ILLINOIS POWER COMPANY

U-0577
L30-82(11-19)-6
500 SOUTH 27TH STREET, DECATUR, ILLINOIS 62525

November 19, 1982

Mr. Cecil O. Thomas, Chief
Standardization & Special Projects Branch
Division of Licensing
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Thomas:

Clinton Power Station Unit 1
Docket No. 50-461

Attached is information requested by Mr. R. G. Wescott, Hydrologic & Geotechnical Engineering Branch, on the elevation of water level in the Clinton Unit 2 excavation due to local probable maximum precipitation (PMP). Included in the attachment is a letter from Neenah Foundry Company which states that the manhole cover used in the Sargent & Lundy design, R-6668-P9, is suitable for 20 psi internal pressure. The calculated pressure is only 7.3 psi corresponding to the probable maximum flood (PMF) level of 708.9 feet.

We believe that this additional information will provide for the resolution and close-out of SER outstanding issue #2.

Sincerely,

G. E. Wuller
Supervisor-Licensing
Nuclear Station Engineering

GEW/lt

cc: J. H. Williams, NRC Clinton Project Manager
R. G. Wescott, NRC HGEB
H. H. Livermore, NRC Resident Inspector
Illinois Department of Nuclear Safety

B001

CLINTON -
4536-02

ELEVATION OF WATER LEVEL IN THE UNIT 2 EXCAVATION DUE TO LOCAL PROBABLE MAXIMUM PRECIPITATION (PMP)

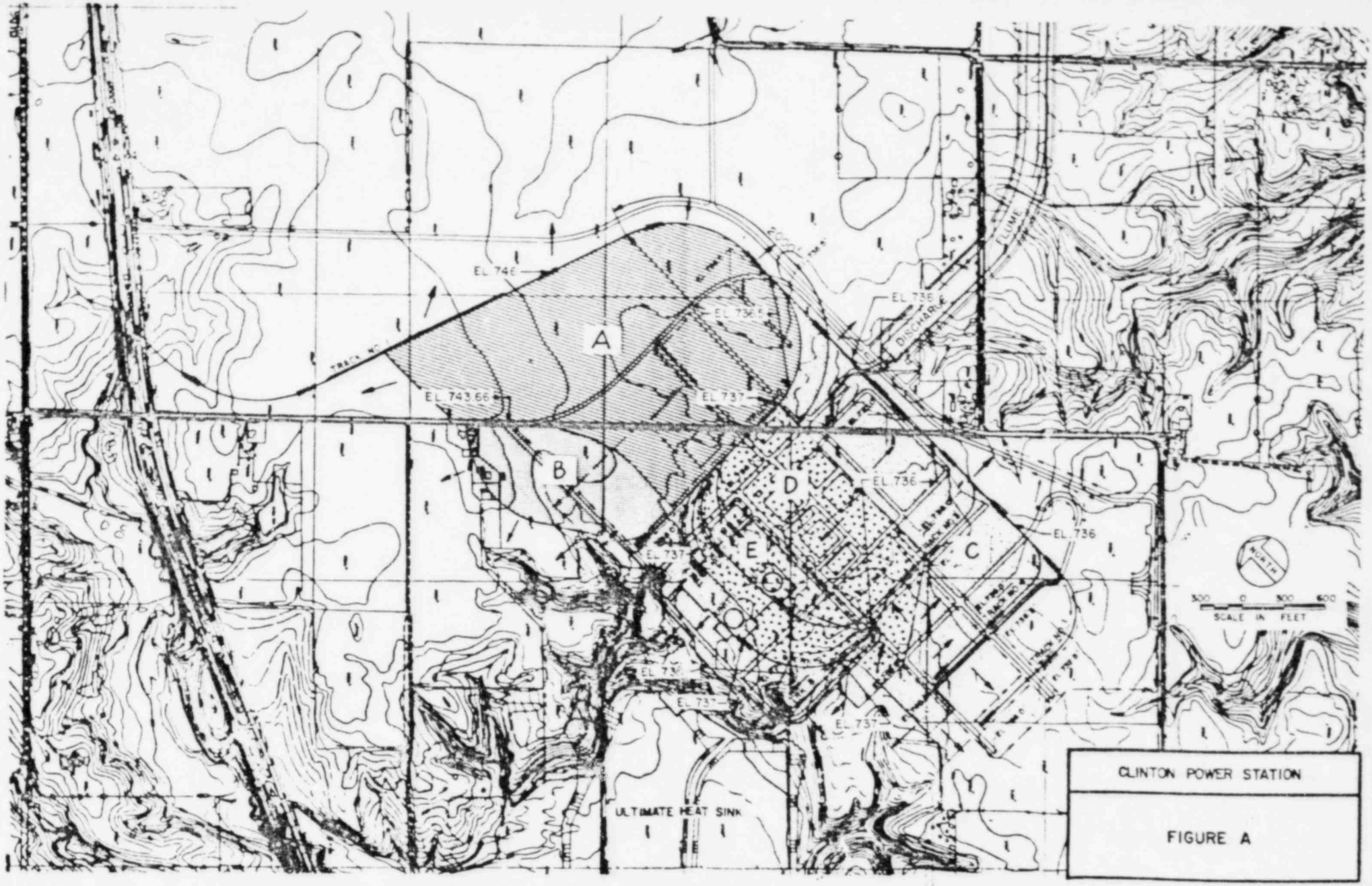
The area surrounding the Unit 2 excavation is shown in the attached Figure A. This area is divided into five zones, A through E. It is assumed that the earth berms surrounding the excavation are ineffective, no drainage takes place from the excavation, and the plant underground drainage system is ~~ineffective~~ not functional.

Zone A has an area of 75 acres and drains east over a 2,000-feet long portion of a railroad track with a top of rail elevation 736.5 or lower. During a local PMP, the peak discharge from this area is estimated as 1,470 cfs, which would produce a maximum water level of 736.94 feet. The top of rail of the track south of Zone A, which separates this zone and the Unit 2 excavation, is at elevation 737.0 feet. Hence, Zone A does not contribute any runoff to the Unit 2 excavation.

Zone B drains west and away from the Unit 2 excavation and does not produce a maximum water level above elevation 737.0 feet. Hence, this zone also does not contribute runoff into the excavation.

Zone C also drains away from the excavation towards east and west, as shown in Figure A. The top of the peripheral roads and railroad track for Zone C are at elevation 736.0 feet or lower, and the maximum water level in this area during a PMP would be lower than elevation 737.0 feet. Therefore, the runoff from this zone does not contribute to the runoff into Unit 2 excavation.

The volume of water that could accumulate in Unit 2 excavation is the runoff from Zone D and the direct rainfall on the excavation itself. Since the top of the plant road east of the Unit 2 excavation and the top of rail on the east perimeter track of Zone C are at elevation 736.0 feet, the eastern limit of Zone D was selected midway between the road and track. The total area of Zones D and E is 44.2 acres, and assuming no losses, the 48-hour PMP of 33.6 inches on this area will produce a runoff volume of 124 acre feet. This volume is a conservative estimate, and it would produce an impounded water elevation of 726 feet in the Unit 2 excavation without the protecting effect of the surrounding earth berms, and without the benefit of any drainage out of the excavation. This elevation of 726 feet is lower than the 730 feet elevation considered in the hydrostatic design of the Unit 1 exterior walls.



CLINTON POWER STATION

FIGURE A

CLINTON
PROJ. #: 4536-00
NON-SAFETY RELATED

REV 0 DATE 9-15-82
PAGE 19.15 OF FINAL

NEENAH FOUNDRY COMPANY

P.O. BOX 729, 2121 BROOKS AVENUE
NEENAH, WISCONSIN 54956
PHONE 414 • 725-7000

September 9, 1982

Sargent & Lundy Engineers
55 East Monroe
Chicago, IL 60603

Attention: 28X44 Dan Esch

Gentlemen: Subject: R-6668-P9 Internal Pressure

Please be advised that the R-6668-P9 when manufactured of Class 35B Gray Iron and furnished by Neenah Foundry Company is suitable for a 20 psi internal pressure.

If you have any questions regarding this matter, please don't hesitate to contact me.

Very truly yours,

Steven Akkala

Steven Akkala, P.E.
Product Engineer
Construction Division

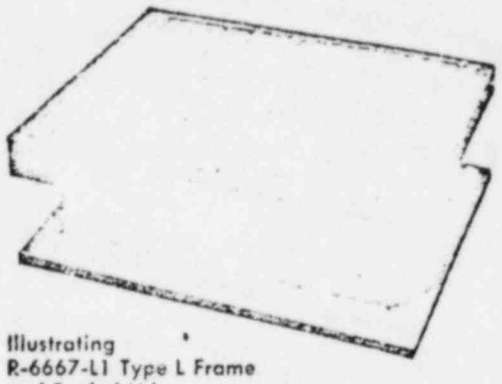
tk

R-6666-7-8-9 Series — Square and Rectangular Pressure Type Manhole Frames and Solid Lids

Light and Heavy Duty, Bolted Lids Sealed with Rubber Gasket for Slab or Built-up Manholes

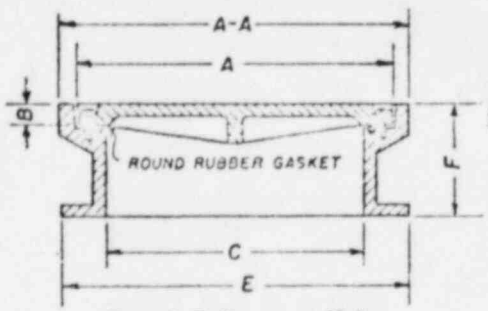
Manhole covers of this series are designed for use on built-up manholes or slab construction in either regular or seal type design. Suitable for use on pressure manholes, or as waterproof electrical junction boxes on bridges, etc.

Lids are bolted to frames with countersunk stainless steel hex head cap screws and sealed with rubber gaskets. Concealed pickholes (see page 257) are included for complete waterproof design. All units available in cast aluminum or bronze for sparkproof application.

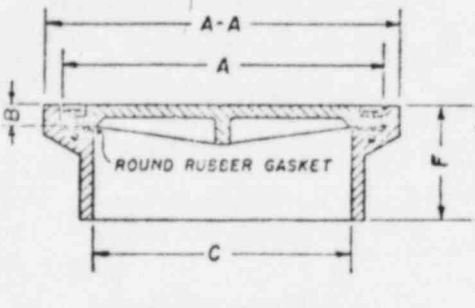


Illustrating
R-6667-L1 Type L Frame
and Sealed Lid

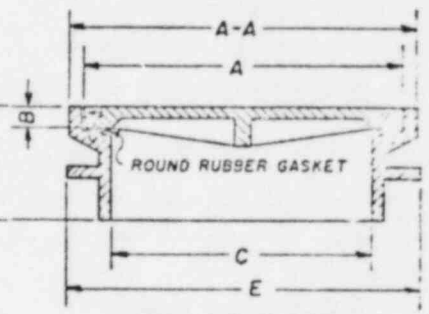
Specify: 1. Complete catalog number.
2. Cast aluminum or bronze for sparkproof use.



Type L Built-up or Slab



Type M Slab Construction



Type P Seal Type

Catalog No. Type L	Type M	Type P	Dimensions in inches A	AA	B	C	E	F	No. of Bolts	Wt. Lbs.*
Square—Light Duty										
R-6666-L1	R-6666-M1	R-6666-P1	15¼ x 15¼	17 x 17	1½	12 x 12	18 x 18	8	4	200
R-6666-L2	R-6666-M2	R-6666-P2	19¼ x 19¼	21 x 21	1½	16 x 16	22 x 22	8	4	275
R-6666-L3	R-6666-M3	R-6666-P3	21¼ x 21¼	23 x 23	1½	18 x 18	24 x 24	8	4	325
R-6666-L4	R-6666-M4	R-6666-P4	23¼ x 23¼	25 x 25	1½	20 x 20	26 x 26	8	8	335
R-6666-L5	R-6666-M5	R-6666-P5	25¼ x 25¼	27 x 27	1½	22 x 22	28 x 28	8	8	375
R-6666-L6	R-6666-M6	R-6666-P6	27¼ x 27¼	29 x 29	1½	24 x 24	30 x 30	8	8	425
R-6666-L7	R-6666-M7	R-6666-P7	29¼ x 29¼	31 x 31	1½	26 x 26	32 x 32	8	8	500
R-6666-L8	R-6666-M8	R-6666-P8	31¼ x 31¼	33 x 33	1½	28 x 28	34 x 34	8	8	565
R-6666-L9	R-6666-M9	R-6666-P9	33¼ x 33¼	35 x 35	1½	30 x 30	36 x 36	8	12	615
R-6666-L10	R-6666-M10	R-6666-P10	39¼ x 39¼	41 x 41	1½	36 x 36	42 x 42	8	12	850
R-6666-L12	—	—	50¼ x 50¼	52½ x 52½	1½	48 x 48	54 x 54	8	16	850
Rectangular—Light Duty										
R-6667-L1	R-6667-M1	R-6667-P1	15¼ x 21¼	17 x 23	1¼	12 x 18	18 x 24	8	6	260
R-6667-L2	R-6667-M2	R-6667-P2	15¼ x 27¼	17 x 29	1½	12 x 24	18 x 30	8	6	280
R-6667-L3	R-6667-M3	R-6667-P3	21¼ x 27¼	23 x 29	1½	18 x 24	24 x 30	8	8	375
R-6667-L4	R-6667-M4	R-6667-P4	21¼ x 33¼	23 x 35	1½	18 x 30	24 x 36	8	8	400
R-6667-L5	R-6667-M5	R-6667-P5	21¼ x 39¼	23 x 41	1½	18 x 36	24 x 42	8	10	475
R-6667-L6	R-6667-M6	R-6667-P6	27¼ x 33¼	29 x 35	1½	24 x 30	30 x 36	8	8	540
R-6667-L7	R-6667-M7	R-6667-P7	27¼ x 39¼	29 x 41	1½	24 x 36	30 x 42	8	10	625
R-6667-L8	R-6667-M8	R-6667-P8	27¼ x 51¼	29 x 53	1½	24 x 48	30 x 54	8	12	700
R-6667-L9	R-6667-M9	R-6667-P9	33¼ x 39¼	35 x 41	1½	30 x 36	36 x 42	8	10	685
R-6667-L10	R-6667-M10	R-6667-P10	33¼ x 51¼	35 x 53	1½	30 x 48	36 x 54	8	16	850
Square—Heavy Duty										
R-6668-L1	R-6668-M1	R-6668-P1	15¼ x 15¼	17½ x 17½	1½	12 x 12	18 x 18	8	4	275
R-6668-L2	R-6668-M2	R-6668-P2	19¼ x 19¼	21½ x 21½	1½	16 x 16	22 x 22	8	4	325
R-6668-L3	R-6668-M3	R-6668-P3	21¼ x 21¼	23½ x 23½	1½	18 x 18	24 x 24	8	4	345
R-6668-L4	R-6668-M4	R-6668-P4	23¼ x 23¼	25½ x 25½	1½	20 x 20	26 x 26	8	8	360
R-6668-L5	R-6668-M5	R-6668-P5	25¼ x 25¼	27½ x 27½	1½	22 x 22	28 x 28	8	8	425
R-6668-L6	R-6668-M6	R-6668-P6	27¼ x 27¼	29½ x 29½	1½	24 x 24	30 x 30	8	8	480
R-6668-L7	R-6668-M7	R-6668-P7	29¼ x 29¼	31½ x 31½	1½	26 x 26	32 x 32	8	8	525
R-6668-L8	R-6668-M8	R-6668-P8	31¼ x 31¼	33½ x 33½	1½	28 x 28	34 x 34	8	8	650
R-6668-L9	R-6668-M9	R-6668-P9	33¼ x 33¼	35½ x 35½	1½	30 x 30	36 x 36	8	12	700
R-6668-L10	R-6668-M10	R-6668-P10	39¼ x 39¼	41½ x 41½	1½	36 x 36	42 x 42	8	12	975
—	—	R-6668-P13	56¼ x 56¼	58 x 58	1½	54 x 54	60 x 60	8	16	2000
Rectangular—Heavy Duty										
R-6669-L1	R-6669-M1	R-6669-P1	15¼ x 21¼	17½ x 23½	1½	12 x 18	18 x 24	8	6	300
R-6669-L2	R-6669-M2	R-6669-P2	15¼ x 27¼	17½ x 29½	1½	12 x 24	18 x 30	8	6	350
R-6669-L3	R-6669-M3	R-6669-P3	21¼ x 27¼	23½ x 29½	1½	18 x 24	24 x 30	8	8	400
R-6669-L4	R-6669-M4	R-6669-P4	21¼ x 33¼	23½ x 35½	1½	18 x 30	24 x 36	8	8	425
R-6669-L5	R-6669-M5	R-6669-P5	21¼ x 39¼	23½ x 41½	1½	18 x 36	24 x 42	8	10	450
R-6669-L6	R-6669-M6	R-6669-P6	27¼ x 33¼	29½ x 35½	1½	24 x 30	30 x 36	8	8	540
R-6669-L7	R-6669-M7	R-6669-P7	27¼ x 39¼	29½ x 41½	1½	24 x 36	30 x 42	8	10	675
R-6669-L8	R-6669-M8	R-6669-P8	27¼ x 51¼	29½ x 53½	1½	24 x 48	30 x 54	8	12	850
R-6669-L9	R-6669-M9	R-6669-P9	33¼ x 39¼	35½ x 41½	1½	30 x 36	36 x 42	8	10	800
R-6669-L10	R-6669-M10	R-6669-P10	33¼ x 51¼	35½ x 53½	1½	30 x 48	36 x 54	8	16	950

*Weights shown this page apply to type L and P assemblies only.