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RECORD #96

TITLE: ANO - Units 1 & 2 ... Radiochemistry Personnel  
Qualifications

FICHE: 33641-024

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ACCESSION NBR: 8511260588 DOC. DATE: 85/11/14 NOTARIZED: NO DOCKET #  
 FACIL: 50-313 Arkansas Nuclear One, Unit 1, Arkansas Power & Light 05000313  
 50-368 Arkansas Nuclear One, Unit 2, Arkansas Power & Light 05000368  
 AUTH. NAME: MARTIN, L.E. AUTHOR AFFILIATION: Region 4, Office of Director  
 RECIPIENT NAME: GRIFFIN, J.M. RECIPIENT AFFILIATION: Arkansas Power & Light Co.

SUBJECT: Ack receipt of 850906 ltr informing NRC of steps taken to correct violations noted in Insp Repts 50-313/83-26 & 50-368/83-26.

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~~1) Bill Fisher~~  
 2) Jay Cunningham  
 This may be of interest to you  
 3) Denny Allison  
 J.C. 12/4/85

NOV 14 1985

In Reply Refer to:  
Dockets: 50-313/83-26  
50-368/83-26

Arkansas Power & Light Company  
ATTN: John M. Griffin, Senior  
Vice President - Energy Supply  
P. O. Box 551  
Little Rock, Arkansas 72203

Gentlemen:

Thank you for your letter of September 6, 1985, in response to our letter and Notice of Deviation dated December 9, 1983. We have reviewed your reply and find it responsive to the concerns raised in our Notice of Deviation. We will review the implementation of your corrective actions during a future inspection to determine that full compliance has been achieved and will be maintained.

Sincerely,

"Original Signed by:"

*D. M. Hunnicutt for*

L. E. Martin, Acting Chief  
Reactor Projects Branch

cc w/enclosures:  
J. M. Levine, General Manager  
Arkansas Nuclear One  
P. O. Box 608  
Russellville, Arkansas 72801

Arkansas Radiation Control Program Director

bcc to DMB (IE06)

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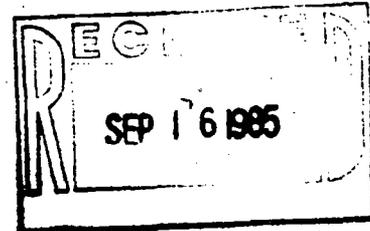
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ARKANSAS POWER & LIGHT COMPANY

POST OFFICE BOX 551 LITTLE ROCK, ARKANSAS 72203 (501) 371-4000

September 6, 1985



ØCANØ985Ø3

Mr. E. H. Johnson  
Reactor Project Branch #2  
U.S. Nuclear Regulatory Commission  
Region IV  
611 Ryan Plaza Drive, Suite 1000  
Arlington, TX 76011

SUBJECT: Arkansas Nuclear One - Units 1 & 2  
Docket Nos. 50-313 and 50-368  
License Nos. DPR-51 and NPF-6  
NRC Inspection Report 50-313/8326; 50-368/8326  
Radiochemistry Personnel Qualifications

Gentlemen:

Subsequent to the issuance of NRC Inspection Report 83-26 (ØCNA1283Ø8), differences were identified between AP&L's and NRC's interpretation of ANSI N18.1 as it applies to the qualification requirements for radiochemistry personnel. By letter dated August 31, 1984, (ØCANØ88411) AP&L notified NRC Region IV of the submittal of an interpretation request regarding radiochemistry technician qualifications to the ANS-3 Subcommittee which is responsible for the ANSI N18.1 and ANS 3.1 standards on personnel qualifications for nuclear power plants. In this letter we also committed to keep your inspector, Dr. Nicholas, informed of progress regarding the ANS Standards Committee review of this matter. This has been accomplished in telephone conversations and during two subsequent inspections by Dr. Nicholas at our Arkansas Nuclear One Facility during March 1985 and June 1985. The background and proposed resolution of this issue are discussed below.

AP&L's initial correspondence with the ANS-3 committee dated May 28, 1984 stating the company's and NRC Region IV's positions in this matter; and the final interpretation of the ANS-3 Committee dated October 30, 1984 are included as attachments to this letter. Although the ANS-3 Committee did not support AP&L's position that academic training (specifically four year science degrees) should be an allowable substitute for much of the experience requirement for radiochemistry technicians specified by ANSI N18.1 - 1971, the Standards Committee did emphasize that the current revision of the Standard, ANSI/ANS 3.1-1981, addresses the qualification requirements for technicians more specifically and that not all technicians must meet the experience requirement for the "responsible" technician.

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G PDR

IC-140/85

September 6, 1985

Two excerpts from the October 30, 1984 ANS-3 interpretation elaborating on this provision are repeated below:

- "Other lesser qualified technicians within the group can perform other specifically defined tasks such as sample taking, preparation and analysis."
- "Individuals in training or apprentice positions are not considered technicians or maintenance personnel for purposes of defining qualifications in Section 4, Qualifications, but are permitted to perform work in the job classification for which qualification has been demonstrated.

These individuals may perform work without the direction and observation of qualified individuals if they have previously demonstrated their ability to perform these specific tasks."

AP&L considers this to be representative of the duties of on-shift radiochemists and chemists at ANO, and that lesser qualified individuals, performing without direct supervision and observation, are acceptable, provided that they have demonstrated their ability to accomplish the required tasks. It is noted that the second statement above is a direct quotation from ANSI/ANS 3.1-1981. Adoption of this position was in effect the recommendation of the ANS-3 Committee since they felt that the 1981 standard has already addressed the specific problem raised herein. Although the committee did not agree with our position relative to the qualification of a "responsible" technician, they did provide clarification of which job functions require a "responsible" (and therefore fully qualified) technician.

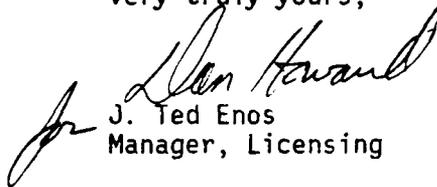
Based on subsequent NRC/AP&L discussions especially during Region IV inspections in March 1985 and during June 1985 it became apparent to AP&L that Region IV would be reluctant and possibly unable to fully accept this position since it appeared to be contrary to prior guidance from NRC headquarters and was only specifically applicable to the 1981 Standard whereas AP&L is committed to the 1971 Standard. Consequently, other avenues of resolving the issue were evaluated. Consideration was given to changing our union contract and/or interpretation of job progression requirements; stopping our practice of hiring almost exclusively college graduates for chemistry and radiochemistry personnel; processing a license amendment to endorse the 1981 Standard, to name a few possibilities. In each case we considered and rejected the possible approach because it would either have a high potential for drastically aggravating the problem of turnover of radiochemists/chemists, would reduce the effectiveness and quality of the radiochemistry/chemistry programs, or might not satisfactorily address the issue.

During an August 9, 1985 telephone conversation between T.H. Cogburn of AP&L and Ray Hall and Blaine Murray, NRC which conducted the several discussions that followed the June 1985 inspection by Blair Nicholas (50-313/8519; 50-368/8520) an agreement was reached which appears to be acceptable to both AP&L and NRC. AP&L will require that at least one individual qualified either under the provisions of paragraphs 4.4.3 or 4.5.2 of ANSI N18.1-1971 be on each shift for the radiochemistry and chemistry disciplines. The ANSI

September 6, 1985

qualification can, therefore, be met by either a professional-technical background (minimum four years related technical or academic training and one year of related experience) or a Technician background (minimum two years working experience in the specialty). AP&L currently is in compliance with ANSI N18.1-1971 when applied in the above described manner. There is presently some uncertainty in our ability to maintain compliance over the next few months. However, due to additional personnel becoming qualified in December, 1985 AP&L is able to commit to maintaining compliance beginning January 1, 1986. Further, as a compensatory action, AP&L will commit to provide a ANSI qualified individual on-call in the event that there is an unavoidable temporary interruption in full qualified shift coverage due to future personnel turnover problems. If this commitment does not reflect NRC's understanding of our agreement please advise, otherwise AP&L considers this issue resolved.

Very truly yours,



J. Ted Enos  
Manager, Licensing

JTE/THC/sg

Attachments



ARKANSAS POWER & LIGHT COMPANY

May 29, 1984

ANO-84-5419

R. J. Rodriguez  
Executive Director, Nuclear  
Sacramento Municipal Utility District  
P.O. Box 15830  
Sacramento, Ca. 95813

Dear Mr. Rodriguez,

As we have discussed in recent telephone conversations Arkansas Power and Light Company has an on-going disagreement with Region IV of the NRC regarding the qualification requirements for radiochemistry technicians at Arkansas Nuclear One. We are committed to ANSI N18.1-1971 for qualification of personnel in responsible positions, but the disagreement with NRC relates to interpretation of this Standard.

Arkansas Power & Light Company would greatly appreciate it if the ANS3.1 Standards Committee would consider this situation in the agenda of your upcoming meeting of June 12, 1984. The enclosed description provides a summary of the AP&L and NRC positions. The utility name and NRC Region number are intentionally left out of this document since it is probably not necessary to relate the disagreement to any specific utility or NRC Region.

I realize that it may be impractical to request a formal opinion from the Standards Committee on such short notice, but if possible it will be very much appreciated. Even if this item cannot be placed on the formal agenda, I believe that even informal opinions may be of value. Should the item be scheduled for review, AP&L would be happy to send a representative to the meeting for the discussion if deemed appropriate by yourself or the Standards Committee membership.

Thank you very much for your time spent in considering this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. H. Cogburn'.

T. H. Cogburn  
Manager, Special Projects

Enclosure

cc: J. M. Levine  
E. C. Ewing  
J. R. Marshall  
J. M. Griffin  
ANO-DCC

SUMMARY OF NRC AND UTILITY POSITIONS

NRC Position

" It is our position that radiochemistry technicians functioning in responsible positions must have 2 years of working experience in radiochemistry to be in agreement with your FSAR commitment to satisfy ANSI N18.1-1971. We consider that all radiochemistry technicians who perform radiochemistry or coolant chemistry, chemistry related to radioactive effluents, and analysis of radioactive samples, without the direct supervision of ANSI N18.1-1971 qualified technicians or supervision, are considered to hold responsible positions. New hires at operating facilities should be expected to meet the experience criteria of 2 years of experience in their specialty before being allowed to function without this direct supervision. They must have 2 years of experience in order to fill responsible positions."

" We are concerned at the apparent lack of management oversight to ensure that individuals selected for plant staff positions meet minimum selection criteria for technician positions as committed to in your FSAR, to prevent a general deterioration of the quality of your radiochemistry staff.

It is our position that several of the current radiochemistry technician staff do not meet the minimal experience recommendations of ANSI N18.1-1971 and should not function as radiochemistry technicians without the direct supervision of an ANSI qualified person."

Utility Position

It is our position that we meet and in fact exceed the requirements of ANSI N18.1-1971 for radiochemistry technicians. The minimum requirements for technicians stated in ANSI N18.1 is as follows:

" 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."

The minimum requirement for the supervisor in charge of radiochemistry as stated in ANSI N18.1 is:

" 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."

Enclosure  
ANO-84-5419

Neither of the above qualification requirements assume that formal academic education is necessary for adequate preparation to fill these positions. However, the Standard does acknowledge that academic training is an acceptable substitute for experience in the case of the supervisory position and permits up to four years of credit toward experience on a one to one basis.

Our practice is to fill our radiochemistry technician positions with individuals with college degrees in applied sciences (i.e. chemistry, biology, physical science, physics etc.). These individuals are placed in trainee positions for a minimum of six months. During this time they receive familiarization training and are required to successfully complete a specified number of on-the-job training tasks and are evaluated for their "fitness and ability" to perform the job function.

Upon successful completion they may be allowed to perform required analyses without direct supervision. This means that six months is the earliest that this could occur, but the completion is dependent upon the experience and ability of each individual. In all cases, results of analyses are reviewed by supervisory personnel to detect inconsistencies or apparent anomalies within a short time after analyses are completed.

We consider that our practice complies with ANSI N18.1-1971. This is based on the fact that academic training is credited toward experience for many cases covered by the Standard including the radiochemistry supervisor position. In our case, we consider that two years academic training is equivalent to at least one year of working experience, while we acknowledge that even the best educated/trained individual requires some site/job specific training prior to being capable of performing required tasks without direct supervision.

It is inconceivable to us that the Standard would intend placing more stringent requirements upon technicians than for the supervisory position. Many of our technicians could be considered qualified as supervisor while at the same time could not be considered to be qualified as technicians by NRC interpretation of the Standard. We believe that our placement practice produces higher quality results, in that a generally higher degree of professionalism is obtained and our radiochemists are equipped with a broader perspective due to their academic background.

**PHILADELPHIA ELECTRIC COMPANY**

2301 MARKET STREET

P.O. BOX 8699

PHILADELPHIA, PA. 19101

(215) 841-4000

October 30, 1984

Ms. Marilyn Weber  
Manager - ANS Standard  
American Nuclear Society  
555 North Kensington Avenue  
LaGrange Park, IL 60525

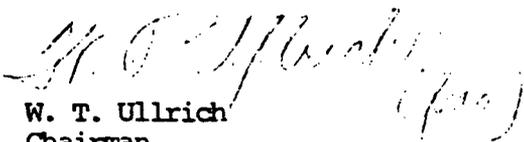
SUBJECT: Re-Issue of Interpretation Request - ANSI/N18.1-1971  
(ANS 3.1)

Dear Ms. Weber:

Attached is the revised interpretation of ANSI/N18.1-1971 as was requested. The attachment to my letter of October 23, 1984, was not correct and was a draft document which was later reviewed by the ANS 3 Subcommittee. Please destroy that attachment. The final approved interpretation dated October 30, 1984, has been agreed to by the ANS 3 Subcommittee.

I apologize for the administrative error in this area. Please process the attached interpretation through NUPPSCO.

Very truly yours,

  
W. T. Ullrich  
Chairman  
ANS 3

Attachment

cc: Tom Cogburn  
John Cooper  
Pete Walzer

10/30/84

Interpretation of ANSI/N18.1-1971 (ANS-3.1)  
Academic Equivalence Relative to Technicians

The ANS 3 Subcommittee has been requested to provide a generic interpretation of the ANS 3 Standard in the area of equivalence of academic training to experience requirements. The phrasing of the request is as follows:

A question has been raised as to the acceptability of academic equivalence relative to technicians. Section 4.5.2, "Technicians," of N18.1-1971 states the qualifications for technicians as follows: "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." The requestor notes that Section 4.4.3, "Radiochemistry (Professional-Technical)" states the qualifications for supervisory personnel as follows: "At the time of initial core loading or appointment to the active position, the responsible personnel shall have a minimum of five years experience in chemistry of which a minimum of one year shall be in radio-chemistry. 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."

While neither of the above qualification requirements assume that formal academic education is necessary for adequate preparation to fill these positions, the standard does acknowledge that academic training is an acceptable substitute for experience in the case of the supervisory position.

In accord with the criteria specified by N18.1-1971, is academic training an acceptable substitute for experience in the case of technicians in a responsible positions?

The ANS 3.1-1971 Standard describes the qualifications for three different types of individuals. Paragraph 4.4.3,

Radiochemistry, under Professional-Technical, indicates that the individual responsible for developing, implementing, and monitoring the radiochemistry program at a facility 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.

Paragraph 4.5.2, Technicians, indicates that individuals in responsible positions shall have a minimum of two years of working experience in their specialty. These personnel should have a minimum of one year of related technical training in addition to their experience. The committee notes that the key word in this paragraph is "responsible". Each facility must define the duties and responsibilities of their "responsible" radiochemistry technicians. The committee envisions the responsible technician as being capable of performing all tasks in the radiochemistry technician area and evaluating the significance of the analysis results. Other lesser qualified technicians within the group can perform other specifically defined tasks such as sample taking, preparation and analysis. In fact, the 1981 ANS-3.1 Standard states in paragraph 3.2.4, Operators-Technicians-Maintenance Personnel:

Operators, technicians, and maintenance personnel are persons principally involved in the manipulation of plant controls, monitoring of instrumentation, radiation surveys, plant chemistry, or the operations of equipment; and persons principally involved in the calibration, repair, maintenance, or performance of other craft and technician activities in the plant. Examples are reactor operator, electrician, mechanic, electronics technician, or laboratory technician. Individuals in training or apprentice positions are not considered technicians or maintenance personnel for purposes of defining qualifications in Section 4, Qualifications, but are permitted to perform work in the job classification for which qualification has been demonstrated.

These individuals may perform work without the direction and observation of qualified individuals if they have previously demonstrated their ability to perform these specific tasks.

Individuals in training or apprentice positions who do not meet the qualification requirements may perform work under the direction and observation of a qualified individual.

In Paragraph 4.3.2, Supervisors not Requiring AEC Licenses, a third category of individual that may be found in the chemistry or radiochemistry area is described. This supervisor is the individual who supervises the technicians and ensures that the program set forth by the Professional-Technical individual is indeed carried out by the technicians. The supervisory category requires an individual with a high school diploma or equivalent and a minimum of four years of experience in the craft or discipline he supervises.

The committee would also like to discuss the concept of related technical training versus academic training. The standard requires that a technician have one year of related technical training. This training is envisioned as being provided by the utility consisting of classroom and on-the-job training. This training should be specifically directed to the skills and knowledge required to perform tasks associated with the technician's duties. Academic training is a much broader concept and would really not provide the detailed information necessary for a technician to perform duties associated with the specific tasks.

Based on the above information, the committee believes that two years of working experience in their specialty is required for the responsible technician. This "responsible" technician is envisioned as the individual in the power plant who is fully capable of performing all tasks and duties within their discipline. Two years of working experience is a requirement which cannot be replaced with academic training of a generic nature. As indicated above, academic training cannot provide a detailed knowledge to the technician which will permit him to perform all tasks in a competent manner. Academic training can provide a better understanding of these tasks however.

After reviewing the 1971 Standard, the committee believes that academic training is not an acceptable substitute for experience in the case of technicians in a responsible position.