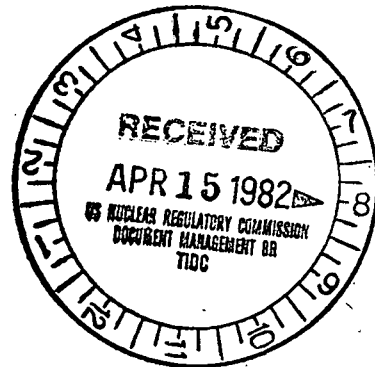


April 13, 1982

Docket No. 50-237
LS05-82-04-035



Mr. L. DelGeorge
Director of Nuclear Licensing
Commonwealth Edison Company
Post Office Box 767
Chicago, Illinois 60690

Dear Mr. DelGeorge:

SUBJECT: SEP TOPIC III-7.D, CONTAINMENT STRUCTURAL INTEGRITY TEST
DRESDEN NUCLEAR POWER STATION UNIT 2

Enclosed is a copy of our final evaluation of SEP Topic III-7.D. This evaluation compares your facility as described in the Safety Analysis Report you supplied on April 27, 1981 and other information on Docket No. 50-237 with criteria used by the staff for licensing new facilities. The evaluation concludes that the structural integrity test performed compares favorably with current criteria.

This evaluation will be a basic input to the integrated assessment of your facility and may be changed in the future if your facility design is changed or if NRC criteria relating to this topic is modified before the integrated assessment is completed.

Sincerely,

Original signed by:

Paul O'Connor, Project Manager
Operating Reactors Branch No. 5
Division of Licensing

Enclosure:
As stated

cc w/enclosure:
See next page

*SE04
S/11* Add: *Gary Staley
Greg Cwalina*

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SURNAME	DPersinko:bl	RHermann	WRussell	PO'Connor	DCrutchfield	GLainas
DATE	4/9/82	4/6/82	4/7/82	4/4/82	4/6/82	4/9/82

Mr. L. DelGeorge

cc
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Federal Activities Branch
Region V Office
ATTN: Regional Radiation Representative
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James G. Keppler, Regional Administrator
Nuclear Regulatory Commission, Region III
799 Roosevelt Street
Glen Ellyn, Illinois 60137

ENCLOSURE 1
DRESDEN STATION, UNIT 2
SEP TOPIC III-7.D
ASSESSMENT OF CONTAINMENT STRUCTURAL
INTEGRITY TEST

I. INTRODUCTION

The structural integrity test procedure and test results for the Dresden, Unit 2 containment were evaluated in comparison to current criteria for such tests. The purpose of the evaluation was to verify that the containment structural integrity test was in compliance with the current requirements of 10 CFR 50 thus providing assurance that the structure will perform its intended safety function.

II. REVIEW CRITERIA

References:

- A. 10 CFR 50, Appendix A
- B. ASME Boiler and Pressure Vessel Code, Section III, Division I, Subsection NE, Article NE6000, 1980 edition.
- C. NRC Standard Review Plan Section 3.8.2
- D. Dresden 2 SAR for SEP Topic III-7.D forwarded to NRC staff, April 27, 1981.
- E. Original Test Report for Dresden 2, forwarded to NRC staff August 5, 1980.

References A, B, and C outline current criteria for conducting and evaluating containment structural integrity tests. References D and E describe the tests actually conducted at the Dresden 2 plant.

III. RELATED TOPICS AND INTERFACES

SEP Topic VI-3 "Containment Pressure and Heat Removal Capability" will provide an assessment of the adequacy of the original design pressure for this containment. The evaluation described herein is based on the original design and test pressure loading for the containment as described in references D and E.

IV. REVIEW GUIDELINES

The test procedure and results were compared with current NRC criteria for such tests in order to determine if any significant deviations existed.

V. EVALUATION

The Mark I containment vessel of the Dresden Station Unit 2 is a Class B vessel which was designed, fabricated, inspected, and N-stamped in accordance with the requirements of the ASME Boiler and Pressure Vessel Code, Section III, 1965 Edition including the Summer 1965 Addenda. The containment vessel consists of a drywell, suppression chamber, and interconnecting vent system.

The containment was constructed of SA212, Grade B Firebox quality steel. This material specification no longer exists and has since been replaced by SA516, Grade 70, Carbon steel.

The design of the containment was based on the following material properties:

Ultimate strength = 70 ksi
Yield strength = 38 ksi

The stress allowables are based on the requirements of the ASME Code, Section III, Article 13, 1965 Edition.

A pneumatic test was conducted at a maximum pressure of 71.3 psig which is 1.15 times the design pressure of 62 psi. For this test, the suppression chamber was filled with water up to mid-height. The maximum pressure was held for one hour. Based on a recent review, it has been determined that the structural integrity test was conducted in accordance with the requirements of:

ASME Boiler and Pressure Vessel Code, Section III, Subsection B, 1965 Edition including the Summer 1965 Addenda,

the Sargent & Lundy Specification K-2152, and

the constructor's (Chicago Bridge & Iron) design criteria.

The test was certified on the N-1 Form, (manufacturer's data report for nuclear vessels) by the authorized inspector, and included in the Dresden Units 2 & 3 FSAR, Appendix C.

In accordance with ASME Section III, Division 1, Article NE-6000, 1980 Edition including Winter 1980 Addenda, the minimum required pneumatic test pressure is 1.10 times the design pressure of the vessel. If applied to the Dresden Station Unit 2 containment, the test pressure would be 68.2 psig which is less than what the containment vessel was tested for originally.

The stress allowables permitted for the structural integrity pressure test load case, in accordance with the current NRC acceptance criteria and the present ASME Boiler and Pressure Vessel Code, are higher than that permitted by the original construction specifications.

VI. CONCLUSIONS

Based on the review of the original structural integrity test (as outlined above) in comparison with current test criteria it is considered that the test was satisfactory and thus demonstrated that the structure is capable of performing its intended safety function.