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50-219

November 27, 1979

Mr. Thomas Wambach
Division of Operating Reactors
SEP Branch
U.S. Nuclear Regulatory Commission
7920 Norfolk Ave.
Bethesda, Maryland 20555

Dear Mr. Wambach:

In response to Mr. Jabbour's request, made early this month, I am transmitting the following materials to be used as inputs to the seismic analysis for the Oyster Creek Nuclear Generating Station. I am also sending copies of the same materials to Mr. S. M. Ma of EG&G by an express mail.

Drawings

1.	B & R 4037 (sheet 1 of 2)	Condensate Water Storage Tank*
2.	B & R 4037 (sheet 2 of 2)	Condensate Water Storage Tank *
3.	B & R 4503	Turbine Building Exterior Wall Sections
4.	B & R 4504	Office Building Exterior Wall Sections
5.	B & R 4505	Roof Plan and Details
6.	B & R 4506	Roofing Details
7.	B & R 4507	Exterior Expansion Joints
8.	B & R 4110	Machine Shop Foundation

* Condensate Water Storage Tank is a vertical type with a conical roof having a diameter of 45 ft. and a height (cylindrical portion) of 45 ft. Material used for the tank is Aluminum Alloy and a nominal capacity for the tank is 525,000 gallons.

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Listed below is an itemized list of equipment weights used in developing the dynamic model of the Reactor Building.

Equipment	Elevation	Weight (Kips)
Torus with water	-19-6"	2550
Reactor Enclosure Drain Tank and Pumps (located directly below the reactor)	5'	100
Recirc. Piping and water	23'6"	135
Recirc. pumps in Drywell	23'6"	220
Recirc. Valves	23'6"	68
Control Rod Drive Eqpt.	23'6"	200
Containment Spray Heat Ex.	23'6"	16
Isolation valves	23'6"	50
Elec. Eqpt. Ins. and Air Lines	23'6"	45
HV and AC	23'6"	16
Closed Cooling Water Heat Ex.	51'3"	60
Regen. Clean up Heat Ex.	51'3"	42
Non-regen. Heat Ex.	51'3"	23
Shut down Heat Ex.	51'3"	48
Recirc. Piping and Water	51'3"	135
HV and AC & Elec. Eqpt. & Inst. and Air Lines	51'3"	64
Clean up Demin.Tanks	75'3"	33
Clean up Filters	75'3"	26
HV and AC & Elec.Eqpt. & Inst. and Air Lines	75'3"	64
Spent Fuel Pool Heat Ex.	75'3"	16
Water in Spent Fuel Stg. Pool	80'6"	2520
Fuel and Eqpt. in Pool	80'6"	1000
Pumps and Pipes - Misc.	95'3"	500
HV and AC & Elec. Eqpt. & Inst. and Air Lines	95'3"	60
Emergency Condensers	95'3"	288
Liquid Poison Tank	95'3"	16
Reactor Service Platform & Refueling Eqpt.	119'3"	30
Shipping Cask	119'3"	150
Lifting Slings	119'3"	14
Elevator	119'3"	20
HV and AC & Elec. Eqpt. & Inst. and Air Lines	119'3"	64
Crane	Roof	195
HV and AC & Elec. Eqpt.	Roof	60
Reactor Pressure Vessel		3021
Dry Well		1800

The equipment weights used in developing the Turbine Building model are given in the "Seismic Analysis of the Turbine Building (1965) prepared by John A. Blume & Associates. A copy of the page with weights is attached to this letter.

A shield wall spring constant (K_1) of 510,000 Kpf and a reactor spring constant (K_2) of 48,000 Kpf were used in the "Seismic Analysis of the Reactor Pressure Vessel (1966) prepared by John A. Blume Associates. The two springs are shown in Figure 1 (enclosed). Spring constant K_2 was supplied to us by General Electric. Spring constant K_1 was defined as:

$$K_1 = \frac{F}{\delta}$$

where:

F = Arbitrary horizontal load applied at centerline of support truss (see Figure 2, enclosed).
δ = Horizontal displacement at point of application of force F (see Fig. 2).

The shear area used in the Reactor Building model is equal to 0.7 times the concrete gross area (A_c) given in sheet 1 of the "Seismic Analysis of the Reactor Building " (1965) prepared by John A. Blume & Associates. We have not been able to identify the shear area used in the Turbine Building model.

Very truly yours,

Yoshito Nagai

YOSHITO NAGAI

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cc: S. M. Ma - EG&G
T. E. Tipton
J. Knubel
W. R. Schmidt - M.P.R.

JOHN A. BLUME AND ASSOCIATES, ENGINEERS

JERSEY CENTRAL NUCLEAR REACTOR PROJECT
EARTHQUAKE ANALYSIS
TURBINE BUILDING
WEIGHTS

WEIGHT 1 @ EL. 46'-6"

WALLS BELOW	= 9,060 K
BEAMS @ 46'-6"	= 1,061
SLAB @ 46'-6"	= 14,191
WALLS FROM 46'-6" TO 74'-0"	= 2,060
SLAB @ 63'-9"	= 415
SLAB @ 74'-0"	= 369
BEAMS @ 63'-9"	= 155
BEAMS @ 74'-0"	= 91
LIVE LOADS @ 46'-6"	= 12,110
PIPES @ 46'-6"	= 2,826
STEEL FRAMING ABOVE 46'-6" (ESTIMATED)	= 2,200
TOTAL WEIGHT @ 46'-6"	= 44,538 K

WEIGHT 2 @ EL. 23'-6"

WALLS BELOW	= 9,722 K
COL. BELOW	= 214
WALLS ABOVE	= 8,309
BEAMS	= 691
SLAB @ 23'-6"	= 7,580
SLAB @ 36'-0"	= 2,216
SLAB @ 27'-0"	= 280
LIVE LOADS	= 6,386
PIPES	= 344
TOTAL WEIGHT @ 23'-6"	= 35,823 K

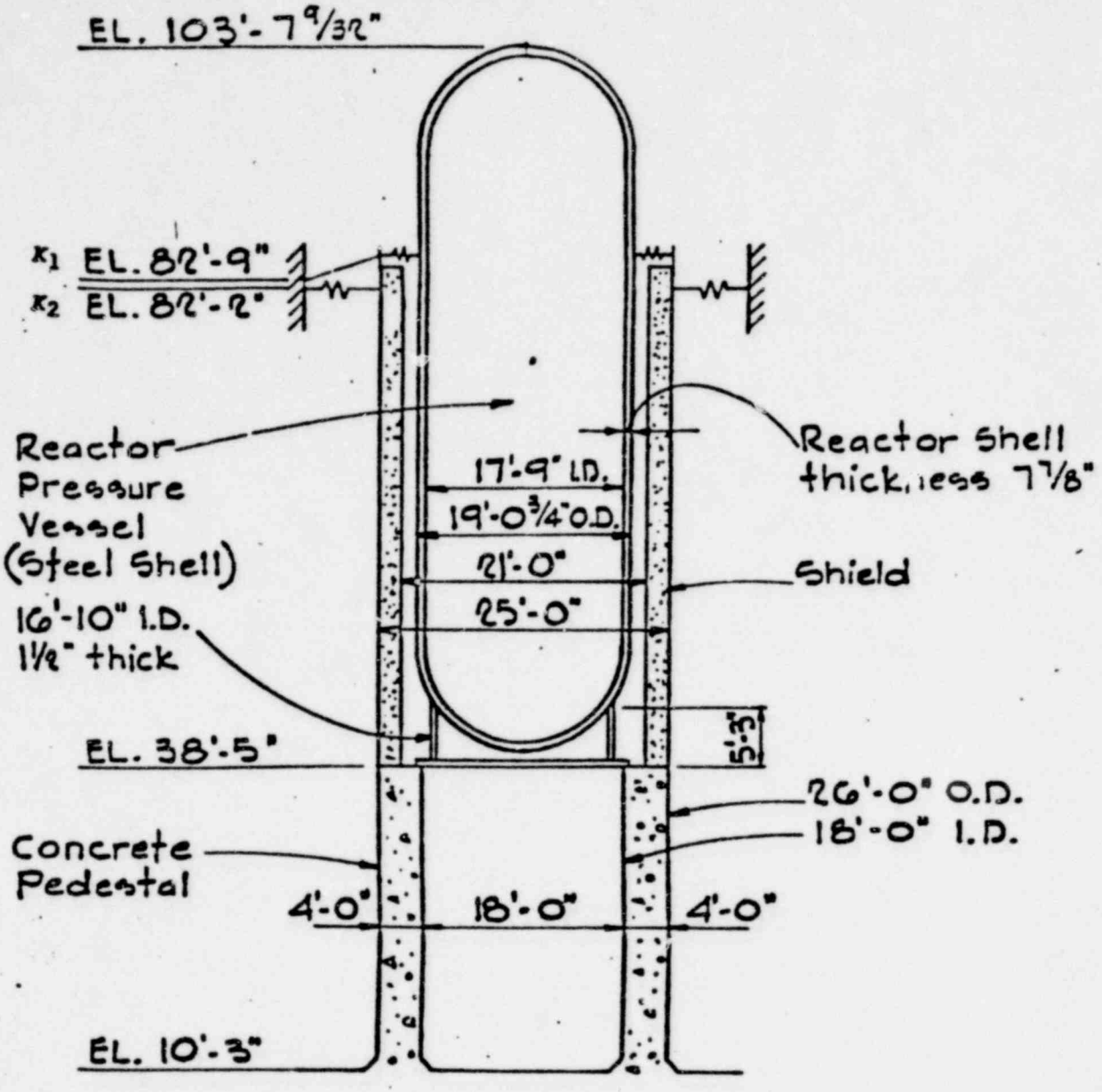
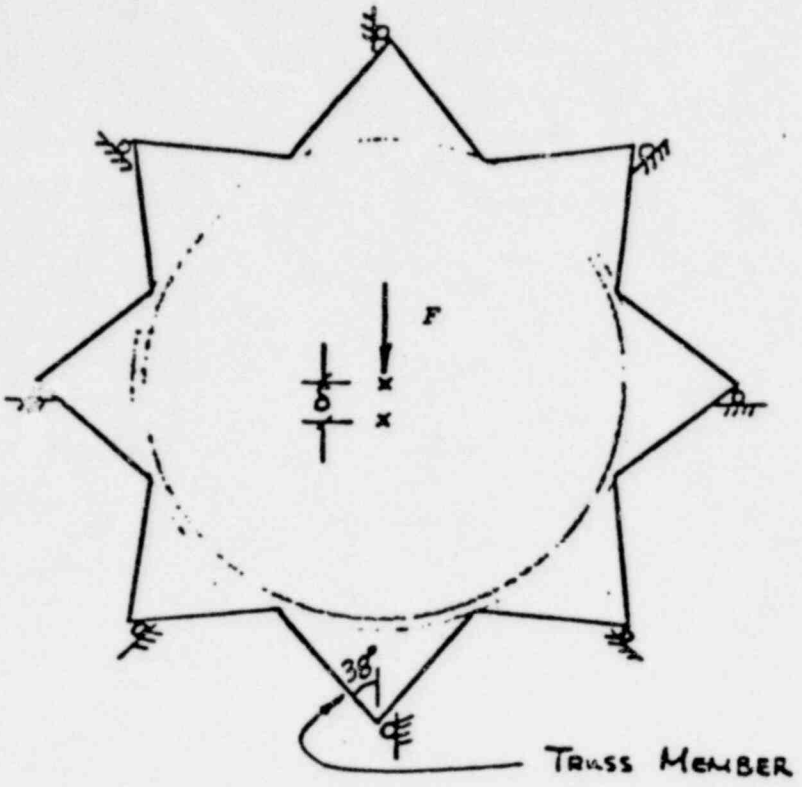


FIGURE 1 REACTOR PRESSURE VESSEL, JERSEY CENTRAL NUCLEAR POWER PLANT



Deflection (δ) of the Ring in the
Direction of Applied Load

FIGURE 2 SUPPORT TRUSS STIFFNESS, REACTOR PRESSURE VESSEL, JERSEY CENTRAL NUCLEAR POWER PLANT