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P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

February 14, 1983

NUCLEAR PRODUCTION DEPARTMENT

U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D. C. 20555

Attention: Mr. Harold R. Denton, Director

Dear Mr. Denton:

SUBJECT: Grand Gulf Nuclear Station
Units 1 and 2
Docket Nos. 50-416 and 50-417
License No. NPF-13
File L-860.0/0756
References: 1. AECM-81/336
2. AECM-82/137
H_2 Igniter Environmental
Qualification Test Results
AECM-83/0047

The Nuclear Environmental Qualification Test Program for the Grand Gulf Nuclear Station (GGNS) Hydrogen Igniters has been successfully completed and the igniter assemblies are considered fully qualified. The qualification program met the requirements of IEEE 323-1974 and NUREG-0588 and complies with the commitments of References 1 and 2.

The attached Nuclear Environmental Test Report and the NUREG-0588 Equipment Evaluation Worksheet with supporting information provide complete documentation on the test program and results.

The successful qualification of the GGNS igniters removes the license condition referenced on page 22-5 of Supplement #3 of the GGNS Safety Evaluation Report. No additional testing for qualification of the igniters is planned.

Should you have any questions concerning either the qualification program or the results, please contact us.

Yours truly,

L. F. Dale
Manager of Nuclear Services

JRH/SHH/JDR:sap
Attachments

cc: (See Next Page)

A048 1/1 Limited Distribution

cc: Mr. N. L. Stampley (w/a*)
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Facility: GRAND GULF NUCLEAR STATION
Unit: 1
Docket No.: 50/416

EQUIPMENT EVALUATION WORKSHEET

SPECIFICATION NUMBER: 9645-M-198.0

NOTE: ALL REFERENCES ARE FOR QUALIFICATION REPORT (A-516-82) UNLESS OTHERWISE NOTED.

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCE		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPECIFICATION	QUALIFICATION		
SYSTEM: COMBUSTIBLE GAS CONTROL SYSTEM (E-61) PLANT ID. NO.: E61-D106 THROUGH E61-D195 COMPONENT: HYDROGEN IGNITOR MANUFACTURER: POWER SYSTEMS DIV. MORRISON KNUDSEN CO., INC. MODEL NO.: N/A FUNCTION: TO LIMIT HYDROGEN CONCENTRATION IN DRYWELL AND CONTAINMENT ACCURACY: N/A SPEC: DEMON: SERVICE: HYDROGEN CONTROL LOCATION: THROUGHOUT DRYWELL AND CONTAINMENT	OPERATING TIME	7 DAYS	7 DAYS PLUS A CONSERVATIVE MARGIN OF 32%	SPEC M-198.0 REV. 6 PARA. 6.13.2.4	NEQR A-516-82 APPENDIX I PAGE II-12	BY TEST	NONE
	TEMPERATURE (oF)	330 F (MAX.)	330 F	SEE INTRO. FIG. B-10	NEQR A-516-82 APPENDIX I PAGE II-17		
	PRESSURE (PSIA)	MAX. 44.7 PSIA MIN. 0.77 PSIA	MAX. 84.7 PSIA MIN. 1.5 PSIA	SEE INTRO. FIG. B-9a AND FIG. B-9b	NEQR A-516-82 APPENDIX I PAGE II-18 AND II-19		SEE CHECK SHEET SUPPLEMENT ITEM 6
	RELATIVE HUMIDITY (%)	100%	100%	SEE INTRO. FIG. B-6	NEQR A-516-82 APPENDIX I PAGE II-2		NONE
	FLOODING / FROTH	SEE INTRO. TABLE B-5	SUBMERGENCE TEST HAS BEEN PERFORMED AS PART OF QUALIFICATION	SEE INTRO. TABLE B-5	NEQR A-516-82 APPENDIX G		
	RADIATION (RADS)	GAMMA $1.7X10^7$ BETA $1.3X19^9$	GAMMA $5.0X10^7$ BETA $1.18X10^9$	SEE INTRO. FIG. B-34 AND FIG. B-38	NEQR A-516-82 APPENDIX C		SEE CHECK SHEET SUPPLEMENT ITEM 2
	AGING	40 YEARS	40 YEARS (SEE ITEM 4)	NEQP A-409-81-01	NEQR A-516-82 PAGE 26		NONE
FLOOD LEVEL ELEV.: SEE INTRO. TABLE B-5 ABOVE FLOOD LEVEL: YES / NO X SEE CHECK SHEET SUPPL. ITEM 3	CONTAINMENT SPRAY	1 GPM PER SQUARE FOOT FOR 12 DAYS	1 GPM PER SQUARE FOOT FOR 7 DAYS (SEE ITEM 5)	SEE INTRO. TABLE B-5	NEQR A-516-82 APPENDIX I PAGE II-4		

Exhibit F 5/81

EQUIPMENT IS QUALIFIED TO NUREG-0588 | EQUIPMENT IS NOT QUALIFIED TO NUREG-0588

Paul J. Kochis 1/10/83
BECHTEL/DATE

MP&L/DATE 3/11/83

BECHTEL/DATE

MP&L/DATE

NEEQ 2-24/83-64

Attachment 1
AECM-83/0047
Page 1 of 1

Summary of Results

Specification: 9645-M-198.0

Page 1 of 1

Component: Hydrogen Ignitor

Manufacturer: Power Systems

The qualification test for hydrogen ignitors was performed in full accordance with IEEE 323/1974, and adequately enveloped all required test parameters except for the following:

1. The beta radiation dose administered during qualification testing was 1.18×19^9 rad, which is 0.12×10^9 rad short of the 1.3×10^9 rad required by the plant-specific NUREG-0588 curves. The only component exposed to beta radiation is the cover plate gasket. This gasket is 1/8 inch thick and about 1 inch wide and oriented so that only the edge is exposed to beta radiation. Due to the slight amount of penetration by beta into the gasket, the function of the gasket will not be affected.

2. During the post-LOCA test, power outages and boiler control system anomalies caused the temperature in the chamber to drop below the specified temperature of 250 F. Since the post-LOCA profile begins at 250 F and decreases, margin is available from the over-temperature portions of the test. These boiler outages impose a more severe operating condition on the ignitors due to the thermal cycling effect, and will not affect qualification of the hydrogen ignitors. See qualification worksheet for further details on over-temperature test conditions.

Based on the qualification report, (Report No. A-516-82), the hydrogen ignitors do meet the NUREG-0588 Category I requirements.