

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

W. L. STEWART
VICE PRESIDENT
NUCLEAR OPERATIONS

February 1, 1985

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
Attn: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Serial No. 85-018
NO/JDH:acm
Docket No. 50-280
License No. DPR-32

Gentlemen:

VIRGINIA POWER
SURRY POWER STATION UNIT NO. 1
ASME SECTION XI RELIEF REQUESTS

Surry Unit 1 recently conducted a refueling outage with its corresponding associated maintenance requirements. Pursuant to 10 CFR 50.55a paragraph g(5), relief is requested from portions of the post replacement testing requirements delineated in ASME Section XI, 1980 edition, winter 1980 addenda in two instances. The basis is provided for each as follows:

1. As required by IWA 5214 and IWA 4400 of ASME Section XI, following the welded installation of 1-MS-107, a post replacement hydrostatic test was attempted. The 1½ inch valve (See attachment 1) is ASME, Class 2, functioning in a drain capacity for steam traps in the main steam system. Hydrostatic test requirements are defined in IWC-5222(a) of ASME Section XI. From this paragraph a test pressure of 1356 psig is derived. In attempting to attain the required pressure, boundary valve isolation failure was evident. This failure was probably due to internal steam cutting or corrosion, which is common in the steam trap application. A test pressure of 1145 psig was reached using the station's auxiliary feedwater pump. The internal failure of the test boundary valves prevented full pressurization as required by the code. Secondary isolation was impractical, as evidenced by the attached drawing, since it would have required full pressurization of the associated steam generator.

A decision was made to conduct a visual (VT-2) examination at the lower pressure. This inspection was augmented with a surface (liquid penetrant) examination which revealed no indications.

A similar relief request was submitted December 9, 1983 and supplemented August 17, 1984 for Surry Unit 2. The relief request was granted on December 13, 1984. We thus maintain that adequate inspection has been conducted on the affected welds and that relief should be granted.

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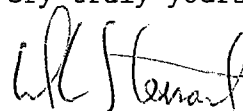
2. The replacement of six, ASME Class II, 2½ inch, steam generator blowdown root valves (See attachment 2) was conducted. These valves provide for maintenance isolation capability and are normally open during plant operation. These valves are subjected to severe environments of water and steam mixtures resulting in steam cuts, packing leaks and internal isolation problems. The replacement meets Surry's Construction Code requirements, and the rules provided in IWA 7000 and IWC 7000 of ASME Section XI. The replacement also provides a more serviceable design correcting the problems noted. The removal of the adjoining piping sections was conducted at the steam generator nozzles and at an arbitrary weld downstream of the replacement valves. This is to facilitate the required welding by allowing for shop fabrication.

In accordance with IWA 5214 of ASME Section XI, following the welding, a hydrostatic test to the requirements of IWC-5222 and the associated visual (VT-2) examination would normally be required. This test, if conducted, would include within its test boundaries the unit's steam generators as no intermediate isolation exists. This test was considered extremely impractical, as it requires constant temperature control for fracture prevention considerations, time consuming valve line-ups, and a large personnel commitment. In addition, Westinghouse recommends that only a limited number of these tests be conducted in the steam generator's lifetime without reanalysis.

As an alternative, new butt welds upstream of the replaced valves have been examined with visual (VT-1), surface (liquid penetrant), and volumetric (radiography) examinations. The nozzle connections are socket welded, thus precluding an acceptable volumetric examination. A system functional test (IWC-5221) with the corresponding visual (VT-2) examination was substituted for these connections. A similar relief request was submitted March 26 and April 12, 1984, for Surry Power Station, Unit Nos. 1 and 2, respectively. The relief request was granted on May 17, 1984. We thus maintain that adequate basis for relief is presented above, and that the proposed alternative examinations provide the necessary inspection intended by the code.

In accordance with 10CFR170, an Application Fee of \$150 is enclosed. If you have any questions or require additional information, please contact us immediately.

Very truly yours,



W. L. Stewart

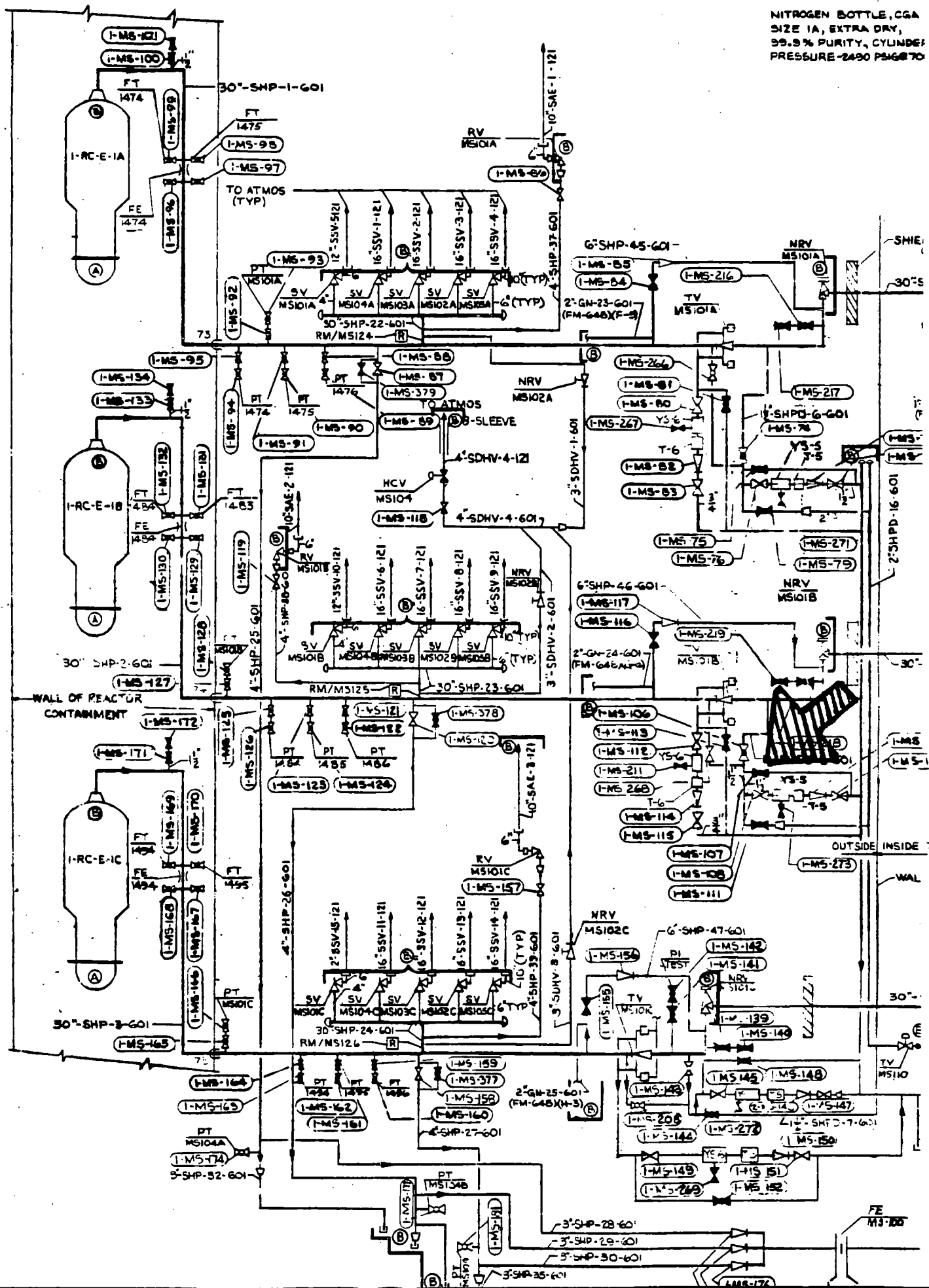
Attachments

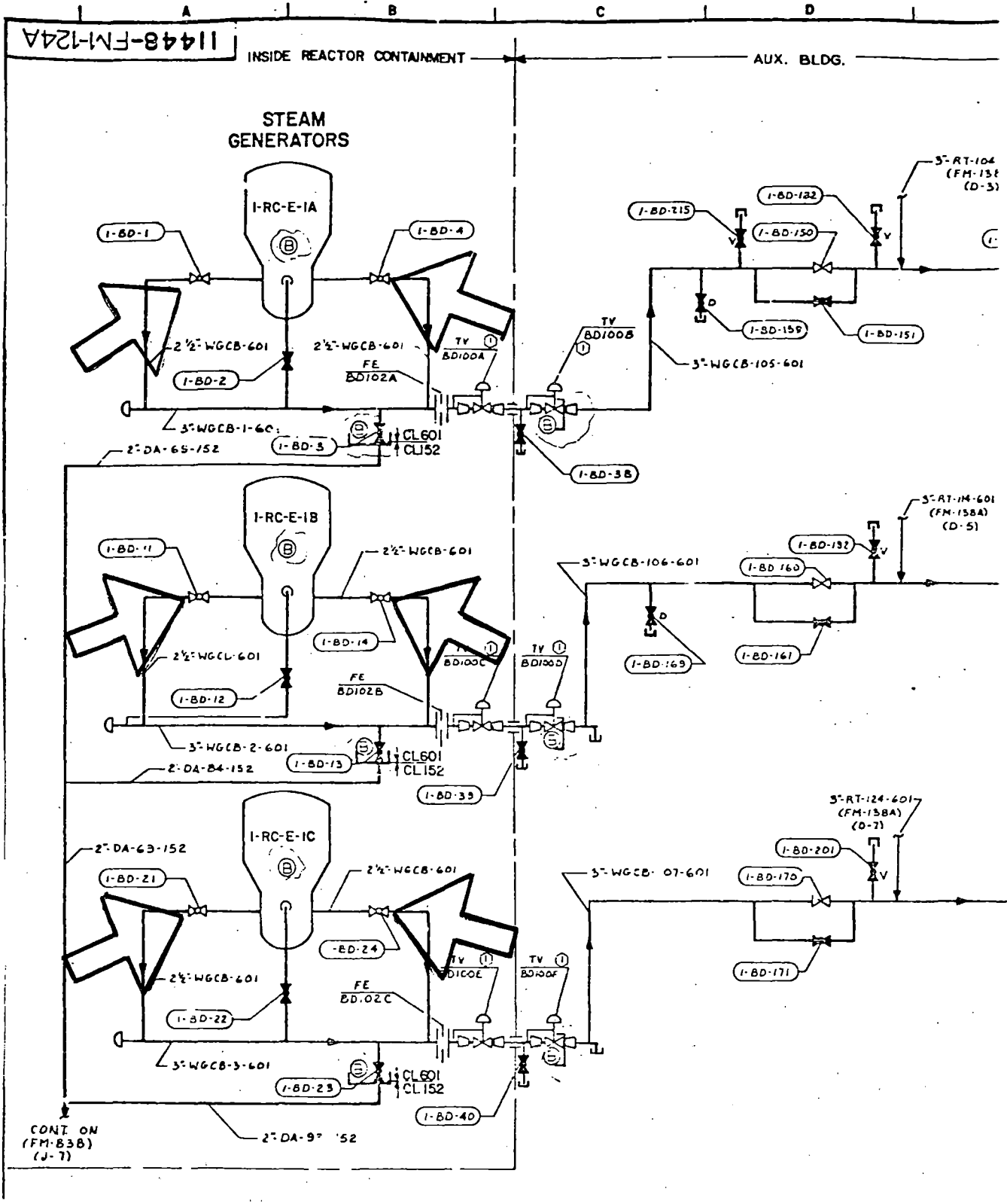
cc: Mr. James P. O'Reilly
Regional Administrator
NRC Region II

Mr. D. J. Burke
NRC Resident Inspector
Surry Power Station

STEAM GENERATORS

NITROGEN BOTTLE, CGA SIZE 1A, EXTRA DRY, 99.9% PURITY, CYLINDER PRESSURE 2490 PSIG @ 70





11448-FM-124A

INSIDE REACTOR CONTAINMENT

AUX. BLDG.

STEAM GENERATORS

CONT ON
(FM-83B)
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