

# PHILADELPHIA ELECTRIC COMPANY

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March 18, 1985

Mr. A. Schwencer, Chief  
Licensing Branch No. 2  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

Docket No.: 50-352

SUBJECT: Limerick Generating Station, Unit 1  
Safety Parameter Display System  
ERFDS Reg. Guide 1.97 Displays

FILE: GOVT 1-1 (NRC)

Dear Mr. Schwencer:

License Condition 2.C.8(b) requires that the Limerick Safety Parameter Display System (SPDS) be operable by April 1, 1985. Limerick Unit 1 will meet this condition consistent with regulatory requirements for SPDS as expressed in Supplement 1 to NUREG-0737 (Generic Letter No. 82-33, December 17, 1982). Enclosure No. 1 to this letter describes the means employed to satisfy this license condition. The responses to questions 620.1 through 620.7 and 640.30 through 640.32 contained in the Limerick FSAR provide a detailed description of the General Electric Emergency Response Information System (ERIS) SPDS design. All of the hardware and SPDS signal inputs as described in the FSAR are installed and operable. However, the GE ERIS SPDS displays cannot be released for use by the operators because the Validation Testing process is not complete. Consequently, due to the unavailability of the GE ERIS SPDS displays, alternative displays have been developed and will be utilized in the Limerick SPDS. The April 1, 1985 schedule date for SPDS operability contained in the Limerick Safety Evaluation Report (SER), Supplement 3, Section 18.2.9 and License Condition 2.C.8.b was based on both PECO's and the NRC staff's assessment of General Electric's generic Validation Test schedule. As stated in the Limerick SER, GE was to have conducted their generic Validation Tests late in 1984, with a test report on the results issued by GE to the NRC by February 1985. PECO has been advised by GE that these Validation Tests have been rescheduled for completion in March, 1985 because of additional software debugging and data base compilation activities. The test report on the results is scheduled to be issued to the NRC by GE in April 1985. The results of this generic test program must be reviewed and incorporated, where applicable, into the GE ERIS SPDS displays used in the Limerick SPDS prior to releasing these displays for use by the operators.

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March 18, 1985

The schedule contained in Section 18.2.9 of Supplement No. 3 to the Limerick Safety Evaluation Report also states that the Emergency Response Facility Data System (ERFDS) Reg. Guide 1.97 displays will be functional by April 1, 1985. The ERFDS Reg. Guide 1.97 displays required to provide Reg. Guide 1.97 variables to the Control Room Operators will be functional by April 1, 1985. The ERFDS Reg. Guide 1.97 displays designed to provide data to the Technical Support Center (TSC) and the Emergency Operations Facility (EOF) are currently undergoing testing and will not be functional by April 1, 1985. A portion of this data will be provided to the TSC and EOF by the SPDS as described in Enclosure No. 1, while alternate means which are currently in place will continue to be utilized to provide the remaining data to these facilities. Enclosure No. 2 describes the current status of the ERFDS Reg. Guide 1.97 displays.

Sincerely,

*John S. Kingston*

DFC/JJG/1a  
1a311851145  
Enclosures

Copy to: T. E. Murley, I&E Region I Administrator  
See Attached Service List

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PHILADELPHIA ELECTRIC COMPANY

LIMERICK GENERATING STATION

UNIT 1

DOCKET NO. 50-352

LICENSE NPF-27

SAFETY PARAMETER DISPLAY SYSTEM

LICENSE CONDITION 2.C.8.b

## I. Compliance with License Condition 2.C.8.b

The Limerick license condition 2.C.8.b states "the licensee shall have the SPDS operable by April 1, 1985". As required by the license condition, Limerick Unit 1 will have an SPDS operable and functionally available for use by the operators by April 1, 1985 as discussed in detail below.

The approved Limerick SPDS consists of a set of CRT displays generated on the computer based Emergency Response Facility Data System (ERFDS). The SPDS to be operational by April 1, 1985 will utilize the display formats shown on the attachments which are also generated on ERFDS. These displays formats will provide an interim SPDS until the validation process is complete on the SPDS display formats described in Supplement 3 to the Limerick Safety Evaluation Report (SER), hereafter referred to as the GE ERIS SPDS displays. The interim SPDS will be operational until the GE ERIS SPDS is validated. This activity is discussed further in Section IV of this report.

The interim SPDS meets the license condition by providing displays which provide a concise display of critical plant parameters and will provide for the safe operation of the plant in accordance with NRC regulatory requirements including NUREG 0737, Supplement 1. Compliance with the regulatory requirements is discussed in the following sections.

## II. Description of the Interim SPDS

The interim SPDS is part of the computer based ERFDS and utilizes the display formats shown on the attachments. The attachments are black and white copies of the color graphic displays. The interim SPDS utilizes the same ERFDS computer system, data acquisition system, and peripherals hardware as the GE ERIS SPDS displays. The three major ERFDS subsystems described in Section 18.2.2 of Supplement 3 to the Limerick SER which are the Data Acquisition System (DAS), the Data Processing System (DPS), and the Data Output Peripherals (DOP) are all utilized by the interim SPDS.

The interim SPDS displays and the GE ERIS SPDS displays are both based on the symptom oriented Limerick Transient Response Implementation Plan (TRIP's).

The parameters selected for the interim SPDS are based on the TRIP procedures and are the same as those selected for the GE ERIS SPDS displays. The parameters selected for the interim SPDS displays are consistent with the "Safety Analysis for Parameter Selection for the Safety Parameter Display System (SPDS)" transmitted by Reference 1.

The Radioactivity Control function of the SPDS is provided by the Radiation Meteorological Monitoring System (RMMS) as described in Supplement 3 to the Limerick SER, Section 18.2.3. This system is operable and functionally available for use by the operators.

Containment Radiation is monitored and displayed by RMMS to provide the status of the Radioactivity Control function during periods when the containment is isolated. This addresses the staff's concern on this matter discussed in Section 18.2.10 of Supplement 3 to the Limerick SER.

NUREG 0737, Supplement 1 states that the purpose of the SPDS is to "provide a concise display of critical plant variables to the control room operators to aid them in rapidly and reliably determining the safety status of the plant." The safety status of a BWR plant can be assessed from the parameters that are defined as the entry conditions into the TRIP's.

The interim SPDS provides a concise display of these critical plant variables. The top level interim SPDS display (Attachment #1) contains the entry variables into the TRIP's. The second level interim SPDS displays (Attachments #2 and #3) provide data to assist the operator in performing the Reactor Pressure Vessel (RPV) Control and Containment Control procedures respectively. The interim SPDS displays provide real time plant data to aid in both early emergency procedure entry condition recognition and in the performance of the procedures.

The GE ERIS SPDS displays provide the functions described above and also provide functions which are beyond the basic SPDS requirements as described in NUREG 0737, Supplement 1. These functions include time trend plots of critical parameters, two-dimensional parameter plots, and critical parameter validation status displays. The interim SPDS will not provide these functions, however, it still meets the requirements for SPDS as discussed in Section III.

The interim SPDS is intended to be operational during all modes of reactor operation above cold shutdown defined in Table 1.2 of the Limerick Technical Specifications. Hardwired Class 1E instrumentation which presents the same information is available in the Control Room for the operator should the SPDS become inoperable.

During periods when the plant is in cold shutdown, the interim SPDS may not be operable in order to facilitate and expedite validation of the GE ERIS SPDS displays. This is acceptable because of the low probability of an abnormal and/or emergency condition occurring during cold shutdown and because all information presented on the interim SPDS displays is available to the control room operator on hardwired Class 1E instrumentation.

Operators are trained in the use of the GE ERIS SPDS displays and no operator will stand a posted licensed position after April 1, 1985 without being trained on the interim SPDS.

### III. Interim SPDS Compliance with NUREG 0737, Supplement 1

The interim SPDS complies with the requirements of NUREG 0737, Supplement 1 as follows:



Requirement 4.1a:

"The SPDS should provide a concise display of critical plant variables to the control room operators to aid them in rapidly and reliably determining the safety status of the plant."

Compliance:

The safety status of a BWR plant can be assessed from the parameters that are defined as the entry conditions into the TRIP's. The top level interim SPDS display shown on Attachment 1 presents the entry condition parameters with their current value and alarm status.

The interim SPDS displays will display the values of redundant signals for each critical parameter. Where applicable, values from different instrument ranges will also be displayed. The values displayed will be range checked prior to display. Values not within the sensor range will be denoted as bad data on the displays.

Requirement 4.1b:

"Continuous display of SPDS parameters shall be located conveniently to the control room operator."

Compliance:

The interim SPDS utilizes the same color graphic display consoles located in the control room as the GE ERIS SPDS. The response to question 620.4 contained in the Limerick FSAR provided information on how this requirement is met for the GE ERIS SPDS. That response is also applicable for the interim SPDS.

The majority of the validation processes to be performed on the GE ERIS SPDS Displays can be performed with the interim SPDS Displays operational. During periods when the color graphic display consoles must be utilized for GE ERIS SPDS testing, the interim SPDS displays will be provided on black and white CRT terminals located in the Control Room and TSC adjacent to the ERFDS display consoles. These black and white CRT's are also driven from the ERFDS computer.

Requirement 4.1c:

"The SPDS shall be suitably isolated from electrical or electronic interference with equipment and sensors that are in use for safety systems."

Compliance:

The interim SPDS complies with this requirement. The interim SPDS utilizes the same equipment discussed in the response to question 620.7 contained in the Limerick FSAR.

Requirement 4.1d:

"Prompt implementation of an SPDS can provide an important contribution to plant safety. The selection of specific information that should be provided for a particular plant shall be based on engineering judgement of individual plant licensees, taking into account the importance of prompt implementation."

Compliance:

The schedule date for SPDS operability contained in the Limerick SER, Supplement 3, Section 18.2.9 and License Condition 2.C.8.b was based on both PECO's and the NRC staff's assessment of the SPDS contractor's (General Electric) Validation program schedule. As stated in the Limerick SER, Supplement 3, Section 18.2.9, General Electric was to have conducted Validation tests for their generic ERIS SPDS late in 1984, with a test report on the results issued by GE to the NRC by February 1985.

The GE generic ERIS SPDS Validation Testing has been rescheduled for completion in March, 1985 because of additional software debugging and data base compilation activities. GE has advised PECO that the test report on the results is presently scheduled to be issued to the NRC by GE in April 1985.

The delay in the scheduled completion of the generic ERIS Validation Test Program will not enable the software enhancements and/or corrections resulting from this program to be implemented and tested at the Limerick site by April 1, 1985. The results of this test program must be reviewed and incorporated, where applicable, into the Limerick GE ERIS SPDS Displays prior to the release of these displays for use by the operators.

The interim SPDS displays provide for the implementation of the SPDS function in the control room by April 1, 1985.

The interim SPDS will be operational until the GE ERIS SPDS is validated. This activity is discussed further in Section IV of this report.

Requirement 4.1e:

"The SPDS display shall be designed to incorporate accepted human factors principles so that the displayed information can be readily perceived and comprehended by SPDS users."

Compliance:

The interim SPDS displays are formatted to be consistent with the Limerick TRIP procedures. The parameters selected for each interim SPDS display are consistent with the parameters selected for the corresponding display in the GE ERIS SPDS. For example, the parameters selected for the interim SPDS RPV control display are consistent with those contained on the GE ERIS RPV control display.



The color coding used on the interim SPDS to designate parameter status (ie; normal, alarm, and bad data) is the same as used for the GE ERIS SPDS displays discussed in the Limerick SER, Supplement 3, Section 18.2.5.

Requirement 4.1f:

"The minimum information to be provided shall be sufficient to provide information to plant operators about:

- i) Reactivity Control
- ii) Reactor core cooling and heat removal from the primary system
- iii) Reactor coolant system integrity
- iv) Radioactivity Control
- v) Containment conditions

The specific parameters to be displayed shall be determined by the licensee."

Compliance:

The top level interim SPDS display shown on Attachment 1 presents the entry condition parameters with their current value and alarm status. The parameters presented on the top level interim SPDS display are as follows:

- 1) Reactor Power (APRM's)
- 2) Scram Status
- 3) MSIV Isolation Command Status
- 4) Reactor Water Level
- 5) Reactor Pressure
- 6) Suppression Pool Temperature
- 7) Suppression Pool Level
- 8) Drywell Pressure
- 9) Drywell Temperature

The interim RPV Control Display (Attachment 2) presents the following parameters:

- 1) Reactor Power (APRM's)

- 2) Reactor Water Level
- 3) Reference Leg Temperatures
- 4) Reactor Pressure
- 5) Reactor Pressure Vessel Temperatures

The interim Containment Control Display (Attachment 3) presents the following parameters:

- 1) Suppression Pool Temperature
- 2) Suppression Pool Level
- 3) Drywell Pressure
- 4) Drywell Temperature
- 5) Wetwell Pressure

The display shown on Attachment 4 provides safety relief valve status information.

The displays shown on Attachments 5 through 11 provide Containment Isolation Valve status and Isolation Command status.

The Radioactivity Control function of the SPDS is provided by the Radiation Meteorological Monitoring System (RMMS) as described in the Limerick SER, Supplement 3, Section 18.2.3.

In summary, the parameters displayed on the interim SPDS displays are sufficient to provide information to control room personnel about the plant functions required by NUREG-0737, Supplement 1, Section 4.1.f. The parameters selected for the interim SPDS displays are consistent with the SPDS Safety Parameters identified in Table 1 of Section 18.2 of Supplement 3 to the Limerick SER.

#### IV. Implementation Status of GE ERIS SPDS

GE has advised PECO that the generic ERIS Validation Tests to be performed at GE's San Jose, CA, facility are now scheduled to be completed in March 1985 with a test report on the results issued to the NRC by GE in April 1985.

The results of this test program must be reviewed and system modifications made as required prior to release of the GE ERIS SPDS Displays for use by the operators.

The ERFDS hardware installation is complete at the Limerick site. ERFDS software and GE ERIS SPDS display formats are loaded into the system and have undergone site installation testing. Software problems have been identified and documented and are in the process of being resolved by General Electric.

Calibration of the input signals into ERFDS required to support the GE ERIS SPDS Displays will be complete by April 1, 1985.

Validation activities are in progress at the Limerick site to validate the numerous Limerick specific constants, composed point logics, (eg. event targets) and parameter validation algorithms which are required to support the General Electric ERIS SPDS displays. A portion of these activities involves exercising and testing the parameter validation algorithms and composed point logics at plant operating conditions above 5% power. This process also includes reasonableness checks comparing the GE ERIS SPDS display data with hardwired plant instrumentation. This validation process will be performed during the Power Ascension Test Program. The GE ERIS SPDS Displays will be released for use by the operators when all Validation testing is complete.

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Attachments

References: 1) J. S. Kemper to A. Schwencer letter dated  
September 2, 1983

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## CRITICAL PLANT VARIABLES

APRM ' S	A	***** %	ALL CONTROL RODS NOT FULL IN	AUTO SOURCE	RPS A: NO
	B	***** %			
	C	***** %	1A VALVE ISOLATION COMMAND: NO		RPS B: NO

<u>PARAMETER</u>	<u>VALUE</u>	<u>ENTRY CONDITION</u>
REACTOR WATER LEVEL A (WIDE RANGE)	40 IN	<-38 IN
REACTOR PRESSURE B (UPSET RANGE)	913.4 PSIG	-
SUPPRESSION POOL TEMPERATURE B	76.7 DEG,F	>95 DEG,F
SUPPRESSION POOL LEVEL A	22.52 FEET	22>FT>24.25
DRYWELL PRESSURE (NARROW RANGE)	0.85 PSIG	>2 PSIG
DRYWELL TEMPERATURE A	81.0 DEG,F	>135 DEG,F

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## RPV CONTROL

APRM

A \*\*\*\*\* %

D \*\*\*\*\* %

B \*\*\*\*\* %

E \*\*\*\*\* %

C \*\*\*\*\* %

F \*\*\*\*\* %

REACTOR WATER LEVELVALUEREFERENCE LEG TEMP

NARROW RANGE A (0 TO +60)

34.41 IN

E1698 136.47 DEG, F

UPSET RANGE (0 TO +180)

39.00 IN

E1699 149.94 DEG, F

SHUTDOWN RANGE (0 TO +400)

36.66 IN

E1700 121.92 DEG, F

WIDE RANGE A (-150 TO +60)

39.36 IN

E1701 150.15 DEG, F

WIDE RANGE B (-150 TO +60)

32.93 IN

E1702 115.58 DEG, F

FUEL ZONE A (-350 TO -100)

-99.95 IN

REACTOR PRESSURERPV TEMP

NARROW RANGE

913.98 PSIG

RECIRC A

115.11 DEG, F

UPSET RANGE A

892.06 PSIG

RECIRC B

156.03 DEG, F

UPSET RANGE B

911.98 PSIG

RPV BOTTOM DRAIN

521.91 DEG, F

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# CONTAINMENT CONTROL

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## SUPPRESSION POOL TEMPERATURE

A 77.74 DEG,F

B 76.54 DEG,F

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## SUPPRESSION POOL LEVEL

A 22.492 FEET

B 23.215 FEET

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## DRYWELL PRESSURE

WIDE RANGE A 1.354 PSIG

WIDE RANGE B 1.139 PSIG

NARROW RANGE 0.704 PSIG

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## DRYWELL TEMPERATURE

A 80.92 DEG,F

B 108.24 DEG,F

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## WETWELL PRESSURE

B 1.640 PSIG

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DISPLAY #3

LGS 000

25-FEB-1985

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## SRV STATUS

VALUE	STATUS	ADS VALUE
PSU41-F013A	CLOSED	
PSU41-F013B	CLOSED	
PSU41-F013C	CLOSED	
PSU41-F013D	CLOSED	
PSU41-F013E	CLOSED	X
PSU41-F013F	CLOSED	
PSU41-F013G	CLOSED	
PSU41-F013H	CLOSED	X
PSU41-F013J	CLOSED	
PSU41-F013K	CLOSED	X
PSU41-F013L	CLOSED	
PSU41-F013M	CLOSED	X
PSU41-F013N	CLOSED	
PSU41-F013S	CLOSED	X

PHILADELPHIA ELECTRIC COMPANY      DISPLAY #4      LIMERICK   0 0 0      11-MAR-1985 15:30:13

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## GROUP I ISOLATION VALVES

GROUP	ISOLATION COMMAND	VALVE	POSITION
IA	NO	HV41-1F022A	NOT CLOSED
		HV41-1F022B	NOT CLOSED
		HV41-1F022C	NOT CLOSED
		HV41-1F022D	NOT CLOSED
		HV41-1F028A	NOT CLOSED
		HV41-1F028B	NOT CLOSED
		HV41-1F028C	NOT CLOSED
		HV41-1F028D	NOT CLOSED
	NO	HV41-1F016	NOT CLOSED
	NO	HV41-1F019	NOT CLOSED
IB	NO	HV43-1F019	CLOSED
		HV41-1F084	CLOSED
	NO	HV43-1F020	CLOSED
		HV41-1F085	CLOSED

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## GROUP II ISOLATION VALVES

GROUP	ISOLATION COMMAND	VALVE	POSITION
IIA	YES	HV51-1F009	CLOSED
		HV51-1F022	CLOSED
		HV51-151A	CLOSED
		HV51-151B	CLOSED
	YES	HV51-1F008	CLOSED
		HV51-1F023	CLOSED
		HV51-1F015A	CLOSED
		HV51-1F015B	CLOSED
IIC	NO	HV51-130	NOT CLOSED
	NO	HV51-131	NOT CLOSED

## 206 GROUP III, IV, V ISOLATION VALVES

GROUP	ISOLATION COMMAND	VALUE	POSITION
III	NO	HV44-1F001	NOT CLOSED
	NO	HV44-1F004	NOT CLOSED
IV	NO	HV55-1F003 HV55-1F100 HV55-1F042	NOT CLOSED CLOSED CLOSED
	NO	HV55-1F002	NOT CLOSED
V	NO	HV49-1F008 HV49-1F076	NOT CLOSED CLOSED
	NO	HV49-1F007	NOT CLOSED

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## GROUP VIA, VIB ISOLATION VALVES

GROUP	ISOLATION COMMAND	VALUE	POSITION
VIA		HV57-112	CLOSED
		HV57-115	CLOSED
		HV57-121	CLOSED
		HV57-123	CLOSED
		HV57-131	CLOSED
		HV57-147	CLOSED
		HV57-104	CLOSED
		HV57-109	CLOSED
		HV57-114	CLOSED
		HV57-124	CLOSED
		HV57-135	CLOSED
VIB		HV57-117	CLOSED
		HV57-118	CLOSED
		HV57-105	CLOSED
		HV57-111	CLOSED



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## GROUP VIC ISOLATION VALVES




DISPLAY #9 LGS 0 0 0  
25-FEB-1985 15:17:46

GROUP	ISOLATION COMMAND	VALVE	POSITION
VI-C	NO	SU57-133	NOT CLOSED
		SU57-183	NOT CLOSED
		SU57-191	NOT CLOSED
	NO	SU57-162	CLOSED
		SU26-190A	NOT CLOSED
		SU26-190C	NOT CLOSED
		SU57-184	NOT CLOSED
		SU57-185	NOT CLOSED
		SU57-186	NOT CLOSED
		SU57-190	NOT CLOSED
		SU57-195	NOT CLOSED
	YES	HV57-161	CLOSED
		SU57-181	CLOSED
		SU57-134	NOT CLOSED
		SU57-132	NOT CLOSED
		SU57-150	NOT CLOSED
		SU26-190B	NOT CLOSED
	YES	SU26-190D	NOT CLOSED
		HV57-163	CLOSED
		HV57-164	CLOSED
		HV57-116	CLOSED
		SU57-141	NOT CLOSED
		SU57-142	NOT CLOSED
		SU57-143	NOT CLOSED
		SU57-144	NOT CLOSED
		SU57-145	NOT CLOSED
		SU57-159	NOT CLOSED



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## GROUP VII ISOLATION VALVES

GROUP	ISOLATION COMMAND	VALUE	POSITION
VIIA		HV59-101	NOT CLOSED
		HV59-129A	NOT CLOSED
		HV59-102	NOT CLOSED
		HV59-129B	NOT CLOSED
		HV59-135	NOT CLOSED
VIIB		HV59-131	NOT CLOSED

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DISPLAY #10

LGS 000

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## GROUP VIII ISOLATION VALVES

GROUP	ISOLATION COMMAND	VALVE	POSITION
VIIIA	NO	HV87-122	NOT CLOSED
		HV87-123	NOT CLOSED
		HV87-128	NOT CLOSED
		HV87-129	NOT CLOSED
VIIIB	NO	HV52-127	NOT CLOSED
		HV61-110	CLOSED
		HV61-130	CLOSED
	NO	HV52-128	NOT CLOSED
		HV61-111	CLOSED
		HV61-131	NOT CLOSED

PHILADELPHIA ELECTRIC COMPANY

LIMERICK GENERATING STATION

UNIT 1

DOCKET NO. 50-352

LICENSE NPF-27

ERFDS REG. GUIDE 1.97 DISPLAYS

ERFDS Reg. Guide 1.97 Displays

I. Limerick Safety Evaluation Report (SER)  
Schedule for ERFDS Reg. Guide 1.97 Displays

The schedule in Section 18.2.9 of Supplement 3 to the Limerick SER states that the Emergency Response Facility Data System (ERFDS) Reg. Guide 1.97 displays are to be functional by April 1, 1985.

II. Implementation Status of the ERFDS Reg. Guide 1.97 Displays

The ERFDS Reg. Guide 1.97 Displays that present those Post Accident Monitoring variables in FSAR Table 7.5-3 which are only available on the ERFDS, will be operable and functionally available for use by the operators by April 1, 1985. These displays, hereafter referred to as Type 1, will be available in the Control Room, Technical Support Center (TSC) and Emergency Operations Facility (EOF) on color graphic display consoles driven from the ERFDS computer system.

The remaining ERFDS Reg. Guide 1.97 displays are designed to present the Reg. Guide 1.97 variables which are also displayed via hardwired indicators. The primary purpose of these displays, hereafter referred to as Type 2, is to provide Reg. Guide 1.97 data to the TSC and EOF. These display formats are loaded into the ERFDS computer system and are undergoing testing. The testing of the Type 2 ERFDS Reg. Guide 1.97 displays has been delayed due to GE's ERFDS software debugging activities and the priority necessarily given to the testing and checkout of the interim SPDS displays. These displays will be released for use in the Control Room, TSC, and EOF when all testing is complete. This testing will be completed during the Power Ascension Test Program.

During periods when the color graphic display consoles must be utilized for GE ERIS SPDS testing, the Type 1 Reg. Guide 1.97 displays will be provided on black and white CRT terminals located in the Control Room and TSC. These black and white CRT's are also driven from the ERFDS computer.

III. Compliance with NUREG-0737, Supplement 1

Requirement 6.1.b:

"Provide measurements and indication of Type A, B, C, D, E variables listed in Regulatory Guide 1.97 (Rev. 2)."

Compliance:

Section 7.5 of the Limerick FSAR provides our response to the requirements of Section 6.1.b of NUREG-0737, Supplement 1.

The Type 1 ERFDS Reg. Guide 1.97 displays that present those Post Accident Monitoring variables in FSAR Table 7.5-3 which are only available on the ERFDS, will be operable and functionally available for use by the operators by April 1, 1985.

Requirement 8.2.1.h:

"The following variables shall be available in the TSC:

- i) the variables in the appropriate Table 1 or 2 of Regulatory Guide 1.97 (Rev. 2) that are essential for performance of TSC functions; and
- ii) the meteorological variables in Regulatory Guide 1.97 (Rev. 2) for site vicinity."

Compliance:

The Reg. Guide 1.97 parameters listed on Attachment #1 will be available in the TSC by April 1, 1985 on ERFDS color graphic display consoles. These parameters will be provided by the interim SPDS displays and the Type 1 ERFDS Reg. Guide 1.97 displays.

The meteorological variables will be provided by the Radiation Meteorological Monitoring System (RMMS) CRT terminal in the TSC. This system is now operational in the TSC.

The remaining Reg. Guide 1.97 variables will be available to the TSC through communicators in the Control Room and TSC until the Type 2 displays are released for use. The appropriate communication equipment is in place in the TSC and Control Room and personnel have been trained to acquire this data. This method of data acquisition and communication has been utilized during the plant Emergency Drills performed during the past year, and has been demonstrated to be both effective and not a burden to Control Room personnel.

Requirement 8.4.1.g

"Variables from the following categories that are essential to EOF function shall be available in the EOF:

- i) Variables from the appropriate Table 1 or 2 of Regulatory Guide 1.97 (Rev. 2), and
- ii) the meteorological variables in Regulatory Guide 1.97 (Rev. 2) for site vicinity.

Compliance:

The Reg. Guide 1.97 parameters listed on Attachment #1 will be available in the EOF by April 1, 1985 on the ERFDS color graphic display console. These parameters will be provided by the interim SPDS displays and the Type 1 ERFDS Reg. Guide 1.97 displays.

The meteorological variables will be provided by the Radiation Meteorological Monitoring System (RMMS) CRT terminal in the EOF. This system is now operational in the EOF.

The remaining Reg. Guide 1.97 variables will be available to the EOF through communicators in the Control Room, TSC, and EOF. The appropriate communication equipment is in place in the TSC, EOF, and Control Room and personnel have been trained to acquire this data. This method of data acquisition and communication has been utilized during the plant Emergency Drills performed during the past year, and has been demonstrated to be both effective and not a burden to Control Room personnel.

JJG/1a  
Attachment



Reg. Guide 1.97 Variables Displayed  
on Interim SPDS and Type 1  
ERFDS Reg. Guide 1.97 Displays

1. Reactor Power (APRM's)
2. Scram Status
3. Reactor Water Level
4. Reactor Pressure
5. Suppression Pool Temperature
6. Suppression Pool Level
7. Drywell Pressure
8. Drywell Temperature
9. Wetwell Pressure
10. Drywell Sump Levels
11. North Stack Instrument Room (ARM)
12. Post Accident Sampling Station
13. Safety Relief Valve Status
14. Containment Isolation Valve Status