

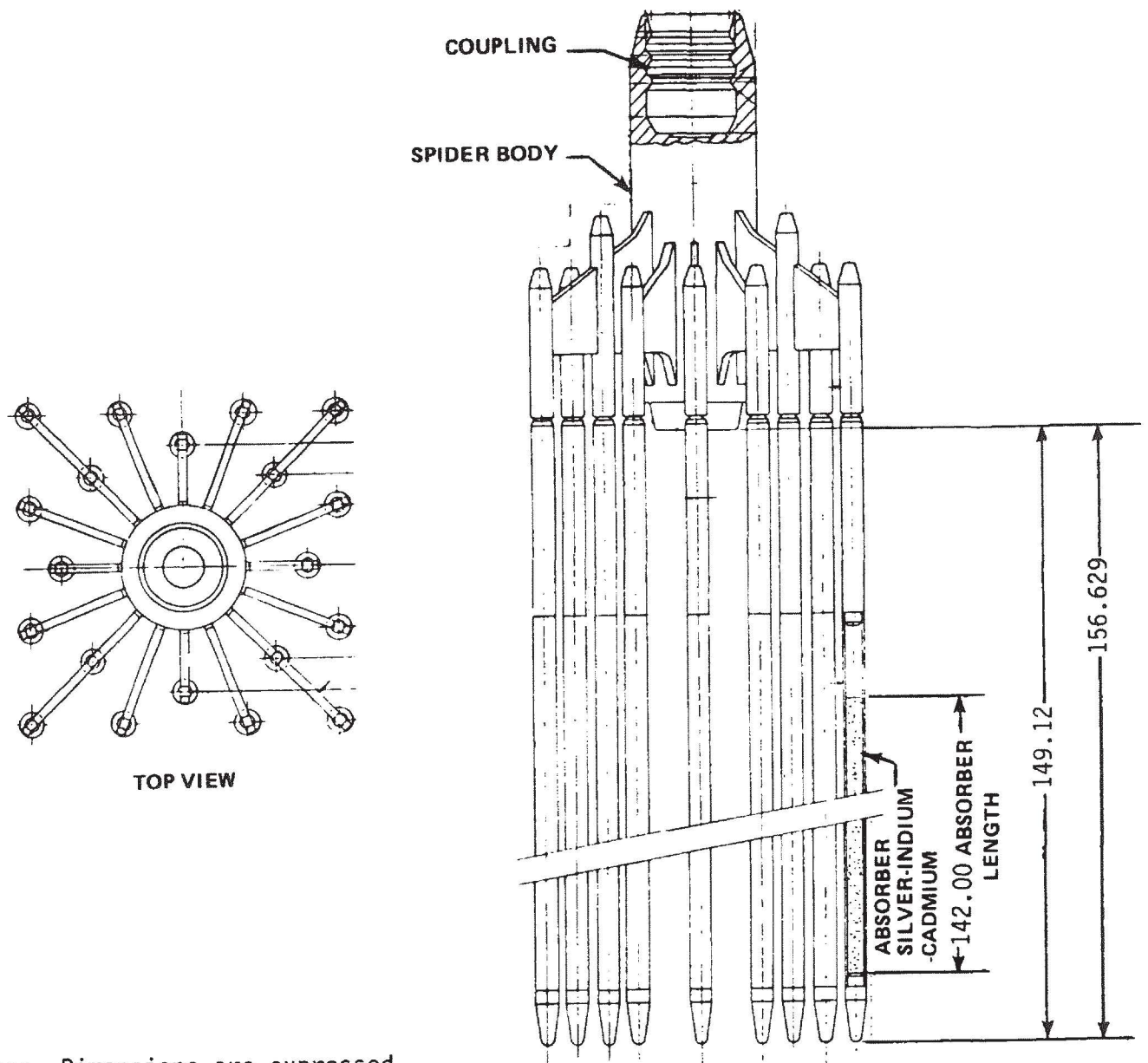
INDIAN POINT UNIT No. 2

UFSAR FIGURE 3.2-49

TYPICAL ROD CLUSTER
CONTROL ASSEMBLY

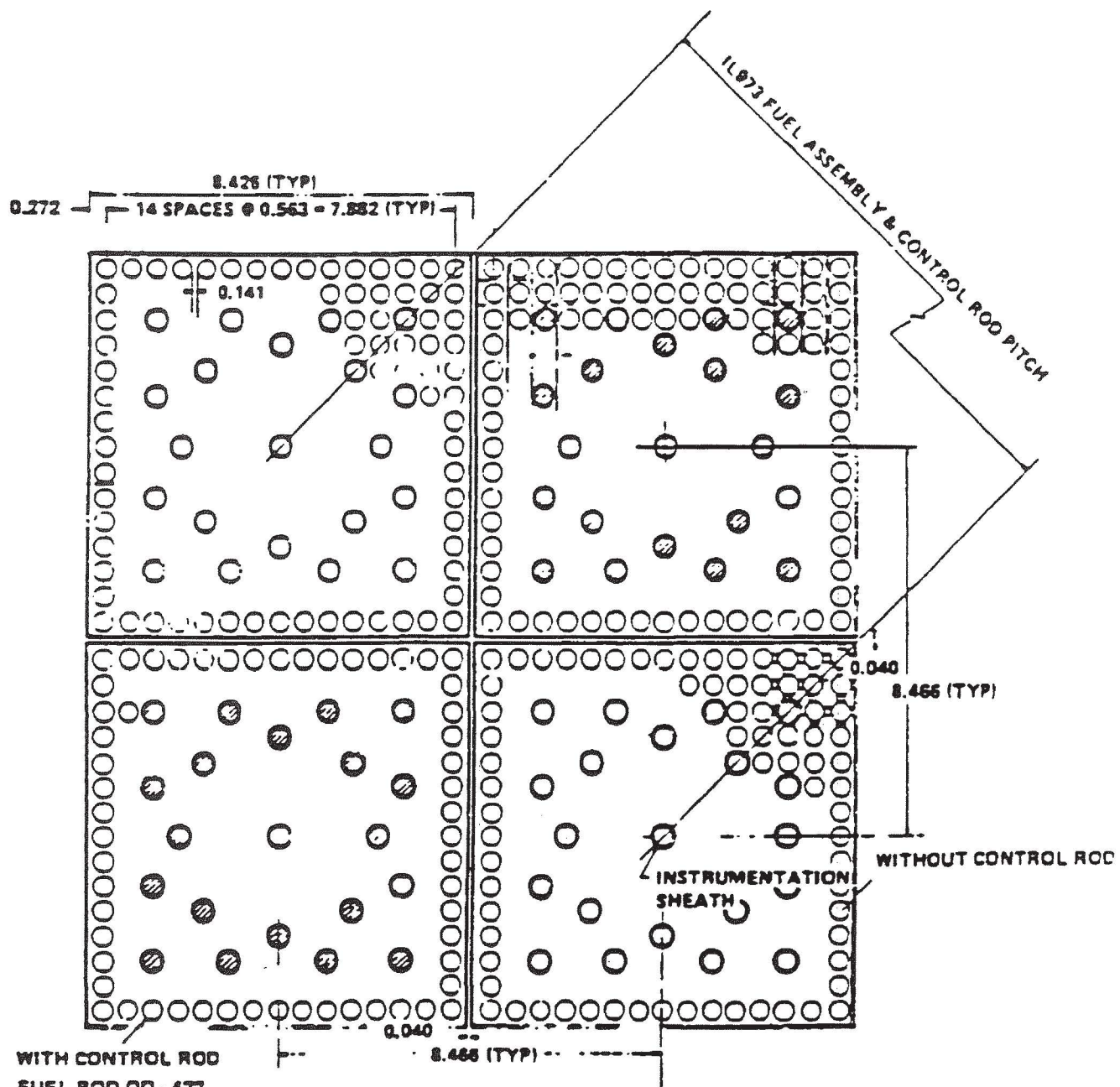
MIC. No. 1999MC3687

REV. No. 17A



Note: Dimensions are expressed in inches.

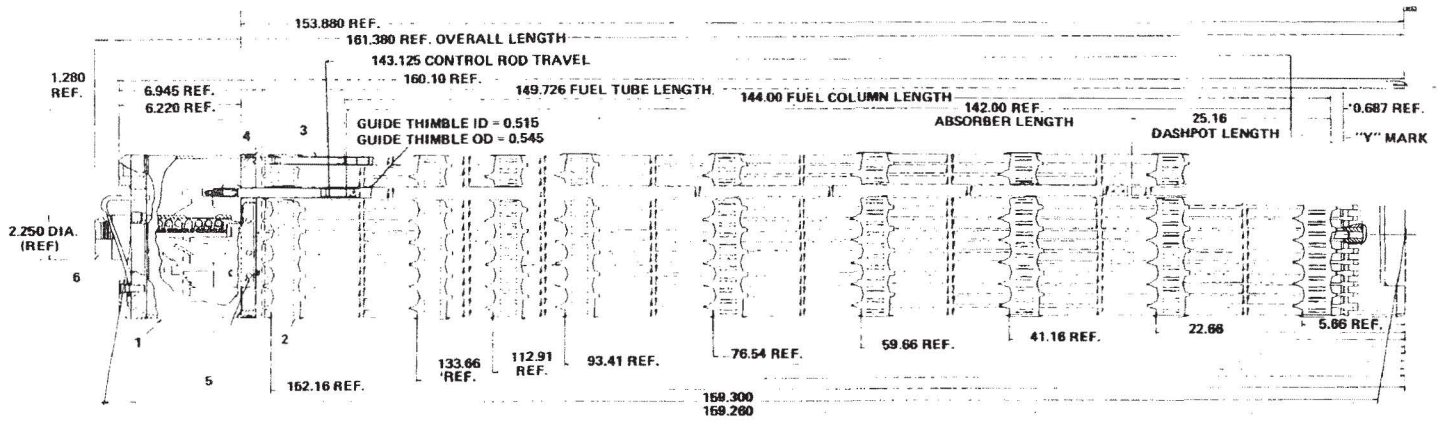
| | |
|--------------------------------------|--------------|
| INDIAN POINT UNIT No. 2 | |
| UFSAR FIGURE 3.2-50 | |
| ROD CONTROL CLUSTER ASSEMBLY OUTLINE | |
| MIC. No. 1999MC3688 | REV. No. 17A |



WITH CONTROL ROD
 FUEL ROD OD - .422
 CLAD THICKNESS - .0243
 CLAD MATERIAL - ZIRC (ZIRLO™ for VANTAGE+)
 FUEL RODS/ASSY - 204

Note: (1) All dim. corrected to 68°F ± 2°
 (2) Dimensions are expressed in inches

| | |
|--|--------------|
| INDIAN POINT UNIT No. 2 | |
| UFSAR FIGURE 3.2-54 | |
| FUEL ASSEMBLY AND CONTROL CLUSTER CROSS SECTION - HIPAR, LOPAR, OFA AND VANTAGE+ | |
| MIC. No. 1999MC3708 | REV. No. 17A |



Note: Dimensions are expressed in inches.

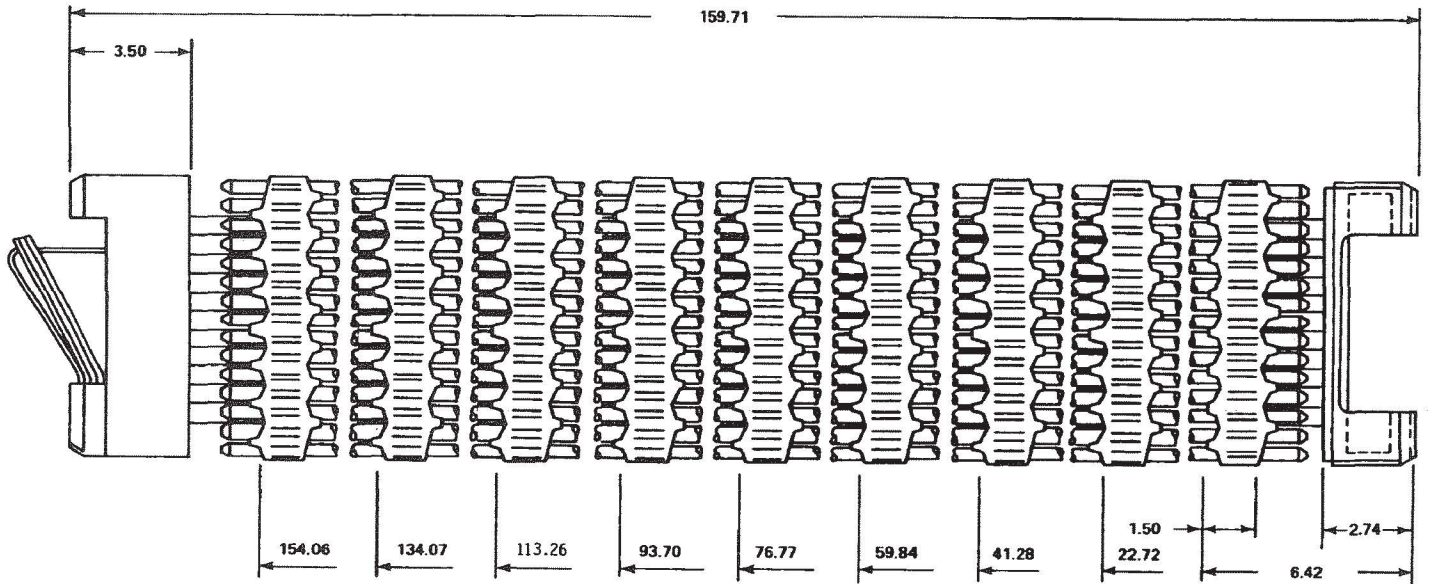
INDIAN POINT UNIT No. 2

UFSAR FIGURE 3.2-55

HIPAR
 FUEL ASSEMBLY

MIC. No. 1999MC3709

REV. No. 17A



Note: Dimensions are expressed in inches.

INDIAN POINT UNIT No. 2

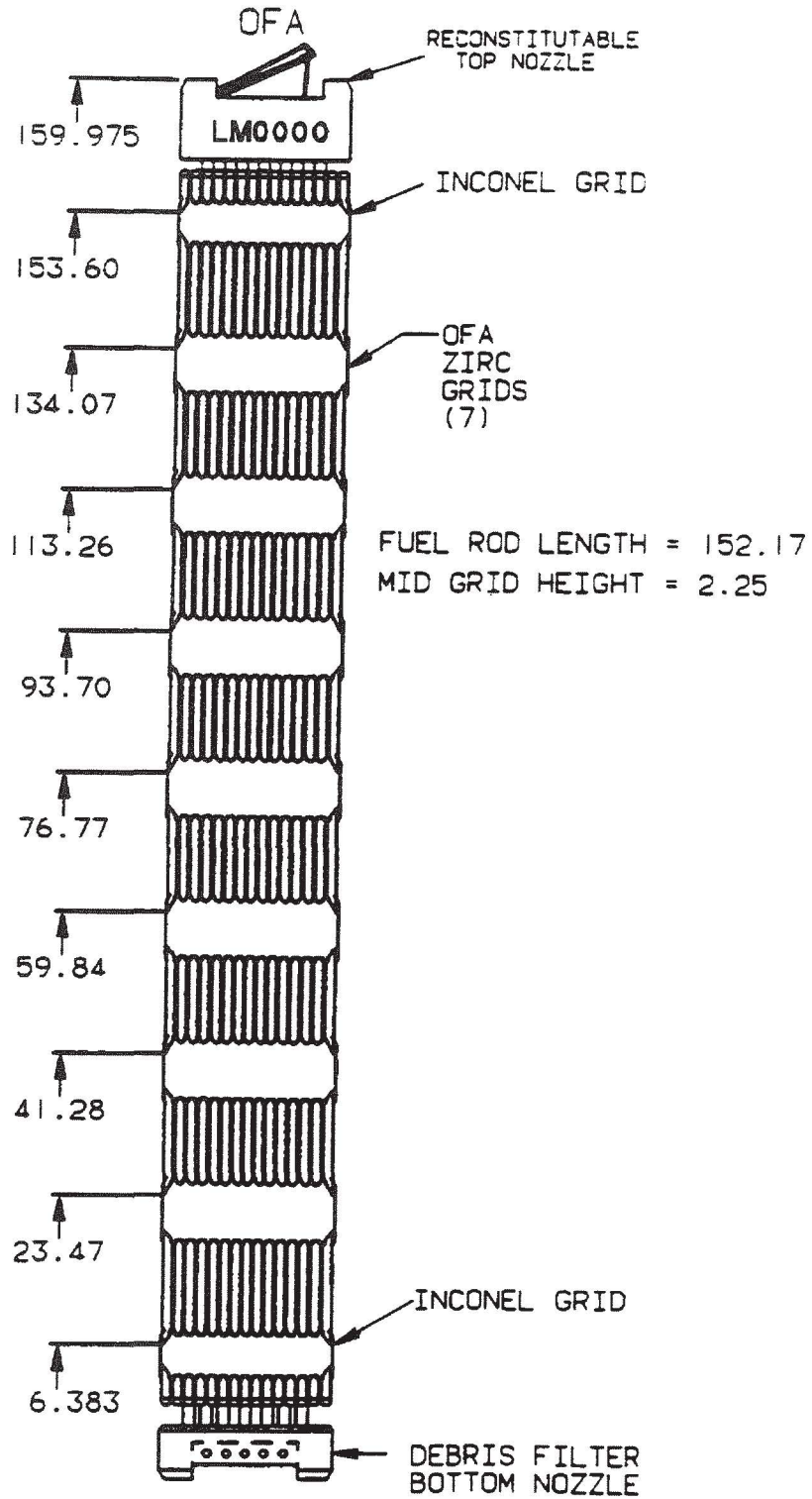
UFSAR FIGURE 3.2-56

LOPAR FUEL
ASSEMBLY

MIC. No. 1999MC3710

REV. No. 17A

OPTIMIZED (OFA) FUEL ASSEMBLY



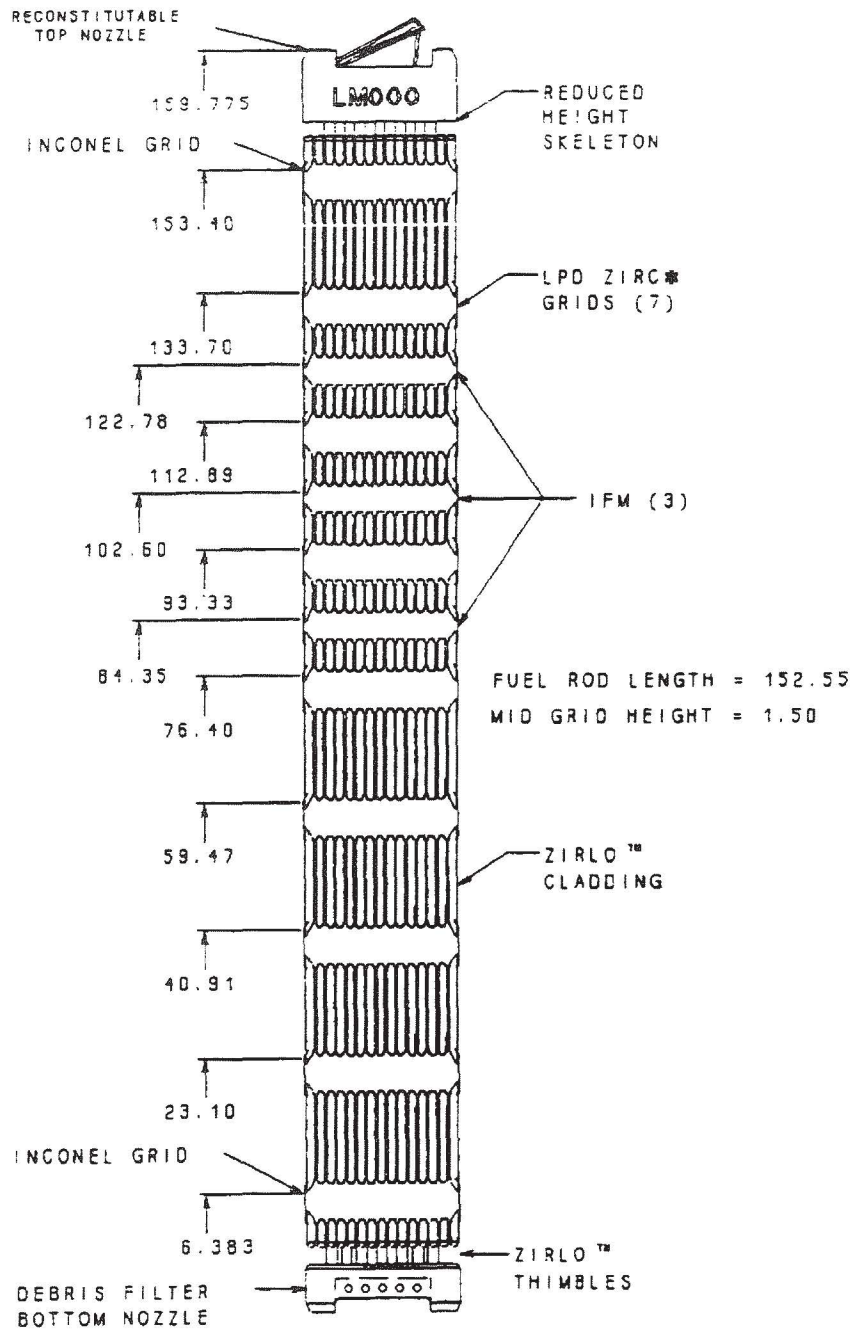
INDIAN POINT UNIT No. 2

UFSAR FIGURE 3.2-56A

OFA FUEL
ASSEMBLY

MIC. No. 1999MC3711

REV. No. 17A



INDIAN POINT UNIT No. 2

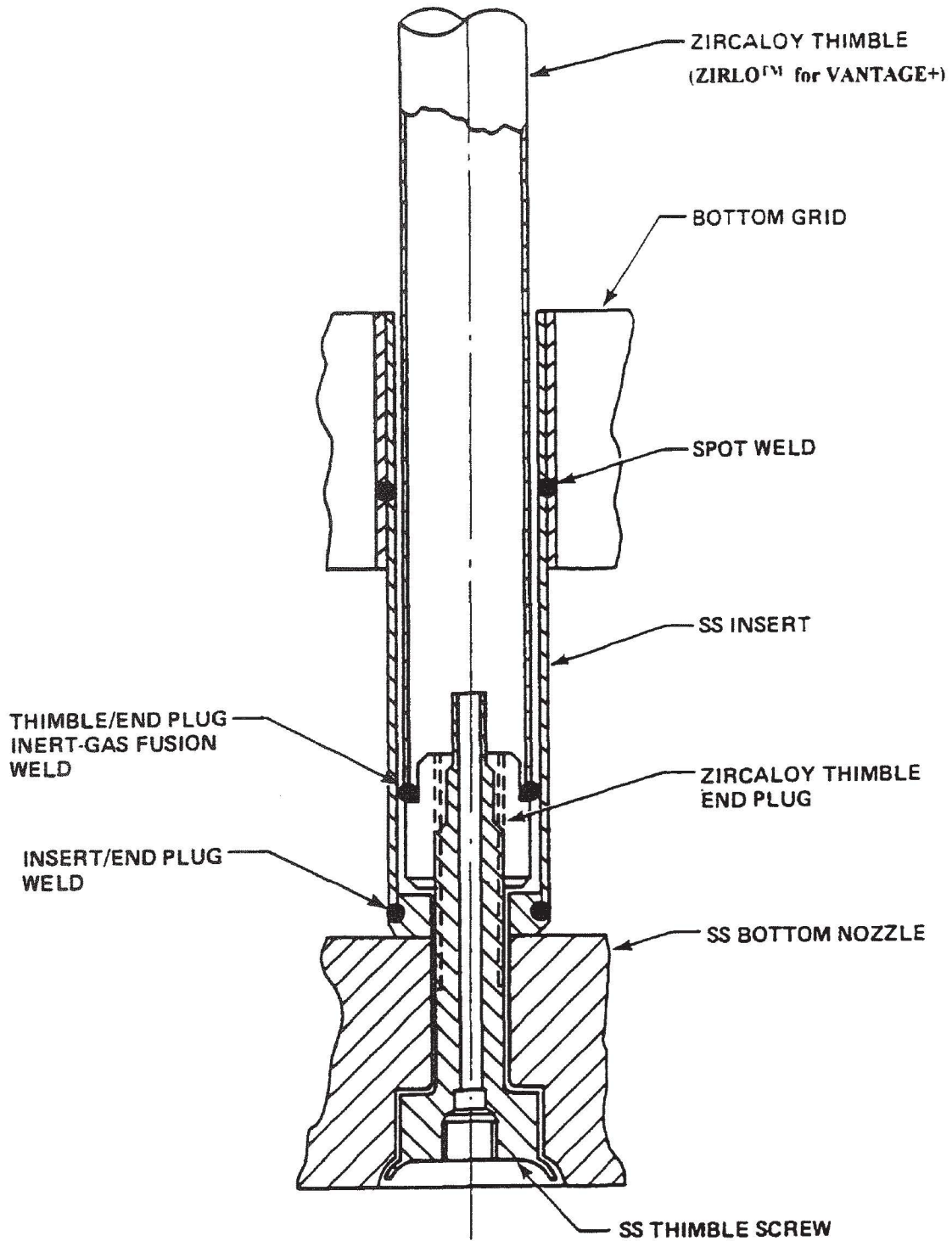
UFSAR FIGURE 3.2-56B

VANTAGE+ FUEL
ASSEMBLY

MIC. No. 1999MC3712

REV. No. 17A

* VANTAGE+ FUEL WITH PERFORMANCE +
FEATURES WILL HAVE ZIRLO™ MIDGRIDS.



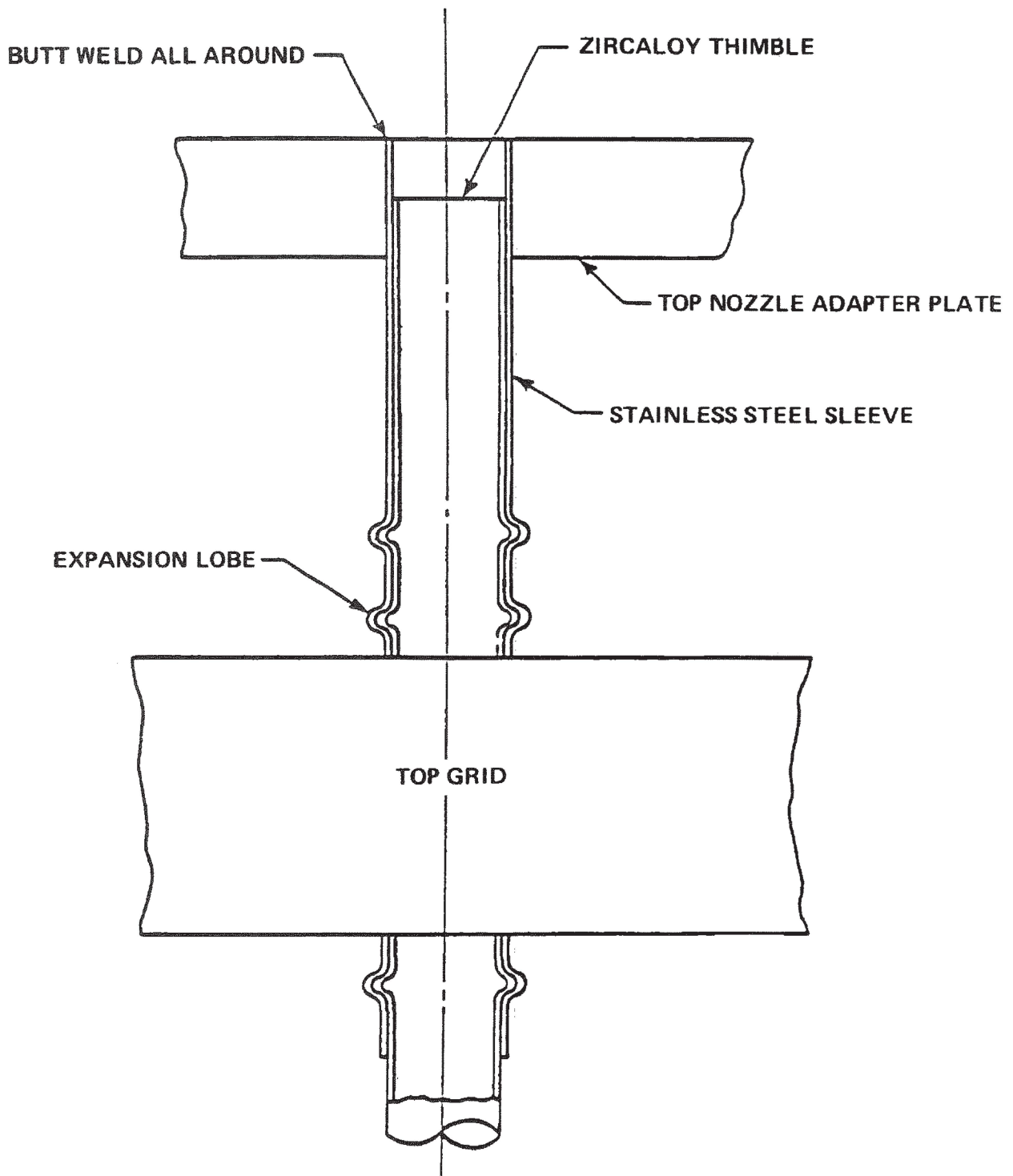
INDIAN POINT UNIT No. 2

UFSAR FIGURE 3.2-57

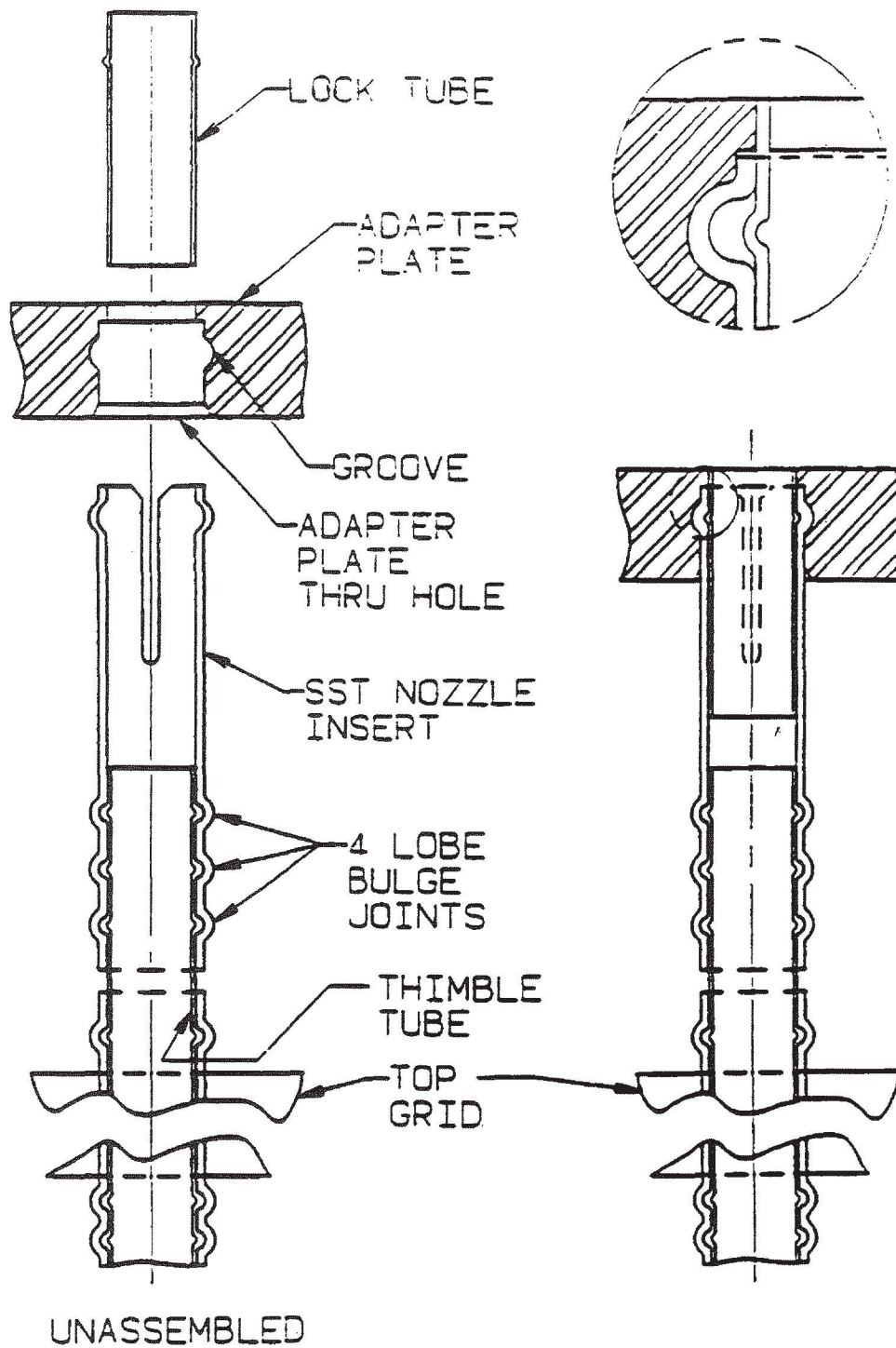
GUIDE THIMBLE
TO BOTTOM NOZZLE JOINT

MIC. No. 1999MC3713

REV. No. 17A



| | |
|--|--------------|
| INDIAN POINT UNIT No. 2 | |
| UFSAR FIGURE 3.2-58 | |
| LOPAR TOP GRID TO NOZZLE ATTACHMENT | |
| MIC. No. 1999MC3714 | REV. No. 17A |



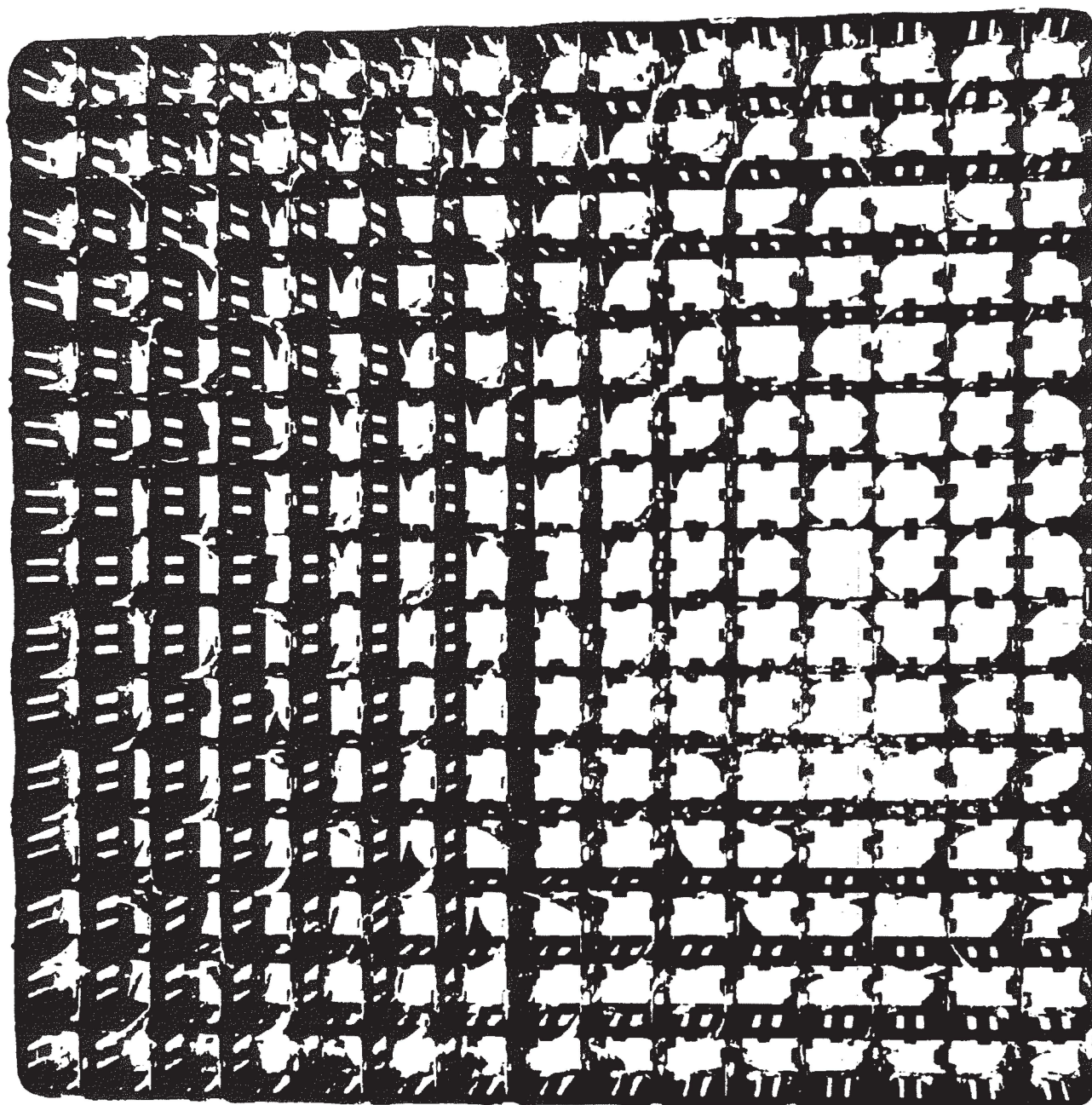
INDIAN POINT UNIT No. 2

UFSAR FIGURE 3.2-58A

OFA and VANTAGE+
TOP GRID TO NOZZLE ATTACHMENT

MIC. No. 1999MC3715

REV. No. 17A



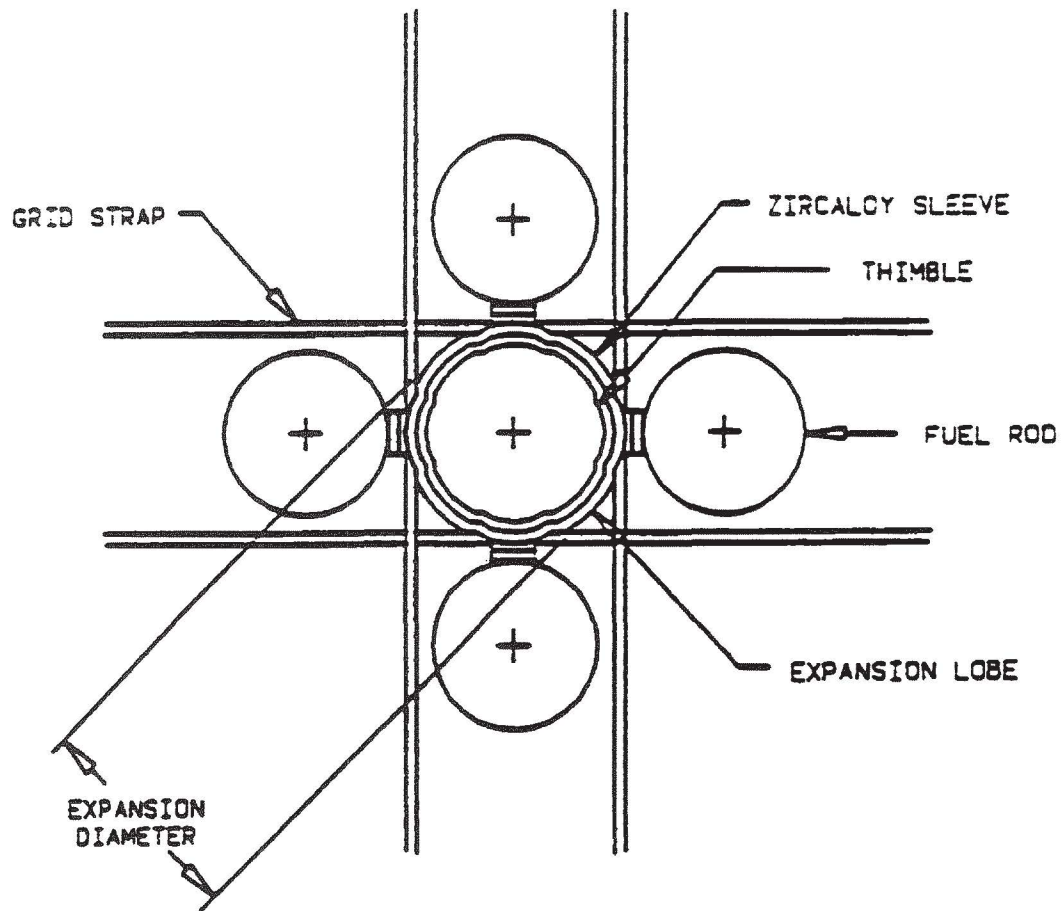
INDIAN POINT UNIT No. 2

UFSAR FIGURE 3.2-59

SPRING CLIP
GRID ASSEMBLY

MIC. No. 1999MC3716

REV. No. 17A



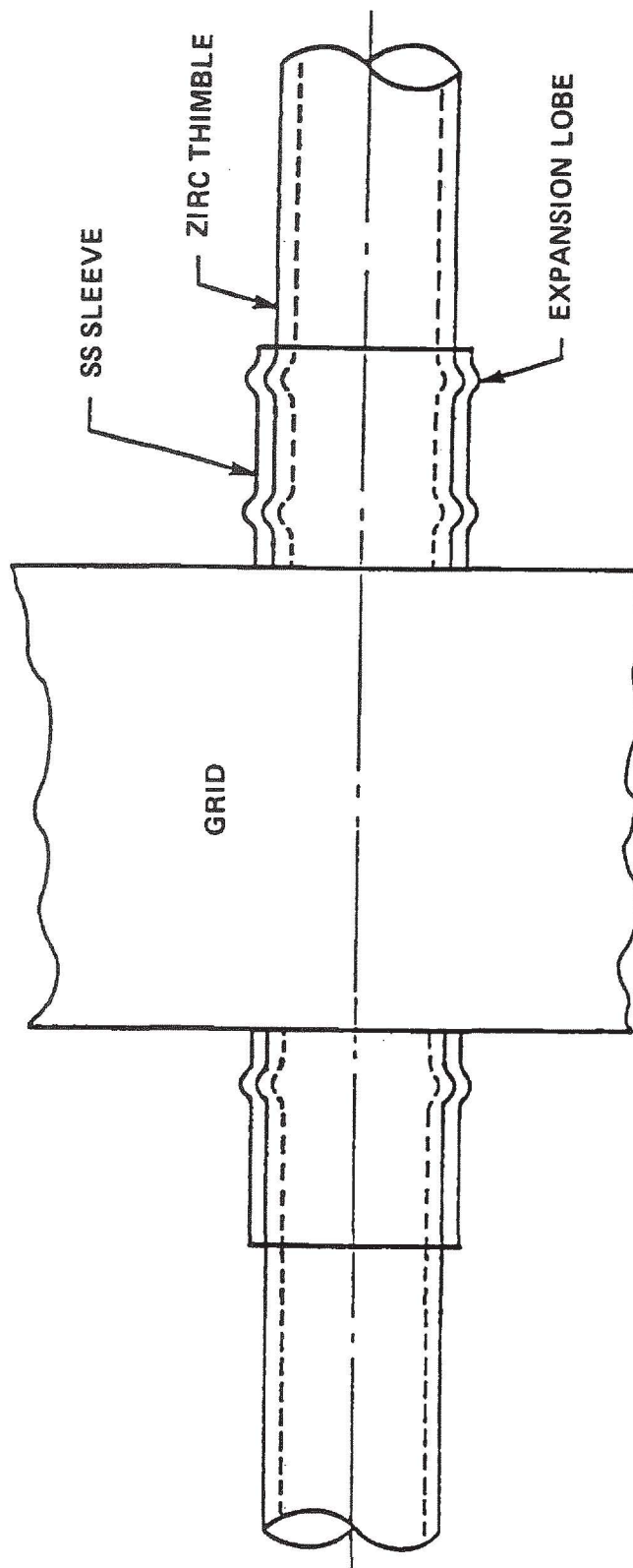
INDIAN POINT UNIT No. 2

UFSAR FIGURE 3.2-60

MID-GRID EXPANSION JOINT DESIGN
 PLAN VIEW

MIC. No. 1999MC3717

REV. No. 17A



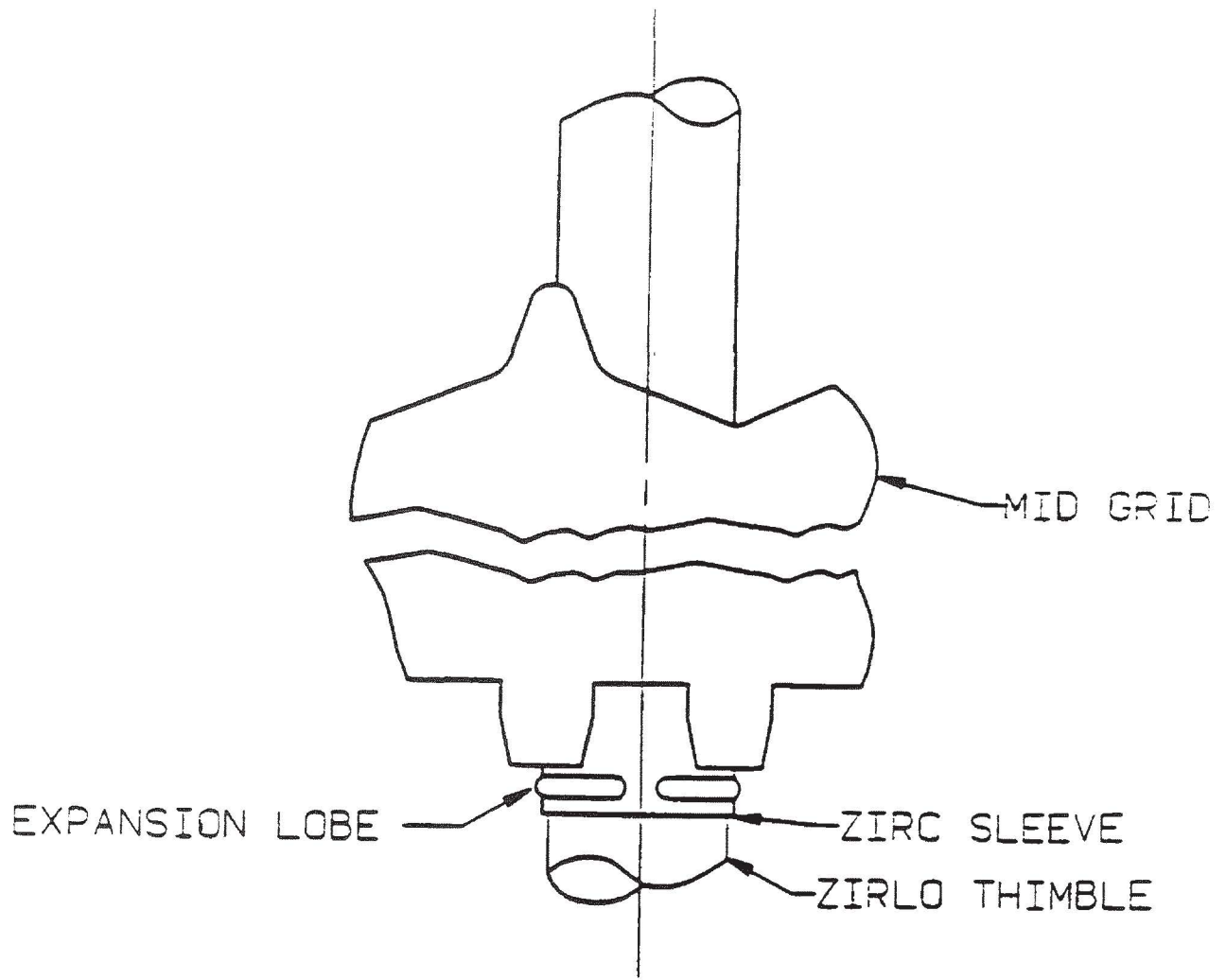
INDIAN POINT UNIT No. 2

UFSAR FIGURE 3.2-61

ELEVATION VIEW - LOPAR GRID
TO THIMBLE ATTACHMENT

MIC. No. 1999MC3718

REV. No. 17A



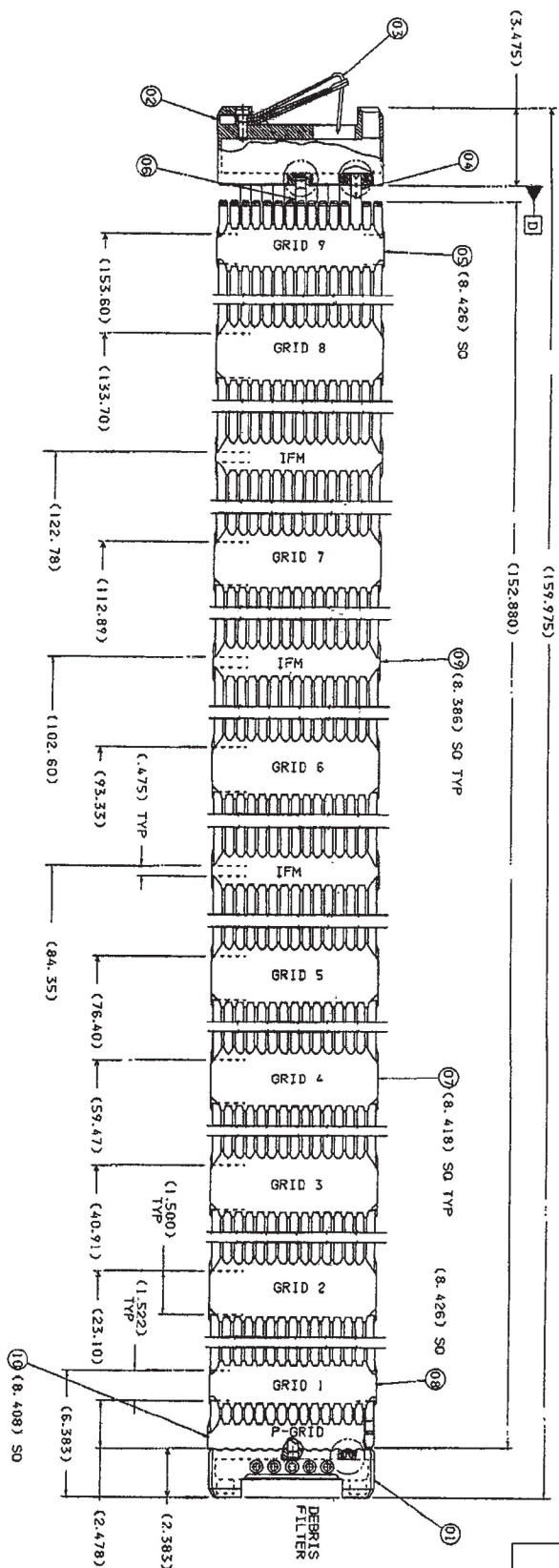
INDIAN POINT UNIT No. 2

UFSAR FIGURE 3.2-61A

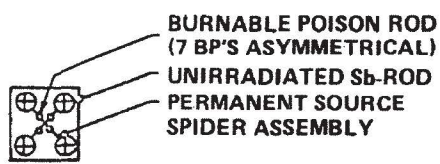
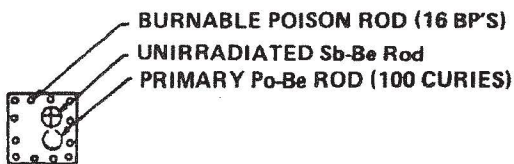
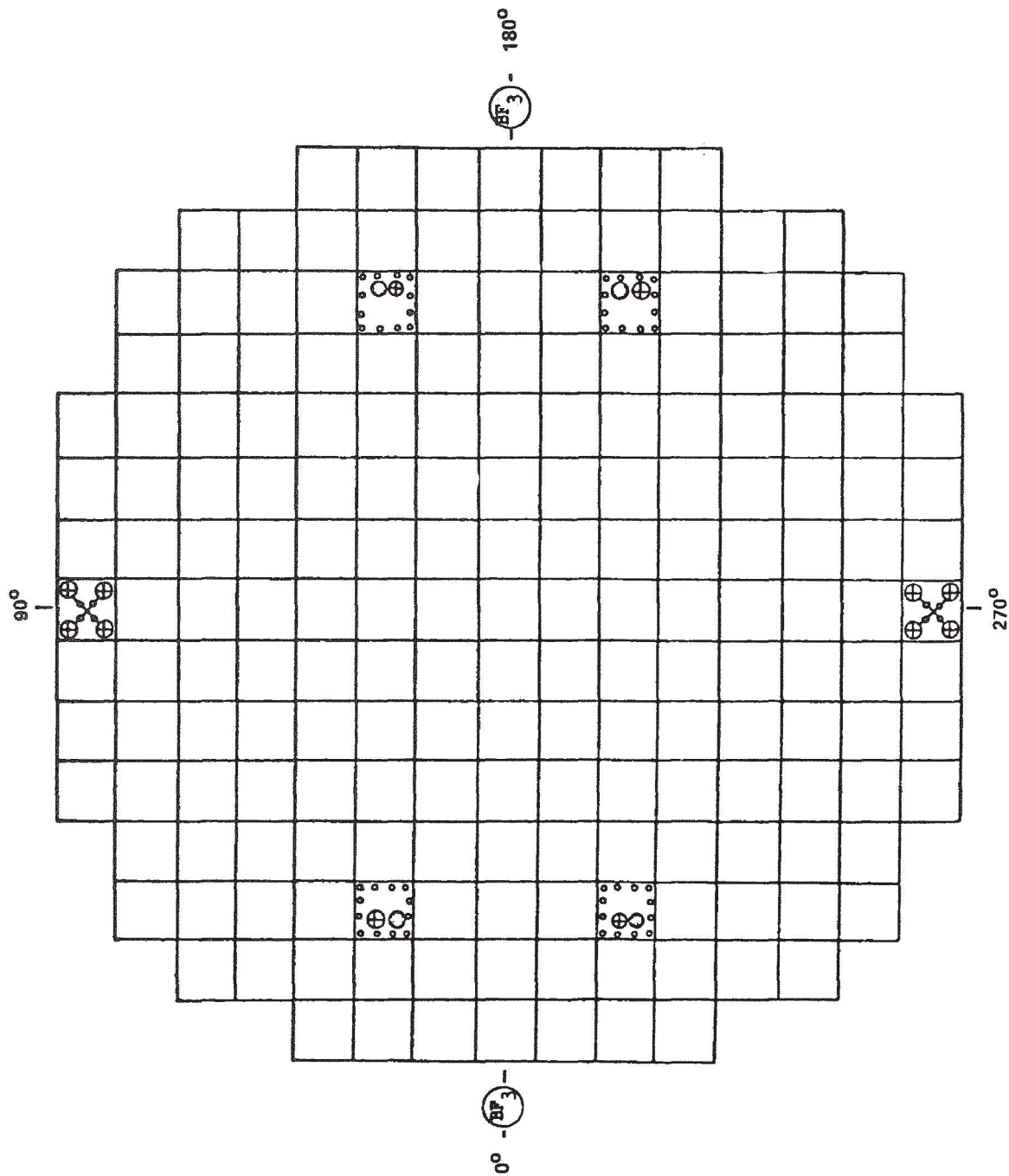
ELEVATION VIEW - VANTAGE+
GRID TO THIMBLE ATTACHMENT

MIC. No. 1999MC3719

REV. No. 17A



| | |
|--|--------------|
| INDIAN POINT UNIT No. 2 | |
| UFSAR FIGURE 3.2-61B | |
| VANTAGE+ FUEL ASSEMBLY WITH PERFORMANCE+ ENHANCEMENTS | |
| MIC. No. 1999MC3720 | REV. No. 17B |



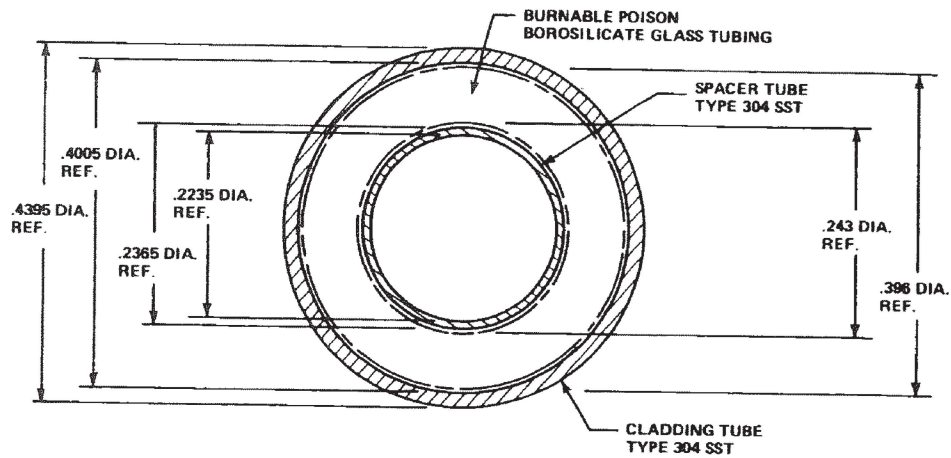
INDIAN POINT UNIT No. 2

UFSAR FIGURE 3.2-62

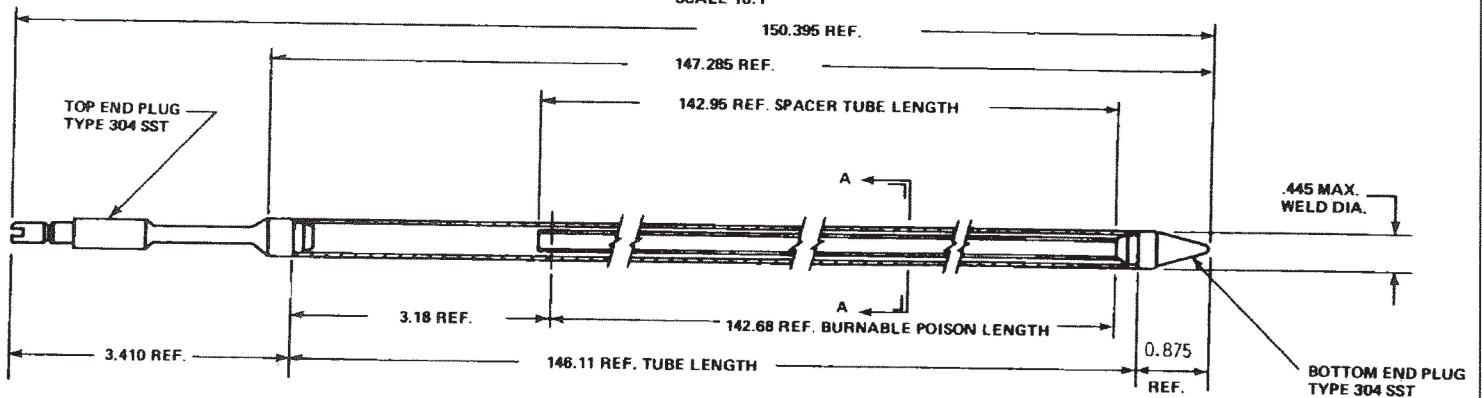
CYCLE 1 -
NEUTRON SOURCE LOCATIONS

MIC. No. 1999MC3721

REV. No. 17A



SECTION A-A
SCALE 10:1



Note: Dimensions are expressed
in inches.

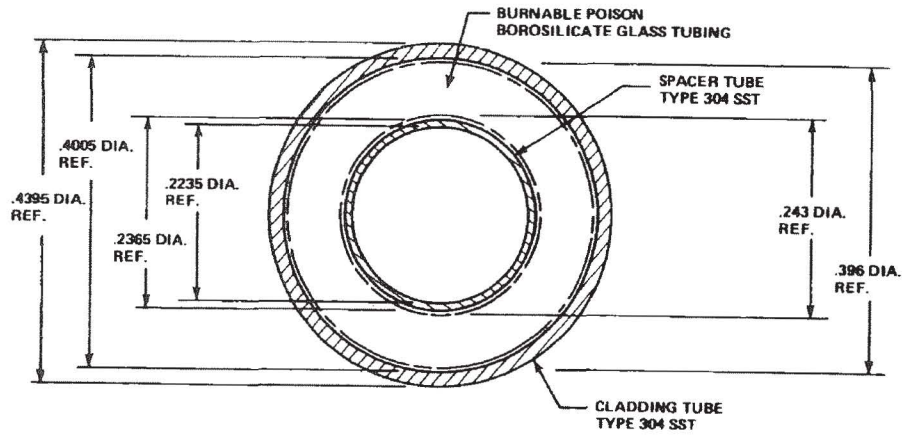
INDIAN POINT UNIT No. 2

UFSAR FIGURE 3.2-63

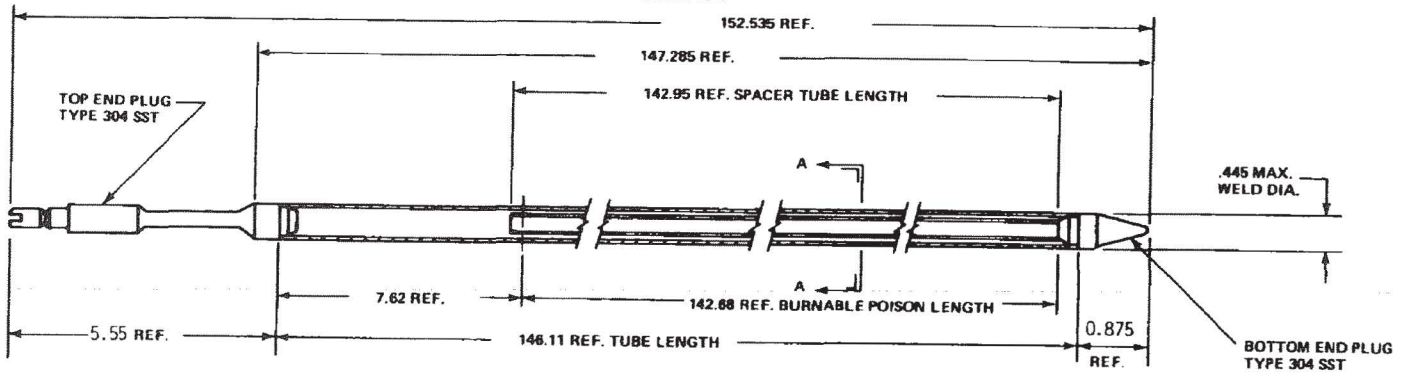
HIPAR BURNABLE
POISON ROD

MIC. No. 1999MC3722

REV. No. 17A



SECTION A-A
SCALE 10:1



Note: Dimensions are expressed in inches.

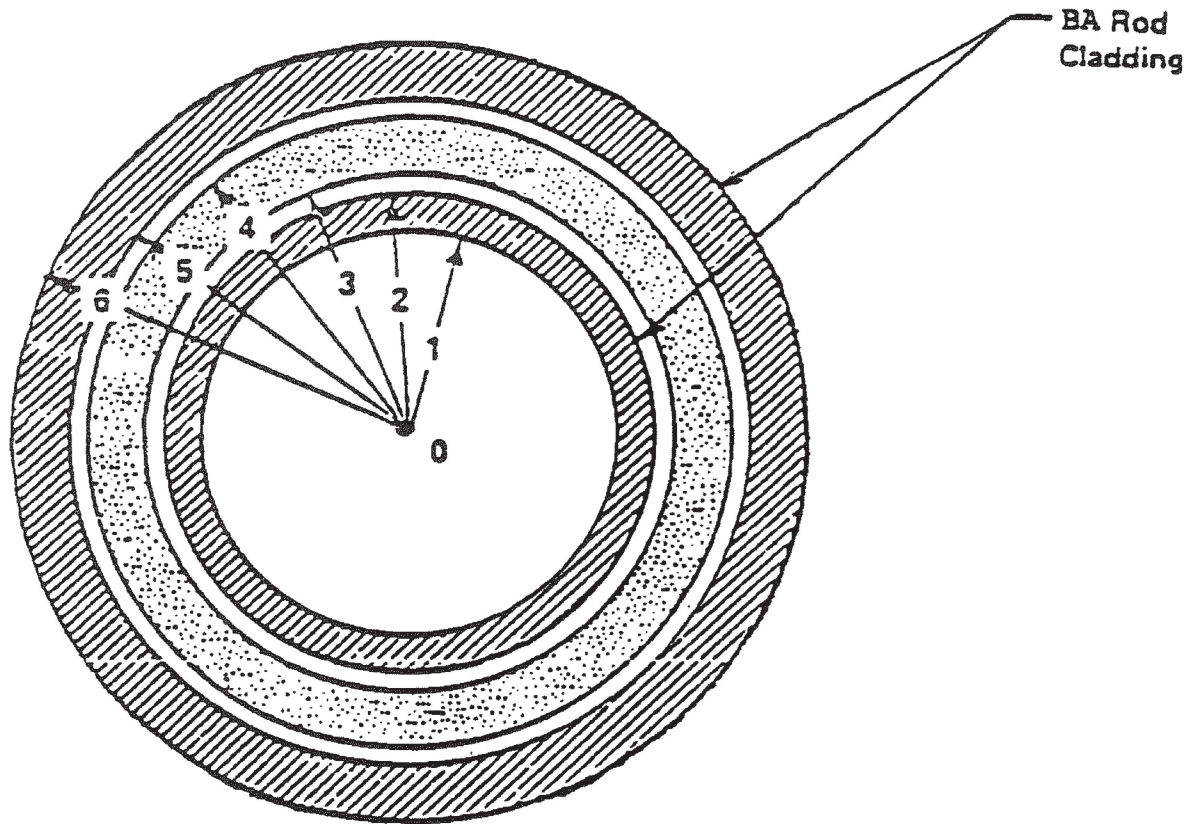
INDIAN POINT UNIT No. 2

UFSAR FIGURE 3.2-64







LOPAR BURNABLE
POISON ROD

MIC. No. 1999MC3723

REV. No. 17A



Zone Number Previous Design BA WABA Design

| | | | |
|---|-----|--------------------|----------------------|
|  | 0-1 | Air | Water |
|  | 1-2 | Stainless steel | Zircaloy |
|  | 2-3 | Air | Helium |
|  | 3-4 | Borosilicate glass | $Al_2O_3 \cdot B_4C$ |
|  | 4-5 | Air | Helium |
|  | 5-6 | Stainless steel | Zircaloy |

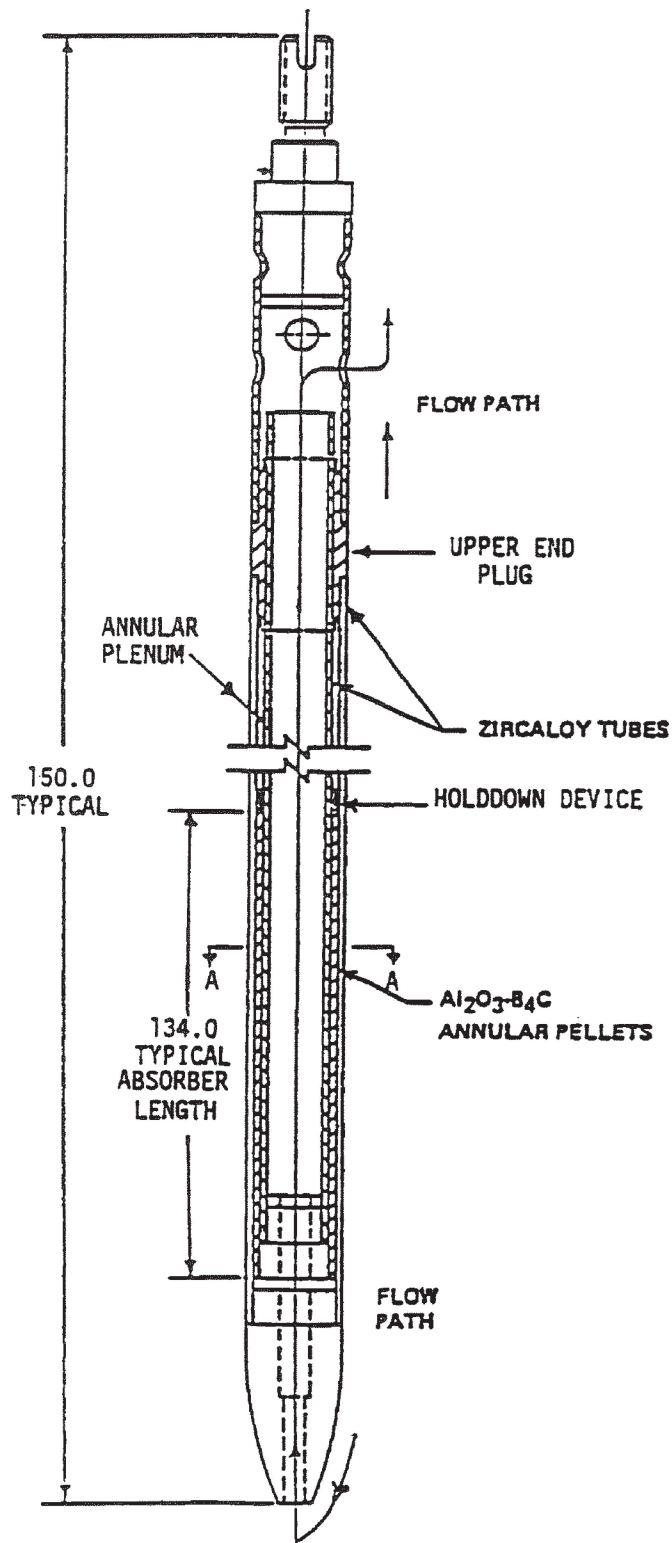
INDIAN POINT UNIT No. 2

UFSAR FIGURE 3.2-69

COMPARISON OF BOROSILICATE GLASS
ABSORBER ROD WITH WABA ROD

MIC. No. 1999MC3730

REV. No. 17A



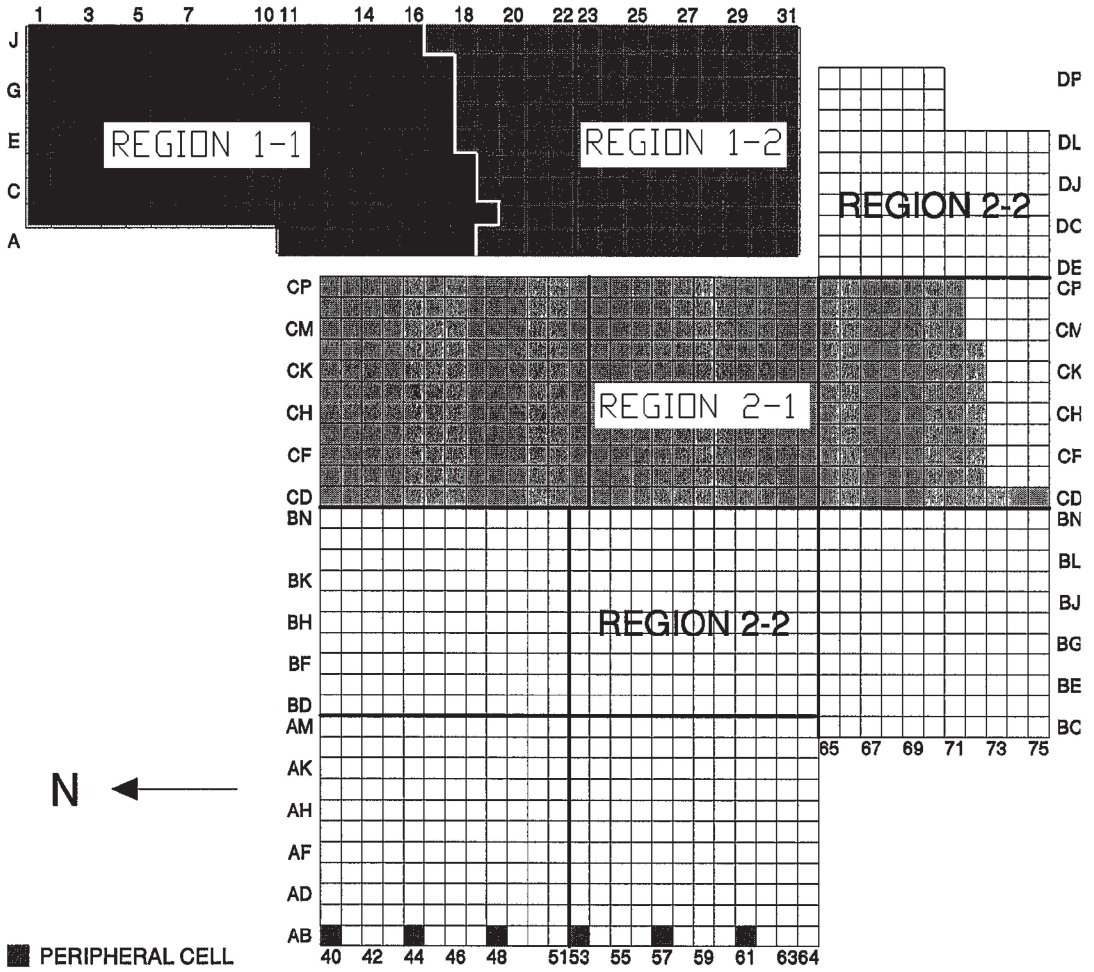
INDIAN POINT UNIT No. 2

UFSAR FIGURE 3.2-70

WET ANNULAR BURNABLE
ABSORBER ROD

MIC. No. 1999MC3732

REV. No. 17A

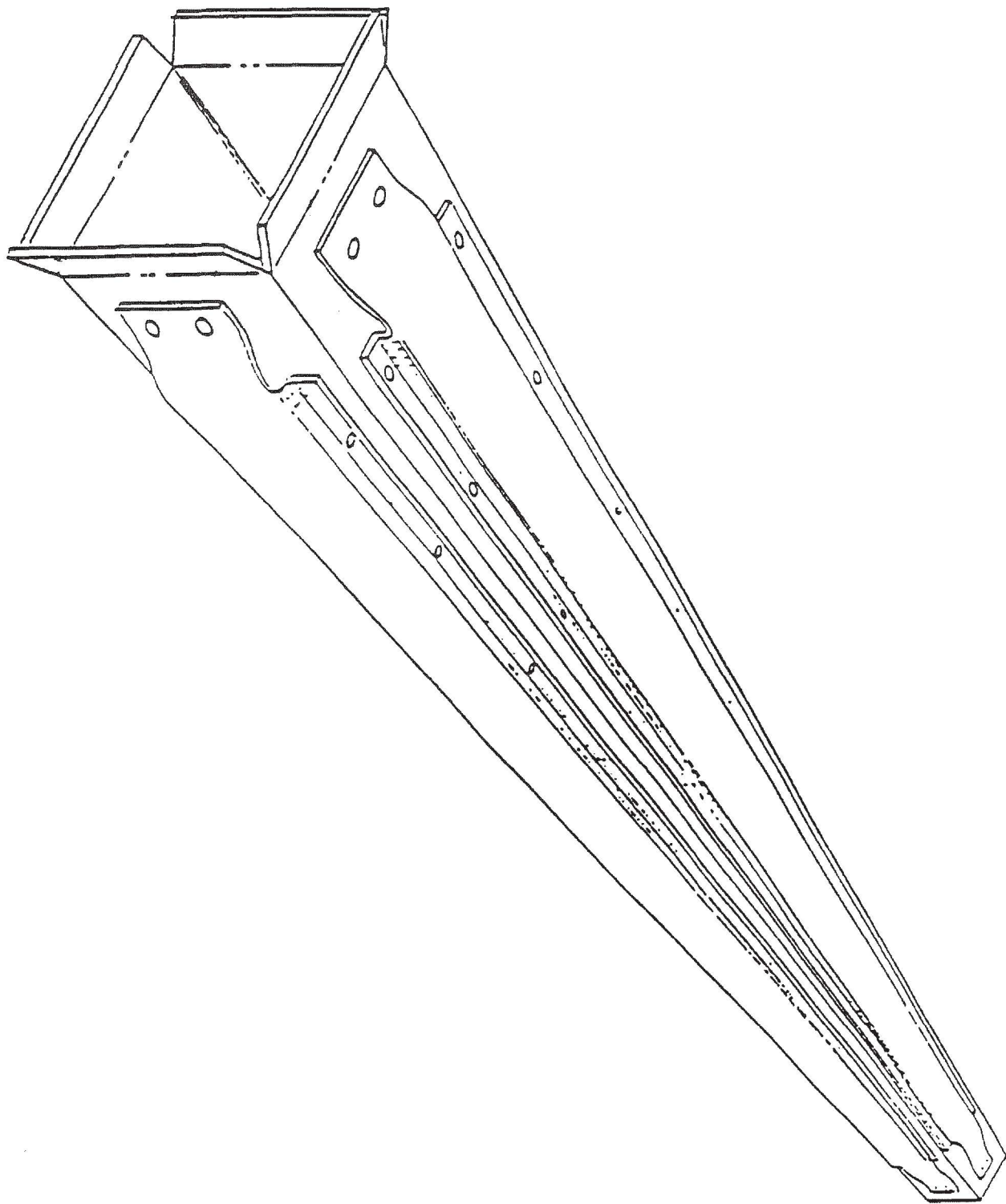


INDIAN POINT UNIT No. 2

UFSAR FIGURE 9.5-2

SPENT FUEL STORAGE RACK LAYOUT

MIC. No. 1999MC3887 | REV. No. 17B



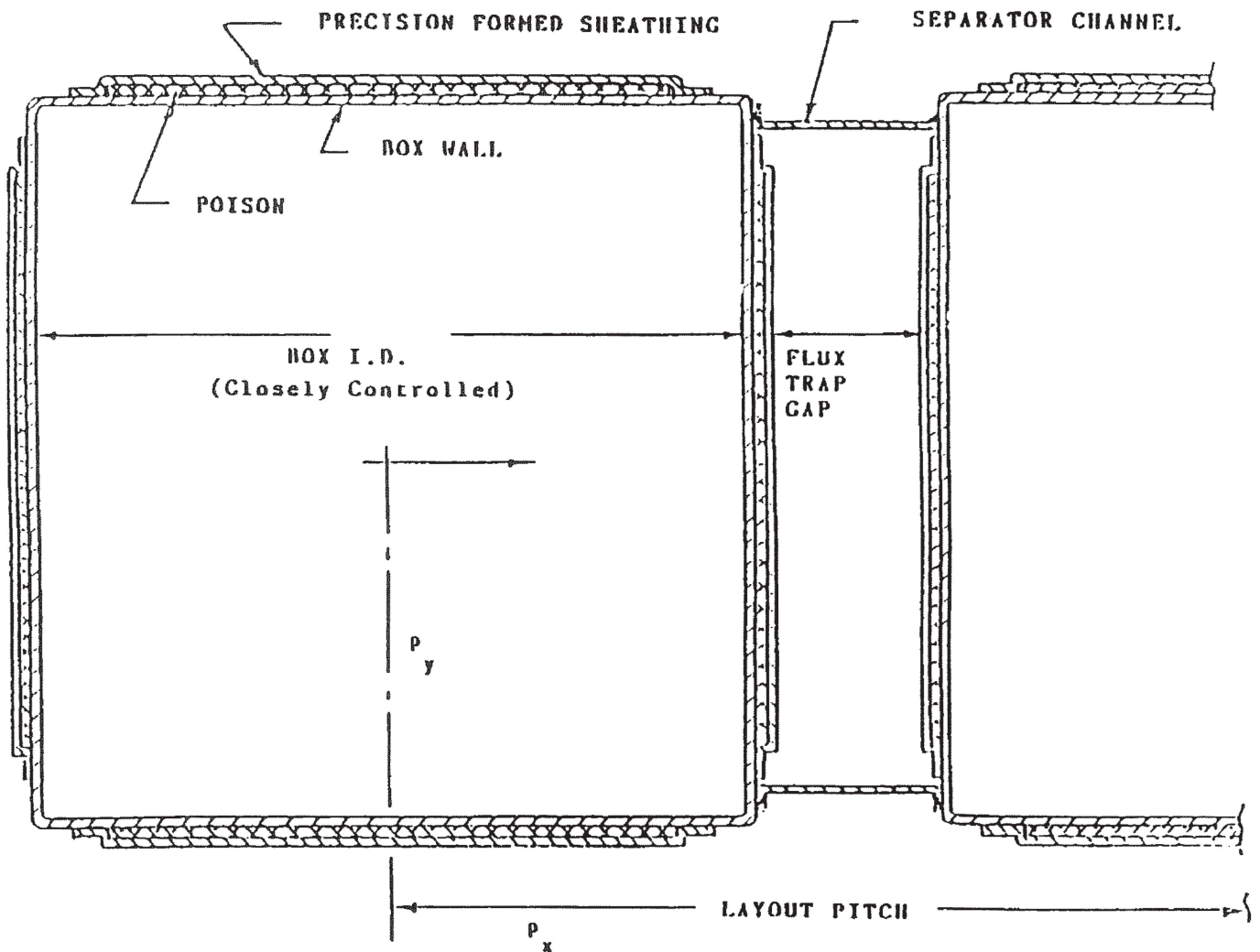
INDIAN POINT UNIT No. 2

UFSAR FIGURE 9.5-3

SPENT FUEL STORAGE CELL
REGION I

MIC. No. 1999MC3888

REV. No. 17A



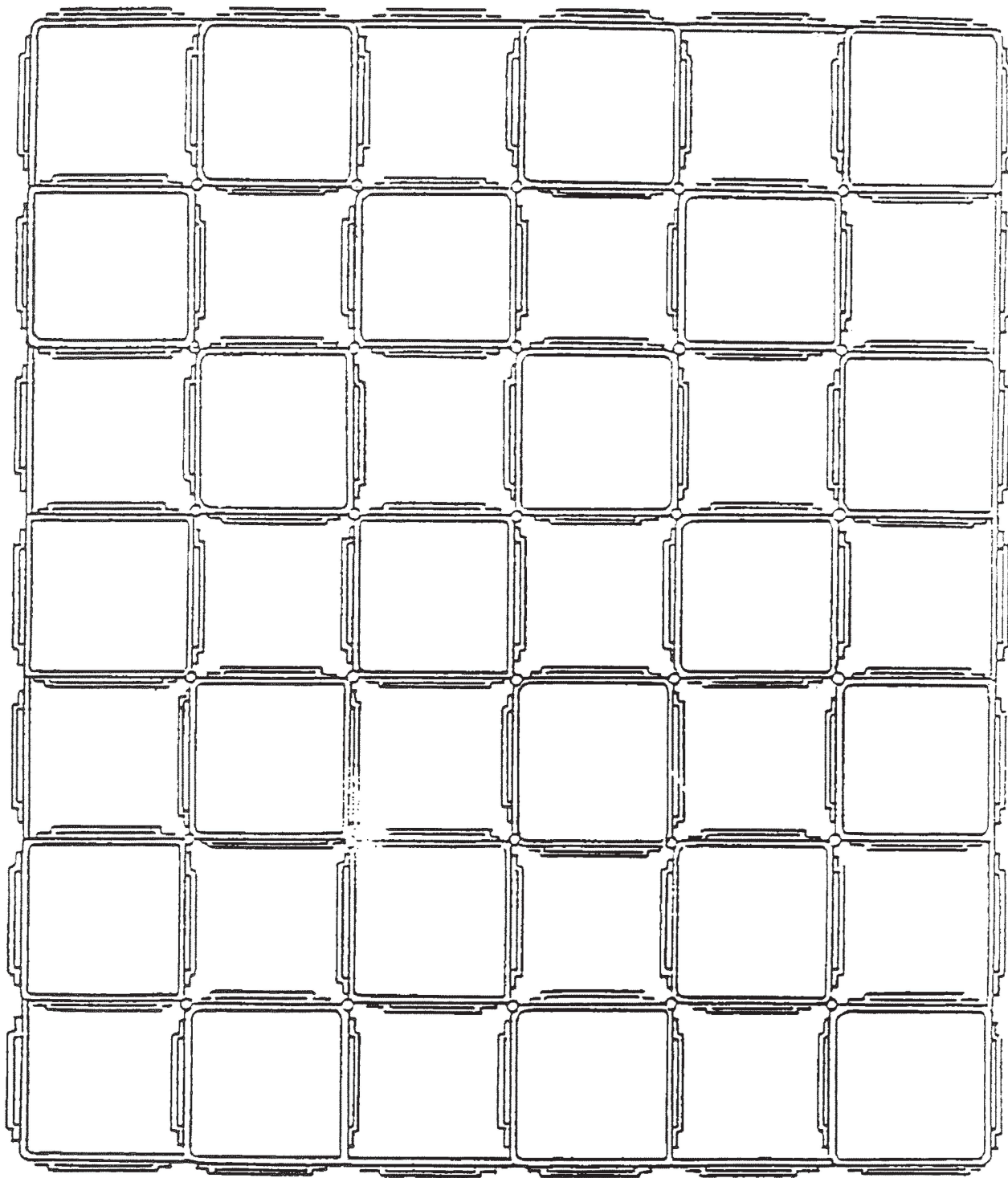
INDIAN POINT UNIT No. 2

UFSAR FIGURE 9.5-4

REGION I CELL
CROSS SECTION

MIC. No. 1999MC3889

REV. No. 17A



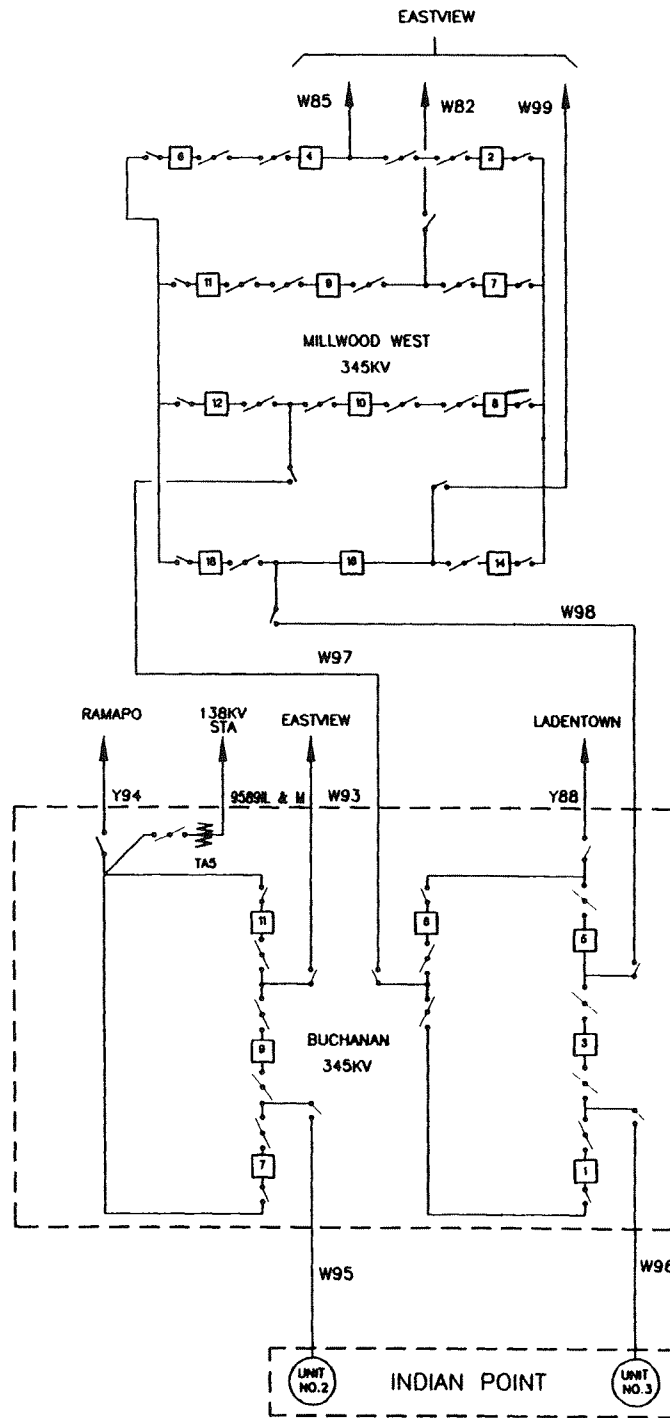
INDIAN POINT UNIT No. 2

UFSAR FIGURE 9.5-5

REGION II
CROSS SECTION

MIC. No. 1999MC3890

REV. No. 17A



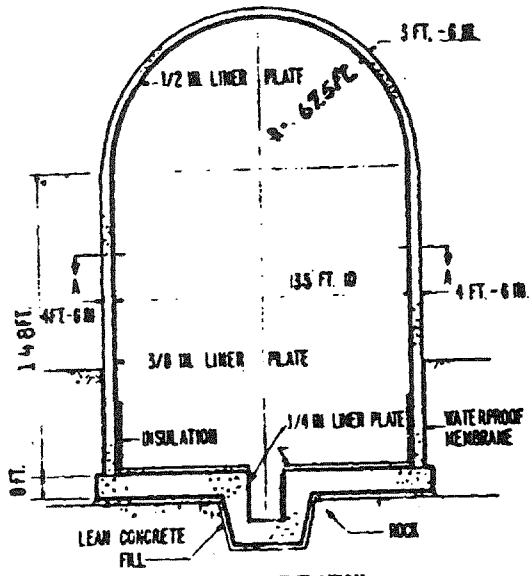
INDIAN POINT UNIT No. 2

UFSAR FIGURE 8.2-4

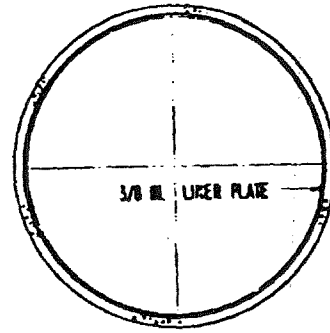
345KV INSTALLATION
AT BUCHANAN

MIC. No. 1999MC3885

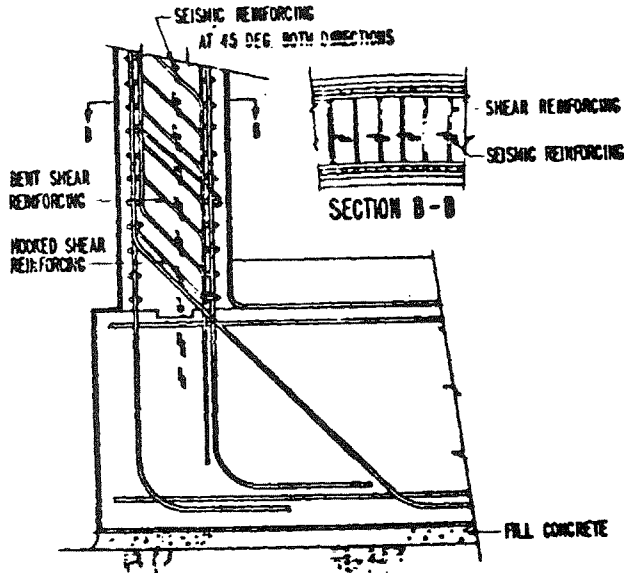
REV. No. 17A



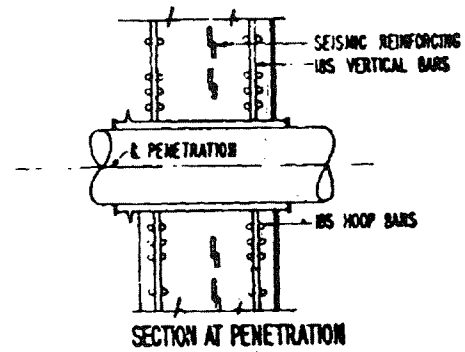
SECTIONAL ELEVATION



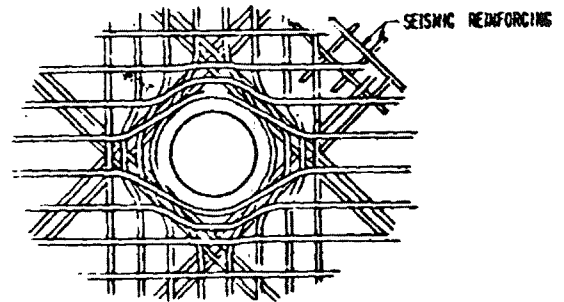
SECTION A-A



TYPICAL REINFORCING AT JUNCTURE OF CYLINDRICAL SHELL AND MAT



SECTION AT PENETRATION



ELEVATION AT PENETRATION

INDIAN POINT UNIT No. 2

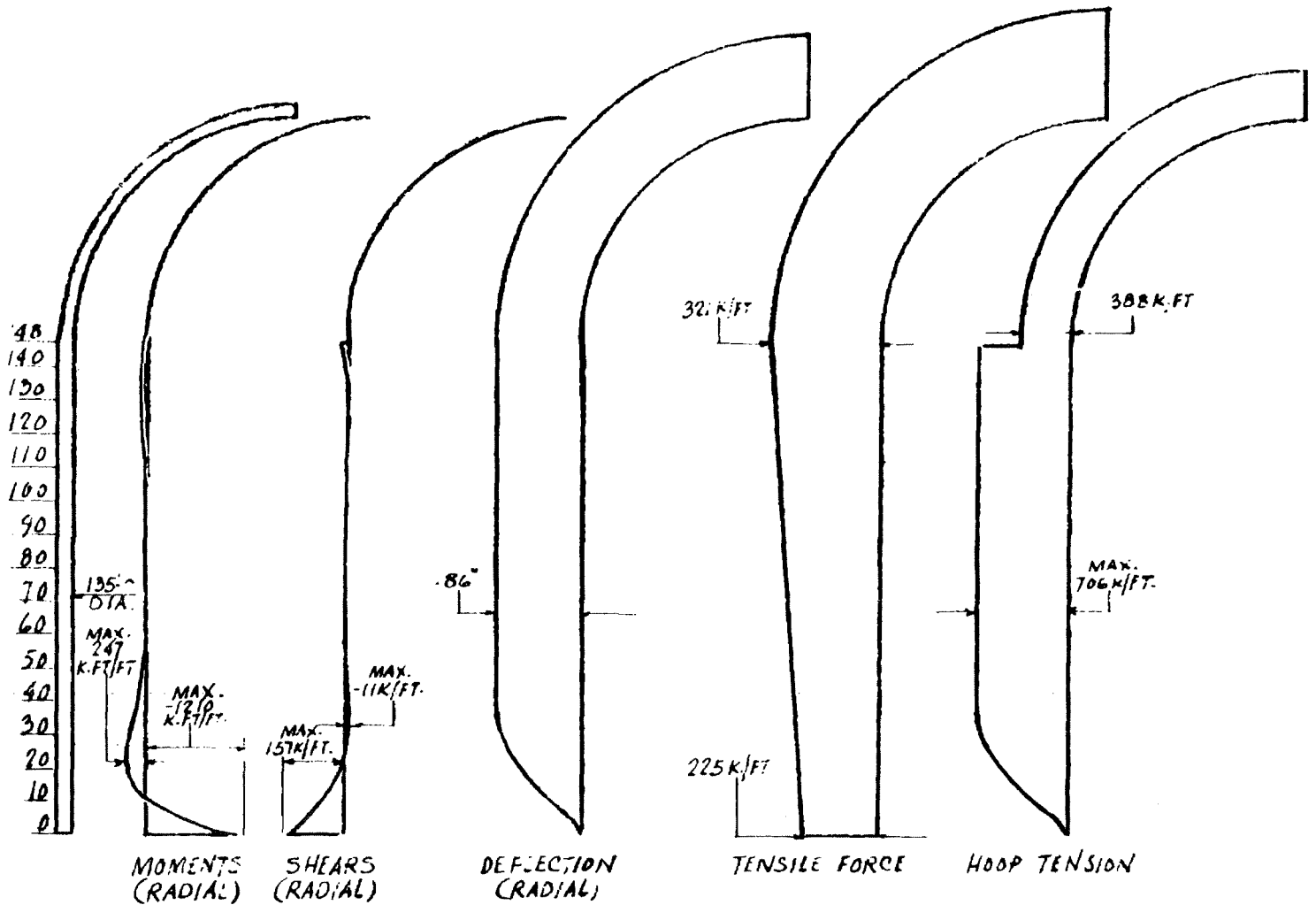
UFSAR FIGURE 5.1-1

CONTAINMENT STRUCTURE

MIC. No. 1999MC3746

REV. No. 17A

$$C = 1.0D \pm 0.05D + 1.5P + 1.0(T+TL)$$



INDIAN POINT UNIT No. 2

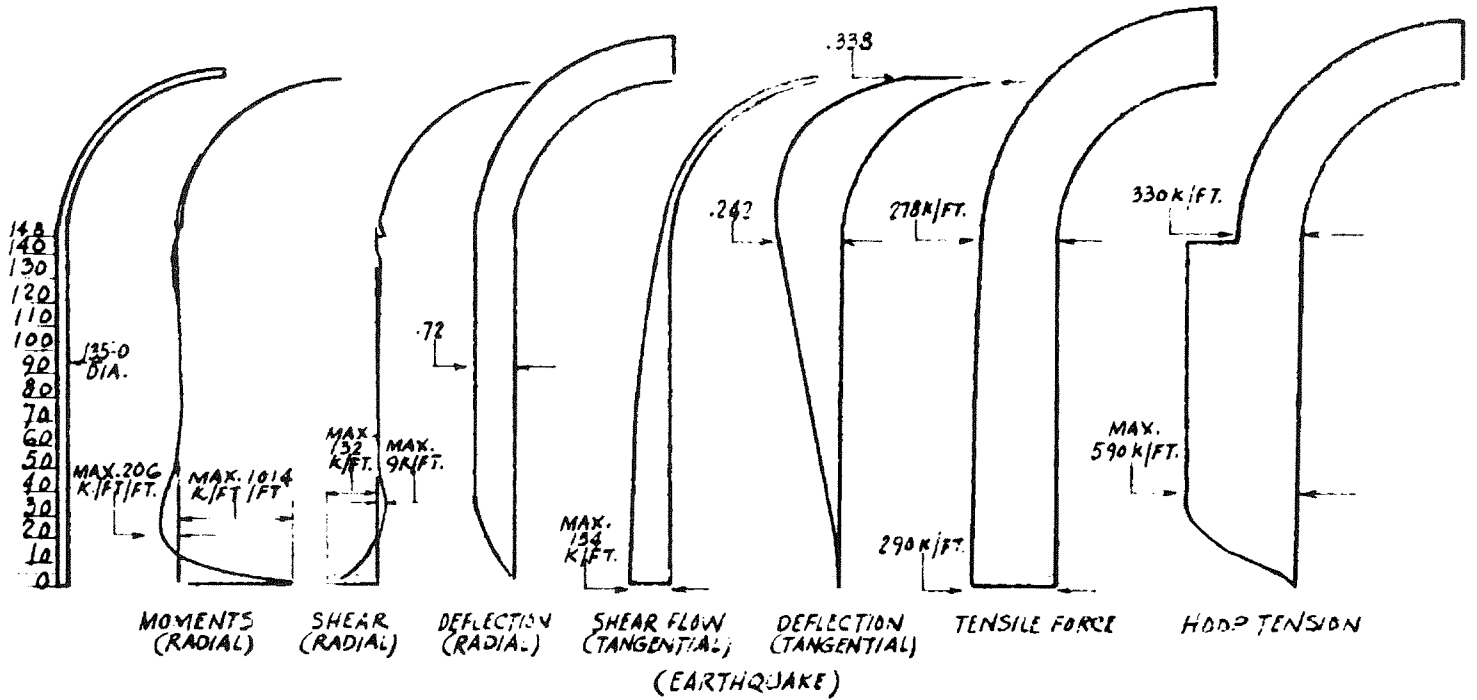
UFSAR FIGURE 5.1-11

CYLINDER AND DOME-LOAD
CONDITION (A) - 1.5P

MIC. No. 1999MC3750

REV. No. 17A

$$C = 1.0D \pm 0.05D + 1.25P + 1.0(T + T_L') + 1.25E$$



INDIAN POINT UNIT No. 2

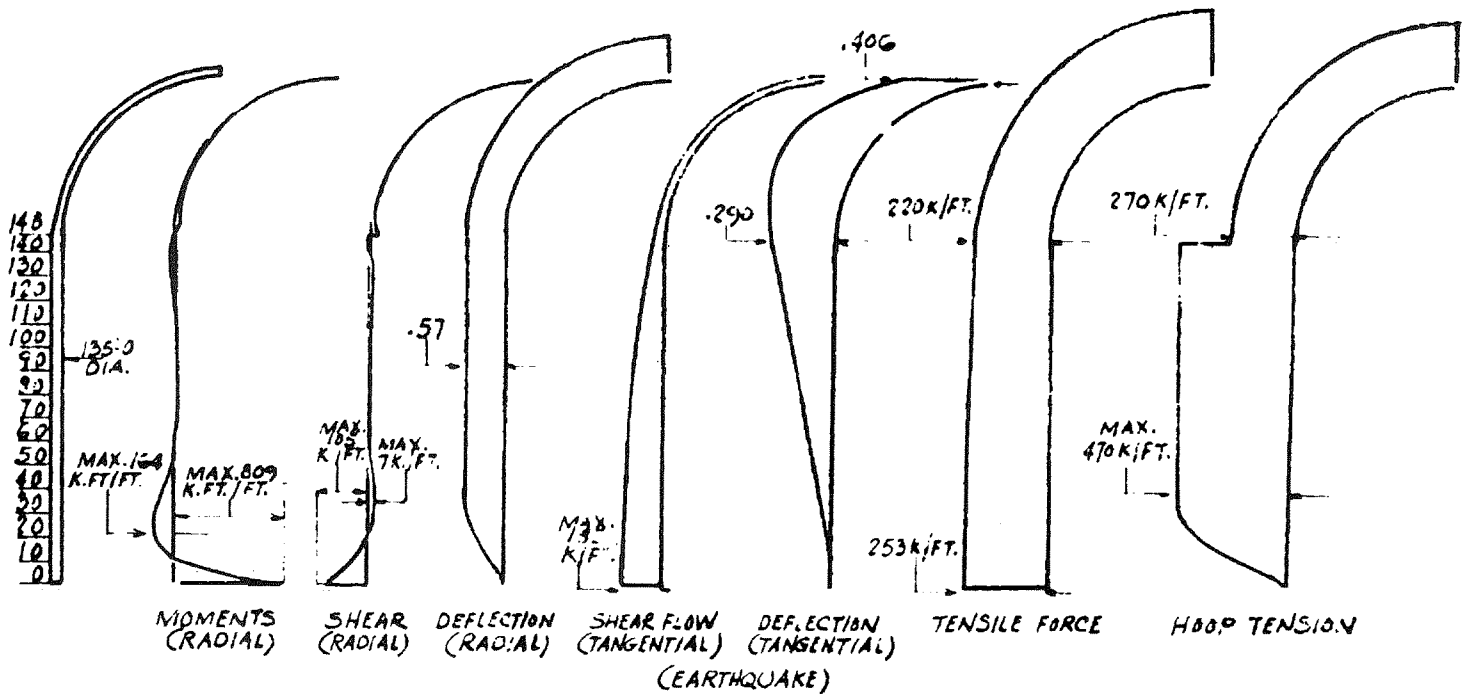
UFSAR FIGURE 5.1-12

CYLINDER AND DOME-LOAD
CONDITION (B) - 1.25P

MIC. No. 1999MC3751

REV. No. 17A

$$C = 1.0D \pm 0.05D + 1.0P + 1.0(T + TL'') + 1.0E'$$



INDIAN POINT UNIT No. 2

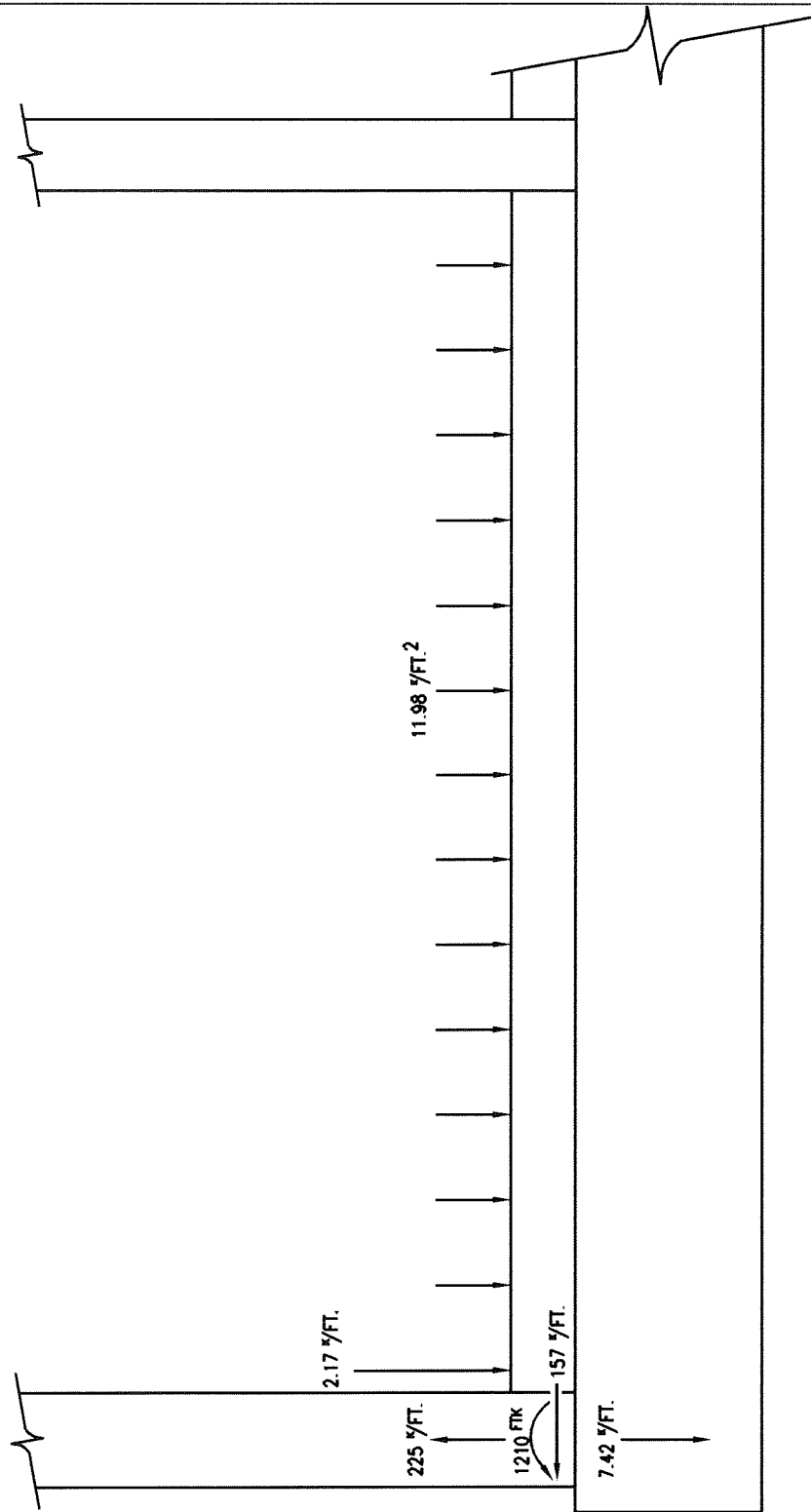
UFSAR FIGURE 5.1-13

CYLINDER AND DOME—LOAD
CONDITION (C) — 1.0P

MIC. No. 1999MC3752

REV. No. 17A

$$C = 1.0D \pm 0.05D + 1.5P + 1.0(T+TL)$$



INDIAN POINT UNIT No. 2

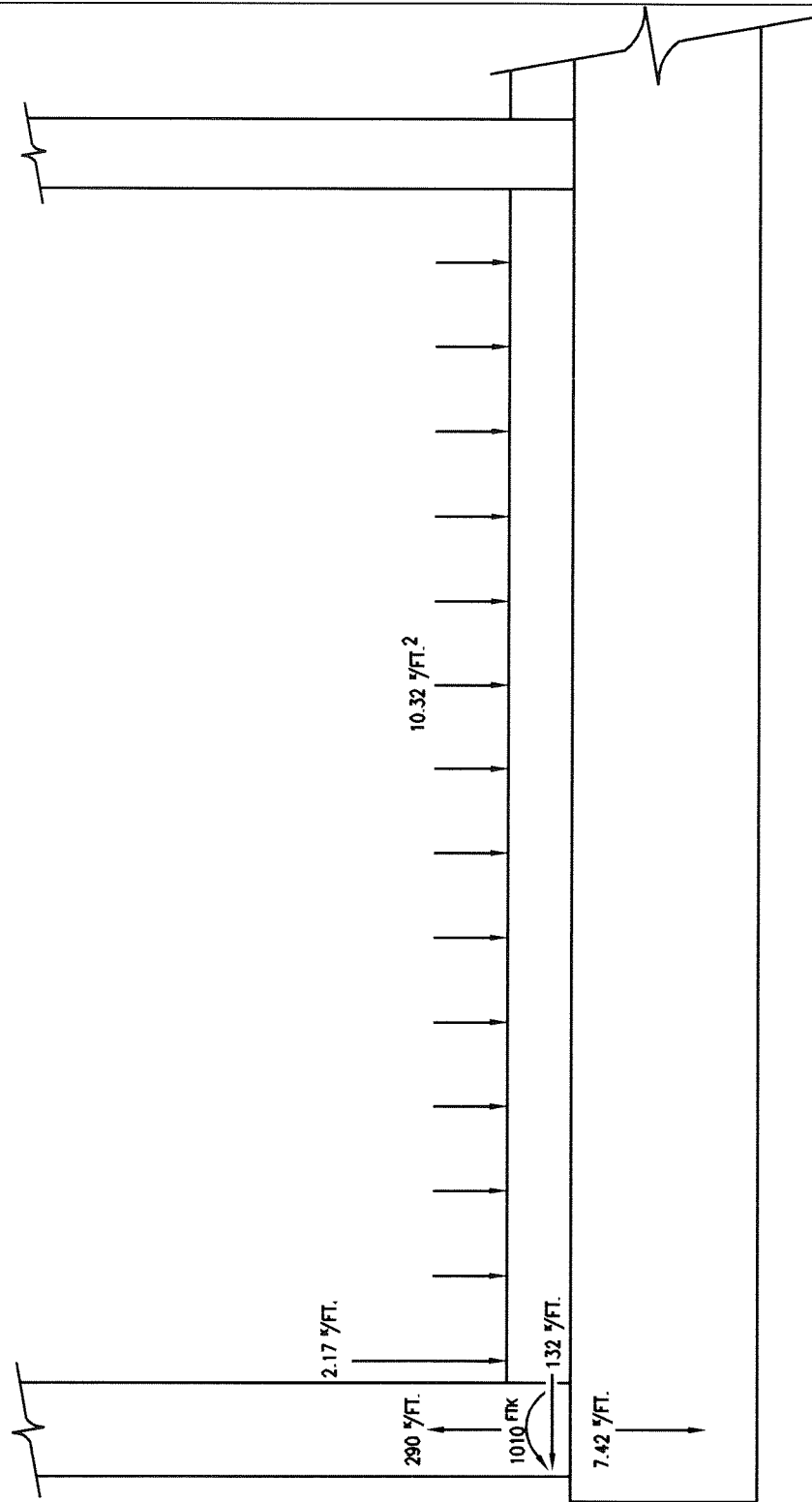
UFSAR FIGURE 5.1-14

LOADING DIAGRAM IN MAT-LOAD
CONDITION (A) - 1.5P

MIC. No. 1999MC3753

REV. No. 17A

$$C = 1.0D \pm 0.05D + 1.25P + 1.0(T+TL) + 1.25E'$$



INDIAN POINT UNIT No. 2

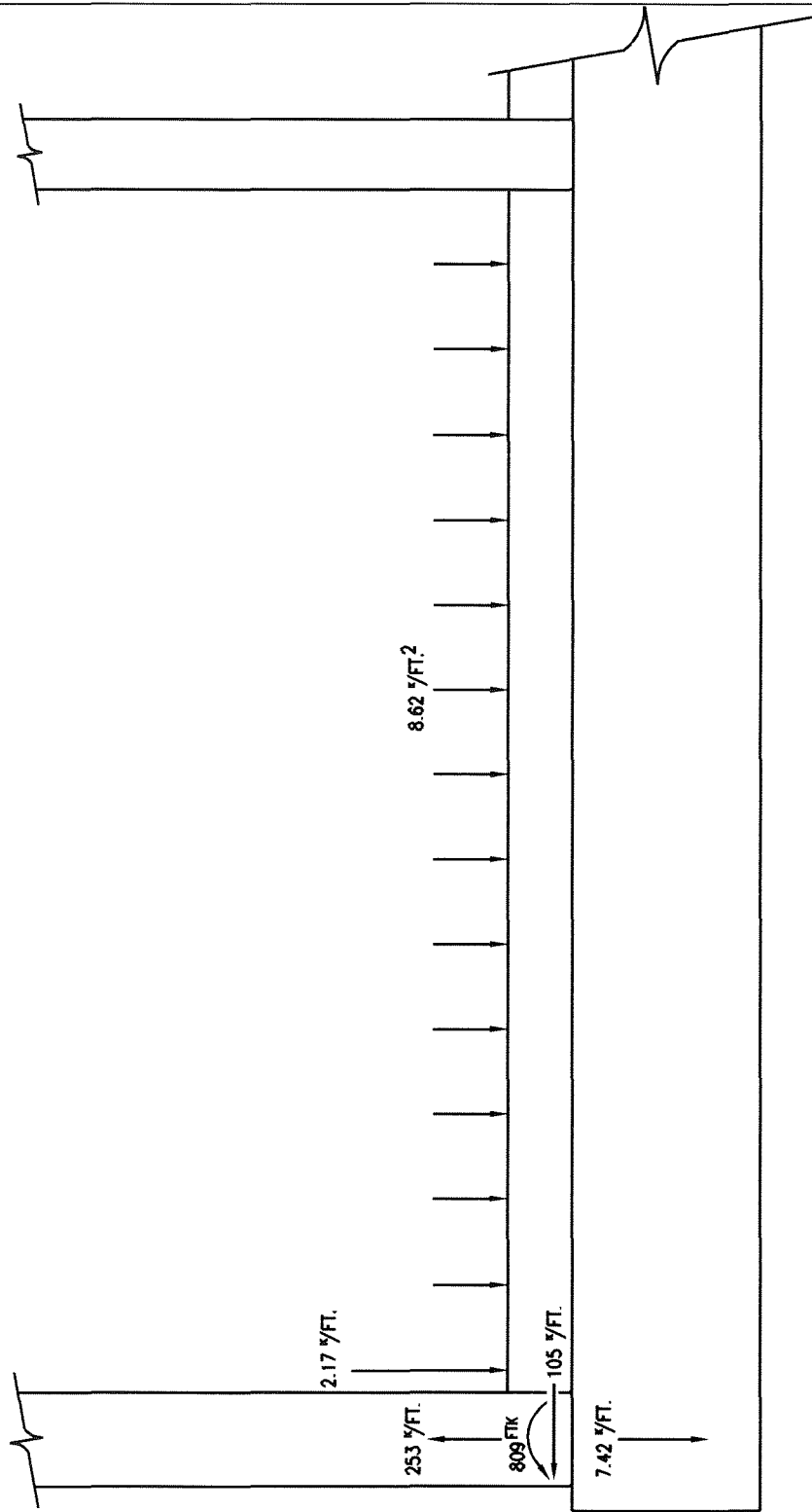
UFSAR FIGURE 5.1-15

LOADING DIAGRAM IN MAT-LOAD
CONDITION (B) - 1.25P

MIC. No. 1999MC3754

REV. No. 17A

$$C = 1.0D \pm 0.05D + 1.0P + 1.0(T+TL) + 1.0E'$$



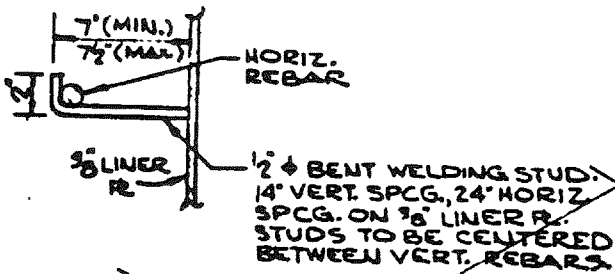
INDIAN POINT UNIT No. 2

UFSAR FIGURE 5.1-16

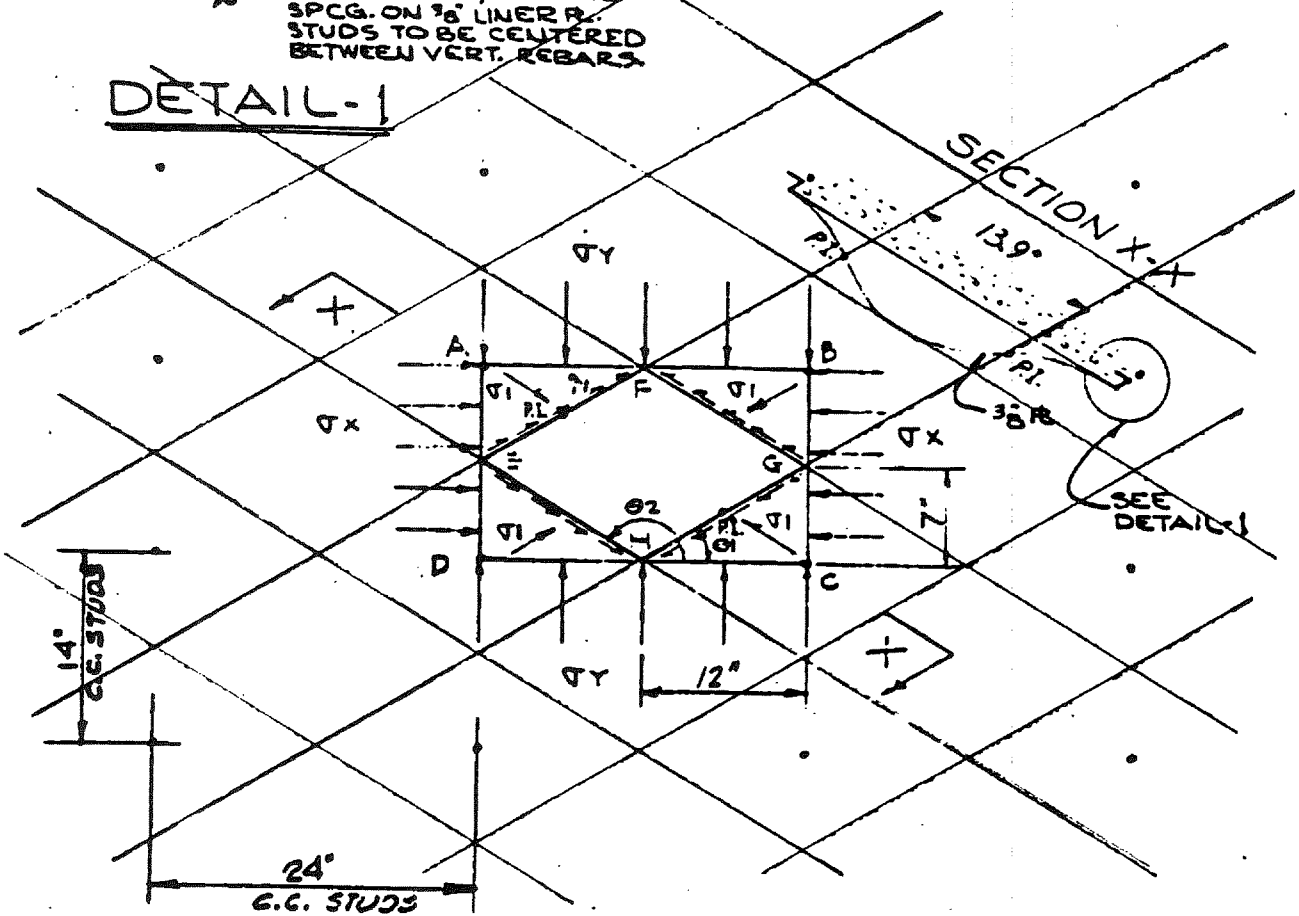
LOADING DIAGRAM IN MAT-LOAD
CONDITION (C) - 1.0P

MIC. No. 1999MC3755

REV. No. 17A



DETAIL-1



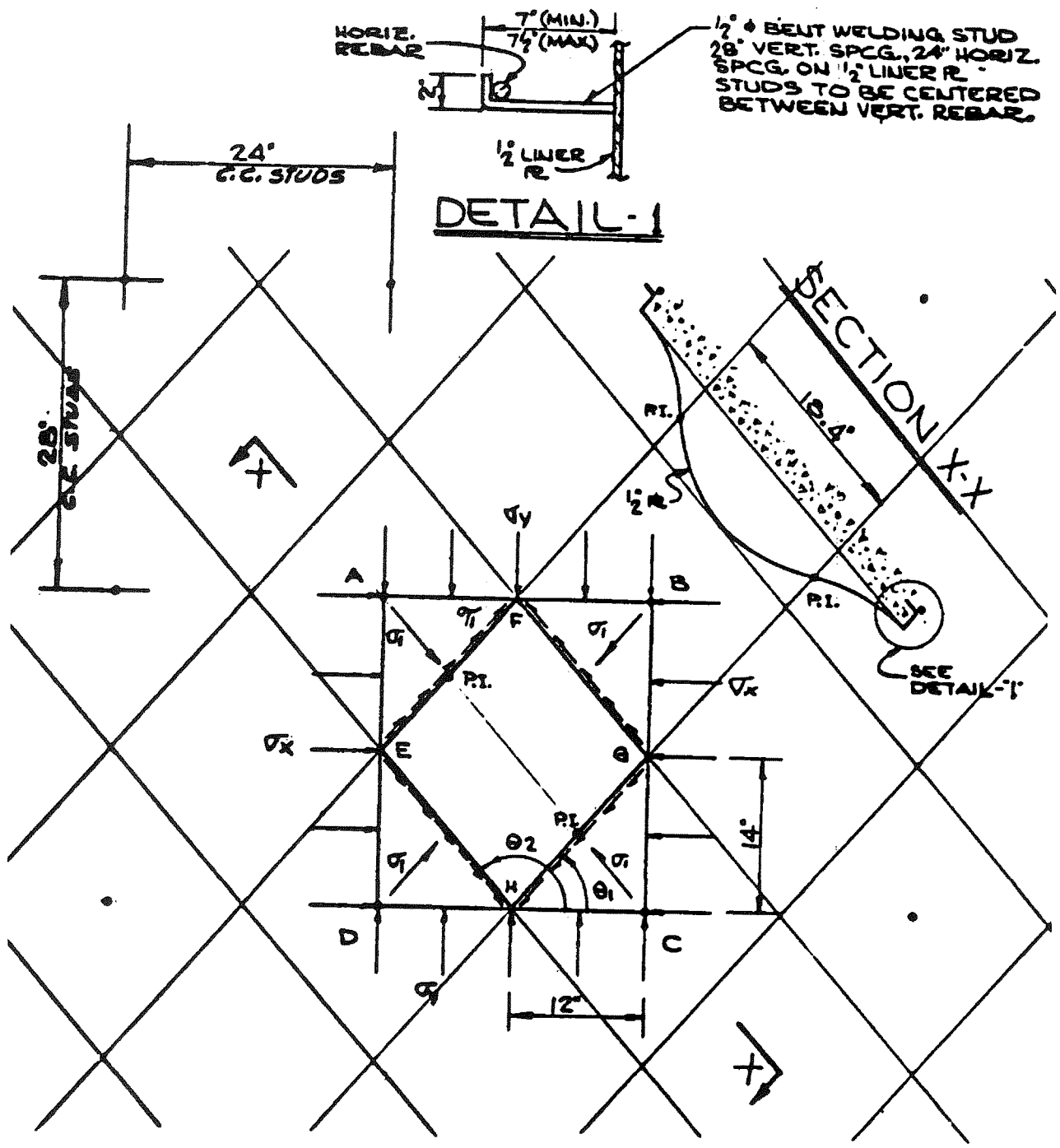
INDIAN POINT UNIT No. 2

UFSAR FIGURE 5.1-17

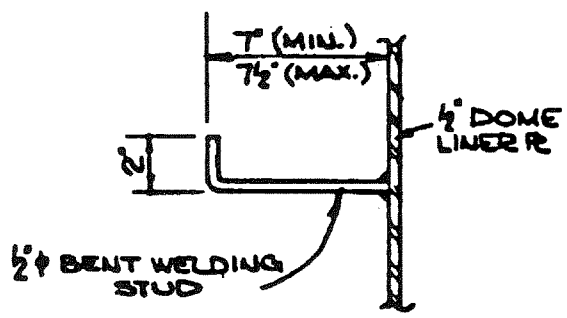
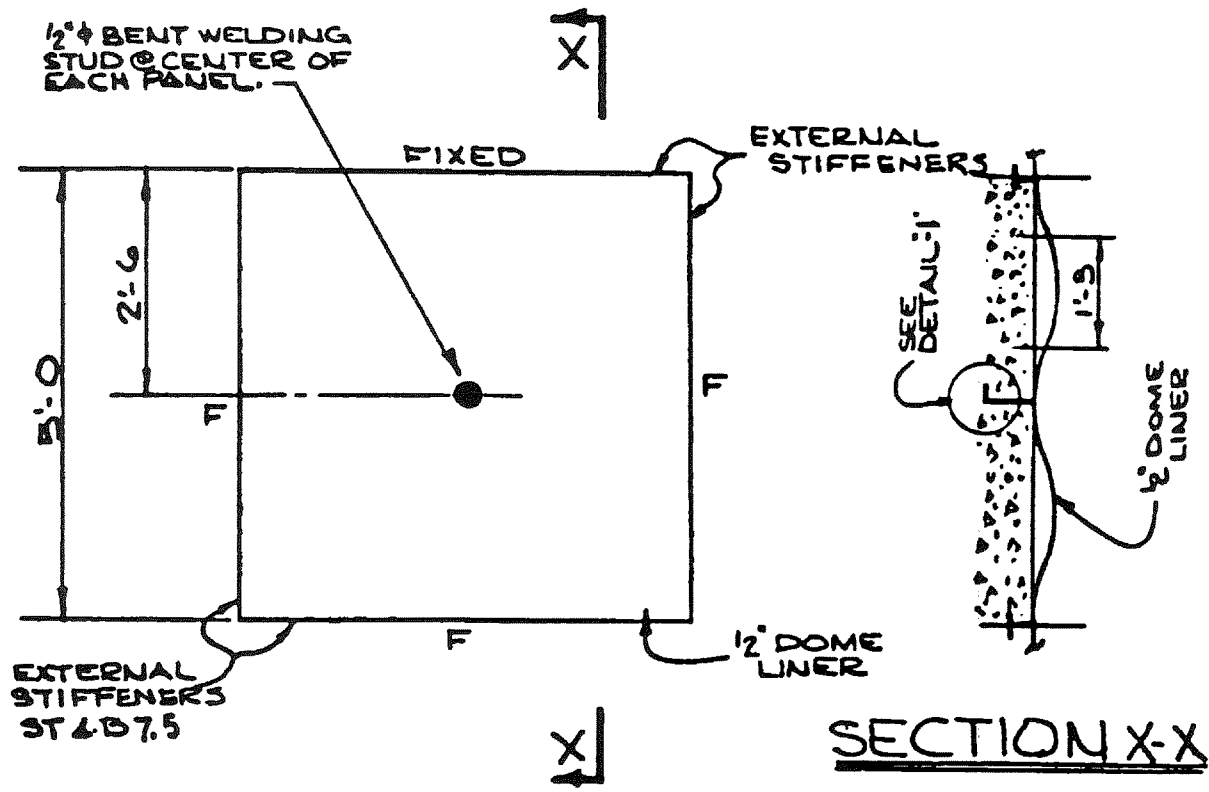
WELD STUD CONNECTION AT PANEL
LOW POINT

MIC. No. 1999MC3756

REV. No. 17A

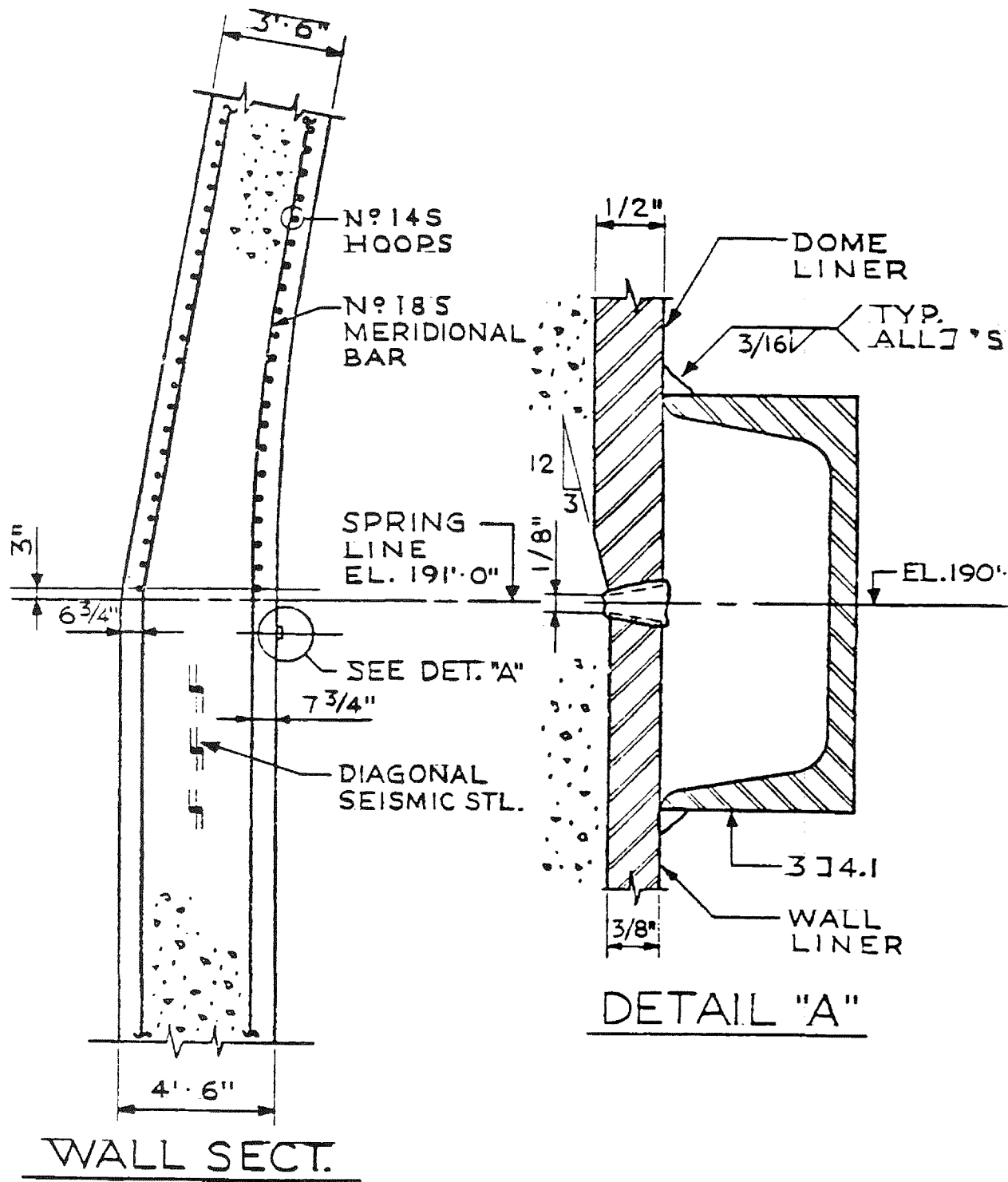


| | |
|---|--------------|
| INDIAN POINT UNIT No. 2 | |
| UFSAR FIGURE 5.1-18 | |
| WELD STUD CONNECTION AT PANEL LOW POINT | |
| MIC. No. 1999MC3757 | REV. No. 17A |



DETAIL 1

| | |
|--------------------------------------|--------------|
| INDIAN POINT UNIT No. 2 | |
| UFSAR FIGURE 5.1-19 | |
| WELD STUD CONNECTION AT PANEL CENTER | |
| MIC. No. 1999MC3758 | REV. No. 17A |



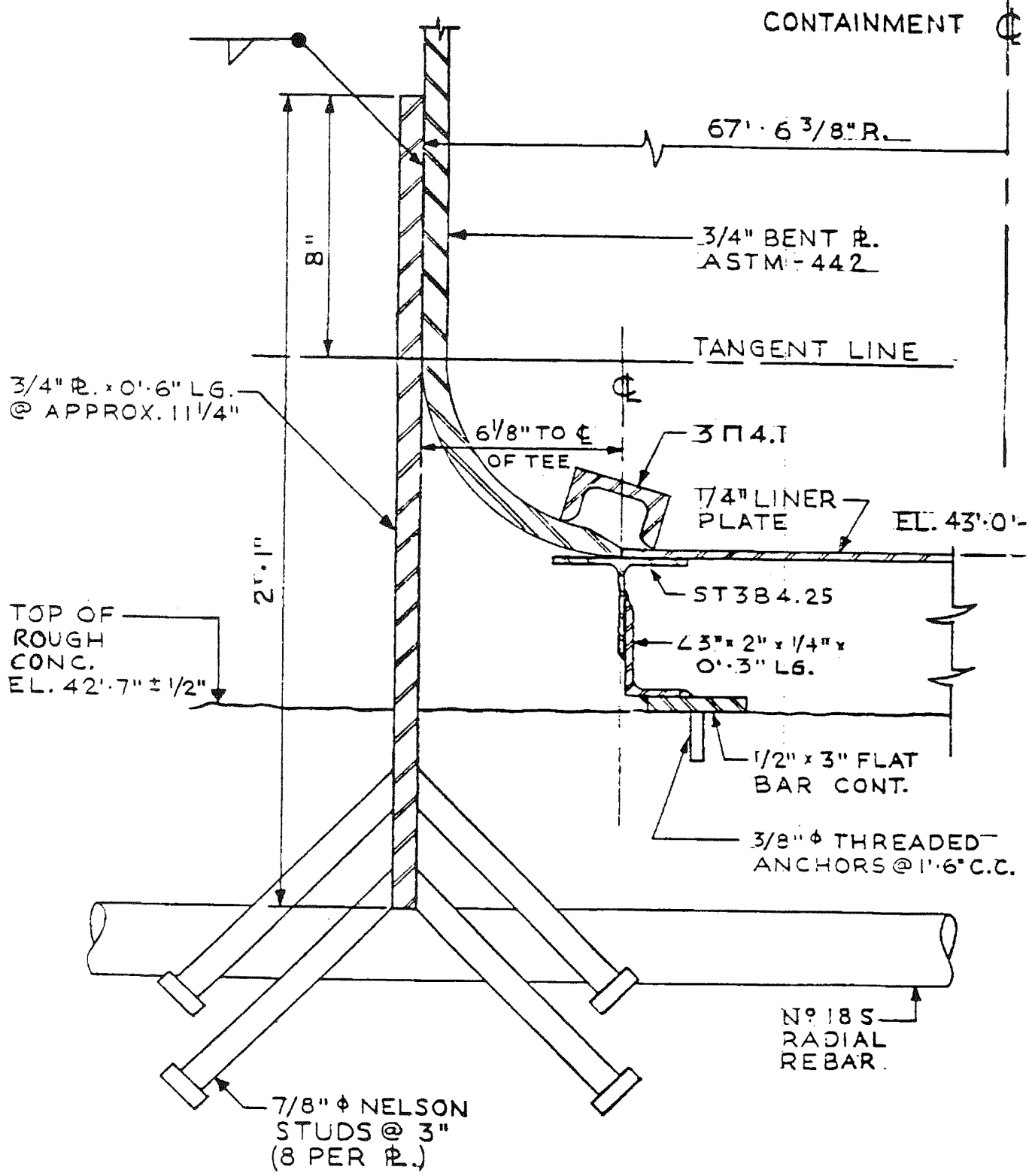
INDIAN POINT UNIT No. 2

UFSAR FIGURE 5.1-20

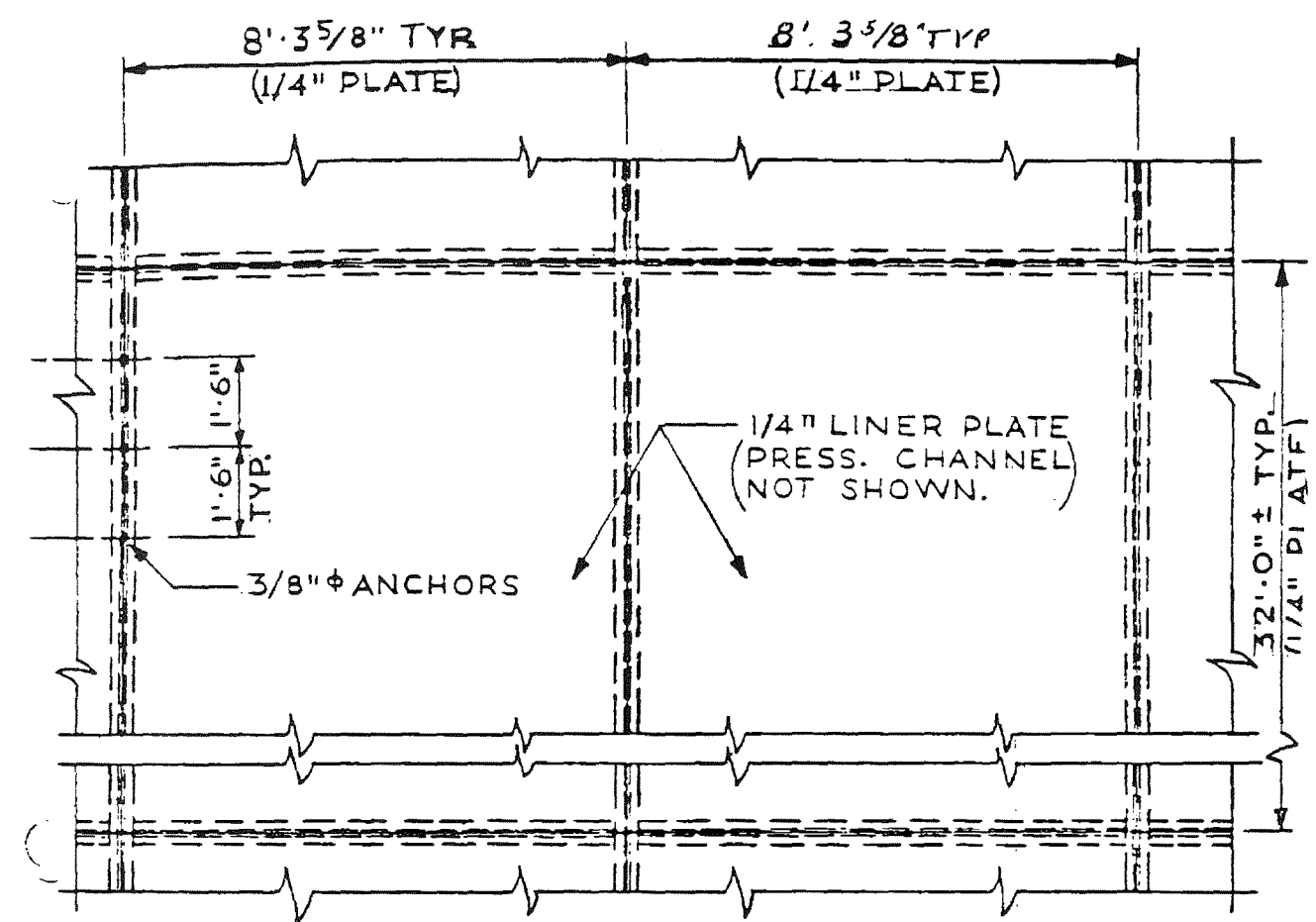
WALL SECTION

MIC. No. 1999MC3759

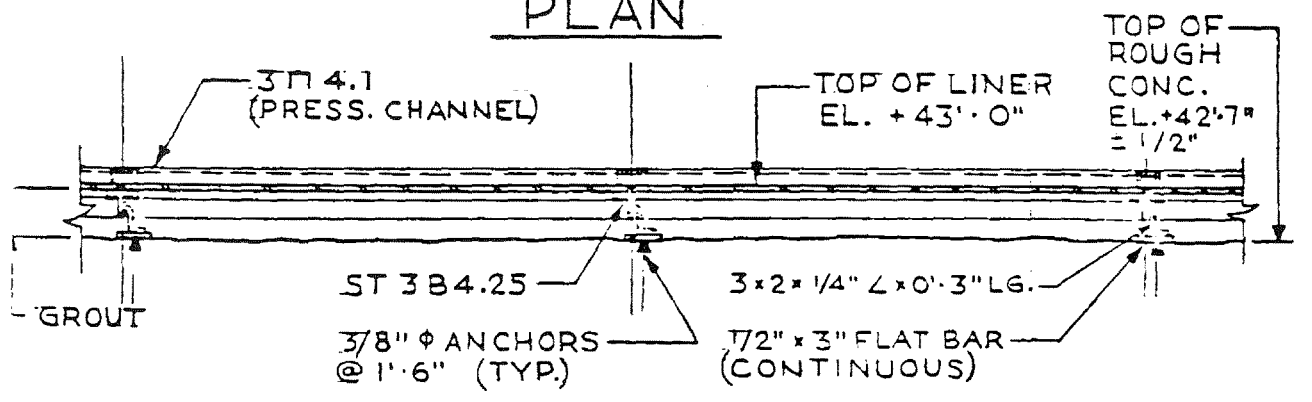
REV. No. 17A



| | |
|-----------------------------------|--------------|
| INDIAN POINT UNIT No. 2 | |
| UFSAR FIGURE NO. 5.1-21 | |
| CYLINDER BASE SLAB LINER JUNCTURE | |
| MIC. No. 1999MC3760 | REV. No. 17A |

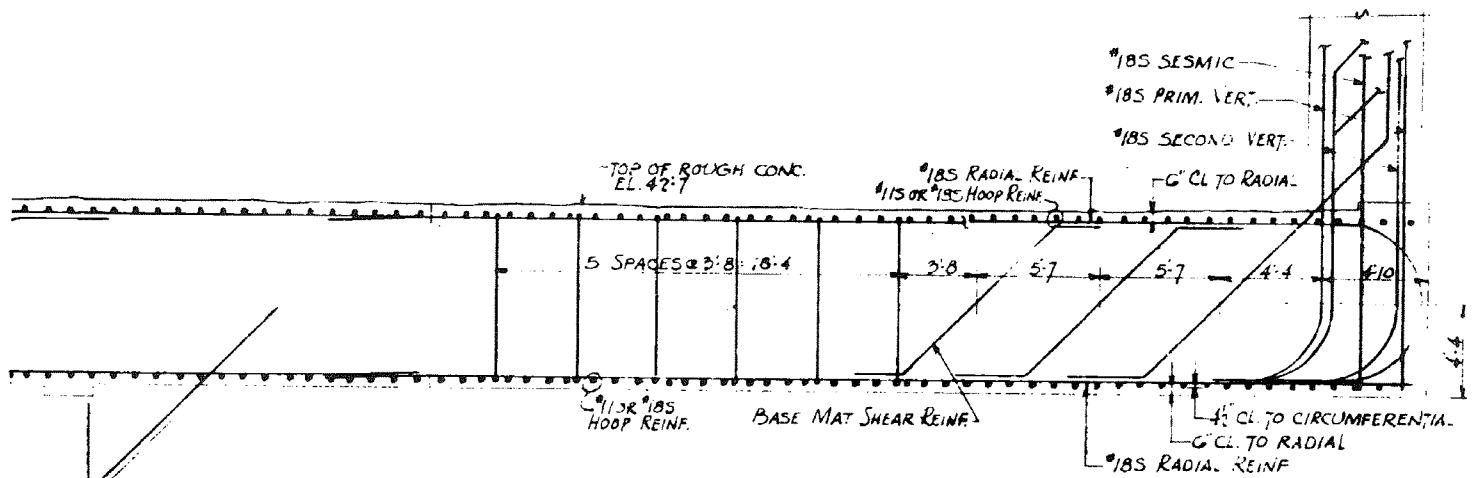


PLAN



SECTION

| | |
|----------------------------------|--------------|
| INDIAN POINT UNIT No. 2 | |
| UFSAR FIGURE 5.1-22 | |
| TYPICAL BASE MAT LINER DETAIL | |
| MIC. No. 1999MC3761 | REV. No. 17A |



BASE S.LAB REINFORCING DETAIL

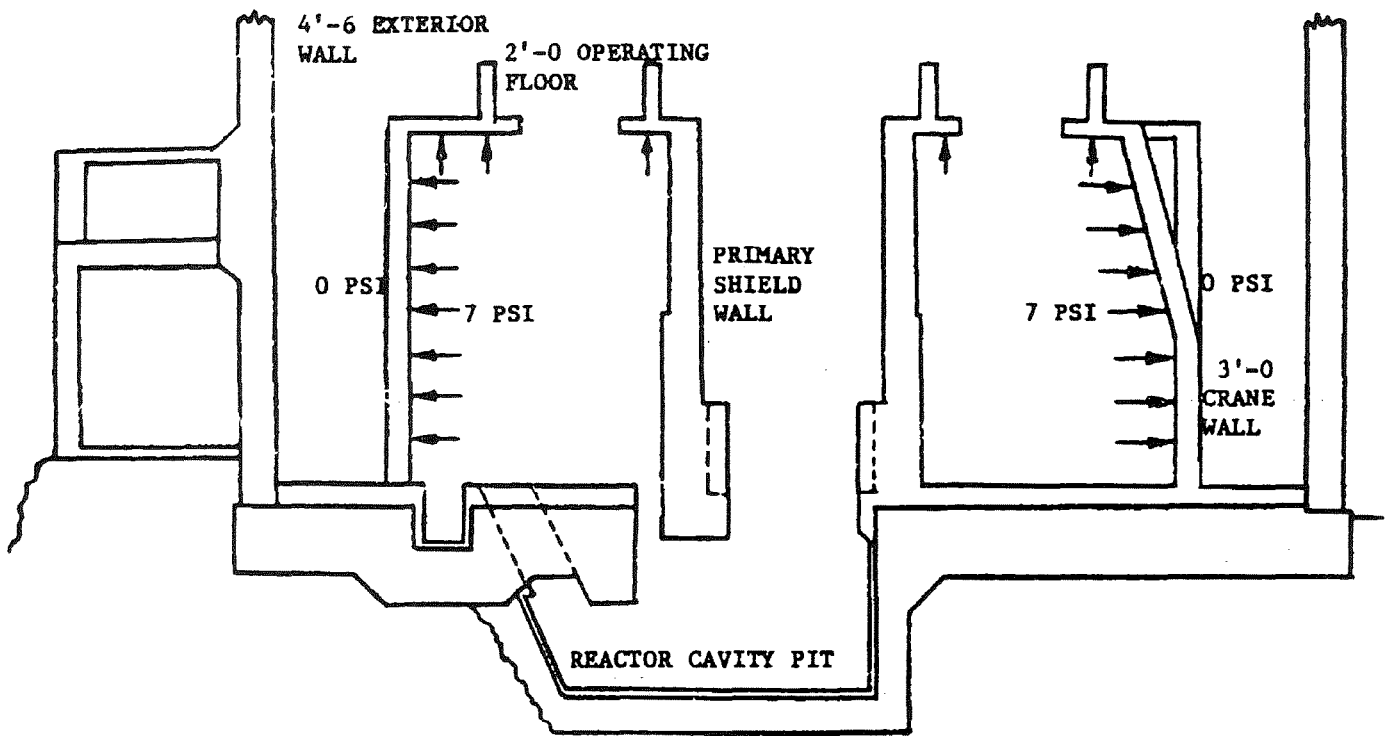
INDIAN POINT UNIT No. 2

UFSAR FIGURE 5.1-23

BASE SLAB REINFORCING DETAIL

MIC. No. 1999MC3762

REV. No. 17A



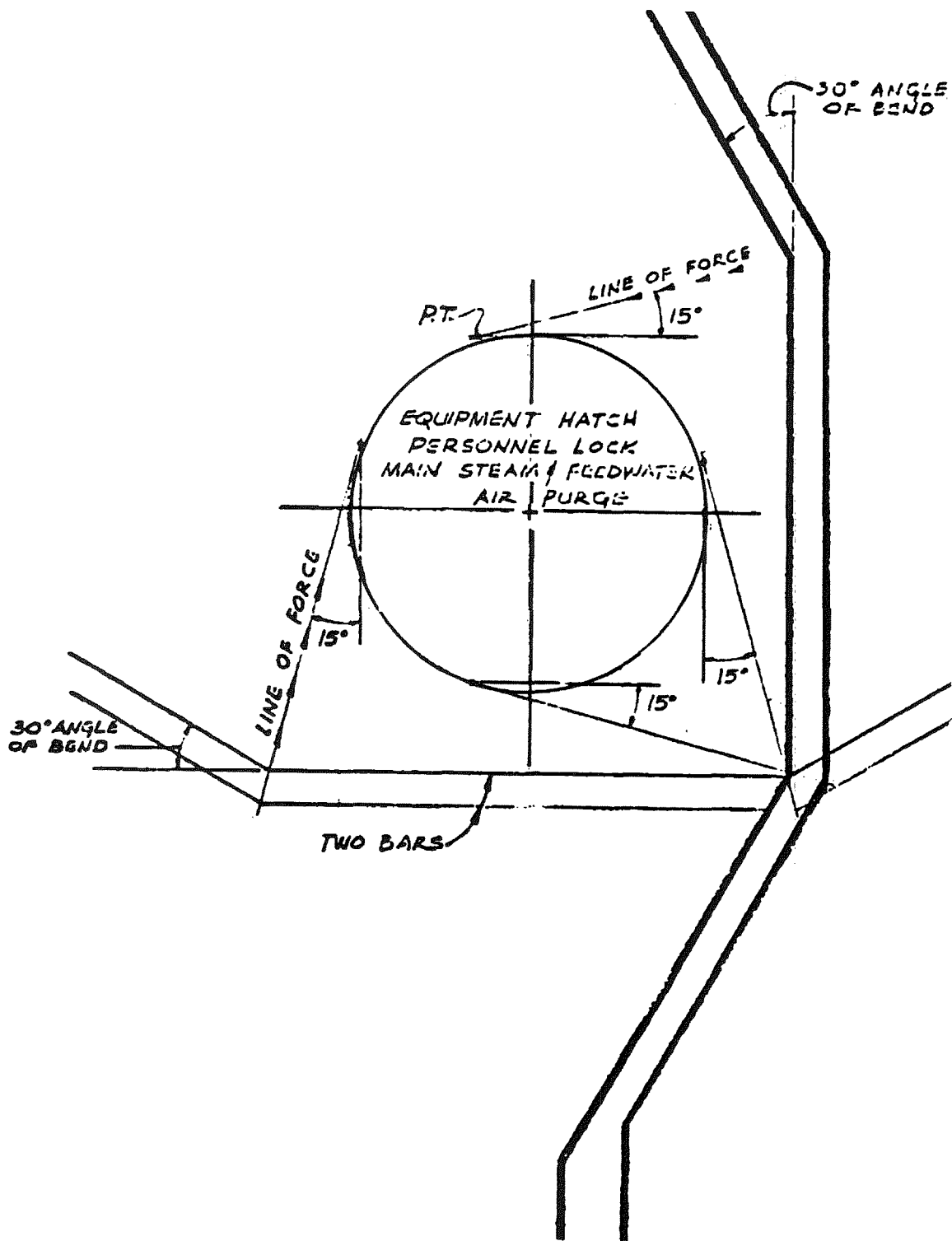
INDIAN POINT UNIT No. 2

UFSAR FIGURE 5.1-24

REACTOR CAVITY PIT

MIC. No. 1999MC3763

REV. No. 17A



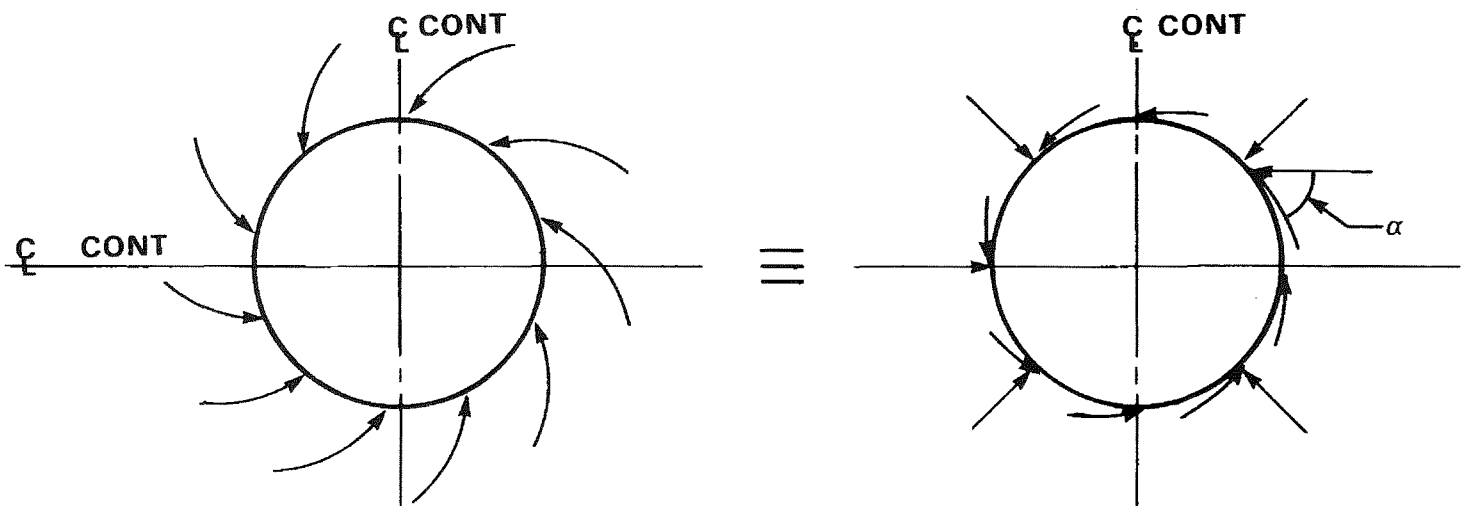
INDIAN POINT UNIT No. 2

UFSAR FIGURE 5.1-25

EQUIPMENT HATCH PERSONNEL LOCK,
 MAIN STEAM AND FEEDWATER,
 AIR PURGE - REBAR

MIC. No. 1999MC3764

REV. No. 17A



INDIAN POINT UNIT No. 2

UFSAR FIGURE 5.1-26

TORSIONAL EFFECTS

MIC. No. 1999MC3765

REV. No. 17A