

County of Cook
SS:
State of Illinois

AFFIDAVIT OF NEIL P. SMITH

I, Neil P. Smith, being first duly sworn, state as follows:

I am employed by Commonwealth Edison Company as Senior Engineer in its Station Nuclear Engineering Department. My responsibilities include managing Commonwealth Edison's participation in the Systematic Evaluation Program, and supervising the environmental qualification of safety-related electrical equipment in Commonwealth Edison's operating nuclear powerplants. I have a Bachelor of Science degree in Electrical Engineering from the University of Illinois and an M.B.A. from the University of Chicago. I am a registered Professional Engineer in the State of Illinois and a Member of the Institute of Electrical and Electronic Engineers.

I have reviewed the Staff's environmental qualifications safety evaluation for Zion Station, Units 1 and 2, Dresden Unit 3, and Quad Cities Units 1 and 2. A more thorough study of and response to these documents will be completed within 90 days of their issuance, as requested by the NRC Staff. Nevertheless on the basis of this preliminary review, Commonwealth Edison has technical disagreements with the following NRC Staff positions.

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- (1) The NRC Staff safety evaluations apparently extend environmental qualification requirements to instrumentation which is not safety-related but might mislead the operator if it failed during an accident, (Safety Evaluations, Section 3.1). This is unjustified because operators and Shift Technical Advisors are appropriately trained to recognize such erroneous non-safety related instrumentation readings; and in addition the instrumentation involved is not needed to achieve safe shutdown or to mitigate the consequences of the accident.
- (2) The technical material accompanying the safety evaluations seem to incorporate a requirement that all safety related equipment be environmentally qualified for its required operating time plus 10%, or plus one hour, whichever is longer. This is an unjustified and unreasonable requirement when applied to equipment that performs its safety function within a short period of time (much less than one hour) after the accident begins.
- (3) The underlying technical material accompanying the NRC Staff safety evaluations indicates that radiation source terms must be calculated assuming

instantaneous release of noble gasses, halogens, and particulates at the moment the accident begins, which is unreasonably conservative.

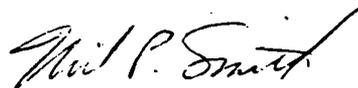
Commonwealth Edison has qualified its equipment assuming instantaneous release of noble gasses, with halogens and particulates released after an appropriate delay.

- (4) The NRC Staff safety evaluations (Section 3.3) require that temperature and pressure profiles for equipment qualification purposes be based on the assumption that complete stratification of the containment atmosphere occurs following an accident. This is unreasonable because it ignores anticipated mixing of the containment atmosphere. In addition, the Staff's analysis ignores the effect of containment heat sinks which would substantially reduce temperatures and pressures.
- (5) The NRC Staff's safety evaluations indicate that Commonwealth Edison's treatment of equipment aging is inadequate, in some cases without sufficient guidance as to how the effect of aging should be taken into account.

In general, the technical issues on which we have disagreements with the Staff represent new requirements not explicitly contained in the DOR Guidelines and NUREG-0588.

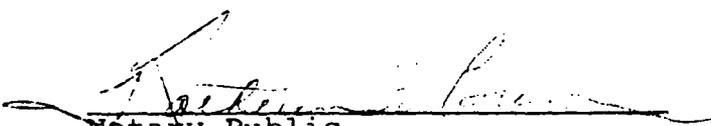
Moreover, in my opinion, the Staff positions listed above are technically unjustified and licensee compliance with those positions would be a waste of resources which should be used to effect more significant safety improvements. Moreover, to the extent unreasonably "conservative" assumptions result in the substitution of untried new equipment for equipment which has proved its reliability through hundreds of years of operation, there may be a net decrease in safety due to the contested Staff positions.

The Staff's safety evaluations do not address TMI-related equipment and qualification of equipment exposed to "mild" environments. Therefore I am unable to state at this time whether Commonwealth Edison has any irreconcilable technical disagreements with the Staff in these areas.



Neil P. Smith

Subscribed and sworn to before
me this 15th day of June, 1981



Notary Public