physics Program which are: (1) to protect the public in the vicinity of a nuclear station, (2) to protect nuclear station personnel, and (3) to protect the nuclear station, a coordinated effort between the Station Health Physicist (RPM) at each nuclear power station, the System Health Physicist and his staff in the General Office organization and the system-wide Radiological Laboratory operated by the System Health Physics organization is utilized.

Since the Station Health Physicist (RPM) is supported by two levels of management and a central Health Physics organization, and the requirements of ANSI N18.1-1971 are minimum requirements, it is considered that the proposed qualifications of Regulatory Guide 1.8 are not appropriate for Duke Power Company. In addition, it is considered that the program for qualification of the Oconee Station Health Physicist will assure that personnel assigned to this position are fully capable of performing the required duties.

It is therefore concluded that personnel appointed to the position of Station Health Physicist are and will continue to be qualified as specified in ANSI N18.1-1971.

Very truly yours,

William O. Parker, Jr.

LJB:ge

WASHINGTON, D. C. 20555

SAMPLE LETTER #3

Docket No. 50-

Licensee

Gentlemen:

RE:

We note that your facility technical specifications do not require that the individual performing the function of Radiation Protection Manager (RPM) meet the minimum qualification requirements of Regulatory Guide 1.8, September 1975. As stated in this guide, it is the NRC position that if the RPM is reassigned or the incumbent replaced, the new RPM should have qualifications equivalent to those stated in this guide.

To implement this provision, we request that you determine if the individual performing the function of Radiation Protection Manager meets the minimum qualifications of Regulatory Guide 1.8, September 1975. In the event the RPM is so qualified, you should propose a technical specification to be included in the Administrative Controls Section which states that "the RPM (or equivalent position title) shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975".

In the event you determine that the present incumbent does not meet the minimum requirements of the guide, you should advise us of this fact and provide a written commitment that the successor to the incumbent will be so qualified and that you will propose a technical specification to that effect at that time.

The above action should be completed within 60 days of receipt of this letter. In the event you should desire further discussion of this matter, please contact us.

Sincerely,

, Chief
Operating Reactors Branch #
Division of Operating Reactors

cc: See next page

...erican National Standard

selection and training of nuclear power plant personnel

plant experience may be fulfilled by academic or related technical training on a one-for-one time basis. At the time of initial core loading or appointment to the active position, such a supervisor shall hold an appropriate AEC license.

4.3.2 Supervisors Not Requiring AEC Licenses

At the time of initial core loading or appointment to the active position, a supervisor in this category shall have a high school diploma or equivalent and a minimum of four years of experience in the craft or discipline he supervises.

4.4 Professional - Technical

The professional - technical groups shall include individuals with the following qualifications in the indicated disciplines. A single individual may be qualified and perform in more than one discipline. Suitable organizational depth should exist to provide for an absence of the principal.

4.4.1 Reactor Engineering and Physics

At the time of initial core loading or appointment to the active position, the responsible person shall have a minimum of a Bachelor's Degree in Engineering or the Physical Sciences and two years experience in such areas as reactor physics, core measurements, core heat transfer, and core physics testing programs.

4.4.2 Instrumentation and Control

At the time of initial core loading or appointment to the active position, the responsible person shall have a minimum of five years experience in instrumentation and control, of which a minimum of six months shall be in nuclear instrumentation and control. A minimum of two years of this five years experience should be related technical training. A maximum of four years of this five years experience may be fulfilled by related technical or academic training.

4.4.3 Radiochemistry

At the time of initial core loading or appointment to the active position, the responsible person shall have a minimum of five years experience in chemistry of which a minimum of one year shall be in radiochemistry. A minimum of two years of this five years experience should be related technical training. A maximum of four years of this five years experience may be fulfilled by related technical or academic training.

4.4.4 Radiation Protection

At the time of initial core loading or appointment to the active position, the responsible person shall have a minimum of five years experience in radiation protection at a nuclear reactor facility. A minimum of two years of this five years experience should be related technical training. A maximum of four years of this five years experience may be fulfilled by related technical or academic training.

4.5 Operator - Technician - Repairman

4.5.1 Operators

At the time of the initial core loading or appointment to the active position, operators to be licensed by the AEC shall have a high school diploma or equivalent and two years of power plant experience of which a minimum of one year shall be nuclear power plant experience. Further, before being acceptable for full responsibility in the job, they shall hold an AEC Reactor Operator's License.

All operators, whether or not they are to be licensed by the AEC should have a high school diploma or equivalent, and should possess a high degree of manual dexterity and mature judgement. Selection interviews and examinations should be used for all operators to aid in determining individual ability to progress to high levels of responsibility and to eventual AEC licensing.

4.5.2 Technicians

Technicians in responsible positions shall have a minimum of two years of working experience in their speciality. These personnel should have a minimum of one year of related technical training in addition to their experience.

4.5.3 Repairmen

Repairmen in responsible positions shall have a minimum of three years in one or more crafts. They should possess a high degree of manual dexterity and ability and should be capable of learning and applying basic skills in maintenance operations.

4.6 Technical Support Personnel

4.6.1 Engineer in Charge

The engineer in charge shall have a minimum of a Bachelor's Degree in Engineering or the Physical Sciences and have a minimum of three years of professional level experience in nuclear services, nuclear plant operation, or nuclear engineering, and the necessary overall nuclear background to determine when to call consultants and contractors for dealing with complex problems beyond the scope of owner-organization expertise.

LETTER TO: Oconee

SUBJECT: Radiation Protection Manager

Dear Sir:

Your letter of May 13, 1977 to Bernard C. Rusche addresses the NRC position with respect to the qualifications of the plant Radiation Protection Manager (RPM) as specified in Regulatory Guide 1.8, September 1975. We have carefully reviewed your comments and would like to clarify some of the issues of concern.

Regulatory Guide 1.8 states that the RPM should have a bachelors degree, or the equivalent, in a science or engineering subject, including some formal training in radiation protection. We have established some guidelines that should clarify the intent of "or the equivalent" when referenced to the "bachelors degree." "Equivalent," as used above, may be met with any one of the following: (a) 4 years of schooling in science of engineering, (b) 4 years of applied radiation protection experience at a nuclear facility, (c) 4 years of operational or technical experience/training in nuclear power, (d) any combination of the above totaling 4 years.

From the above, it is clear that we do not require a bachelors degree for the RPM. Our prime concern is that the onsite level of radiation protection expertise at all Duke Power plants continue to be of high quality.

It is therefore requested that you adopt the provisions of Regulatory Guide 1.8 for any replacement of the current Radiation Protection Manager in accordance with our previous letter to you dated March 9, 1977. Please respond within 30 days stating your intentions with respect to our request.

Sincerely,