



**Commonwealth Edison**

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August 1, 1986

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Subject: LaSalle County Station Units 1 and 2  
Human Factors Review of R.G. 1.97  
Instrumentation  
NRC Docket Nos. 50-373 and 50-374

- References (a): LaSalle County Station Unit 2 License NPF-18,  
Facility Operating License
- (b): Commonwealth Edison Company (CECo.) letter from  
C.W. Schroeder to A. Schwencer, Nuclear Regulatory  
Commission (NRC) dated June 29, 1982
- (c): NRC letter from A. Schwencer to D.L. Farrar  
dated December 13, 1984 (Interim Report on  
Commonwealth Edison's Response to Regulatory  
Guide 1.97, Revision 2)
- (d): CECo. letter from G.L. Alexander to H.R. Denton  
dated February 22, 1985
- (e): CECo. letter from H. L. Massin to H.R. Denton  
dated September 27, 1985
- (f): CECo. letter from C. M. Allen to H.R. Denton  
dated March 10, 1986
- (g): CECo. letter from H. L. Massin to H.R. Denton  
dated November 1, 1985

Dear Mr. Denton:

Attachment 1 to this letter summarizes the results of the human factors review of the Regulatory Guide 1.97, Rev. 2 instrumentation at the LaSalle County Station Emergency Response Facilities. This letter also presents the results of the human factors review of the R.G. 1.97 control room instrumentation based on the DCRDR task analysis. We are transmitting this information to you in response to the requirement contained in Reference (a), Item 3(b) of Attachment 2.

Commonwealth Edison initially submitted their assessment of LaSalle Station with respect to the degree-of-compliance with Regulatory Guide 1.97, Rev. 2 in Reference (b). R.G. 1.97 provides guidance and recommendations acceptable to the NRC for instrumentation to monitor plant variables and

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systems during and following potential design basis events in operating nuclear power plants. Subsequent correspondence between the NRC and Commonwealth Edison in References (c), (d), (e) and (f) have expanded this information and discussed several additional activities necessary for LaSalle Station to establish full compliance with R.G. 1.97. The R.G. 1.97 parameter listing contained in Reference (b) formed the basis for the human factors review of R.G. 1.97 instrumentation with respect to the DCRDR Task Analysis requirements.

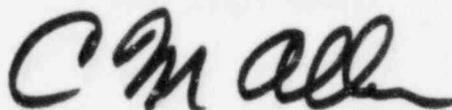
Subject to resolution of the human engineering discrepancies identified in the LaSalle DCRDR submittal of Reference (g), results of this review confirm that the R.G. 1.97 instrumentation has been sufficiently designed from a human factors perspective for plant operators to follow the course of design basis accidents and to take the necessary action(s) required to prevent or mitigate the consequences of these accidents. There were no additional human engineering discrepancies identified from this review of R.G. 1.97 instrumentation with respect to the control room DCRDR Task Analysis.

One area of concern was identified by the human factors review of R.G. 1.97 instrumentation in the Emergency Response Facilities. This is in regard to suppression pool air temperature which is required for two tasks identified in the ERF job/task analysis. However, since suppression pool air temperature can be obtained in the Technical Support Center (TSC) on an as-needed basis using existing communication lines, this finding has been satisfactorily resolved.

Based on these results, there are no modifications required in either the TSC or EOF as a result of the human factors review of R.G. 1.97 instrumentation. Resolution of the various human engineering discrepancies identified in the LaSalle Station DCRDR submittal which relate to control room R.G. 1.97 instrumentation will be completed on the schedule proposed in Reference (g).

If you have any questions or comments relating to this information, please do not hesitate to contact this office.

Very truly yours,



C. M. Allen  
Nuclear Licensing Administrator

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Attachment

cc: A. Bournia  
LSCS Resident Inspector

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ATTACHMENT

Commonwealth Edison Company  
LaSalle County Station

Human Factors Review  
Regulatory Guide 1.97, Rev. 2  
Instrumentation in Emergency  
Response Facilities

Final Report Summary

In May, 1986 Commonwealth Edison Company completed a human factors review of the Emergency Response Facilities (ERF) at LaSalle County Station. The overall purpose of this review was to examine the personnel and equipment interfaces within the Technical Support Center (TSC) and Emergency Operations Facility (EOF). A key objective was to determine whether these facilities provide system status information, feedback capabilities, communications capabilities and job performance aids necessary for the TSC/EOF personnel to accomplish their functions and tasks effectively. One specific task associated with this review effort was to assess the sufficiency and applicability of R.G. 1.97 variables to support the Emergency Response Facilities activities. This summary identifies the findings related to this review of R.G. 1.97 instrumentation in the LaSalle ERF.

To achieve the review objectives with respect to R.G. 1.97 variables, a number of individual tasks were first initiated to obtain data for further consideration. These consisted basically of:

- ° observation of the Generating Stations Emergency Plan (GSEP) exercises
- ° a human factors checklist survey of the TSC/EOF including the use of computers and CRTs
- ° a personnel survey consisting of structured interviews of key TSC/EOF personnel
- ° a job/task analysis of key positions in the TSC/EOF to compile information needs and communication links based on the interview results and GSEP documentation
- ° follow-up interviews with selected participants in the personnel survey to specifically query them as to their need for certain R.G. 1.97 Instrumentation
- ° analysis of GSEP procedures for calculating release information, to determine the need for additional information regarding R.G. 1.97 instrumentation in the ERFs

- ° review of the data collected during the DCRDR task analysis and validations processes, to determine if these data contained any implications for TSC/EOF information needs

Upon completion of the above tasks, the ERF job/task analysis data were reviewed for explicit references to available R.G. 1.97 variables. Any variables unavailable in the ERF were also reviewed to ascertain their need based on the job/task analysis for ERF personnel. For any missing R.G. 1.97 variables, a follow-up interview was also conducted with key ERF personnel to identify specifically to what extent they needed the parameter indications. Finally, an analysis of the GSEP procedures for calculating radioactive releases was also performed to verify that all R.G. 1.97 parameter data was available. The results of these activities completed the R.G 1.97 human factors review.

Only one area of concern for R.G. 1.97 instrumentation was identified in the course of conducting the ERF human factors review. Two tasks in the LaSalle Station ERF job/task analysis required the use of suppression pool air temperature within the TSC. Although suppression pool water temperature is displayed on the SFDS in the TSC and EOF's, suppression pool air temperature is provided only to the control room personnel on multi-point recorders. Further review indicated there was no time critical need for the Shift Engineer to complete the two tasks requiring suppression pool air temperature. Consequently, the concern was satisfactorily dispositioned since TSC personnel could get the necessary information on an as-needed basis using existing communications lines.