

August 20, 1990

Docket No. 50-461

Mr. Frank A. Spangenberg
Manager - Licensing and Safety
Clinton Power Station
P.O. Box 678
Mail Code V920
Clinton, Illinois 61727

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Dear Mr. Spangenberg:

SUBJECT: CLINTON POWER STATION HYDROGEN CONTROL FINAL ANALYSIS REQUIRED BY
10 CFR 50.44 (TAC NO. 62988)

The NRC staff has completed its review of the Mark III Containment Hydrogen Control Owners Group (HCOG) Topical Report HGN-112-NP. Enclosed is a copy of the staff's Safety Evaluation Report (SER) transmitted to HCOG by letter dated August 6, 1990.

By letter dated August 24, 1987, you committed to provide, within 6 months of SER issuance, the final analysis of the Clinton Power Station combustible gas control system required by 10 CFR 50.44. Accordingly, you are requested to provide the final analysis by March 1, 1991, addressing each of the key elements identified in the staff's SER, Section 8.0.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

Sincerely,

JS

John B. Hickman, Project Manager
Project Directorate III-3
Division of Reactor Projects III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/enclosure:
See next page

OFC	:LA:PD3/3:DRSP	:PM:PD3/3:DRSP	:D:PD3/3:DRSP	:	:	:
NAME	:PKREUTZER	:JHICKMAN/bj	:JHANNON	:	:	:
DATE	:8/16/90	:8/20/90	:8/20/90	:	:	:

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Sincerely,

/s/

John B. Hickman, Project Manager
Project Directorate III-3
Division of Reactor Projects I, II,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/enclosure:
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Mr. Frank A. Spangenberg
Illinois Power Company

Clinton Power Station
Unit 1

cc:

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Vice President
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

August 6, 1990

Mr. J. R. Langley
Project Manager, Mark III Containment
Hydrogen Control Owners Group (HLOG)
c/o Gulf States Utilities
North Access Road at Highway 61
St. Francisville, LA 70775

Dear Mr. Langley:

SUBJECT: ACCEPTANCE FOR REFERENCING OF LICENSING TOPICAL REPORT TITLED,
"GENERIC HYDROGEN CONTROL INFORMATION FOR BWR-6 MARK III
CONTAINMENTS", HGN-112-NP

We have completed our review of the subject topical report submitted by your letter dated February 23, 1987.

We find the report acceptable for referencing in licensee analyses of hydrogen control systems for BWR Mark III containments under the limitations delineated in the report and its references and the associated NRC evaluation, which is enclosed. The evaluation defines the basis for acceptance of the report.

Furthermore, each licensee should provide a plant-specific analysis and an assessment of the need for an independent power supply for the hydrogen ignition system. The plant-specific analysis may use test data described in the topical report to confirm that the equipment necessary to establish and maintain safe shutdown and to maintain containment integrity will be capable of performing their functions during and after exposure to the environmental conditions created by the hydrogen in all credible severe accident scenarios.

Recent risk studies reported in NUREG-1150 have shown that the overall core melt frequency for one Mark III plant (the Grand Gulf Nuclear Station) is very low, i.e., $1E-6$ /year. However, a potential vulnerability for Mark III plants involves station blackout (SBO), during which the igniters would be inoperable; and this condition appears to dominate the residual risk from severe accident in the Mark III plants. Under SBO conditions, a detonable mixture of hydrogen could develop which could be ignited upon restoration of power resulting in loss of containment integrity. On the basis of a separate evaluation of this possibility in the context of the NRC staff Containment Performance Improvement (CPI) program, the staff has recommended that the vulnerability to interruption of power to the hydrogen igniters be evaluated further on a plant-specific basis as part of the Individual Plant Examinations (IPEs) of the Mark III plants. The staff has requested that the licensees consider this issue as part of the IPE in Generic Letter 88-20, Supplement 3.

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July 27, 1990

Mr. J. R. Langley

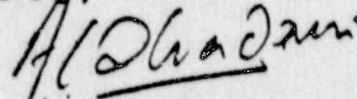
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We do not intend to repeat our review of the matters described in the report and found acceptable when the report is referenced in licensee requests for approval of final analyses of the hydrogen control system, except to ensure that the material presented is applicable to the specific plant involved. Our acceptance applies only to the matters described in the report and its references.

In accordance with procedures established in NUREG-0390, we request that HCOG submit to the NRC accepted versions of this report within three months of receipt of this letter. The accepted versions should incorporate this letter and the enclosed evaluation between the title page and the abstract. The accepted versions should also incorporate as appendices those references used as a basis for the staff's evaluation. The accepted version should include an -A (designating accepted) following the report identification number. Your submittal should include an application for withholding the proprietary information accompanied by an affidavit meeting the requirements of 10 CFR 2.790(b). This final report submittal should also include a non-proprietary version of the proprietary reports referenced and incorporated in the approved topical report and intended to be employed as a part of a licensee application.

Should our criteria or regulations change such that our conclusions as to the acceptability of the report are invalidated, HCOG and/or the licensees referencing the topical report will be expected to revise and resubmit their respective documentation, or submit justification for the continued effective applicability of the topical report without revision of their respective documentation.

Sincerely,



Ashok C. Thadani, Director
Division of Systems Technology
Office of Nuclear Reactor Regulation