



ENTERGY

Entergy Operations, Inc.
P.O. Box 8
Kilona, LA 70066-0751
Tel 504 739 6661

Ross P. Barkhurst
Vice President, Operations
Waterford 3

W3F1-93-0075
A4.05
PR

October 15, 1993

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Subject: Waterford 3 SES
Docket No. 50-382
License No. NPF-38
Technical Specification Change Request NPF-38-139

Gentlemen:

The purpose of this letter is to request the deletion of T.S. 3.6.4.2 and its associated bases T.S. 3/4.6.4 from the Waterford 3 license. This T.S. amendment will eliminate the requirements to maintain operational and test the hydrogen recombiners. The hydrogen recombiners will remain physically in the plant, but the system will not be maintained operational, nor will it be tested. The 10CFR50.92 evaluation is herein provided.

This letter should be considered in conjunction with Waterford 3 letter W3F1-93-0073 which provides the detailed justification for the elimination of the hydrogen recombiners, and which establishes the basis for an exemption to 10CFR50.44 and 10CFR50, Appendix A, criterion 41.

On May 4 at the annual Regulatory Information Conference, Dr. Murley announced a pilot program, Cost Beneficial Licensing Action Initiative (CBLA), established by NRR to give special consideration to licensee requests for changes requiring staff review that involve high cost and low safety benefit. In response to Dr. Murley's initiative, Entergy Operations met with NRR staff on June 8, 1993, to present an initial list of CBLAs. As discussed on June 8, 1993, the proposed change to eliminate the requirements associated with the hydrogen recombiners is being submitted under the CBLA program.

190037

9310200257 931015
PDR ADOCK 05000382
P PDR

A001
!!!

Technical Specification Change Request NPF-38-139

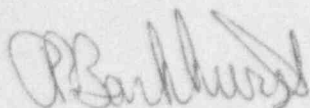
W3F1-93-0075

Page 2

October 15, 1993

Please contact me or Robert J. Murillo should there be any questions regarding this matter.

Very truly yours,



R.P. Barkhurst
Vice President, Operations
Waterford 3

RPB/RJM/dc

Attachment: Affidavit
NPF-38-139

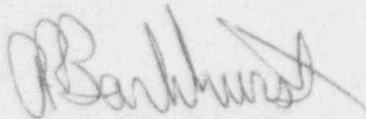
cc: J.L. Milhoan, NRC Region IV
D.L. Wigginton, NRC-NRR
R.B. McGehee
N.S. Reynolds
NRC Resident Inspectors Office
Administrator Radiation Protection Division
(State of Louisiana)
American Nuclear Insurers

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the matter of)
)
Entergy Operations, Incorporated) Docket No. 50-382
Waterford 3 Steam Electric Station)

AFFIDAVIT

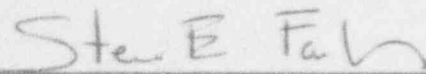
R.P. Barkhurst, being duly sworn, hereby deposes and says that he is Vice President Operations - Waterford 3 of Entergy Operations, Incorporated; that he is duly authorized to sign and file with the Nuclear Regulatory Commission the attached Technical Specification Change Request NPF-38-139; that he is familiar with the content thereof; and that the matters set forth therein are true and correct to the best of his knowledge, information and belief.



R.P. Barkhurst
Vice President Operations - Waterford 3

STATE OF LOUISIANA)
) ss
PARISH OF ST. CHARLES)

Subscribed and sworn to before me, a Notary Public in and for the Parish and State above named this 15TH day of OCTOBER, 1993.



Notary Public

My Commission expires WITH LIFE.

DESCRIPTION AND SAFETY ANALYSIS
OF PROPOSED CHANGE NPF-38-139

This proposed change deletes Technical Specification (TS) 3.6.4.2 and its associated bases 3/4.6.4 from the Waterford 3 license. This proposed change is submitted in conjunction with a specific exemption request to 10CFR50.44 and 10CFR50, Appendix A, criterion 41, reference Waterford 3 letter W3F1-93-0073.

Existing Specification

See Attachment A

Proposed Specification

See Attachment B

Deletion of T.S. 3.6.4.2.

Deletion of T.S. 3/4.6.4.

Description

The hydrogen recombiners were provided in accordance with 10CFR50.44 and 10CFR50, Appendix A, criterion 41 to be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit is capable of controlling the hypothetical hydrogen generation during a DBA associated with (1) zirconium water reactions, (2) radiolytic decomposition of water, and (3) corrosion. The hydrogen control systems are consistent with the recommendations of Regulatory Guide 1.7, March 1971. The licensing basis for the hydrogen recombiners is described in FSAR section 6.2.5.

This proposed change will eliminate the requirements to maintain operational and test the hydrogen recombiners. The hydrogen recombiners will remain physically in the plant, but the system will not be maintained operational, nor will it be tested. The regulatory and technical justification is documented in the specific exemption request, reference Waterford 3 letter W3F1-93-0073.

The exemption request is in compliance with sections (a)(2)(ii), (a)(2)(iv) and (a)(2)(vi) of 10CFR50.12. The exemption request demonstrates that: the underlying purpose of the regulation is achieved [(a)(2)(ii)], there is a benefit to the public health and safety [(a)(2)(iv)], and there are present material circumstances not considered when the regulation was adopted [(a)(2)(vi)].

DESCRIPTION AND SAFETY ANALYSIS
OF PROPOSED CHANGE NPF-38-139
Page 2

The technical justification is predicated on the following technical bases:

1. Short term post LOCA hydrogen generation is less than 1%, well below the 4% hydrogen flammability limit.
2. Long term post LOCA hydrogen generation at 30 days is about 5.7% which is less than the flame propagation limit of 6%, which according to Regulatory Guide 1.7 would not result in effects adverse to containment systems. A time period of 30 days would provide ample time within which to mobilize resources and to implement long term recovery actions, such as containment venting, for example, by using the Containment Atmosphere Release System, (CARS).
3. Waterford 3 analyses establish that a hydrogen burn at 8.1% hydrogen concentration, following a design basis LOCA without long term hydrogen control would produce a peak pressure of 31.0 psig which is below the containment design pressure of 44 psig. A hydrogen concentration of 8.1% envelops the TMI burn which occurred at about 7 to 8% hydrogen concentration, reference seven (7), and produced a peak pressure of 28 psig. The pressure resulting from the hydrogen burn, 31.0 psig, is also below the Waterford 3 limiting design basis accident (MSLB) peak pressure of 43.6 psig. The actual containment failure pressure for Waterford 3 is expected to be in the range of 2.5 to 3.0 times the containment design pressure based on containment failure pressures for containment designs similar to Waterford 3.
4. Recombiners have a negligible impact on reducing hydrogen generation from severe accidents. Accordingly, removing the hydrogen recombiners has a negligible impact on severe accident risks.

Safety Analysis

The proposed change described above shall be deemed to involve a significant hazards consideration if there is a positive finding in any of the following areas:

1. Will operation of the facility in accordance with this proposed change involve a significant increase in the probability or consequences of any accident previously evaluated?

Response: No

Short term post LOCA hydrogen generation is less than 1%, well below the 4% hydrogen flammability limit. Long term post LOCA hydrogen generation at 30 days is about 5.7% which is less than the flame propagation limit of 6% which according to Regulatory Guide 1.7 would not result in effects adverse to containment systems. A time period of 30 days would provide ample time within which to mobilize resources and to implement long term recovery actions, such as containment venting, for example, by using the Containment Atmosphere Release System, (CARS). Waterford 3 analyses establish that a hydrogen burn at 8.1% hydrogen concentration, following a design basis LOCA without long term hydrogen control would produce a peak pressure of 31.0 psig which is below the containment design pressure of 44 psig. A hydrogen concentration of 8.1% envelops the TMI burn which occurred at about 7 to 8% hydrogen concentration, reference seven (7), and produced a peak pressure of 28 psig. The pressure resulting from the hydrogen burn, 31.0 psig, is also below the Waterford 3 limiting design basis accident (MSLB) peak pressure of 43.6 psig. The actual containment failure pressure for Waterford 3 is expected to be in the range of 2.5 to 3.0 times the containment design pressure based on containment failure pressures for containment designs similar to Waterford 3. Recombiners have a negligible impact on reducing hydrogen generation from severe accidents. Accordingly, removing the hydrogen recombiners has a negligible impact on severe accident risks. Thus, there is significant assurance the proposed change will not involve a significant increase in the probability or consequences of any accident previously evaluated.

2. Will operation of the facility in accordance with this proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

The proposed change will not alter the configuration or operation of any other plant system or component. The change does not involve any change to the operational or design limits of any other plant systems or components. Thus, no new failure modes are introduced or associated with the proposed change. Therefore, the proposed change will not create the possibility of a new or different kind of accident previously evaluated.

3. Will operation of the facility in accordance with this proposed change involve a significant reduction in a margin of safety?

The proposed change will have no adverse impact on the protective boundaries, safety limits, or margin of safety. There are no limits or margins of safety being revised for any systems, components, or protective boundaries. Therefore, the proposed change will not involve a significant reduction in a margin of safety.

Safety and Significant Hazards Determination

Based on the above safety analysis, it is concluded that: (1) the proposed change does not constitute a significant hazards consideration as defined by 10CFR50.92; and (2) there is reasonable assurance that the health and safety of the public will not be endangered by the proposed change; and (3) this action will not result in a condition which significantly alters the impact of the station on the environment as described in the NRC final environmental statement.