

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

September 21, 1984

Director of Nuclear Reactor Regulation
Attention: Ms. E. Adensam, Chief
Licensing Branch No. 4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Ms. Adensam:

In the Matter of) Docket Nos. 50-327
Tennessee Valley Authority) 50-328

In accordance with 10 CFR 50.55(a), enclosed is a request for relief and a justification for the relief of the hydrostatic test requirements of Section XI of the ASME Code. The relief is being requested as a result of TVA's plans to provide an ERCW piping interface between the existing Diesel Generator Building, Turbine Building, and the proposed fifth diesel generator during the unit 2, cycle 2 refueling outage.

By my October 13, 1982 letter to you, we requested relief from ASME Section XI hydrostatic test requirements following the replacement of portions of carbon steel piping in the ERCW system. NRC subsequently approved the relief request to delay the hydrostatic test until January 1986, as documented in the December 23, 1982 letter from T. M. Novak to H. G. Parris. An expeditious review of this request is needed to support the forthcoming unit 2, cycle 2 refueling outage scheduled to begin September 22, 1984.

If you have any questions concerning this matter, please get in touch with Jerry Wills at FTS 858-2683.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills
L. M. Mills, Manager
Nuclear Licensing

Sworn to and subscribed before me
this 21st day of Sept 1984

Paulette N. White
Notary Public
My Commission Expires 8-24-88

Enclosure

cc: U.S. Nuclear Regulatory Commission (Enclosure)
Region II
Attn: Mr. James P. O'Reilly Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

DRAWINGS TO PM

*A047
1/1*

8409270107 840921
PDR ADOCK 05000327
P PDR

ENCLOSURE
REQUEST FOR RELIEF

Components

ERCW Piping

Installation by welding of additional ERCW piping to the existing 14-inch ERCW supply line and existing diesel generator piping.

1. Fourteen-inch ERCW supply line 1-A (buried pipe). Installation welds: two welds (30982 and 30988), 14- by 14-inch tee on main supply header, and one weld (30987) approximately 10 feet back to tie piping in with existing diesel generator piping (see attached drawing).
2. Fourteen-inch ERCW supply line 1-B (buried pipe). Installation welds: two welds (30975 and 30976), 14- by 14-inch tee on main supply header, and one weld (30977) approximately 10 feet back to tie piping in with existing diesel generator piping (see attached drawing).

Class

TVA Safety Class C; ANSI B31.7, Class 3.

Function

To provide an interface between existing diesel generator building, turbine building, and new fifth diesel generator (ERCW piping).

Inspection Requirements

ASME Section XI, 1980 Edition, Summer 1981 Addenda, Subarticles IWD-7200, IWB-7400 IWA-4600, IWA-4400, and ASME Section XI, 1977 Edition, Summer 1978 Addenda, paragraphs IWA-5214 and IWD-5223 require that replacement piping greater than 1 inch NPS installed by welding be hydrostatically pressure tested before resumption of service at 1.1 times the system pressure, Psv (160 psig) for systems with a design temperature, T_D (130°F) of 200°F or less.

TVA Basis for Relief

TVA will fabricate two sections of pipe (each approximately 10 feet in length) and will hydrostatically test the piping before installation at a pressure of 176 psig. Field installation of the two sections of pipe will include connecting a 14-inch tee on each supply line (total of four welds) and installing each section of pipe with existing diesel generator piping (total of two welds) as identified on the attached drawings. TVA proposes to defer the system hydrostatic pressure test required by previously referenced subarticles of Section XI for the field installation welds until the unit 1 cycle 3 outage, which is currently scheduled for January 1986. This proposal is based on Sequoyah Nuclear Plant Technical Specification 3/4.7.4 and the absence of adequate isolation valves (butterfly valves) as delineated in the following paragraphs.

Because of the design of the ERCW system, the volume of piping involved, the absence of isolation valves, the design of butterfly valves that will not withstand hydrostatic pressures, and the manpower and time required to perform such an involved hydrostatic examination, TVA requests to defer the required hydrostatic for the six field installation welds (three per section of pipe) described above. To perform a hydrostatic pressure test on these 14-inch lines, TVA would be required to pressure test long runs of 14-inch pipe and 24-inch and 30-inch supply headers. These piping streams contain no isolation valves, and the existing butterfly valves are not designed to withstand the hydrostatic pressures. To blank all the butterfly valves and prepare the system for a hydrostatic test would render each loop inoperable several days. Technical Specification 3/4.7.4, Limiting Condition for Operation, states that with only one ERCW loop operable, restore at least two loops to operable status within 72 hours or be in at least hot standby within the next 6 hours and in cold shutdown within the following 30 hours. Therefore TVA feels the involved process of this hydrostatic pressure test is not practical at the present time.

The Construction code of record for the piping in question is ANSI B31.7, 1969 Edition, Summer 1970 Addenda. This code references ANSI B31.1 for Class 3 piping fabrication and installation requirements. Therefore, the fabrication and installation code of record for the subject piping is ANSI B31.1, 1967 Edition, Summer 1970 Addenda. TVA proposes to install the replacements in accordance with the 1977 Edition of ANSI B31.1, which is permissible under paragraph IWA-7110(c) of ASME Section XI, 1980 Edition, Winter 1981 Addenda. The 1977 Edition of ANSI B31.1 requires that installation welds be visually examined and permits an initial service leak test at nominal operating pressure when a hydrostatic pressure test is not practical. However, TVA will perform a liquid penetrant examination of the installation welds as well as performing an initial service leak test at nominal operating pressure. Because TVA will perform more stringent non-destructive examinations than that required by the Construction code, the integrity of the replacement welds is equal to or better than that required by the Construction code.

The difference in pressure between a system hydrostatic pressure test (176 psig) and the system leakage test (110 psig) is not significant when the design temperature (130°F) and the strength of the schedule 40 piping are considered. TVA does not consider this to be a safety issue.

Proposed Alternate Inspection

A system leakage test will be performed after the replacement at nominal operating pressure of approximately 110 psig and in accordance with paragraph IWD-5222 of ASME Section XI, 1977 Edition, Summer 1978 Addenda. In addition, a liquid penetrant examination will be performed on each weld in accordance with ASME Section XI, 1977 Edition, Summer 1978 Addenda. A hydrostatic pressure test will be performed by the end of the unit 1 cycle 3 refueling outage, which is scheduled for January 1986.

LIST OF DRAWINGS

ERCW- 302W R5

ERCW- 305W R7

47W845-1 R19

17W300-30 R9

SEE

APERTURE

CARDS

*OVERSIZED DRAWINGS

(ADDITIONAL DOCUMENT PAGES FOLLOW)

APERTURE CARD NO# 8409270112

• AVAILABILITY PDR CF _____ HOLD _____

NUMBERS OF PAGES. 1

SEE

APERTURE

CARDS

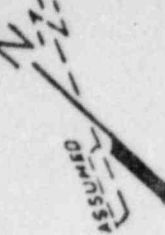
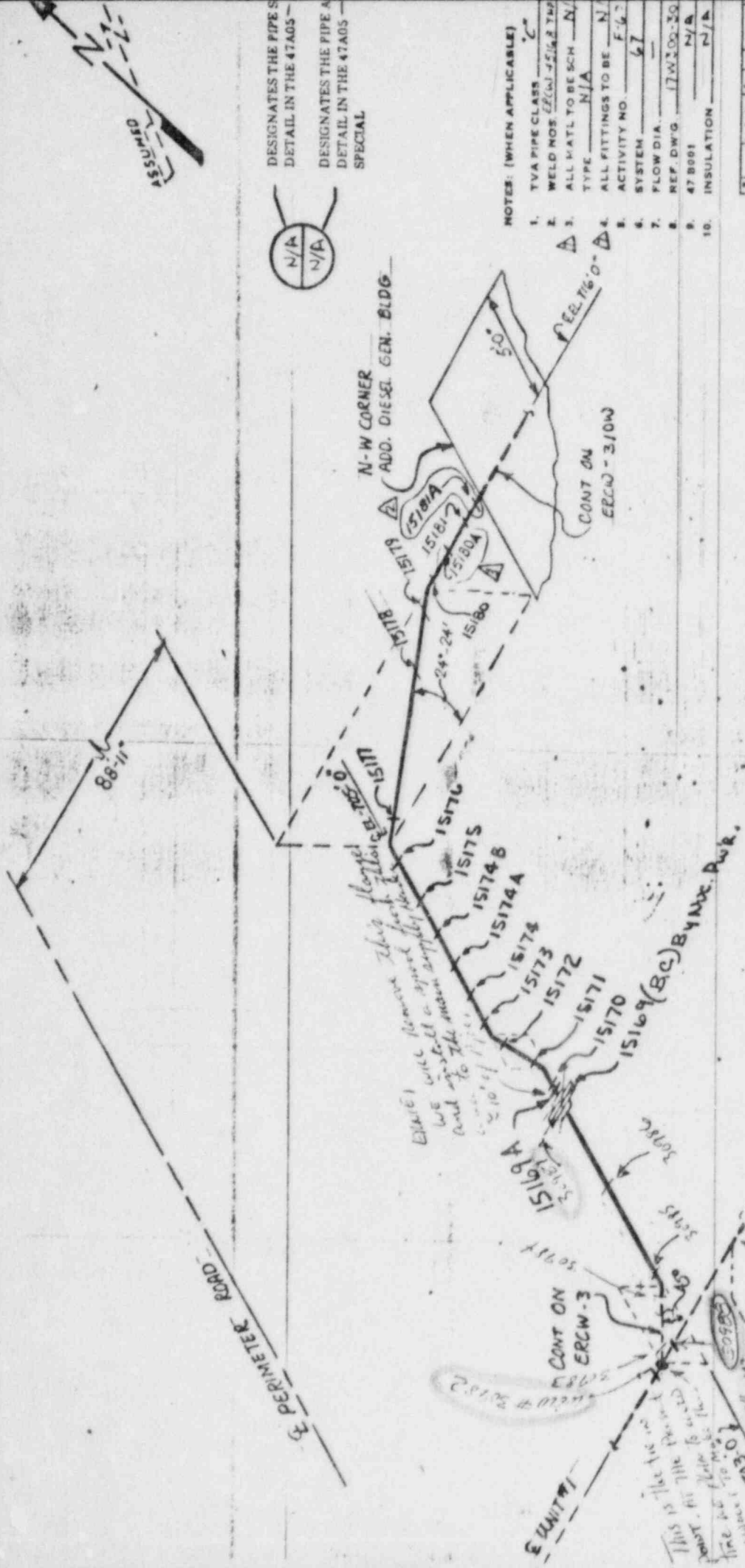
*OVERSIZED DRAWINGS

(ADDITIONAL DOCUMENT PAGES FOLLOW)

APERTURE CARD NO# 8409270114

• AVAILABILITY PDR CF HOLD

NUMBERS OF PAGES. 1



DESIGNATES THE PIPE
DETAIL IN THE 47A05
DESIGNATES THE PIPE
DETAIL IN THE 47A05
SPECIAL

- NOTES: (WHEN APPLICABLE)
1. TVA PIPE CLASS _____
 2. WELD NOS. ERCW-310W
 3. ALL MATL TO BE SCH. N/A
 4. ALL FITTINGS TO BE N/A
 5. ACTIVITY NO. 67
 6. SYSTEM _____
 7. FLOW DIA. _____
 8. REF. DW'G. 17W200-30
 9. 47 B001 _____
 10. INSULATION N/A

| | | | |
|----|----------------|-------|--|
| 1 | 11-9-11 | 158 | |
| 2 | Added Weld # | 15180 | |
| 3 | REV. PER LOG # | 158 | |
| 4 | REV. PER LOG # | 158 | |
| 5 | REV. PER LOG # | 158 | |
| 6 | REV. PER LOG # | 158 | |
| 7 | REV. PER LOG # | 158 | |
| 8 | REV. PER LOG # | 158 | |
| 9 | REV. PER LOG # | 158 | |
| 10 | REV. PER LOG # | 158 | |

DELETED WELD NOS.: 15168,
- Section to be
installed

REACTOR BLDG. 705-358
Main Supply Header

| | | | |
|----|----------------|-------|--|
| 1 | 11-9-11 | 158 | |
| 2 | Added Weld # | 15180 | |
| 3 | REV. PER LOG # | 158 | |
| 4 | REV. PER LOG # | 158 | |
| 5 | REV. PER LOG # | 158 | |
| 6 | REV. PER LOG # | 158 | |
| 7 | REV. PER LOG # | 158 | |
| 8 | REV. PER LOG # | 158 | |
| 9 | REV. PER LOG # | 158 | |
| 10 | REV. PER LOG # | 158 | |

