VERMONT YANKEE
NUCLEAR POWER CORPORATION

RD 5, Box 169, Ferry Road, Brattleboro, VT 05301

REPLY TO:
ENGINEERING OFFICE
1671 WORCESTER ROAD
FRAMINGHAM, MASSACHUSETTS 01701
TELEPHONE 617-872-8100

FVY 85-32

March 28, 1985

United States Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Office of Nuclear Reactor Regulation
Mr. Domenic B. Vassallo, Chief
Operating Reactors Branch No. 2
Division of Licensing

References:
(a) License No. DPR-28 (Docket No. 50-271)
(b) Letter, VYNPC to USNRC, WVY 80-106, dated July 25, 1980
(c) Letter, VYNPC to USNRC, FVY 83-16, dated March 1, 1983
(d) Letter, USNRC to All Licensees, I&E Bulletin 79-02, dated March 8, 1979
(e) Letter, USNRC to All Licensees, I&E Bulletin 79-14, dated July 2, 1979
(f) Letter, VYNPC to USNRC, FVY 84-67, dated June 27, 1984
(g) Letter, VYNPC to USNRC, FVY 85-06, dated January 23, 1985

Subject: Vermont Yankee Seismic Reanalysis Program - Status and Results of Small Bore Pipe Support Testing Program

Dear Sir:

As part of Vermont Yankee's Seismic Reanalysis Program (SRP) [References (b, c, f, and g)] to upgrade the safety class piping systems, we have instituted a small bore pipe support testing program. The preliminary details, methodology, factors of safety, etc., associated with this testing program have been discussed with Dr. John Fair of the Office of Inspection and Enforcement. The purpose of this letter is to provide preliminary results of the small bore pipe support testing program.

Vermont Yankee has adopted a procedure which allows for a test load (determined by piping analysis and including dead weight, thermal, seismic, and any other transient or dynamic loading conditions) to be applied directly to the pipe support at the point(s) where the piping is attached. These test loads are applied simultaneously (where the support has more than one restraining direction) and have an increase factor of 1.1 times the analyzed design load. Load(s) may also be applied in the reverse direction to account for worst case on the base plate and bolts (see Figures 1 and 2).

A001
1/1

We have tested 13 small bore supports using this technique. Results of this testing thus far are very favorable with a 100% pass rate for the initial 13 supports tested (see Table 1), and we intend to expand our program to qualify all small bore pipe supports. Our qualification program employes a statistical sampling technique similar to the Bechtel Power Corporation's Statistical Sampling Program to Test Concrete Expansion Bolts (SFPD-7902-8) to assure statistical acceptability of the small bore supports. In addition, we are investigating the possibility of testing some large diameter pipe "dead weight" supports.

We will notify you in May 1985 of the results of our expanded pipe test program and its impact on our Seismic Reanalysis Program.

We trust that this information is deemed acceptable; however, should you have any questions or require additional information regarding this matter, please contact us.

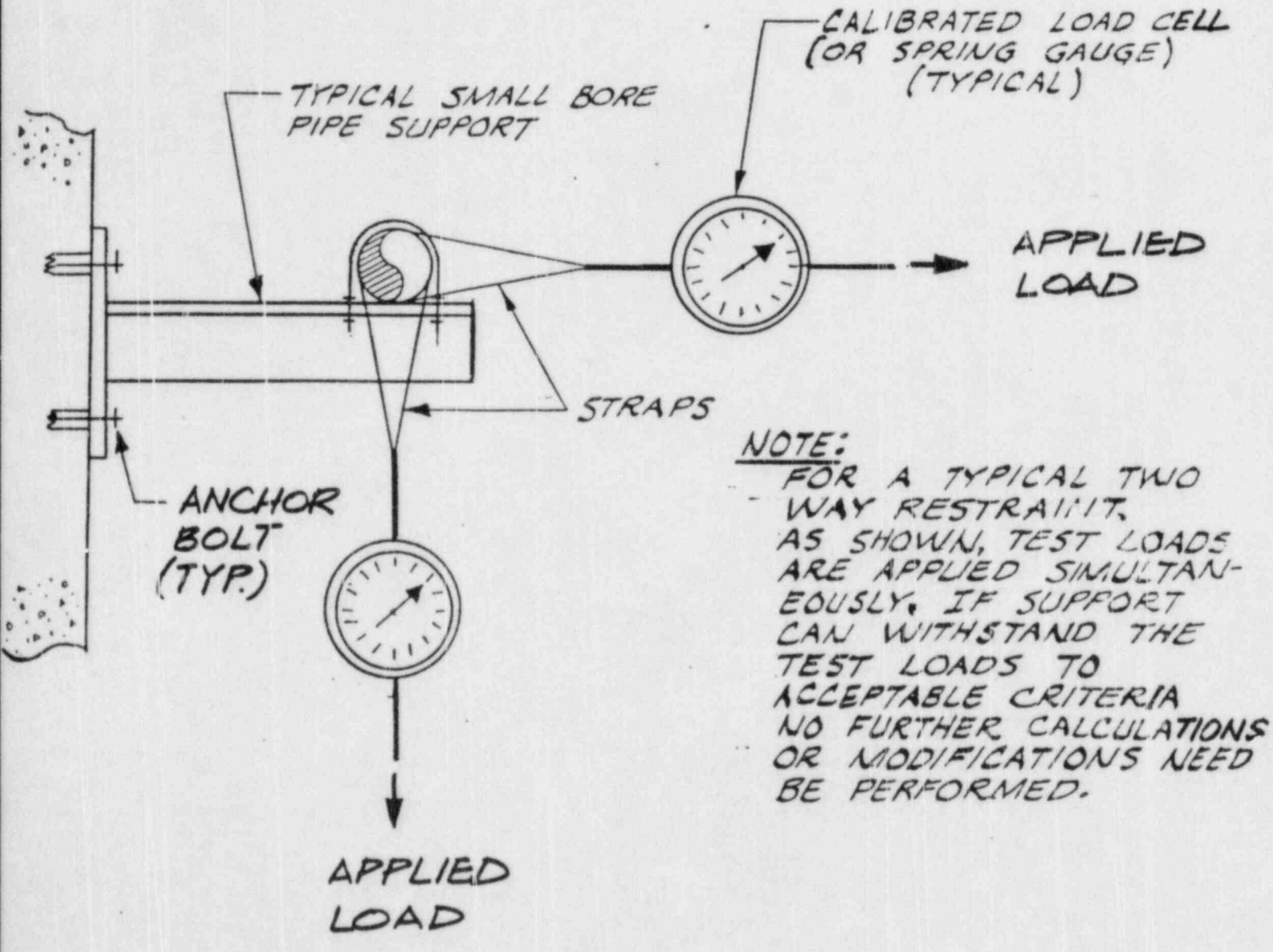
Very truly yours,

VERMONT YANKEE NUCLEAR POWEP CORPORATION

R.W. Capstick

R.W. Capstick
Licensing Engineer

Figure 1



NOTE:
FOR A TYPICAL TWO WAY RESTRAINT, AS SHOWN, TEST LOADS ARE APPLIED SIMULTANEOUSLY. IF SUPPORT CAN WITHSTAND THE TEST LOADS TO ACCEPTABLE CRITERIA NO FURTHER CALCULATIONS OR MODIFICATIONS NEED BE PERFORMED.

Figure 2

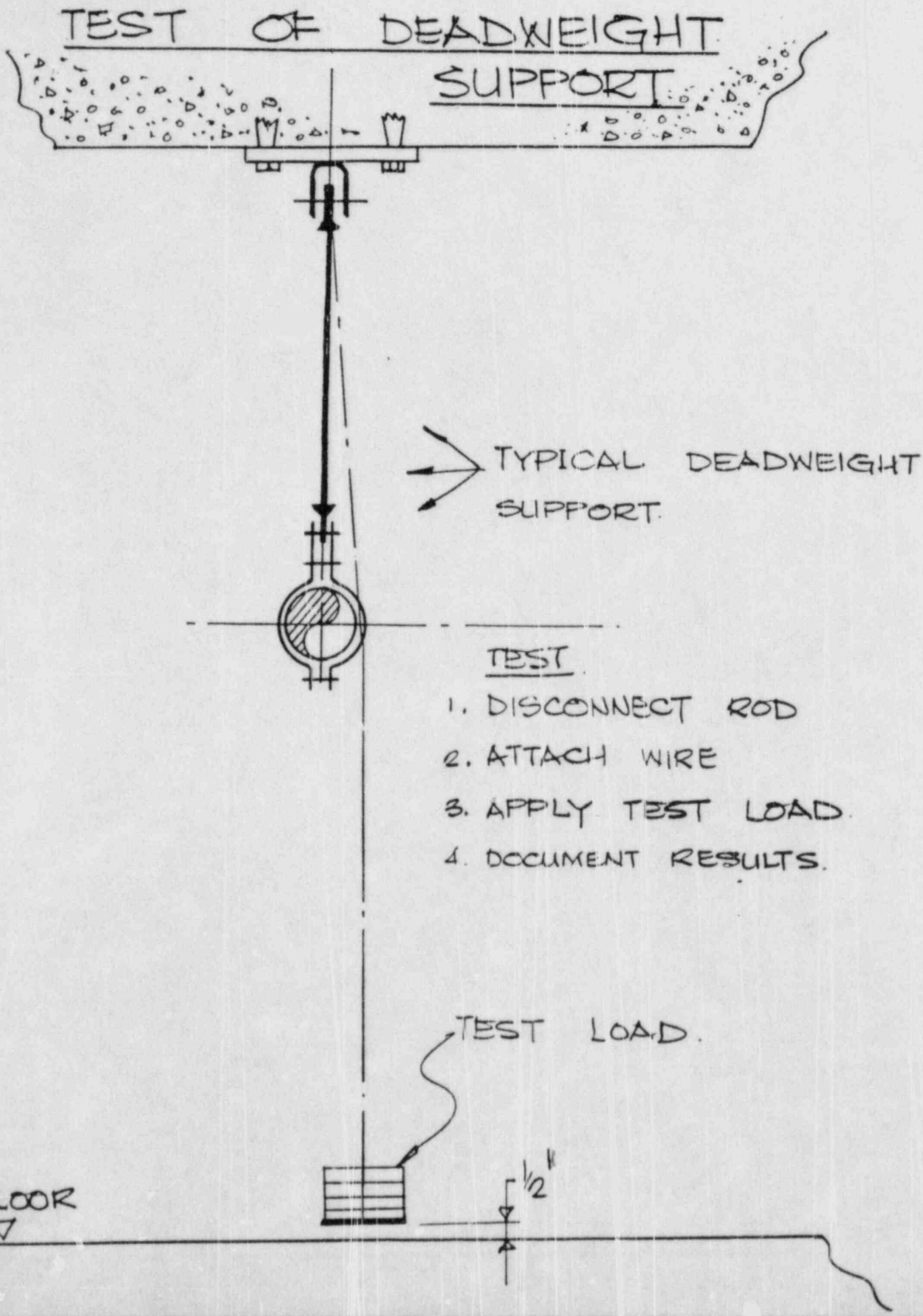

TEST OF DEADWEIGHT SUPPORT
TYPICAL DEADWEIGHT SUPPORT
TEST
1. DISCONNECT ROD
2. ATTACH WIRE
3. APPLY TEST LOAD
4. DOCUMENT RESULTS.
TEST LOAD.
FLOOR
1/2"

TABLE 1

SUPPORT I.D.	SYSTEM	LOADS	PASS OR FAIL
RCIC - H93	RCIC	$Fx_1^1 = 145^{\#}$ $Fz^1 = 151^{\#}$	P
RCIC - HD93A	RCIC	$Fy = -168^{\#}$ $Flat = 68^{\#}$	P
RCIC - HD93B	RCIC	* $Fx_1^1 = 135^{\#}$ & $33^{\#}$ $Fz^1 = 135^{\#}$ & $33^{\#}$	P
RCIC - HD93.	RCIC	$Fy = -130^{\#}$ $Flat = 18^{\#}$	P
RCIC - HD93D	RCIC	$Fy = -1.1^{\#}$ $Flat = 6^{\#}$	P
RCIC - HD94A	RCIC	$Fy = -92^{\#}$	P
HPCI - H66	HPCI	$Fy = -154^{\#}$ $Fx = -287^{\#}$	P
HPCI - HD66A	HPCI	$Fy = -264^{\#}$ $Fx = -514^{\#}$	P
HPCI - HD66B	HPCI	$Fx = 153^{\#}$ $Fz = 428^{\#}$	P
HPCI - HD66C	HPCI	$Fy = -263^{\#}$ $Fx = 53^{\#}$	P
HPCI - HD66D	HPCI	$Fy = -119^{\#}$ $Fz = 132^{\#}$	P
HPCI - HD66G	HPCI	$Fy = -41^{\#}$ $Fz = 56^{\#}$	P
HPCI - HD66H	HPCI	$Fy = -21^{\#}$	P

* Two Support Locations

RCIC - Reactor Core Isolation Cooling (System)
HPCI - High Pressure Coolant Injection (System)