

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

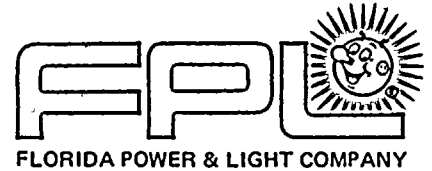
ACCESSION NBR: 8402080405 DOC. DATE: 84/02/03 NOTARIZED: NO ^{MAY} DOCKET #
 FACIL: 50-389 St. Lucie Plant, Unit 2, Florida Power & Light Co. 05000389
 AUTH. NAME AUTHOR AFFILIATION
 WILLIAMS, J.W. Florida Power & Light Co.
 RECIPIENT NAME RECIPIENT AFFILIATION
 EISENHUT, D.G. Office of Nuclear Reactor Regulation, Director

SUBJECT: Forwards sys checkout & functional test rept for qualified safety parameter display sys. Sys tested satisfactorily.

DISTRIBUTION CODE: B001S COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 3
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NOTES:

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	IE/DEPER/EPB 36	3 3	IE/DEPER/IRB 35	1 1
	IE/DQASIP/QAB21	1 1	NRR/DE/AEAB	1 0
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	NRR/DSI/AEB 26	1 1	NRR/DSI/ASB	1 1
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EXTERNAL:	ACRS 41	6 6	BNL (AMDTS ONLY)	1 1
	DMB/DSS (AMDTS)	1 1	FEMA-REP DIV 39	1 1
	LPDR 03	1 1	NRC PDR 02	1 1
	NSIC 05	1 1	NTIS	1 1



February 3, 1984

L-84-27

Office of Nuclear Reactor Regulation
Attention: Mr. Darrell G. Eisenhut, Director
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Eisenhut:

Re: St. Lucie Unit 2
Docket No. 50-389
Condition of License 2.C.17.f.4.

In accordance with Condition of License 2.C.17.f.4., the system checkout and test report for the Qualified Safety Parameter Display System is attached.

Should you or your staff have any questions on this information, please contact us.

Very truly yours,

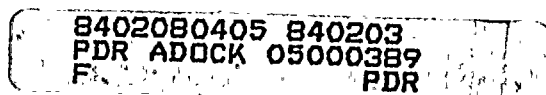
A handwritten signature in cursive script, appearing to read "J.W. Williams, Jr.", is written over the typed name.

J.W. Williams, Jr.
Vice President
Nuclear Energy

JWW/PLP:djc

Attachment

cc: J.P. O'Reilly, Region II, U.S. Nuclear Regulatory Commission
Harold F. Reis, Esquire



Boo!
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QUALIFIED SAFETY PARAMETER DISPLAY SYSTEM
FUNCTIONAL TEST REPORT - PSL-2
(INADEQUATE CORE COOLING INSTRUMENTATION)

The Qualified Safety Parameter Display System (QSPDS) for St. Lucie 2 was functionally tested satisfactorily on May 30, 1983. The entire test was performed using Preoperational Test Procedure Number 2-1240086. The objectives of the QSPDS functional test include the following:

- I. Verification of proper operation of the QSPDS paging system.
- II. Verification of proper data conversion and display on the QSPDS for the Heated Junction Thermocouples (HJTC, reactor vessel level indication), Core Exit Thermocouples (CET), and Subcooled Margin Monitor (SMM).
- III. Verification of proper execution of the QSPDS alarms.
- IV. Verification of proper heater controller output for various HJTC temperatures.

The test acceptance criteria included QSPDS display formatting, as specified by the QSPDS Hardware Manual 13172 ICE 0505, Rev. 0, and proper system operation, as specified by the NSSS Vendor specifications and Instruction Manual.

I. QSPDS Paging System

The QSPDS paging system was operationally tested by displaying all of the system pages. This function was tested via two methods, the Direct Access method, involving individual page selection, and the Sector method. The Sector method provided verification for the paging system display function as well as the programmed system hierarchy. Both the Direct Access and Sector methods demonstrated the proper operation of the QSPDS paging system. All of the established acceptance criteria were met and the test results were determined to be satisfactory.

II. Data Conversion and Display

The QSPDS provides inadequate core cooling indication through the measurement and display of HJTC (reactor vessel level), CET, and SMM data. The operability of this instrumentation was demonstrated by performing a calibration check of all inputs to the QSPDS. Simulated input provided verification of proper system response for normal operating as well as accident conditions. Displayed data was recorded and compared with expected values. All of the established acceptance criteria were met and the test results were determined to be satisfactory.

III. QSPDS Alarms

All of the alarms associated with the QSPDS were verified operable through a simulated input check. Proper display and annunciation on the control room (main station) annunciator board was verified, all of the acceptance criteria were met, and all test results were determined to be satisfactory.



IV. HJTC Heater Controllers

The QSPDS HJTC provide an indication for reactor vessel level. Proper operation of this system is dependent upon proper heater controller output. The HJTC inputs were simulated over a range of temperatures thereby providing verification of proper heater controller operation. All of the acceptance criteria for this test were met and all of the test results were determined to be satisfactory.

In summary, the QSPDS installed for St. Lucie Unit-2 was functionally tested satisfactorily. All of the acceptance criteria for each test were met and all of the testable instrumentation and equipment was determined to be operable as defined by the QSPDS design specifications.

During the initial operation and testing of the QSPDS HJTC probes, it was noted that electromagnetic interference was present. The interference source was determined to be emanating from the heater controller leads. The interference caused an excessive amount of noise within the HJTC input circuitry. The heaters for the HJTC probes were subsequently deenergized. Vendor modifications, providing signal conditioning of the thermocouple inputs, were installed, thereby eliminating the excessive noise problem. The equipment was returned to service on June 13, 1983.

The HJTC probes, use to detect reactor vessel level changes, cannot be functionally tested during normal operating conditions. The HJTC probes, however, will be functionally tested during the next scheduled drain down of the reactor coolant system.