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Electric Corporation

Water Reactor
Divisions

Nuclear Service Division

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November 8, 1979

NS-TMA-2154

Mr. Harold R. Denton
Director
Office of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Denton:

We have reviewed enclosure 9 attached to Mr. D. G. Eisenhower's September 13, 1979 letter on followup actions resulting from the NRC Staff Reviews regarding the Three Mile Island Accident. Our review included your papers to The Commissioners dated July 30, 1979 and September 11, 1979 (SECY-79-330 E&F).

It was these reviews that prompted this letter of comments and recommendations.

Westinghouse would be pleased to amplify these comments and recommendations and to continue to participate in plans and programs regarding operator qualification and personnel training.

Very truly yours,

T. M. Anderson
T. M. Anderson, Manager
Nuclear Safety

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Enclosures

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General Comments

We believe a training program and certification for instructors of nuclear personnel is necessary. Consideration must be given to vendors and others without access to a nuclear plant. Instructors can be selected and prepared to teach at the SRO level and at even higher levels without fulfilling the long on-the-job type requisites for plant operators.

As one of the larger and most visible training vendors we note a trend with our personnel that should be considered. There is substantial turnover of personnel underway and it is far from reaching a peak at this time. We recognize and accept the part that higher compensation plays in this turnover. As has been said, there is an analogy with airline pilots that can be applied.

A second analogy comes to mind. Free agents in major sports have created remarkable change in compensation policies. The owners have participated in both terms of wanting to win and just to compete and have passed the cost to the fans through tickets and television contracts. Neither the highest wages nor the largest number of stars have brought success, however. The real point of the analogy is that in major sports the true purpose of this supply/demand challenge is to produce a single winner, everyone else loses.

PART A

Eligibility and Training

Item 1

No Comment

Items 2, 3

NRC Recommendation

Modify the Hot Training Programs so that Training concentrates on the responsibilities and functions of the operator rather than the Senior Operator.

An SRO license applicant must have a minimum of 6 months as a licensed operator.

Require that Hot SRO license applicants have 3 months continuous on-the-job training as an extra man on shift in Training.

Interpretation:

The Operator must spend 6 months on shift performing licensed operator duties, then 3 months on shift as an extra man receiving SRO on-the-job training and finally the applicant would attend a 3 month preparatory course for SRO applicants that would supplement the course that Item 1 Enclosure 9 establishes for operators only.

Westinghouse Recommendation:

As an alternate, vendor instructors should be certified after attending a structured course that includes training on a research reactor, systems study utilizing an actual plant for tours and demonstrations and a simulator training course. This complete program would last approximately eight months and should be followed by written and oral examinations similar to those presently administered to cold license candidates for certification. The retraining program for an instructor should be structured to review events that have occurred at operating plants, changes to procedures (generic), NRC bulletins and Instructions and changes to 10CFR. Vendor management should review the quality of instruction by periodically monitoring the instructor's performance and by reviewing the student's examinations.

Item 4

NRC Recommendation:

Require that all replacement applicants participate in simulator training programs, as applicable for their facility.

Interpretation:

Hot license replacement applicant should participate in simulator training on a simulator that approximates their facility. An exception may be made for those licenses with older vintage facilities whose features and characteristics are not similar to existing simulators provided suitable alternatives are substituted.

Westinghouse Recommendation:

Simulator training for hot license applicants should be tailored to the needs of the applicants. Those applicants with operational experience should receive training with emphasis on transient, off normal and accident control techniques. Applicants with little or no operational experience should receive training on normal operations, as well as transient, off normal, and accident control techniques. Existing training center and utility training programs should be tailored to ensure that applicants learn these necessary techniques.

Item 5

NRC Recommendation:

NRC examiners should routinely administer some ($\approx 10\%$) of the certification examinations at the simulator training center.

Interpretation:

The examiners would produce, administer, grade and critique $\approx 10\%$ of the simulator certification examinations.

Westinghouse Recommendation:

The training center should produce, administer, grade and critique the written examination, while supplying the NRC examiners with a copy of each student's answer sheets. The NRC examiners would then compare their results against the results of the Westinghouse examiners. During the oral examinations the NRC examiners would observe each oral examination, taking individual notes and then would compare their recommendations against the Westinghouse examiner's findings. This audit technique would permit the NRC examiners to fulfill three objectives with one inspection; 1) Audit the training program by observation of the student's written and oral answers, 2) Audit of the quality of written and oral questions used and, 3) Audit of the quality of examiner employed by Westinghouse.

Item 6

NRC Recommendation:

Require phase II, III, and IV cold training program instructors and all hot training program instructors that provide instruction in nuclear power plant operations to hold senior operator licenses and be required to successfully participate in applicable requalification programs.

Interpretation:

According to Appendix A of the ANSI-3.1 draft document, it would take a minimum time of one year to train and license an operator. Upon receipt of the license, the operator would spend 6 months on shift as a licensed operator, 3 months on shift as an extra man receiving on-the-job training and approximately 3 months in an approved SRO training program. Comment: This 2 year program does not take into account delays associated with unavailability of NRC examiners for written examination administration, oral examination administration and examination grading. After the license training is completed the vendor instructor candidate must fulfill

three objectives: 1) Become knowledgeable of the plant differences that exist between 2, 3 and 4 loop plants of different vintages; 2) Conduct lectures, training material development and written/oral examinations, and 3) Participate in the applicable requalification program for the plant for which the license applies.

Westinghouse Recommendation:

A formal instructor certification program should be implemented to certify instructors in a manner similar to the Power Plant Operator Cold License Certification Program. This program would include training on a research reactor, systems study utilizing an actual plant for tours and demonstrations and a simulator training course followed by written and oral examinations similar to those presently administered to cold license candidates for certification. This certification program would minimize the time to qualify an instructor and would permit increased productivity along with a better utilization of preparation time for new systems that are being developed but have not appeared in licensed plants. This program would also minimize the potential for discrimination situations to arise. With the NRC recommendation, instructor candidates who have health problems or physical handicaps that are not permitted under 10CFR55 guidelines, would be eliminated from job consideration for positions that should not require these restrictions. Westinghouse agrees that some positions should be filled by SRO's.

PART B

Operator Requalification Program

Items 1 thru 3

Agree

Item 4

NRC Recommendation:

NRC examiners should routinely administer some (~10%) of the certification examinations at the simulator training center.

Westinghouse Recommendation:

Same response as A-5 except the site training staff would replace the training center staff.

PART C

NRC Examinations

Item 1

NRC Recommendation:

Expand the content of the existing written examinations.

Westinghouse Recommendation:

The NRC should supply questions to the license candidates so that they will know what level to prepare for. These should be more detailed than the present questions that are now in 10CFR55. This is presently done by the FAA and the FCC. The intent should be to ensure that people study the most appropriate material. Westinghouse would be happy to help with this effort.

Item 2

NRC Recommendation:

Part of oral/operating test. . .should be performed by using existing nuclear power plant simulators.

Westinghouse Recommendation:

The Simulator should be representative, but not necessarily the same as that of the facility where the applicants are from.

Item 3

Agree

Item 4

NRC Recommendation:

The overall passing grade for operator and senior operator written examinations should be increased to 80 percent and at least to 70 percent in each category.

Westinghouse Recommendation:

We see no reason for increase in the overall grade to 80%. We most certainly agree with the requirement of 70% minimum for each section. On a 4.0 basis utilized by the Navy Nuclear program, a 2.5 is passing and this translates into 62.5% versus the present 2.8 that is required of our license candidates.

Item 5

NRC Recommendation:

The Operator Licensing Branch should provide facility management with the detailed results of NRC initial examinations so that individuals may be immediately enrolled in the requalification programs.

Westinghouse Recommendation:

We agree. The detail that has been provided in the past has been insufficient to tailor a custom requalification program.

PART D

Nuclear Power Plant Simulators:

Item 1

Agree

In summary, we believe that the vendor can fill a vital role in the training of nuclear plant personnel. The training skills, personnel resource, facility availability and technological base of training should not be lost to the training need through focusing on the nuclear plant owner and staff.

The ability of instructors to carry out successful training of operators without being plant specific qualified as an operator is proven in both military and commercial programs.

We believe that owner/operators, vendors and regulatory agencies can and must establish certification and examination programs for instructors that take into account nuclear plant availability and access, instructor retention, qualified operator/instructor availability in the industry, operator/instructor compensation and impact upon operating staff and the general cost improvements these considerations would make to the public.

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