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Niagara Mohawk Power Corp. Syracuse, N. Y. P. D. Raymond	2-28-74	3-1-74	X			

TO:	ORIG	CC	OTHER	SENT AEC PDR	SENT LOCAL PDR
D. L. Ziemann	1 signed	39		XXX	XXX

CLASS	UNCLASS	PROP INFO	INPUT	NO CYS REC'D	DOCKET NO:
	XXX			40	50-220

DESCRIPTION:

Ltr re our ltr 1-29-74 trans the following..

DO NOT REMOVE

PLANT NAME: NINE MILE POINT UNIT #1

ENCLOSURES:

Info re postulated pipe failure outside containment structure for Nine Mile Point Unit #1

ACKNOWLEDGED

ACKNOWLEDGED
(40 cys encl rec'd)

FOR ACTION/INFORMATION 3-4-74 GMC

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Regulatory File Cy.

NIAGARA MOHAWK POWER CORPORATION

NIAGARA MOHAWK

300 ERIE BOULEVARD WEST
SYRACUSE, N. Y. 13202

February 28, 1974

Mr. D. L. Ziemann, Chief
Operating Reactors Branch #2
Directorate of Licensing
United States Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. Ziemann:

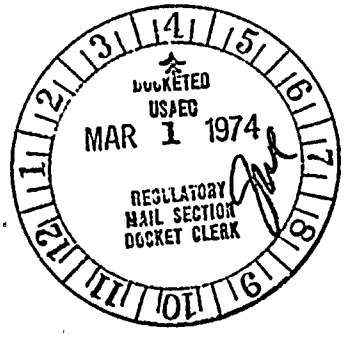
Re: Nine Mile Point Unit 1
Docket No. 50-220

Your letter of January 29, 1974 requested additional information concerning high energy line breaks outside the containment for Nine Mile Point Unit 1. The additional information is attached in the form of responses to the specific questions included in your letter.

As requested in your letter, we are providing one signed original and thirty-nine copies.

Very truly yours,

P. D. Raymond
Vice President - Engineering



1690

Attachment

1690

1. Question

Define the minimum design pressure of the main steam tunnel and/or its component walls or slabs.

Response

The main steam tunnel is comprised of reinforced concrete walls and slabs. These are two (2) feet thick and rectangular in configuration. The horizontal portion of the tunnel is eight (8) feet in height and eighteen (18) feet in width. The vertical portion is 18 feet x 37 feet. A computer analysis of the tunnel's integrity was made for the previous report on high energy line breaks. This was submitted on June 29, 1973. The loadings consist of internal pressure transients which have rapid rise times and exhibit pressure oscillations which were charted. A number of locations were subjected to a guillotine double ended pipe break. The tunnel sustained the most severe pressure rise of 33 psia for 0.0075 seconds without any significant damage.

Pressure oscillation occurred beyond that point in time at an average of approximately 21 psia for the balance of the first second, decreasing from there on.

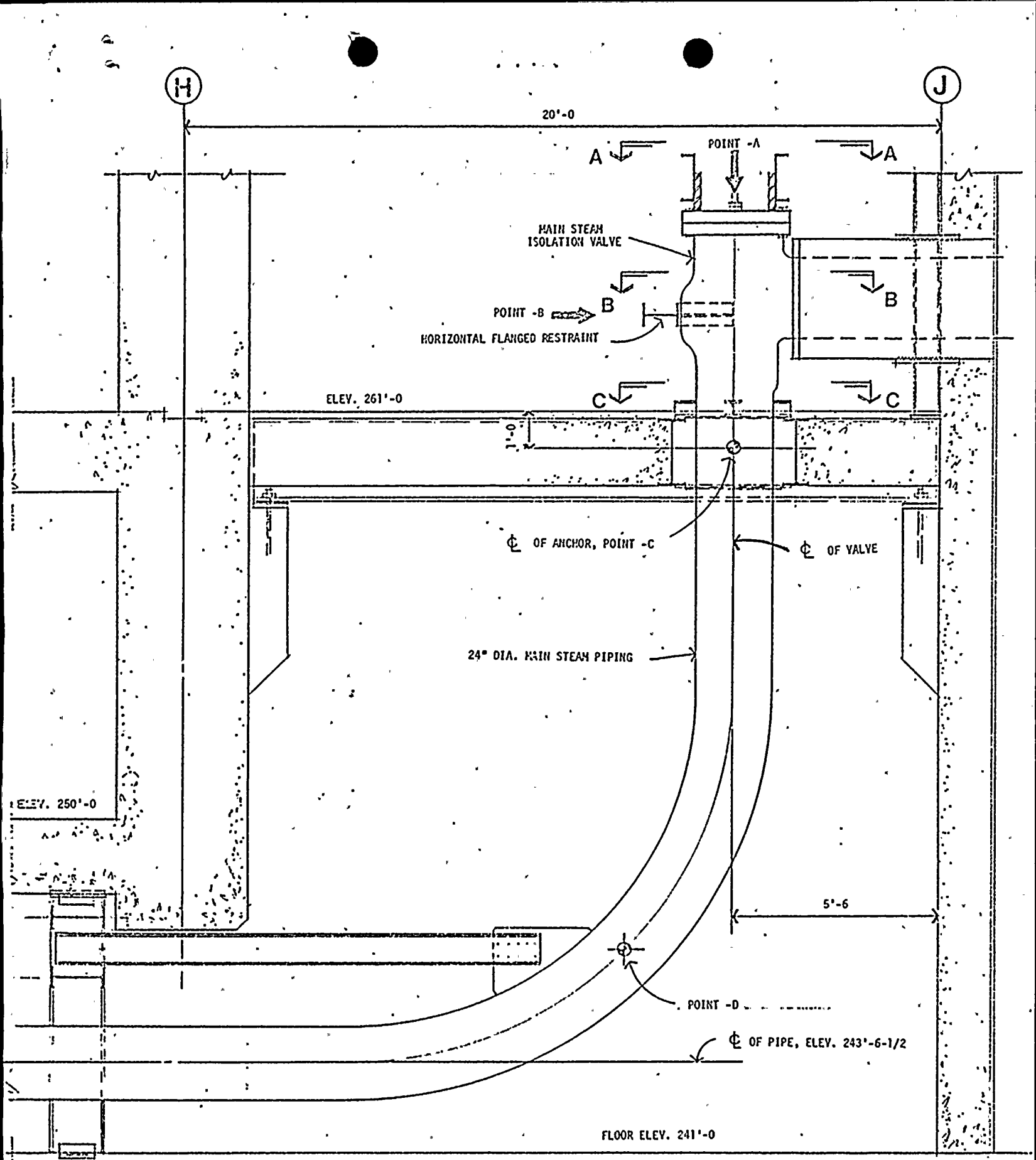
The integrity of the tunnel is maintained under all loading conditions. As stated in our letter of June 29, 1973, the main steam tunnel and isolation valve enclosure will not collapse, although spalling and cracking may occur.

2. Question

Describe the anchors at the main steam line isolation valves and/or the seismic restraints designed as pipe whipping restraints.

Response

The main steam isolation valves are supported as shown in Figures 2-1 and 2-2. Points A, B and D are designed to resist a guillotine break in the main steam line on either side of the valve. The design force for this pipe break is 240 kips. Point C is an anchor point for thermal and seismic forces.



CROSS - SECTION THRU MAIN STEAM VALVE
ANCHOR POINTS & RESTRAINTS

FIGURE 2-1

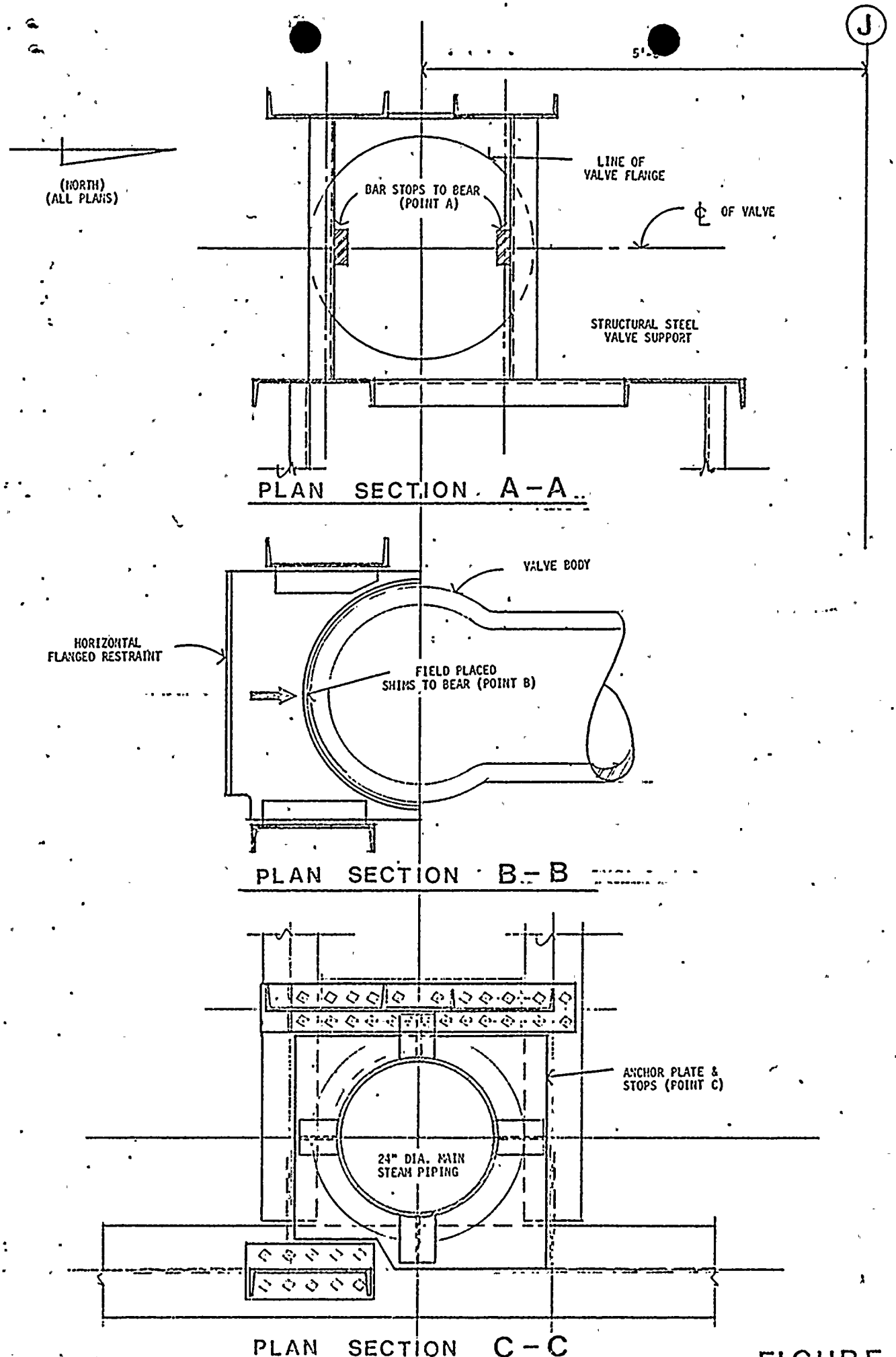

J
5'-0"
(NORTH)
(ALL PLANS)
LINE OF
VALVE FLANGE
BAR STOPS TO BEAR
(POINT A)
℄ OF VALVE
STRUCTURAL STEEL
VALVE SUPPORT
PLAN SECTION A-A
VALVE BODY
HORIZONTAL
FLANGED RESTRAINT
FIELD PLACED
SHIMS TO BEAR (POINT B)
PLAN SECTION B-B
ANCHOR PLATE &
STOPS (POINT C)
24" DIA. MAIN
STEAM PIPING
PLAN SECTION C-C

FIGURE 2-2

3. Question

Describe the reactor cleanup system pipeline run as related in proximity to the torus. Provide necessary plan and elevation drawings showing its routing. Indicate whether a rupture of this pipeline could cause damage to the torus.

Response

As described in our June 29, 1973 submittal on pages 17 and 18 and Figure 3, no portion of the reactor cleanup system piping which is classified as high energy goes below elevation 261 feet.

Figure 3-1 of this submittal shows a plan of the station. The area in which the cleanup system is located is denoted by "C" on the figure (elevation 261 feet, columns N - Q). As can be seen, there are two separate concrete floors between any of the high energy reactor cleanup system piping and the suppression chamber. However, there is a relief valve discharge line to the chamber. This line is not high energy since it is designed for 150 PSIG and 120 F. It has been concluded that no damage to the chamber could be effected by a rupture in the cleanup system.

SECTION BETWEEN COLUMN ROWS 7 AND 8

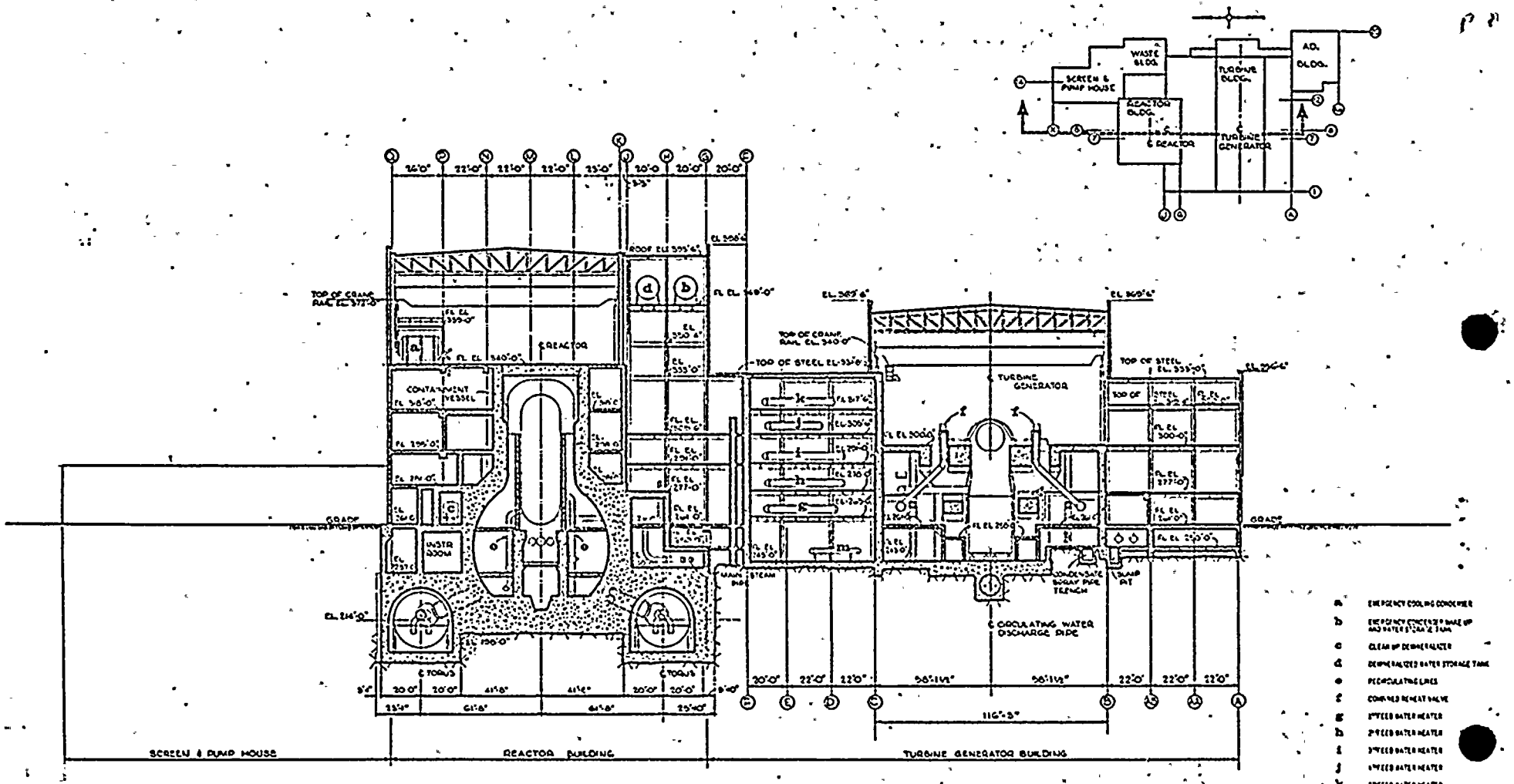


Figure 3-1