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THE ELECTRIC COMPANY

KANSAS GAS AND ELECTRIC COMPANY

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VICE PRESIDENT - NUCLEAR

January 19, 1981

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

Attn: Docketing and Service Branch

KMLNRC 81-054
Subj: Proposed Revision 2 to Regulatory Guide 1.8; "Personnel Qualification and Training", dated September, 1980

Gentlemen:

The purpose of this letter is to express concern that Kansas Gas and Electric Company has about the nature of some of the additional qualifications and training that this Regulatory Guide imposes on Senior Reactor Operators and Shift Supervisors. We want to be sure that any significant program we undertake in additional training or upgrading qualifications has the effect of upgrading plant operational safety in a most effective manner. Pursuant to this goal of increasing operator training and utilizing the most effective training methods available, Kansas Gas and Electric Company has recently committed to the construction and operation of a multi-million dollar Wolf Creek specific simulator. We are investigating specific additional academic training and increased operating plant observation training in addition to the normal requirements for examination and licensing as a Senior Reactor Operator.

The proposed revision to Regulatory Guide 1.8 imposes significant additional academic requirements for Senior Reactor Operator candidates and establishes the requirement that all Shift Supervisors obtain a Bachelor of Science degree by January 1, 1986. This is a significant departure from previous regulatory requirements and will necessitate a significant training effort to upgrade personnel qualifications or possibly a recruiting effort to replace experienced operators with academically stronger, but less operationally experienced, senior operators and supervisors. This letter will review the concerns of Kansas Gas and Electric Company that a heavy commitment to additional academic training may not be the most effective way to improve the knowledge of operational safety of operators and that imposing a degree requirement for shift supervisors will upset current career patterns and increase turnover of personnel, which can have a deleterious effect on plant safety, if excessive.

IP-11 Comment

Traditionally, operator training programs and college level courses have taken different approaches to presenting nuclear reactor engineering fundamentals. Reactor operator training has traditionally tried to teach the "why" of how a reactor is designed and, the cause and effect relationships of various parameters involved in operating a reactor. Undergraduate college level engineering courses also provide the "how" of reactor engineering design and provide very simplified calculational exercises associated with reactor core parameters. Rather than teaching extensive calculations, operator training courses have utilized curves and graphics to demonstrate the results of altering core parameters such as core life and boron concentration on coefficients such as moderator temperature and power defect. The operator needs this quantitative feel for how the reactor will respond to various changes in load, boron concentration, etc., but it is doubtful that he will derive much benefit from being able to solve differential equations and boundary value problems for highly simplified core geometries. Additional efforts to assure the operator has adequate information and additional training in the use and interpolation of presently available information and curves would, in our judgment, be more useful than learning how simplistic curves, not representative of power reactor cores, are derived. It is not clear that a commitment of a sizeable amount of time to increased academic training will be the most efficient method and type of training to improve the operator's understanding of reactor operational and safety characteristics.

Traditionally, the career path for nuclear power plant operations personnel has been to rise through the ranks of a utility and/or obtain military experience to progressively move from an equipment operator to control room operator to a foreman to a shift supervisor position. If graduate engineers are to be required as shift supervisors, the career path to shift supervisor will be altered dramatically and shift supervisors will have significantly less plant and operational experience. The imposition of the requirement for shift supervisors to be college graduates is going to shut off promotional opportunities for current operators, resulting in discouraged career prospects and increased turnover. It is not in the interest of plant operational safety to undertake actions that result in the loss of years of operational experience and replace this experience with academic training. The current method of obtaining a number of years of plant experience prior to promotion to a shift supervisor position allows for the development of operational skills and company review of shift supervisory skills that would not be possible by moving personnel from engineering functions to shift work. It is also highly doubtful that most graduate engineers are going to be content with spending more than a few years on shift work, which will result in a higher turnover of shift supervisors through either resignation or mandated rotation. This will again result in increased loss of operational experience in the control room. In summary, it is not clear that college degrees improve supervisory skills or that academic training improves an understanding of plant equipment or operations. It is clear that the requirement for shift supervisors to have Bachelor of Science degrees is

going to result in increased operating shift turnover and less operational experience in the control room. This is not felt to be in the interest of increased nuclear power plant operational safety.

The nuclear utility industry through the Institute of Nuclear Power Operations is in the process of developing a standard for licensed operators, senior reactor operators and shift supervisors. We feel the qualifications for these positions should be focused on the specific requirements of the position in a "task analysis" approach as encouraged by the Commission in Section 3.1 of the subject Regulatory Guide. While the industry has not completed this effort, we believe a Senior Control Room Operator should have completed additional training, beyond reactor operator qualification requirements in the following areas:

1. Leadership and Communications training,

2. Additional training in the basis for procedures,

3. Advanced transient and accident analysis classroom instruction with simulator training to support this,

4. Additional plant operations training and in-plant training with emphasis in administrative role,

5. Training in system design basis.

We concur with the decision of the Nuclear Regulatory Commission as stated in Section I.A.2.1 of NUREG-0737 to recognize two paths of experience to allow licensing of engineers directly to Senior Reactor Operator without serving as a Reactor Operator for one year.

We believe that the NRC and industry tendency to treat the Shift Supervisor as a special position that requires additional non-technical qualifications and experience is desirable and warranted. It is reasonable that a prospective shift supervisor be required to have held an SRO license for a year and have six months experience at the specific plant. We believe task analysis of the shift supervisor position would require additional training beyond the SRO level in behavior sciences and supervisory skills as well as additional training in administrative requirements.

In summary, it is the position of Kansas Gas and Electric Company that task analysis should be utilized to determine training requirements and qualifications for the senior reactor operator and shift supervisor positions rather than requiring a specified number of college credit hours or a Bachelor of Science degree which may be in a technical area only marginally related to nuclear power plant operations.

We at Kansas Gas and Electric Company are grateful for the opportunity to present our comments to the proposed revision of Regulatory Guide 1.8 and look forward to a continuing dialogue with the Commission as we seek the common goal of ensuring nuclear plant safety by creating requirements and qualifications that will result in the best appropriate training and experience for Senior Reactor Operators and Shift Supervisors.

Yours very truly,

Glenn L Koester

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cc: EPWilkinson, INPO