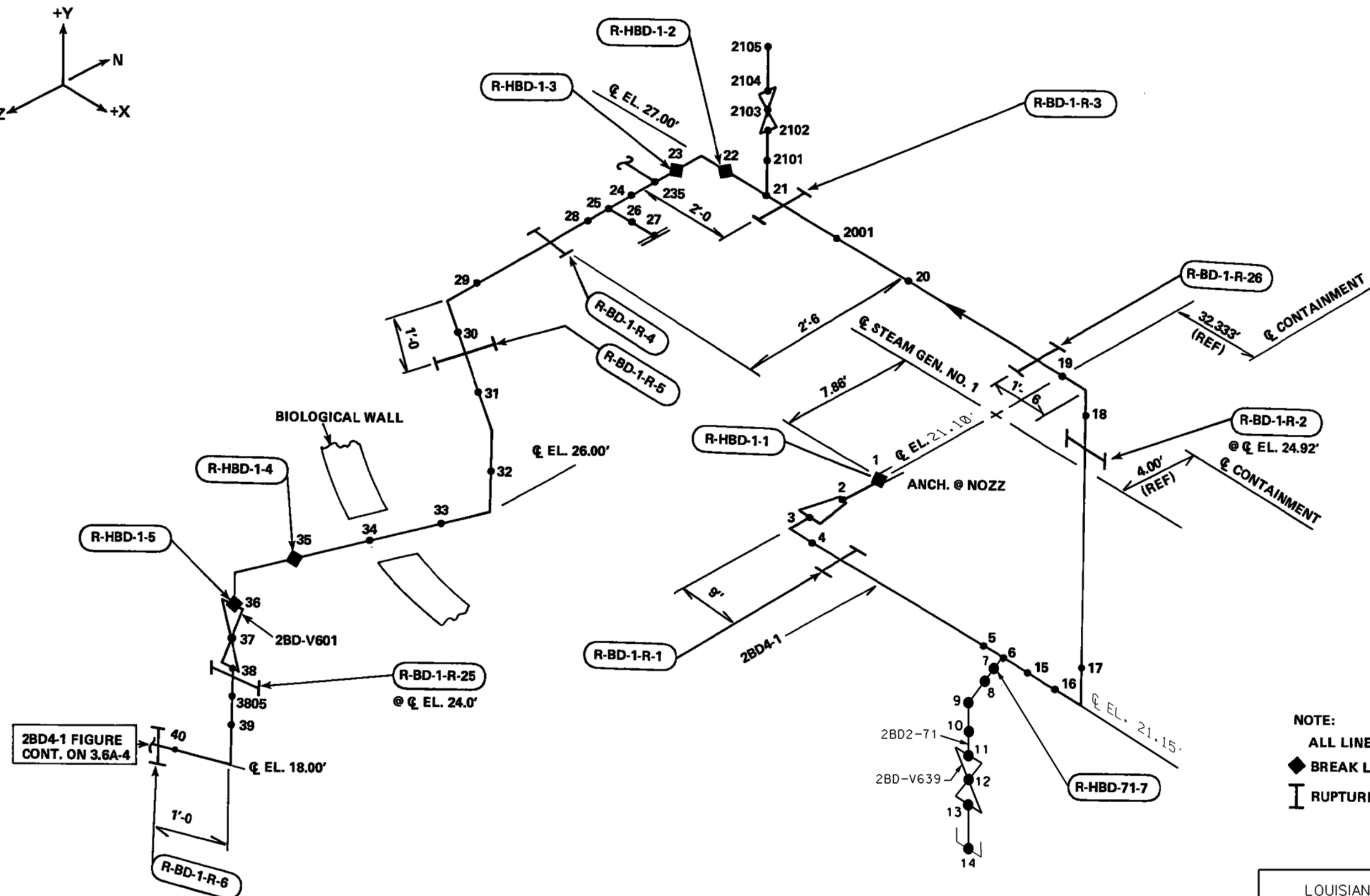


NOTE:
 ALL LINES ARE HIGH ENERGY
 ◆ BREAK LOCATION (GUILLOTINE)
 I RUPTURE RESTRAINT

REVISION 307 (07/13)

LOUISIANA POWER & LIGHT CO.
 WATERFORD STEAM ELECTRIC STATION

REACTOR BUILDING
 BLOW-DOWN SYSTEM BREAKPOINTS
 & PIPE WHIP RESTRAINTS
 FIGURE 3.6A-1

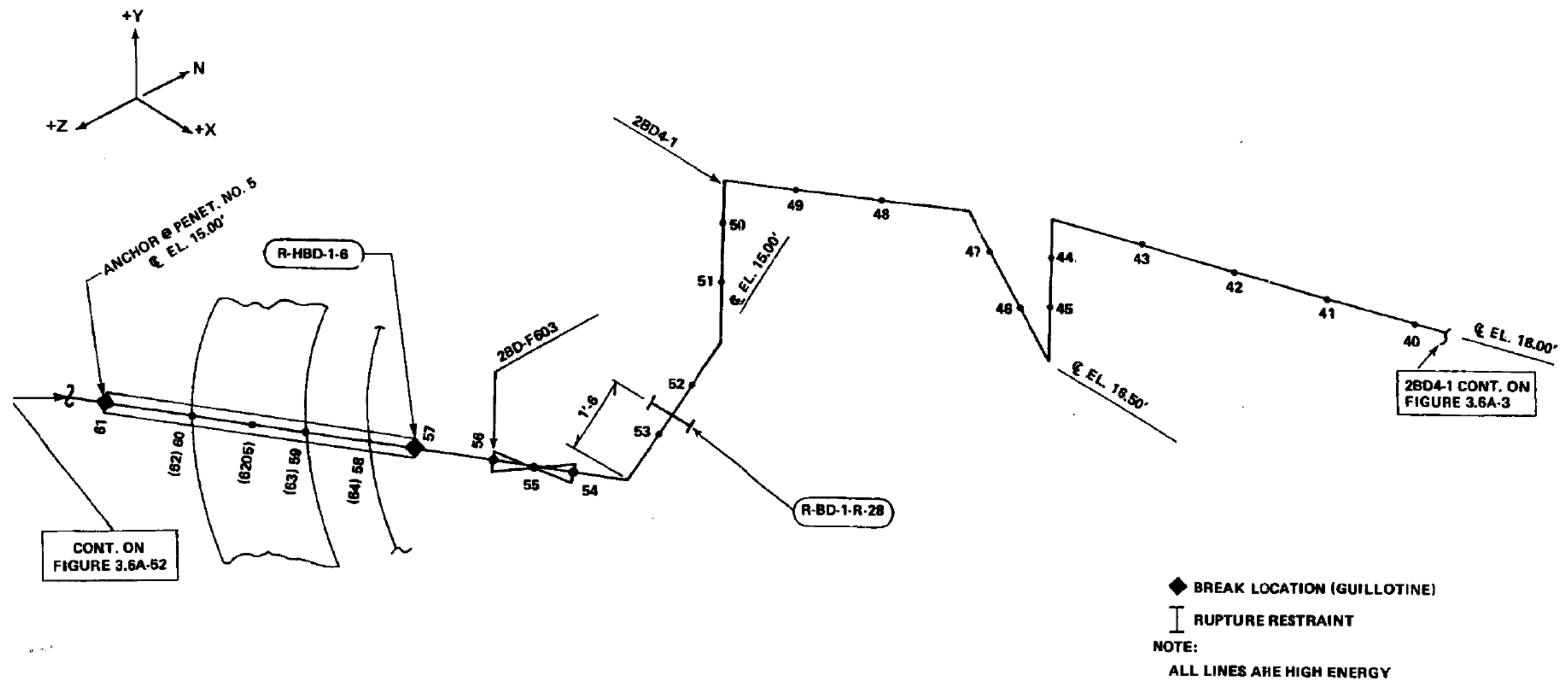


NOTE:
ALL LINES ARE HIGH ENERGY
◆ BREAK LOCATION (GUILLOTINE)
T RUPTURE RESTRAINT

REVISION 307 (07/13)

LOUISIANA POWER & LIGHT CO.
WATERFORD STEAM ELECTRIC STATION

REACTOR BUILDING
BLOW-DOWN SYSTEM BREAKPOINTS
& PIPE WHIP RESTRAINTS
FIGURE 3.6A-3

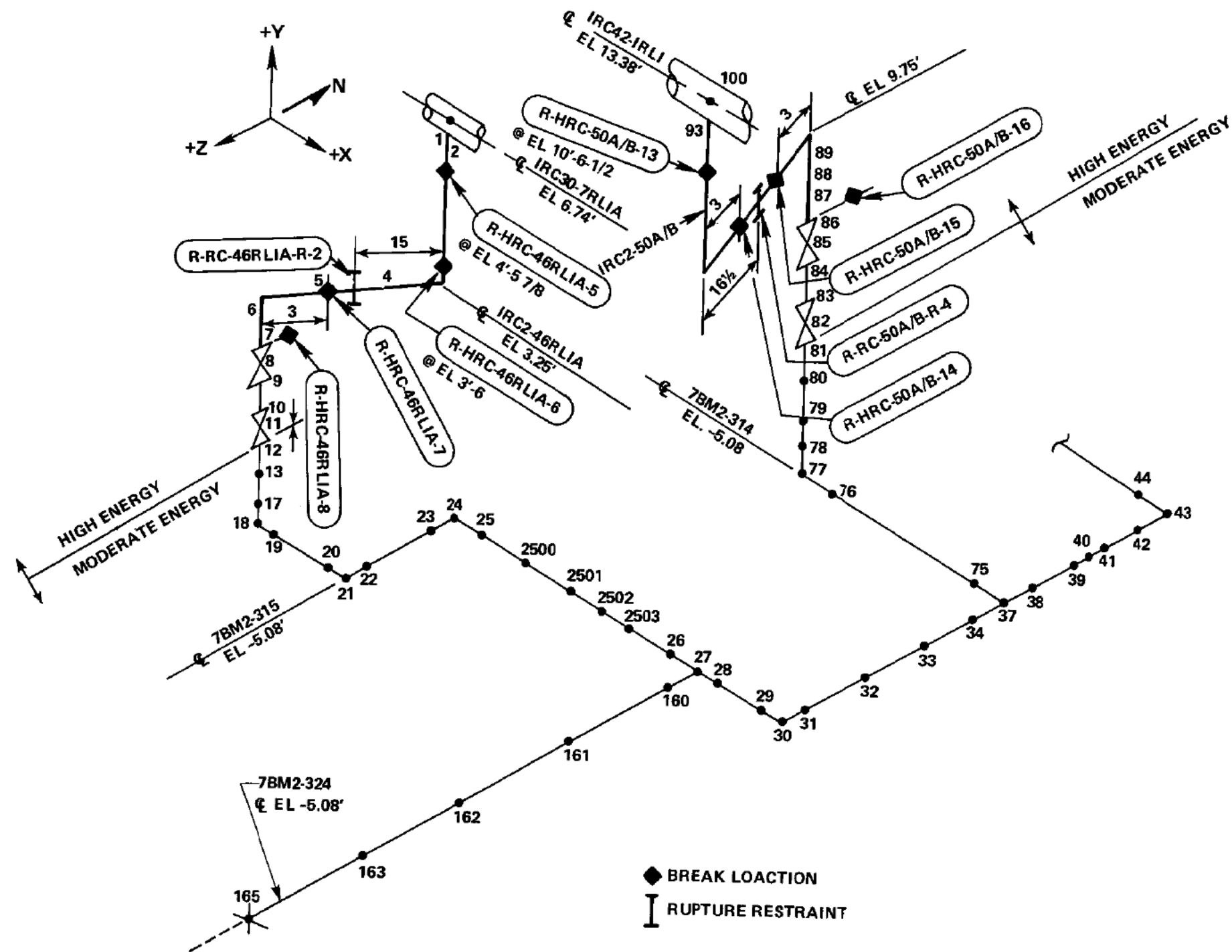


REVISION 6 (12/92)

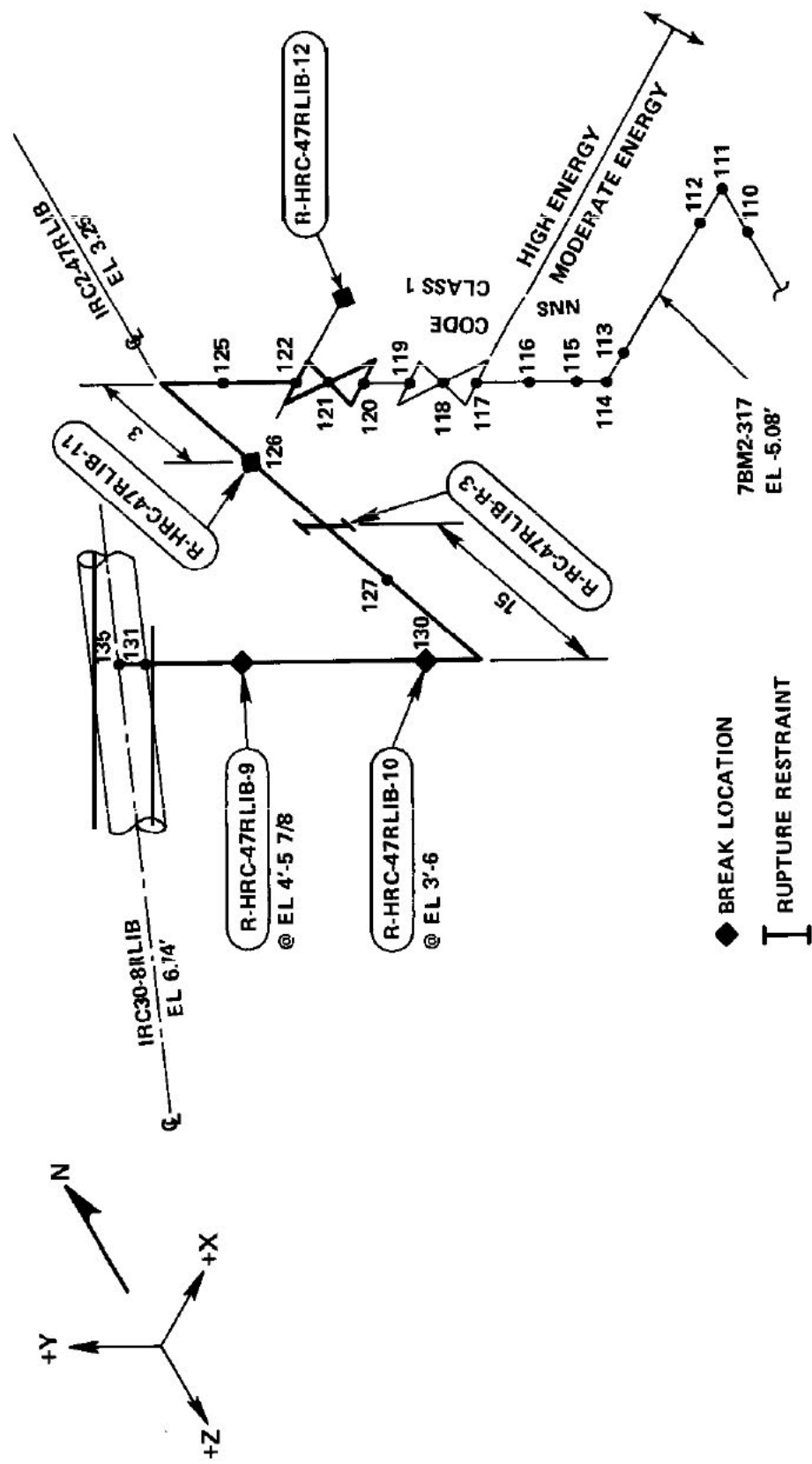
WATERFORD STEAM
ELECTRIC STATION *3

REACTOR BUILDING
 BLOW-DOWN SYSTEM BREAKPOINTS
 & PIPE WHIP RESTRAINTS

FIGURE 3.6A-4



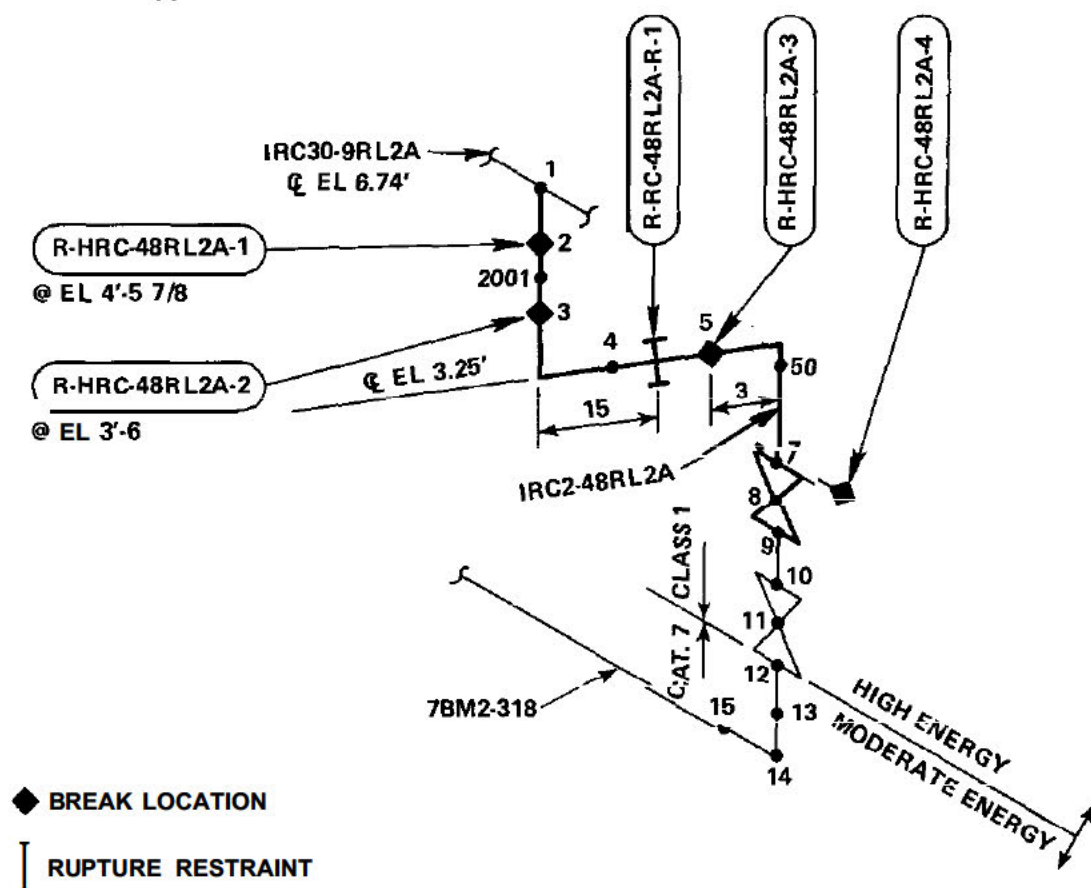
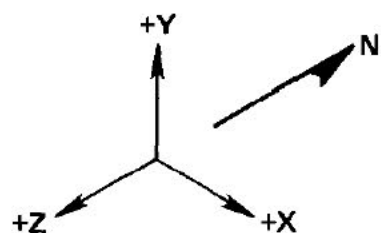
LOUISIANA POWER & LIGHT CO.
 Waterford Steam Electric Station
 REACTOR BLDG.
 REACTOR COOLANT PIPING
 BREAKPOINTS & PIPEWHIP RESTRAINTS
 FIGURE 3.6A-5

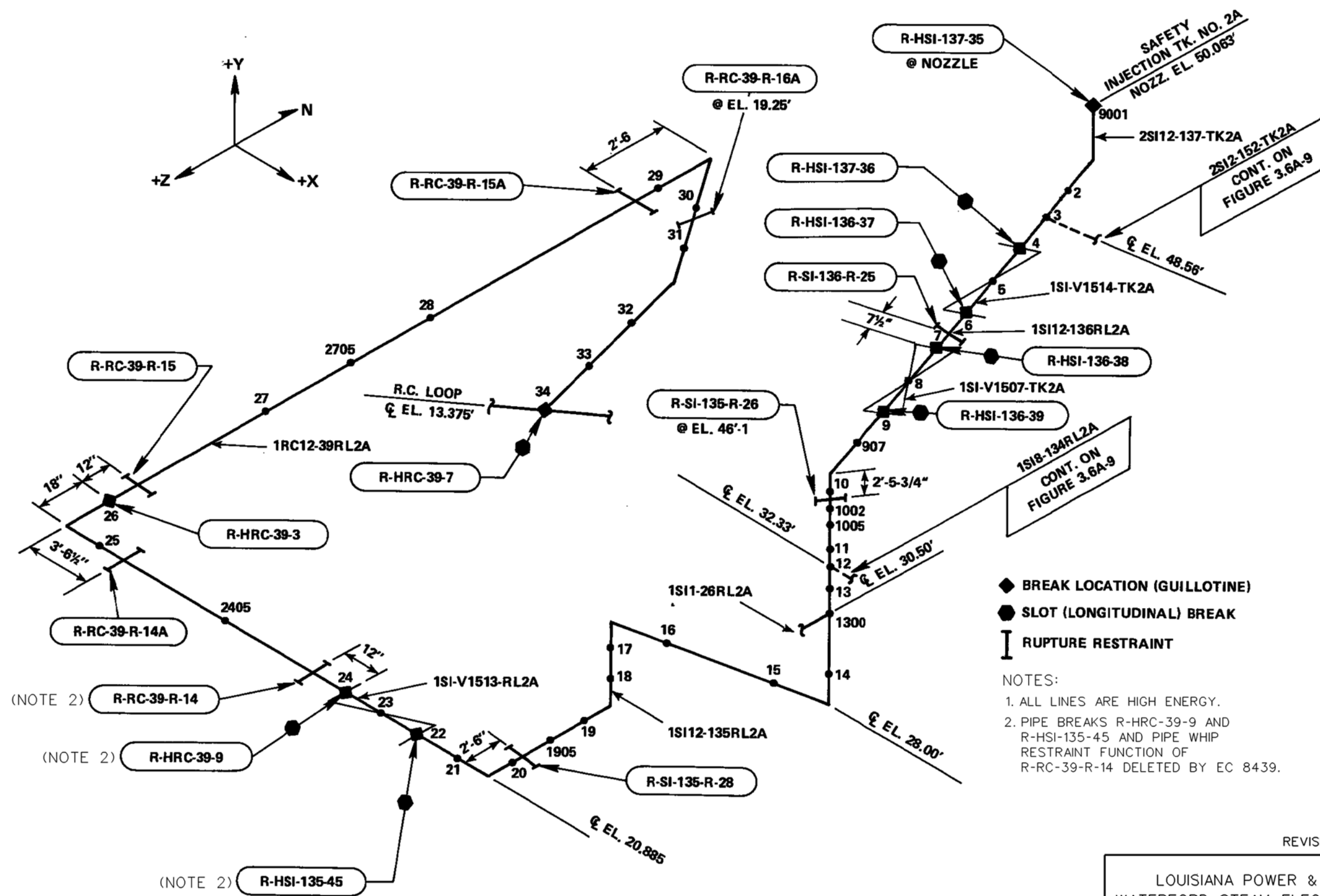


LOUISIANA
POWER & LIGHT CO.
Waterford Steam
Electric Station

REACTOR BLDG.
REACTOR COOLANT PIPING
BREAKPOINTS & PIPEWHIP RESTRAINTS

Figure
3.6A-6

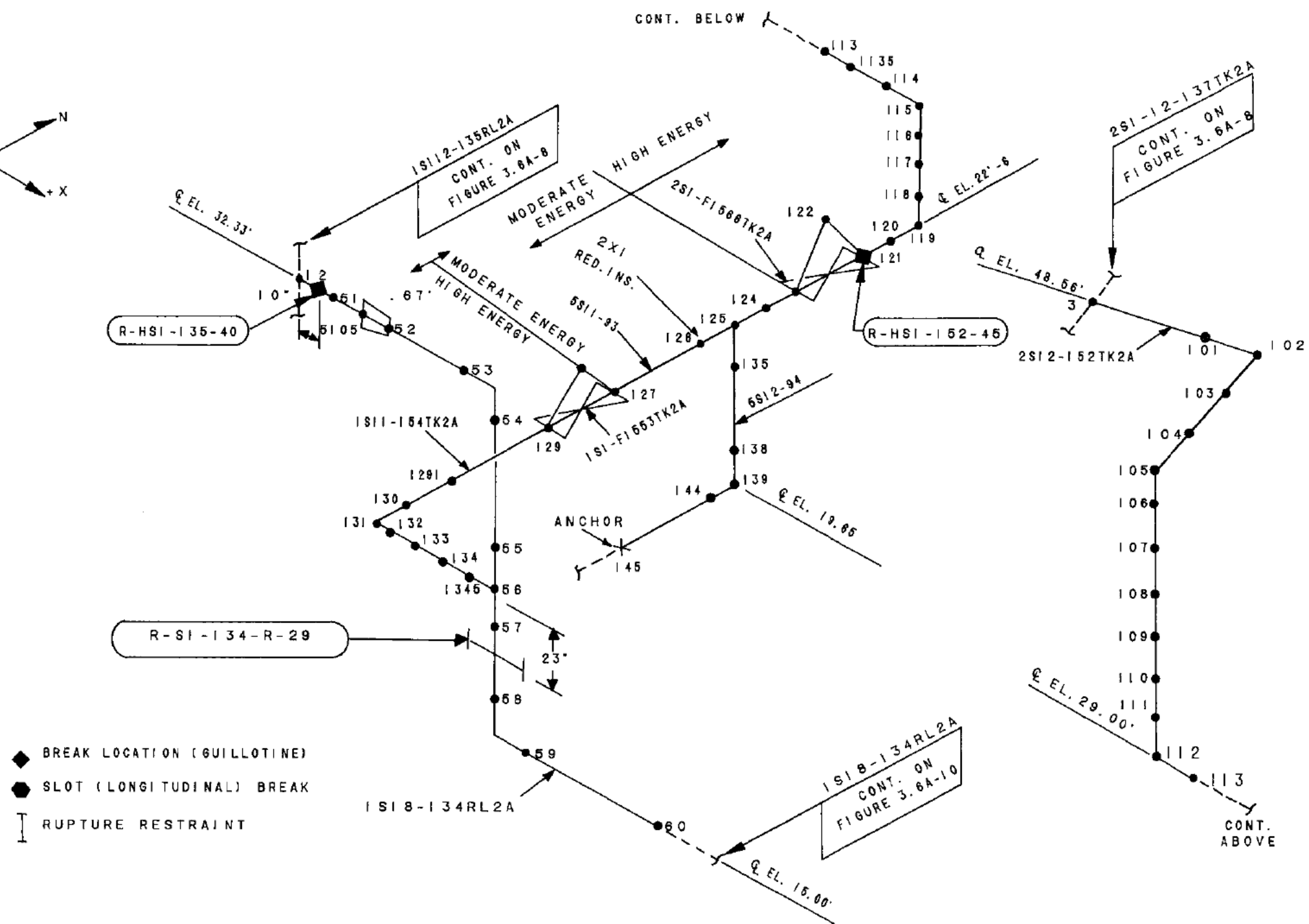
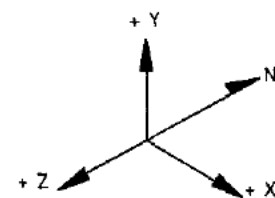




REVISION 307 (07/13)

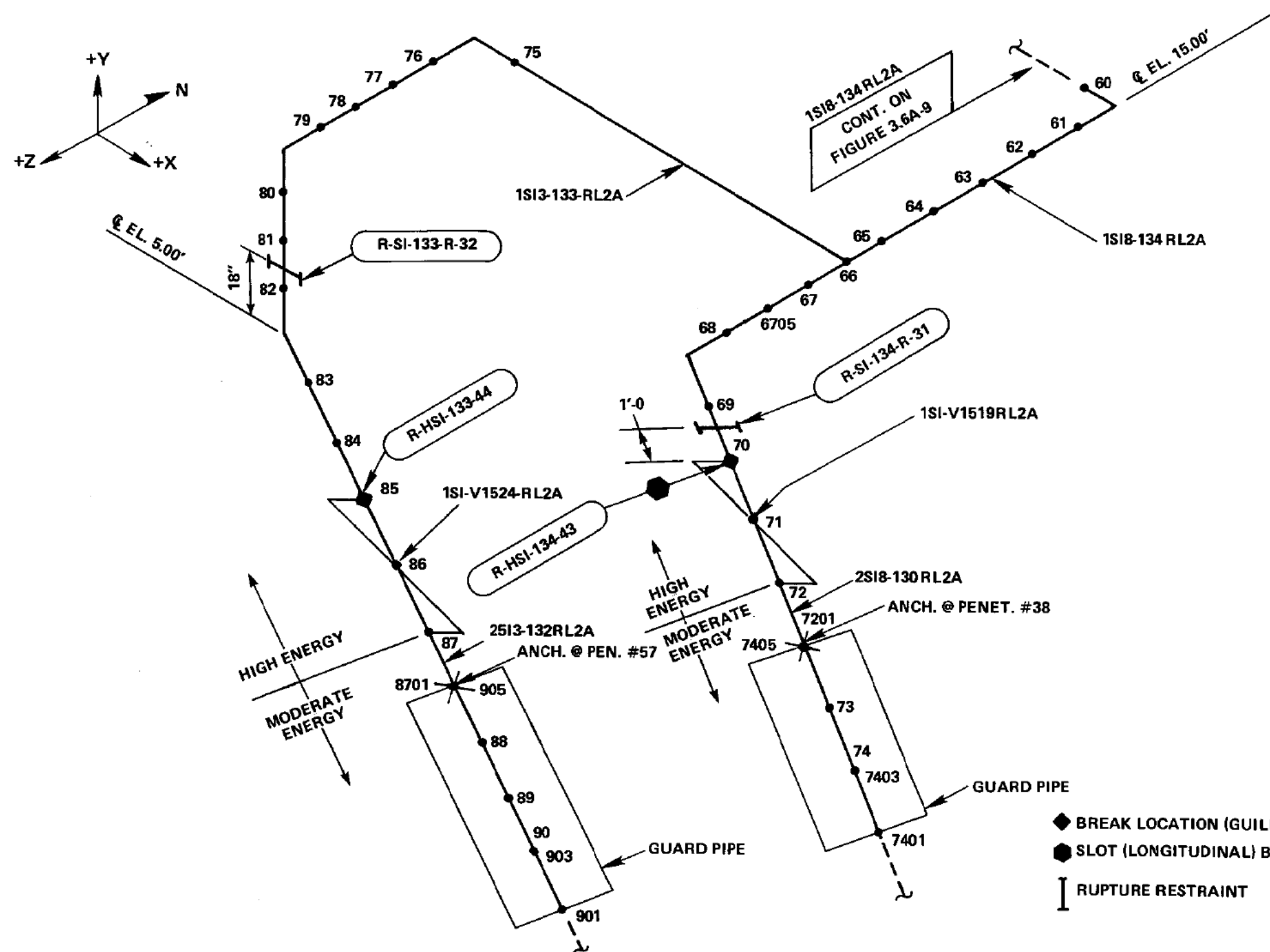
LOUISIANA POWER & LIGHT CO.
WATERFORD STEAM ELECTRIC STATION

REACTOR BLDG. - SAFETY INJECTION
SYSTEM - BREAK POINTS &
PIPE WHIP RESTRAINTS
FIGURE 3.6A-8

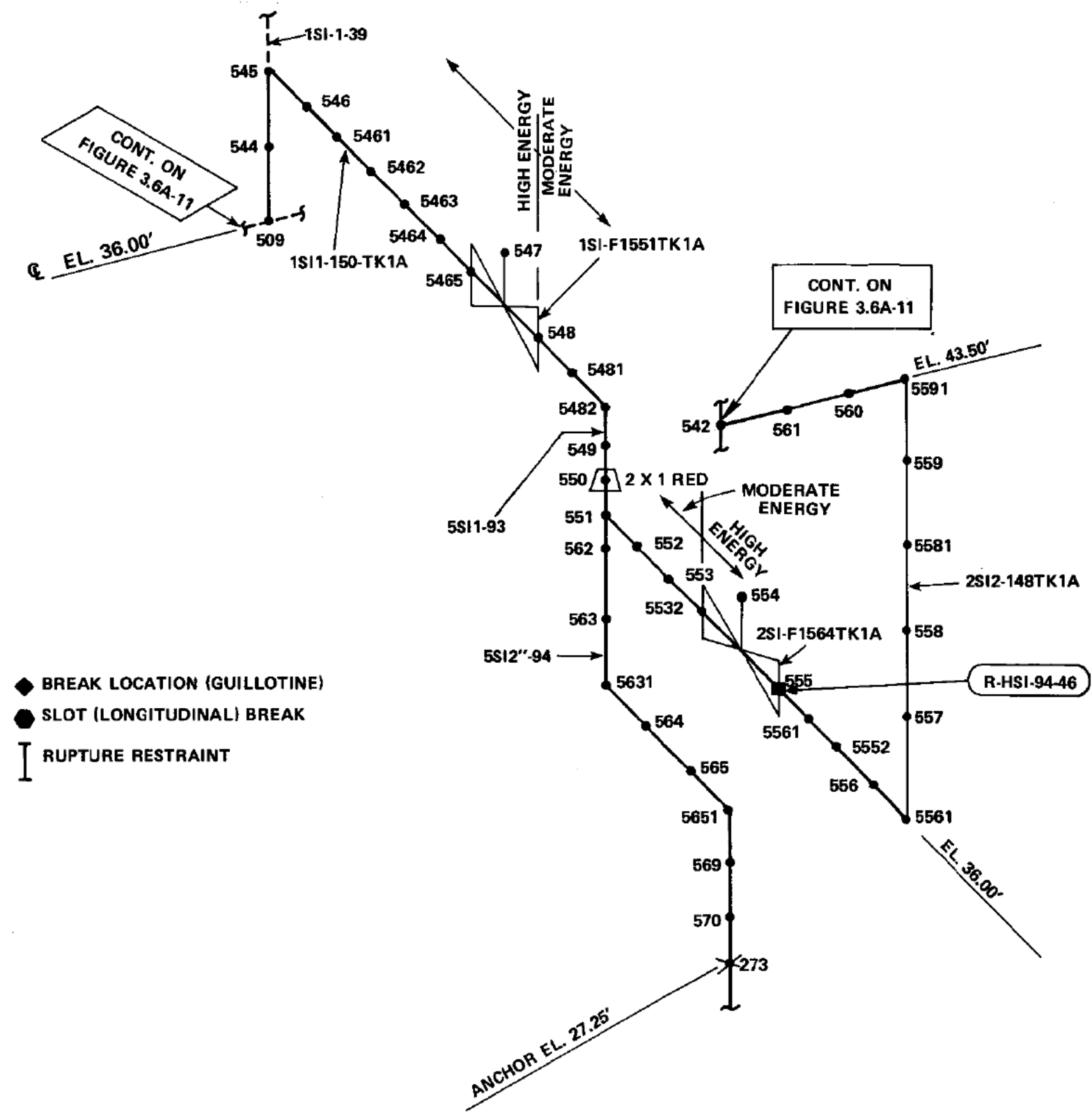
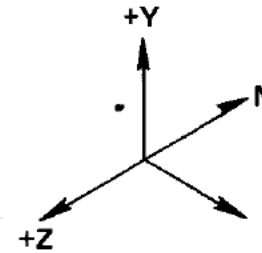


- ◆ BREAK LOCATION (GUILLOTINE)
- SLOT (LONGITUDINAL) BREAK
- | RUPTURE RESTRAINT

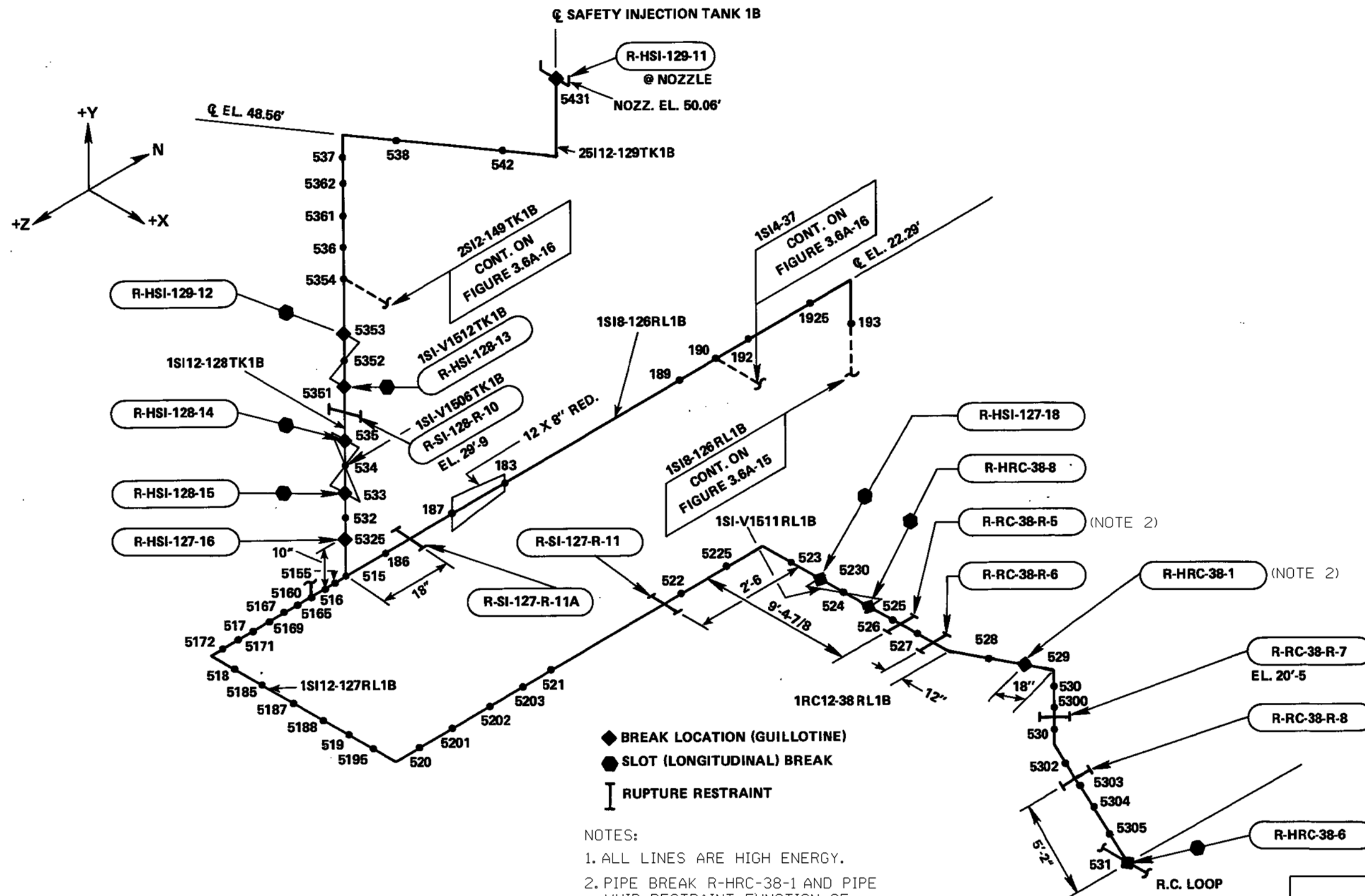
LOUISIANA POWER & LIGHT CO.
 Waterford Steam Electric Station #3
 REACTOR BUILDING - SAFETY
 INJECTION PIPING - BREAK POINTS &
 PIPE WHIP RESTRAINTS
 FIGURE 3.6A-9



LOUISIANA POWER & LIGHT CO.
 Waterford Steam Electric Station
 REACTOR BUILDING - SAFETY
 INJECTION PIPING - BREAK POINTS &
 PIPE WHIP RESTRAINTS
 FIGURE 3.6A-10



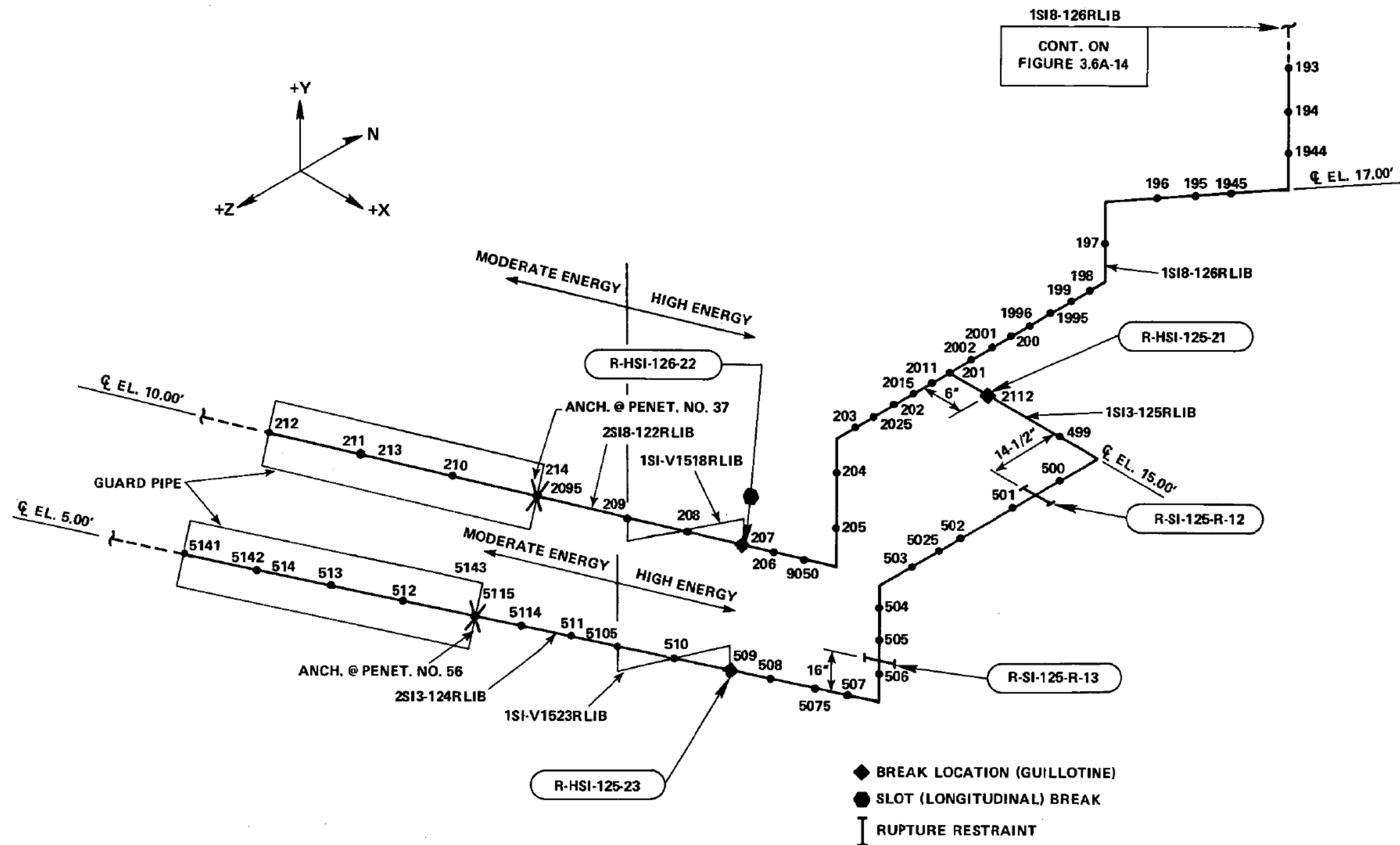
- ◆ BREAK LOCATION (GUILLOTINE)
- SLOT (LONGITUDINAL) BREAK
- | RUPTURE RESTRAINT



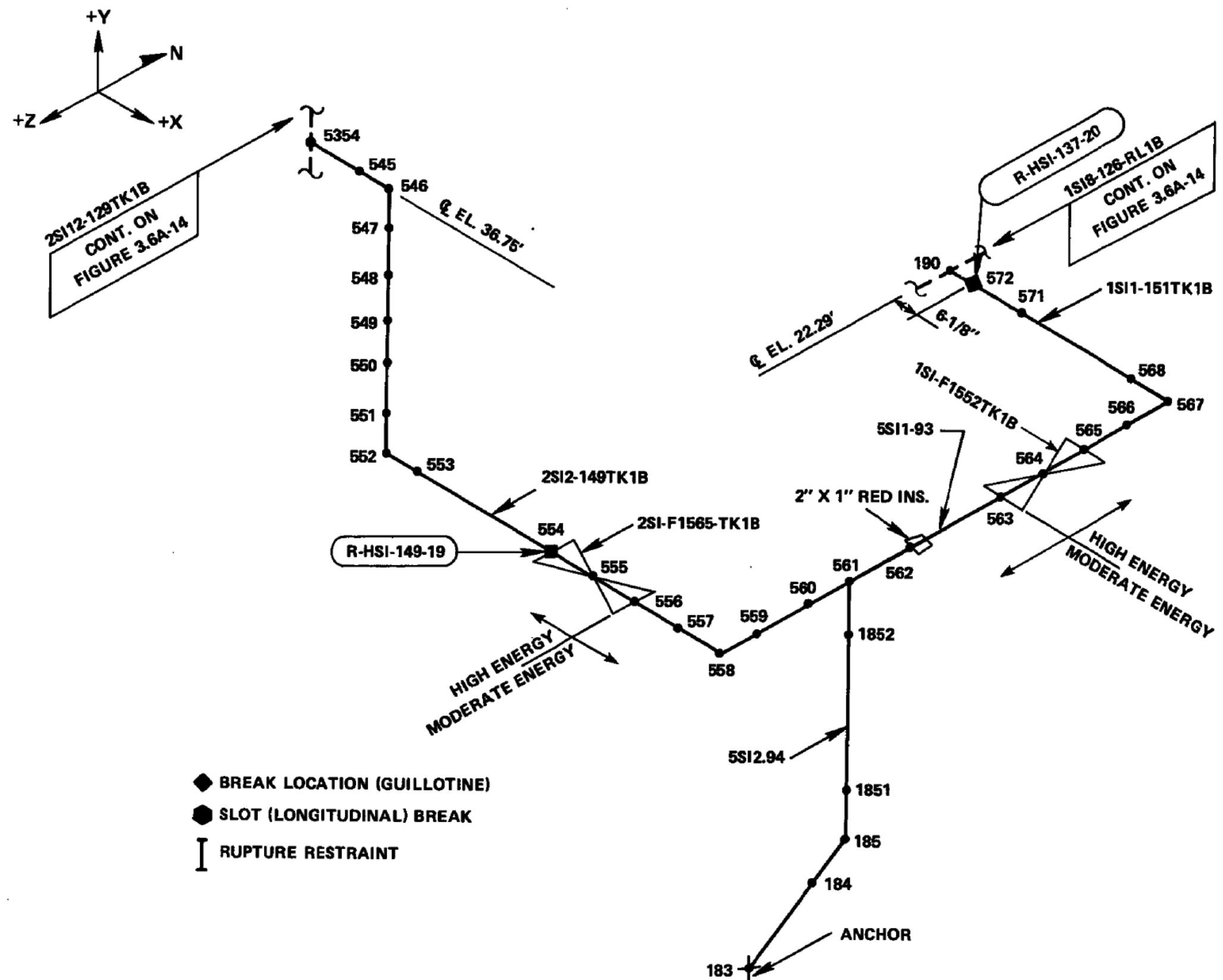
REVISION 307 (07/13)

LOUISIANA POWER & LIGHT CO.
WATERFORD STEAM ELECTRIC STATION

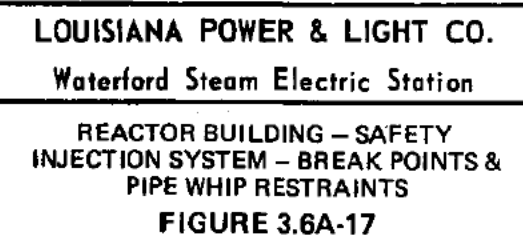
REACTOR BUILDING - SAFETY
INJECTION SYSTEM - BREAK POINTS &
PIPE WHIP RESTRAINTS
FIGURE 3.6A-14

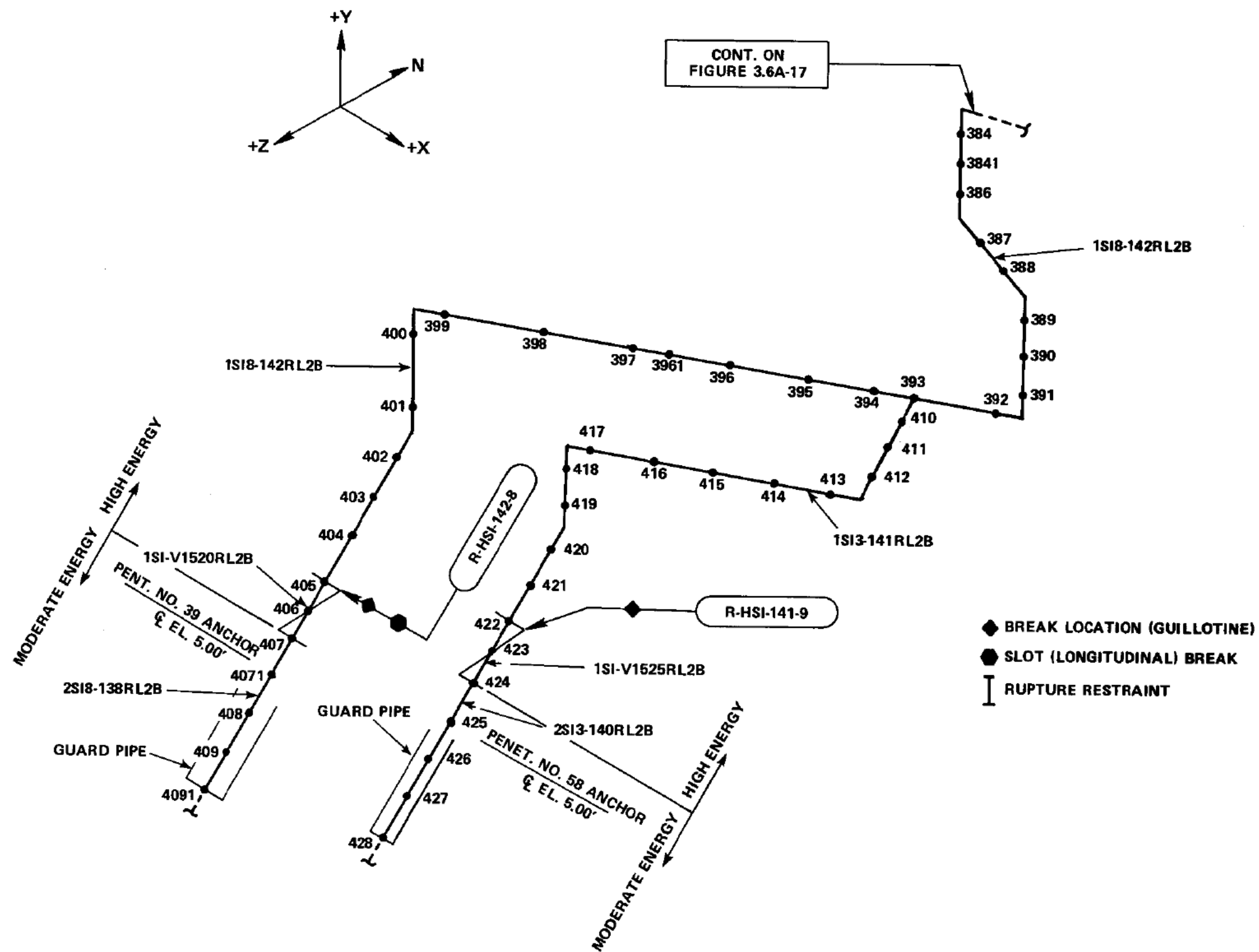


LOUISIANA POWER & LIGHT CO.
Waterford Steam Electric Station
REACTOR BUILDING - SAFETY
INJECTION SYSTEM - BREAK POINTS &
PIPE WHIP RESTRAINTS
FIGURE 3.6A-15

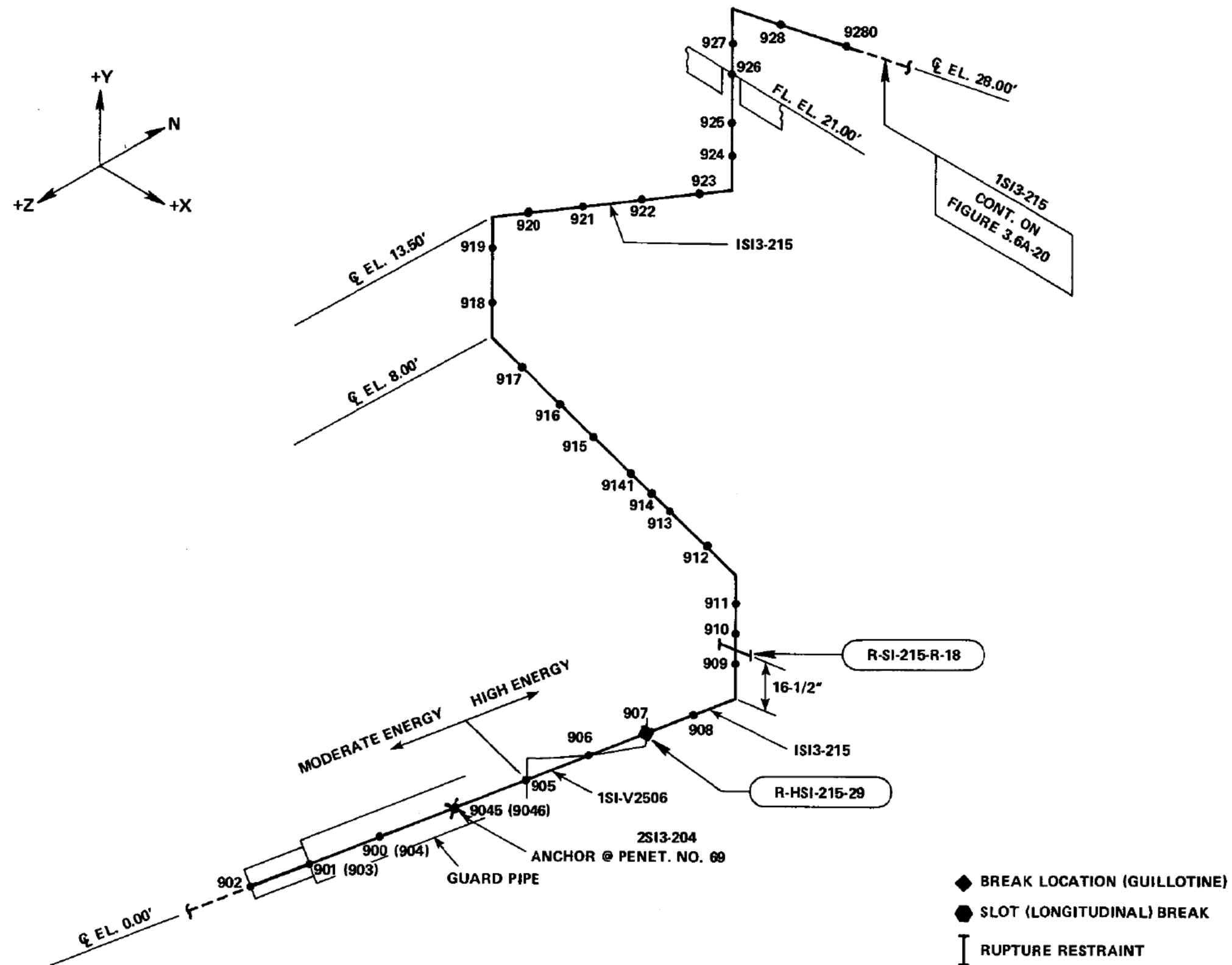


- ◆ BREAK LOCATION (GUILLOTINE)
- SLOT (LONGITUDINAL) BREAK
- I RUPTURE RESTRAINT

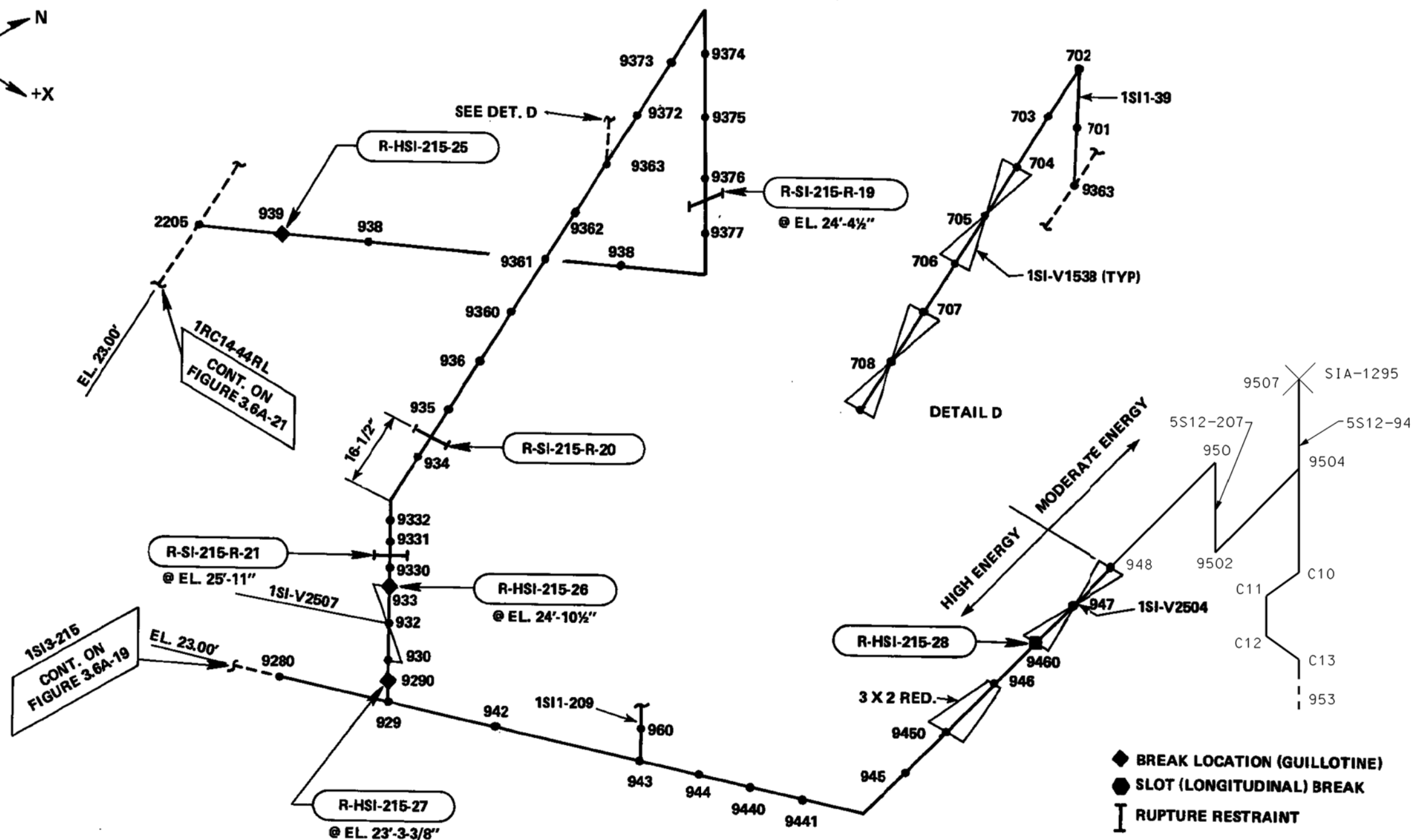
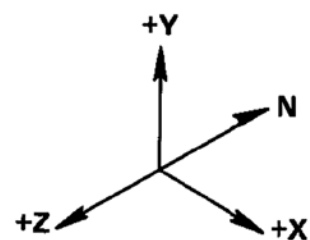




LOUISIANA POWER & LIGHT CO.
Waterford Steam Electric Station
REACTOR BUILDING - SAFETY
INJECTION SYSTEM - BREAK POINTS &
PIPE WHIP RESTRAINTS
FIGURE 3.6A-18



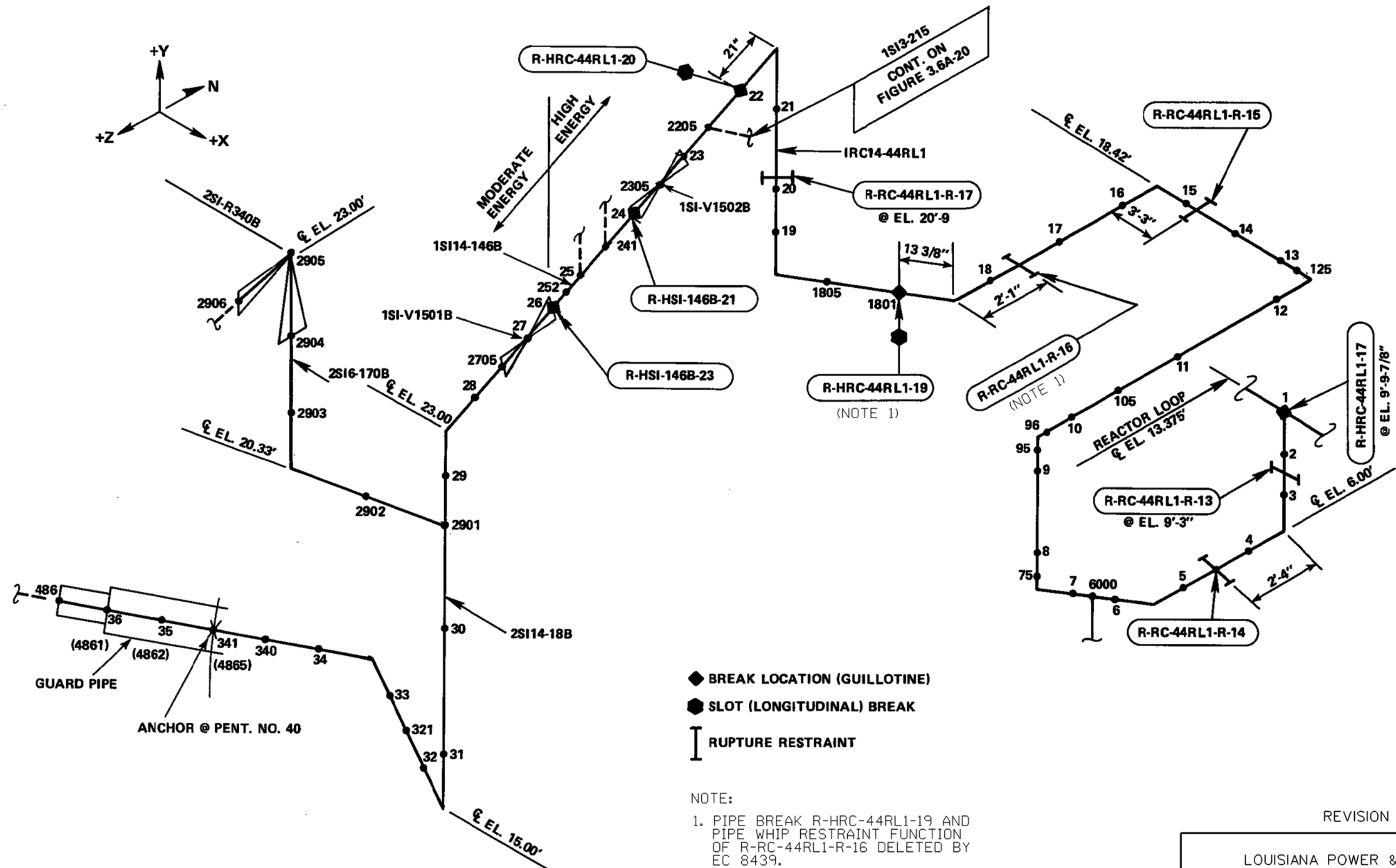
LOUISIANA POWER & LIGHT CO.
 Waterford Steam Electric Station
 REACTOR BUILDING - SAFETY
 INJECTION SYSTEM - BREAK POINTS &
 PIPE WHIP RESTRAINTS
 FIGURE 3.6A-19



REVISION 307 (07/13)

LOUISIANA POWER & LIGHT CO.
Waterford Steam Electric Station

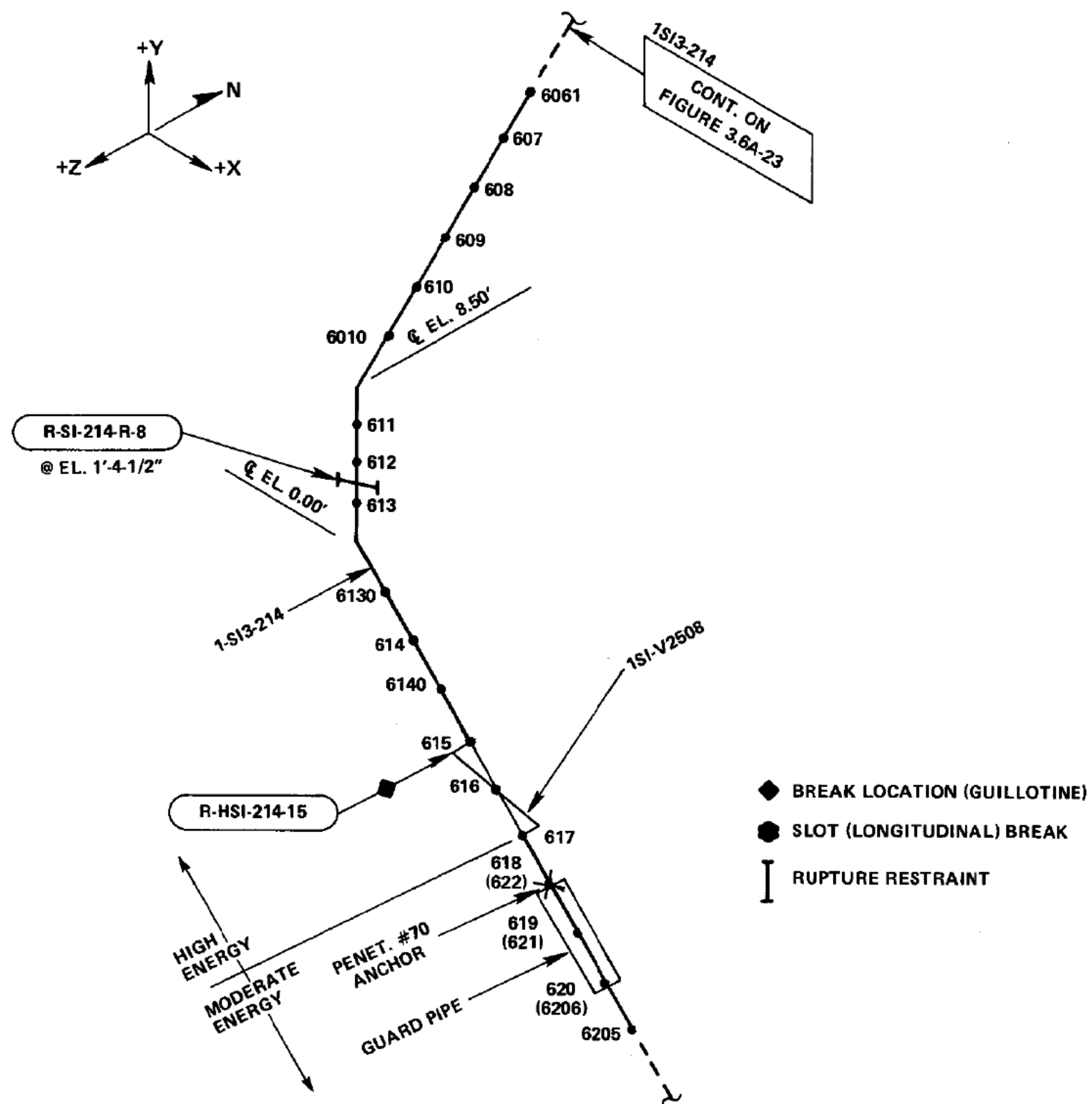
REACTOR BUILDING - SAFETY
INJECTION SYSTEM - BREAK POINTS
& PIPE WHIP RESTRAINTS
FIGURE 3.6A-20

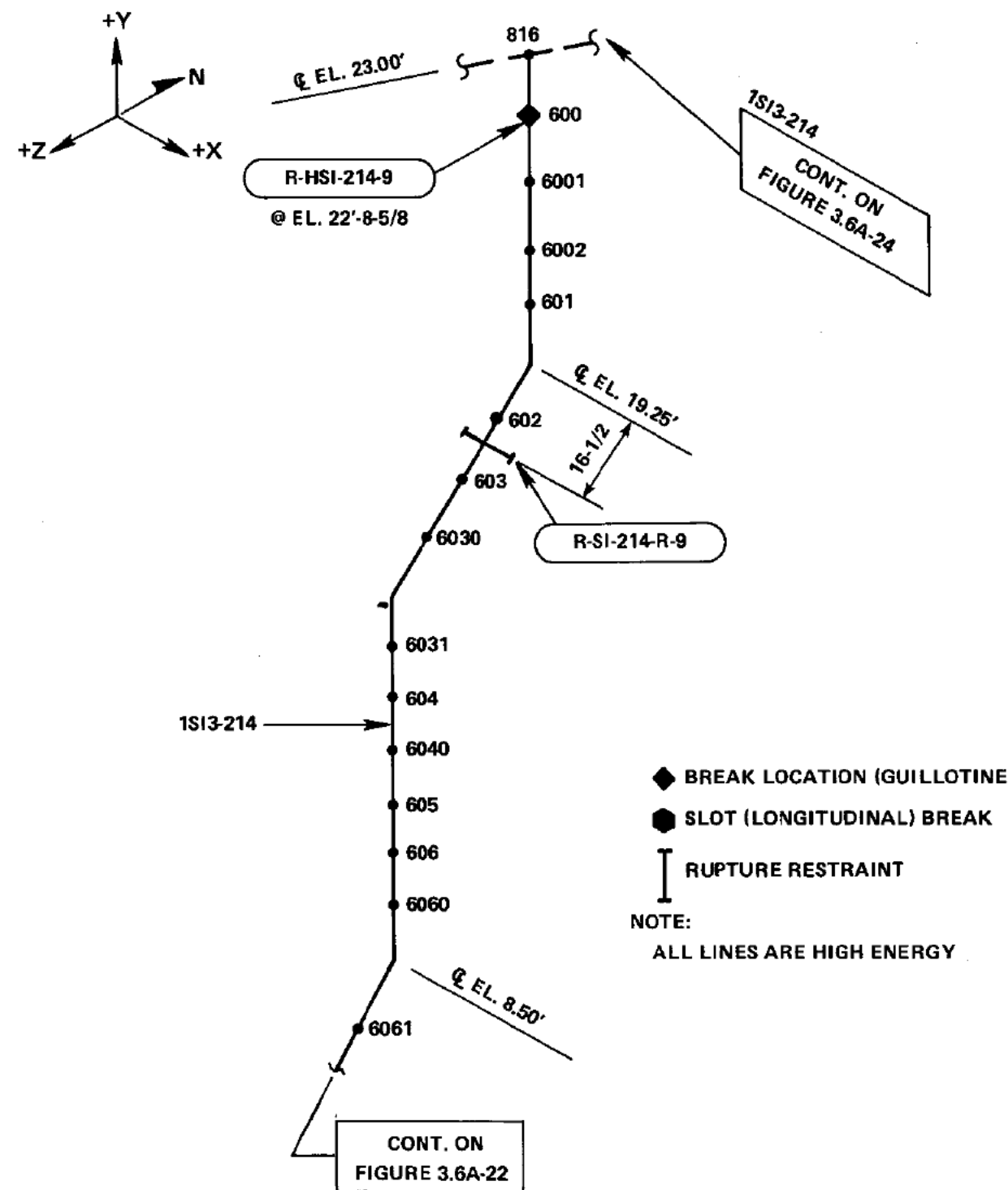


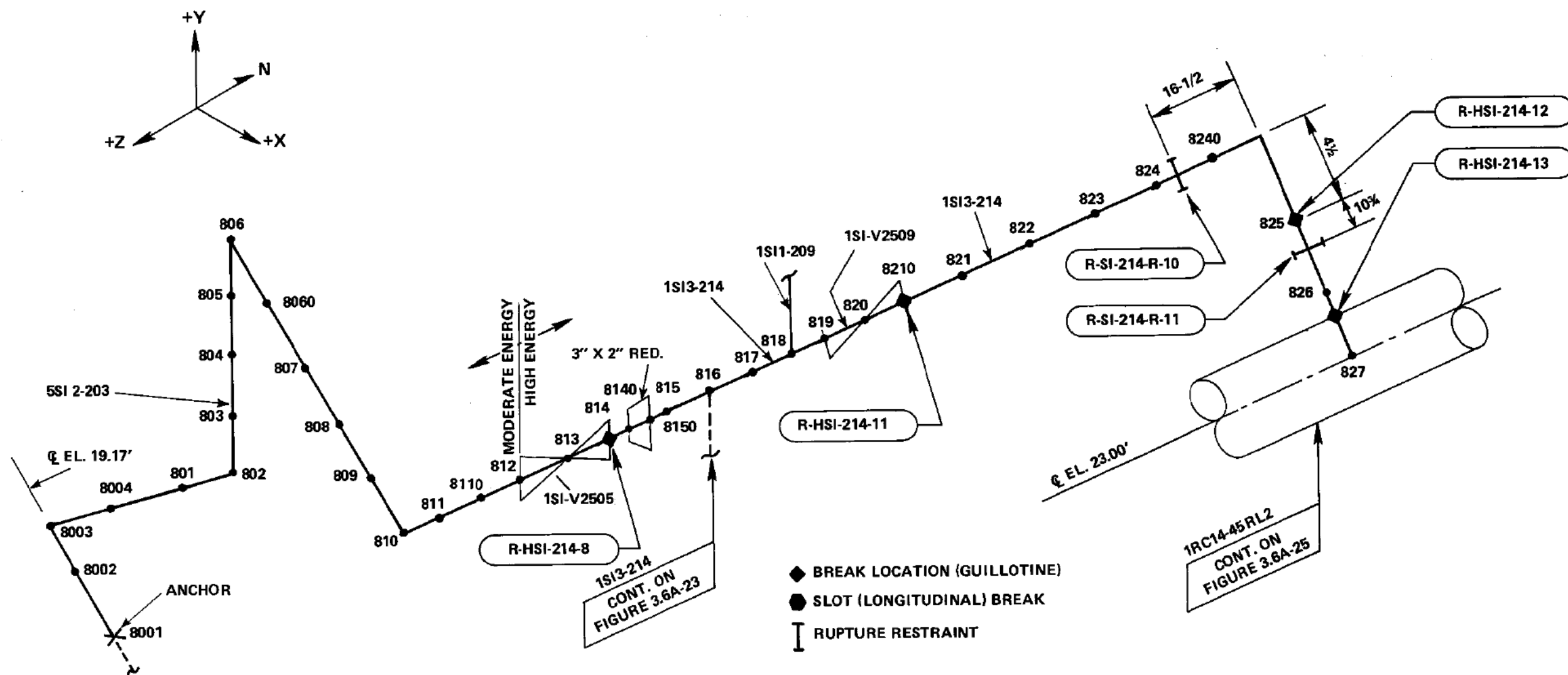
REVISION 307 (07/13)

LOUISIANA POWER & LIGHT
WATERFORD STEAM ELECTRIC STATION

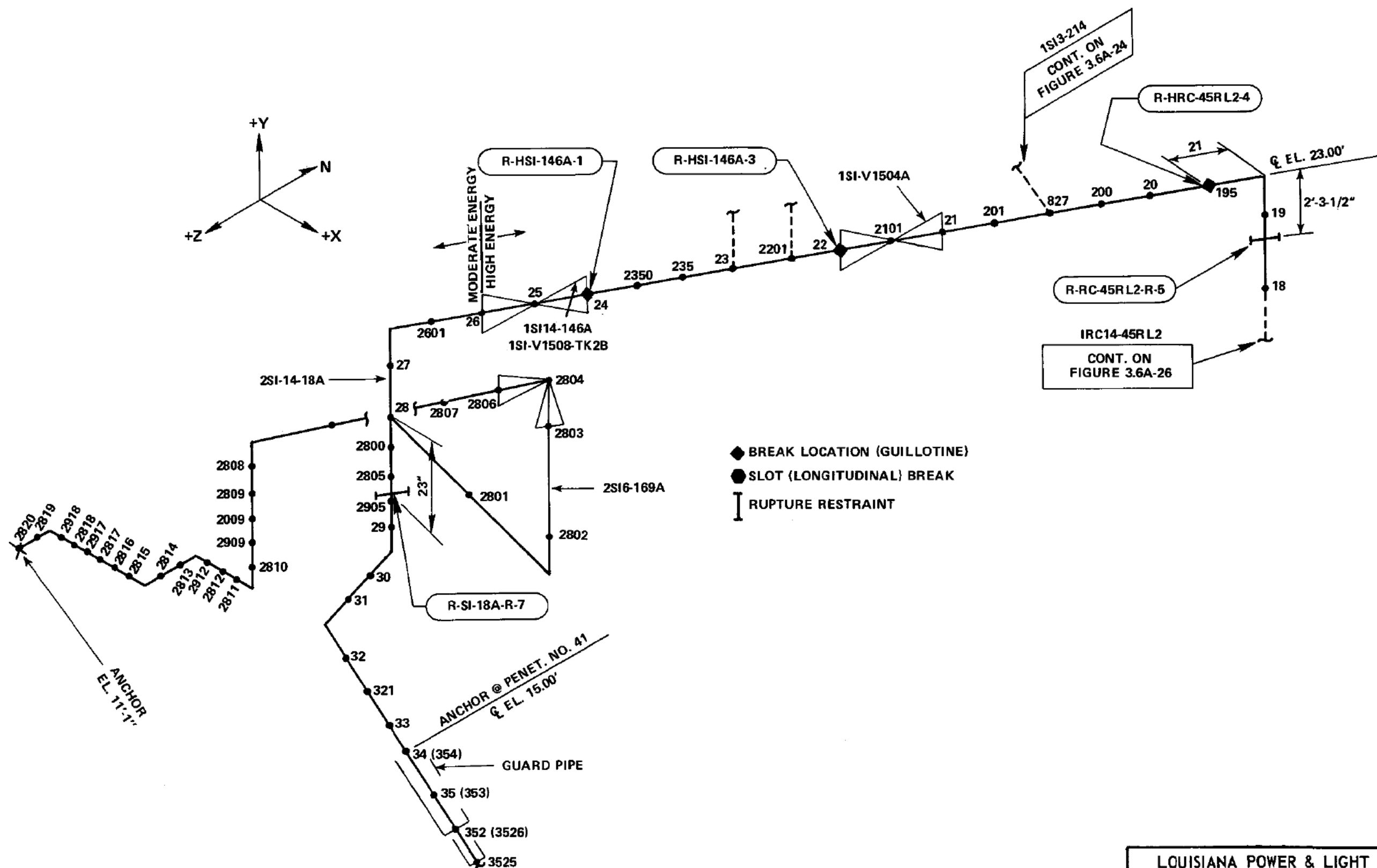
REACTOR BUILDING - SAFETY
INJECTION SYSTEM - BREAK POINTS &
PIPING WHIP RESTRAINTS
FIGURE 3.6A-21



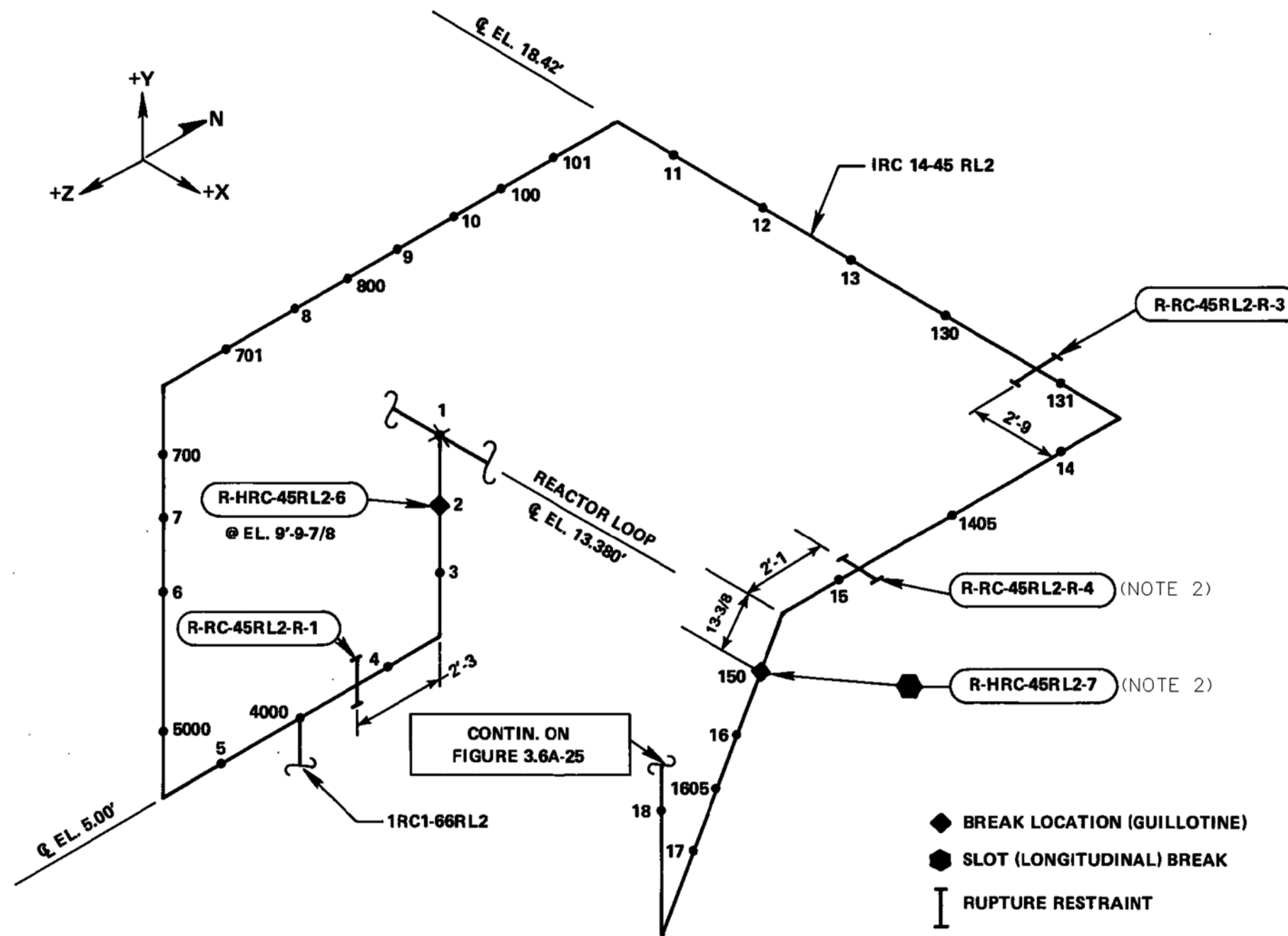




LOUISIANA POWER & LIGHT CO.
 Waterford Steam Electric Station
 REACTOR BUILDING - SAFETY
 INJECTION SYSTEM - BREAK POINTS &
 PIPE WHIP RESTRAINTS
 FIGURE 3.6A-24



LOUISIANA POWER & LIGHT CO.
 Waterford Steam Electric Station
 REACTOR BUILDING - SAFETY
 INJECTION PIPING - BREAK POINTS &
 PIPE WHIP RESTRAINTS
 FIGURE 3.6A-25



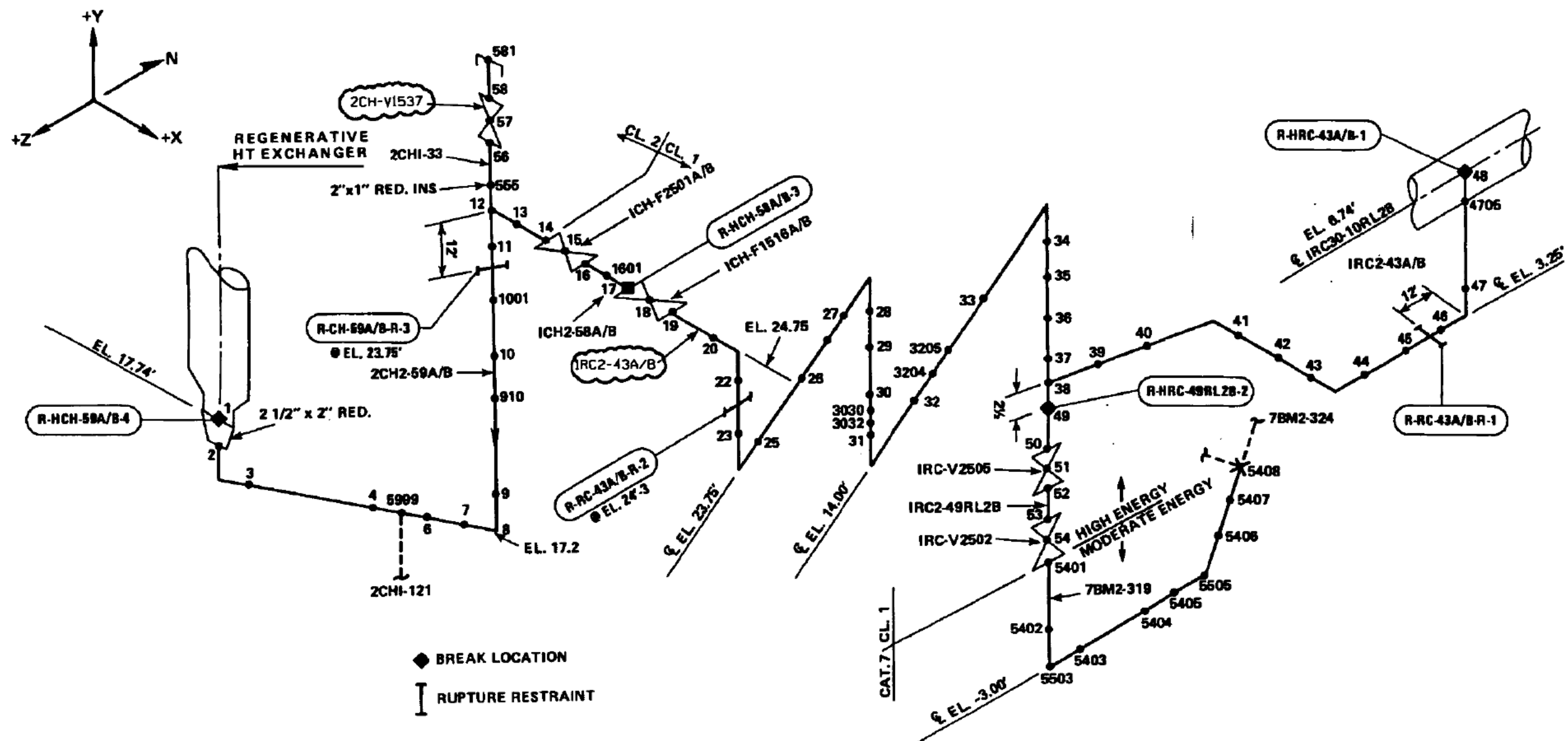
NOTES:

1. ALL LINES ARE HIGH ENERGY.
2. PIPE BREAK R-HRC-45RL2-7 AND PIPE WHIP RESTRAINT FUNCTION OF R-RC-45RL2-R-4 DELETED BY EC 8439.

REVISION 307 (07/13)

LOUISIANA POWER & LIGHT CO.
WATERFORD STEAM ELECTRIC STATION

REACTOR BUILDING-SAFETY
INJECTION PIPING - BREAK POINTS
& PIPE WHIP RESTRAINTS
FIGURE 3.6A-26

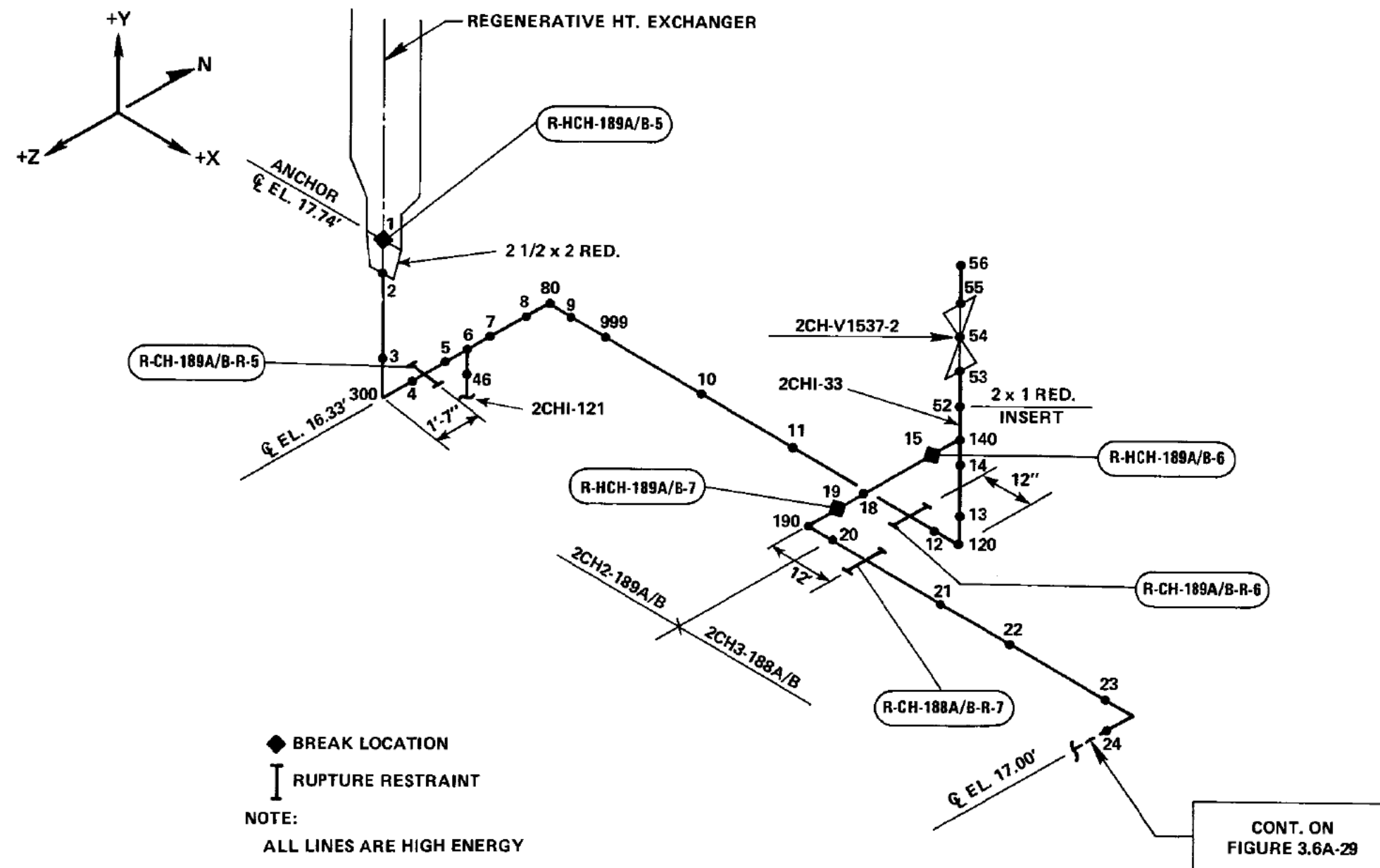


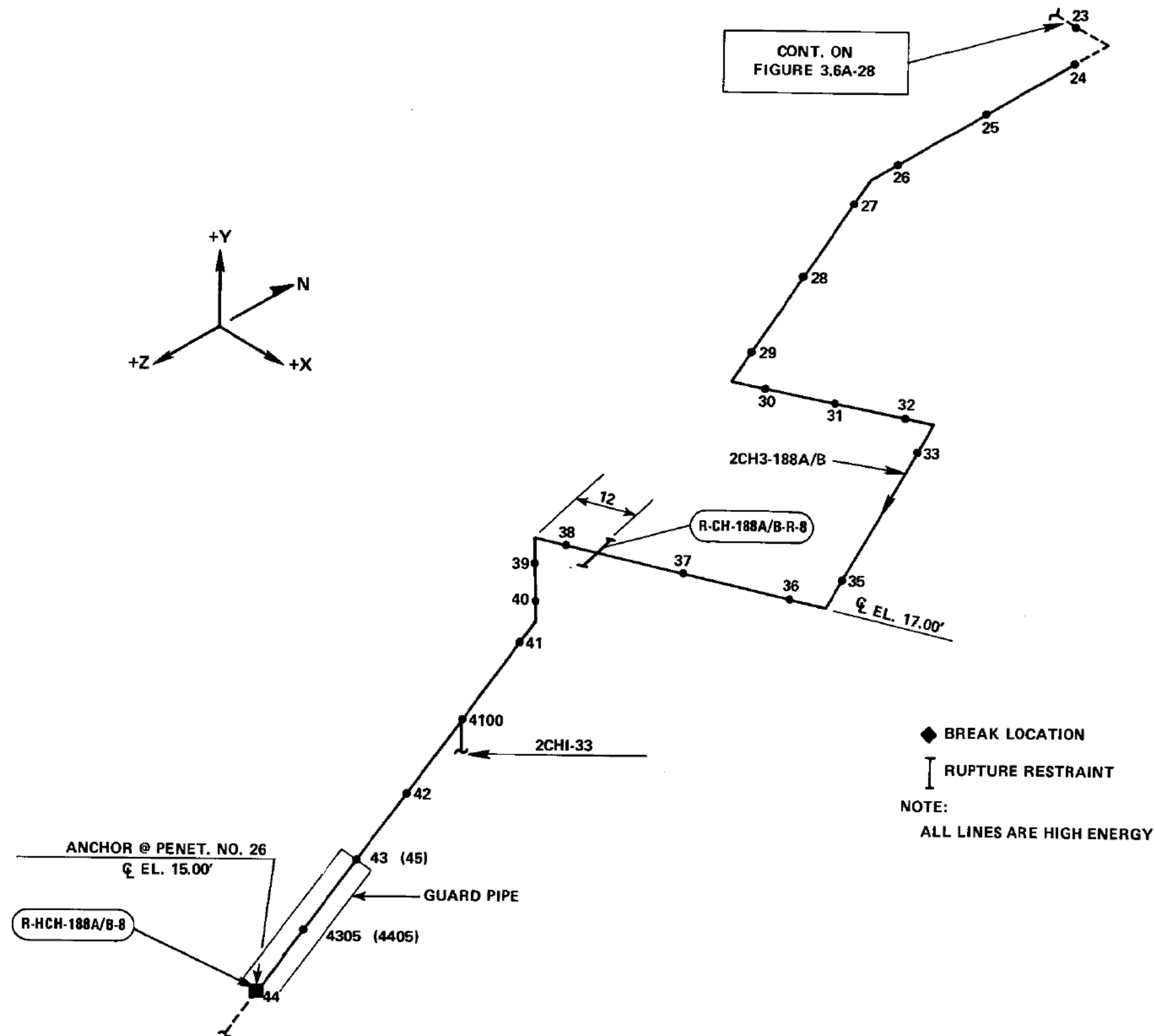
Revision 10 (10/99)

LOUISIANA POWER & LIGHT CO.

Waterford Steam Electric Station

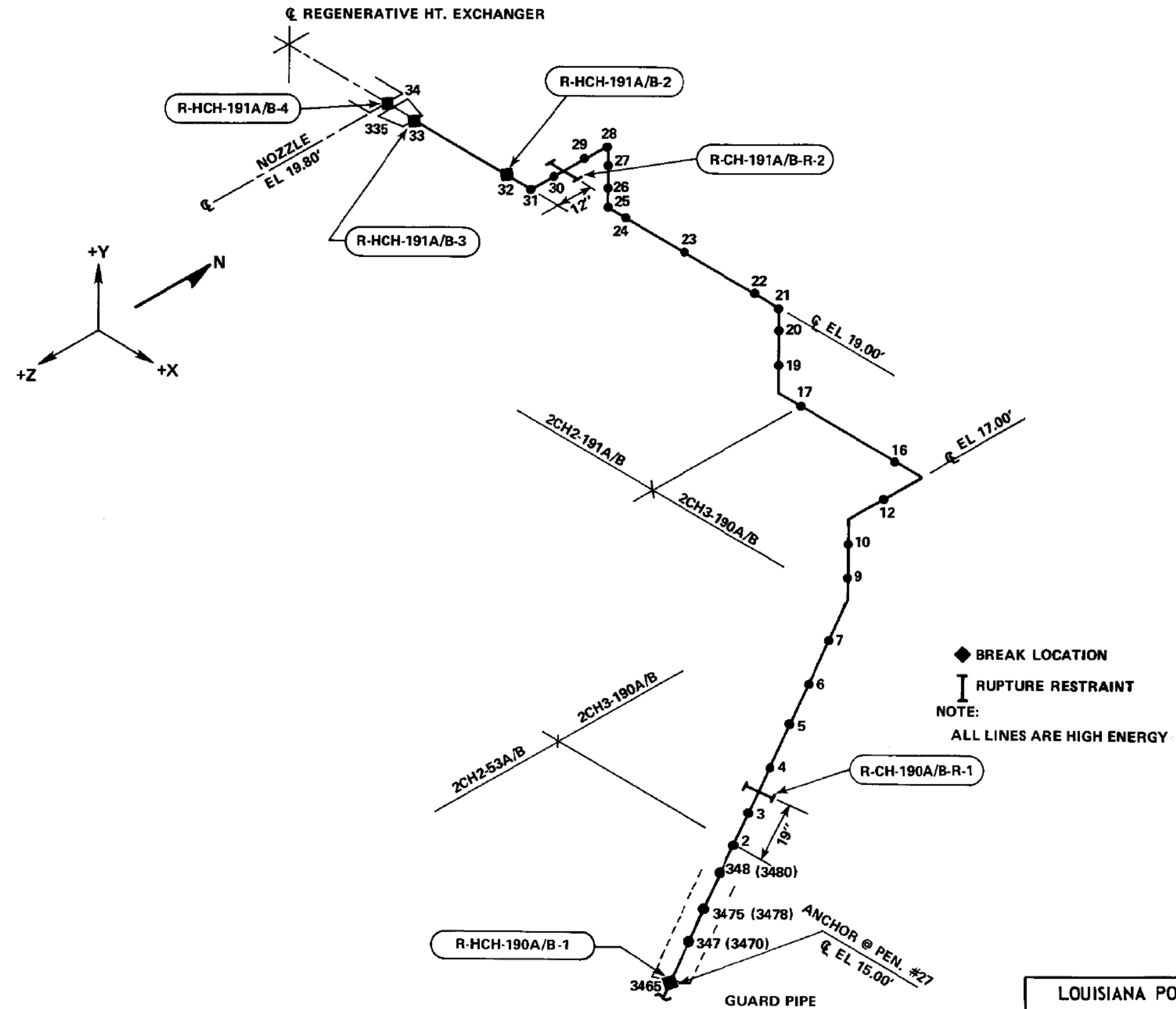
REACTOR BLDG. - CHEMICAL &
VOL. CONTROL PIPING - BREAKPOINTS
& PIPE WHIP RESTRAINTS
FIGURE 3.6A-27



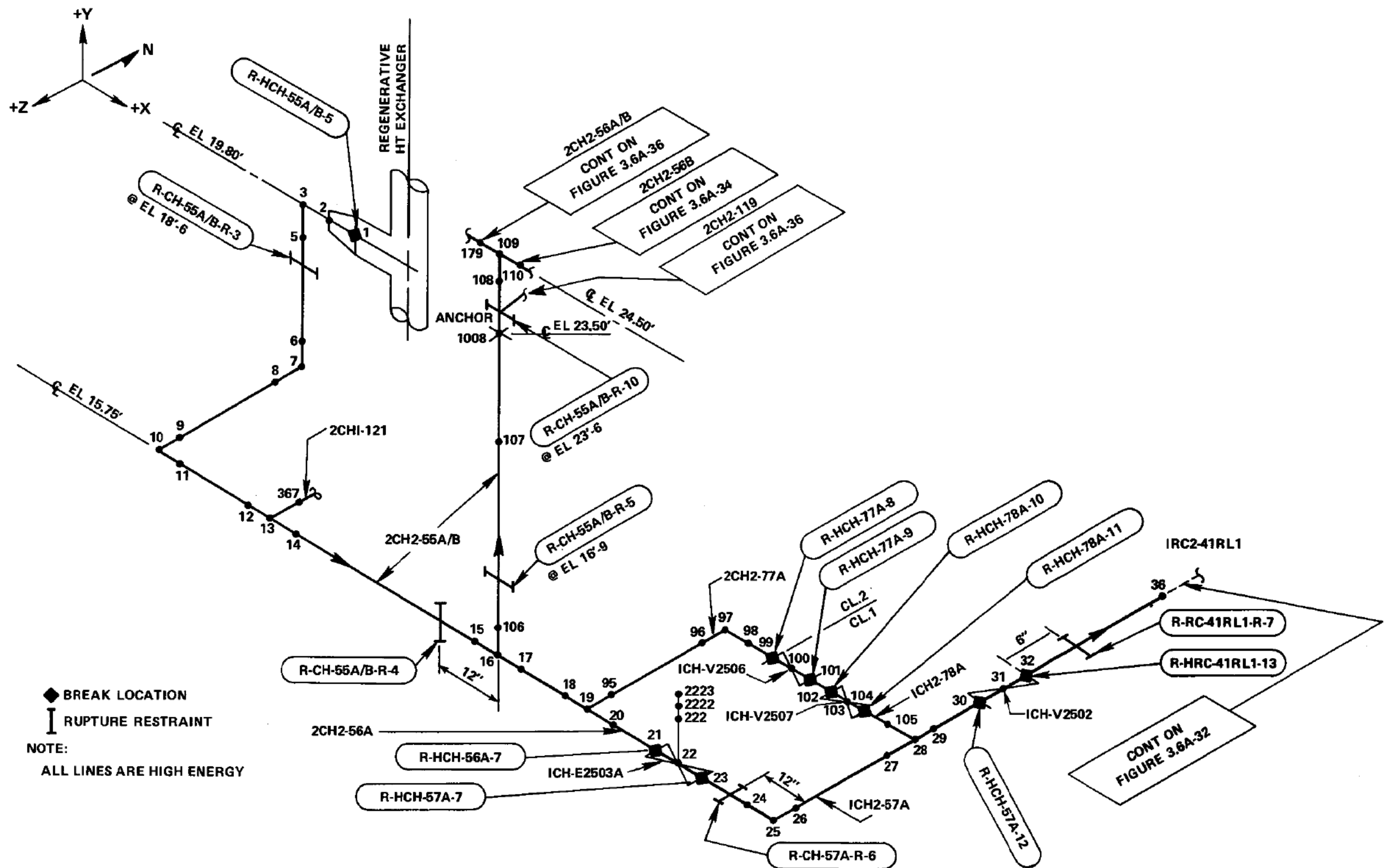


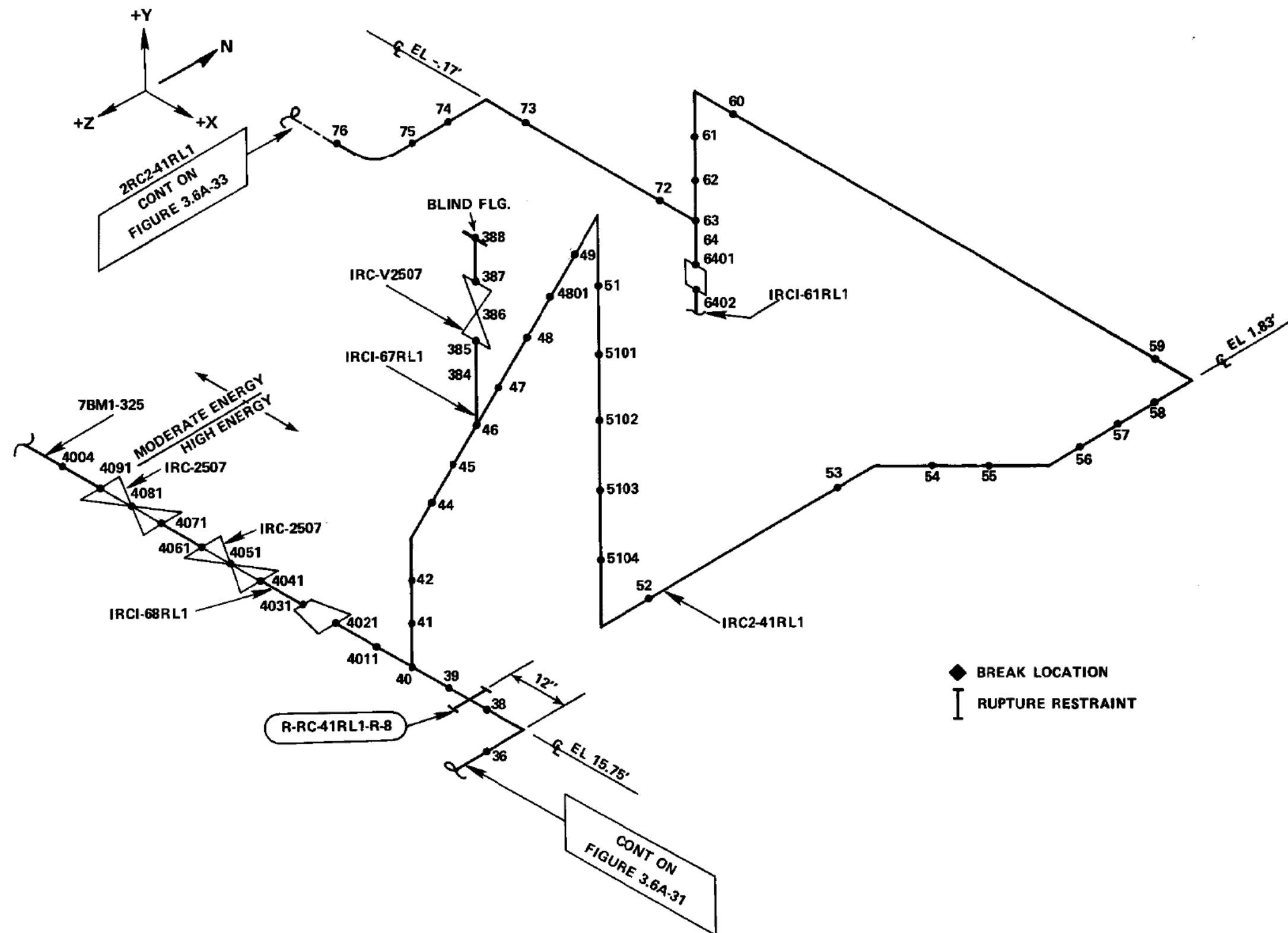
LOUISIANA POWER & LIGHT CO.
Waterford Steam Electric Station

REACTOR BLDG. - CHEMICAL &
VOL. CONTROL PIPING - BREAKPOINTS
& PIPE WHIP RESTRAINTS
FIGURE 3.6A-29



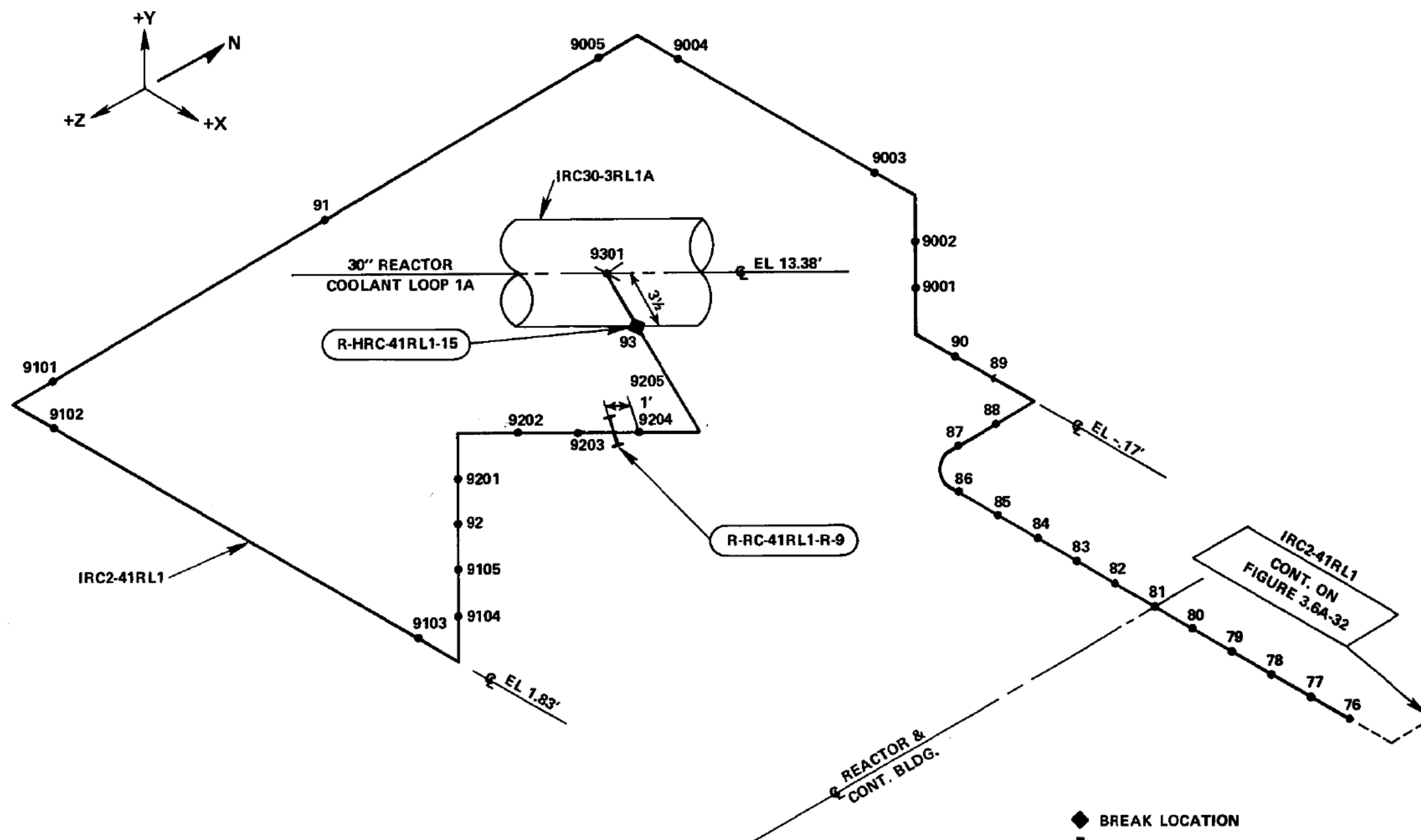
LOUISIANA POWER & LIGHT CO.
 Waterford Steam Electric Station
 REACTOR BUILDING
 CHEMICAL & VOLUME CONTROL PIPING
 BREAKPOINTS & PIPEWHIP RESTRAINTS
 FIGURE 3.6A-30





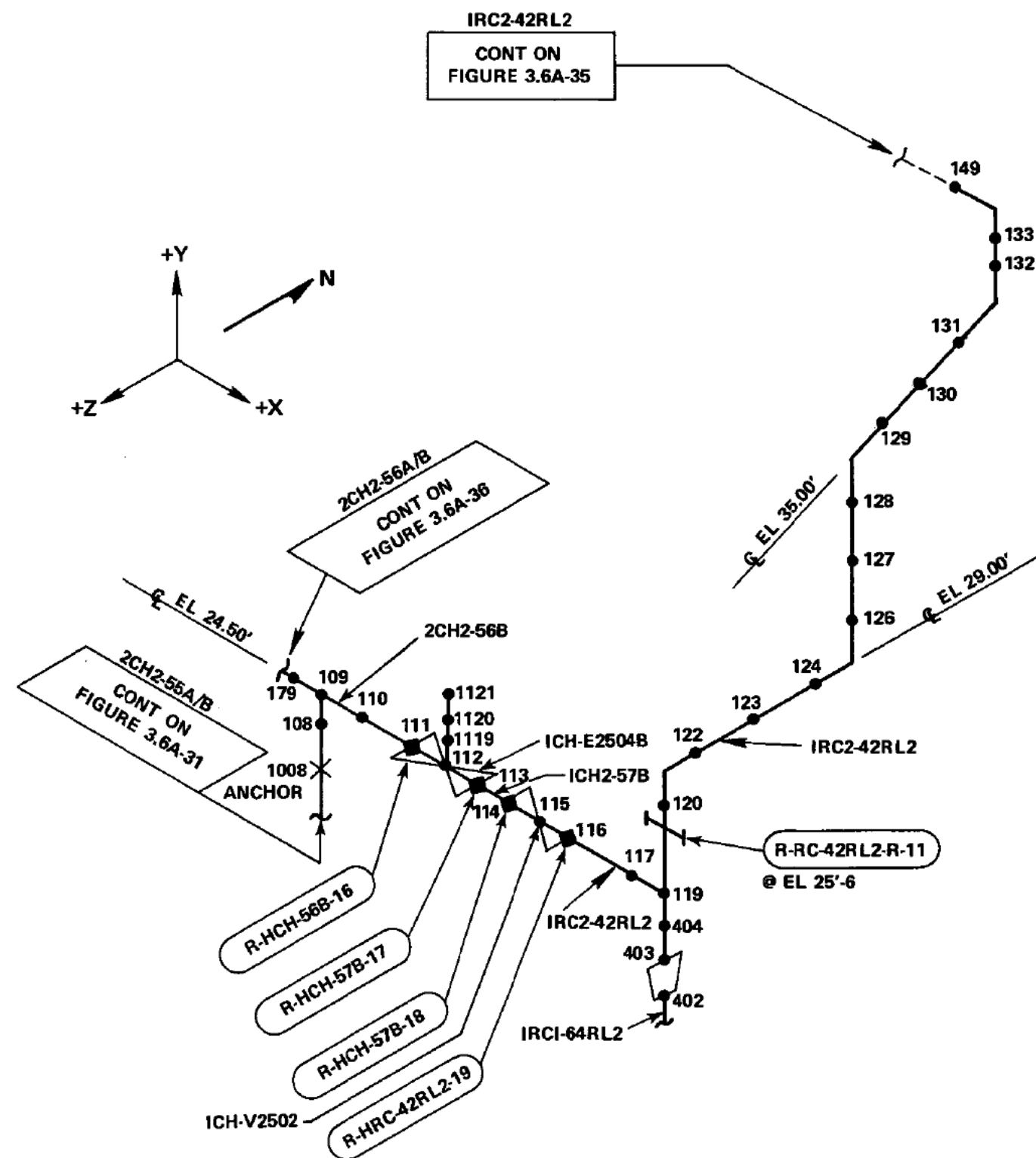
LOUISIANA POWER & LIGHT CO.
Waterford Steam Electric Station

REACTOR BUILDING
CHEMICAL & VOLUME CONTROL PIPING
BREAKPOINTS & PIPEWHIP RESTRAINTS
FIGURE 3.6A-32



◆ BREAK LOCATION
 | RUPTURE RESTRAINT
 NOTE:
 ALL LINES ARE HIGH ENERGY

LOUISIANA POWER & LIGHT CO.
 Waterford Steam Electric Station
 REACTOR BUILDING
 CHEMICAL & VOLUME CONTROL PIPING
 BREAKPOINTS & PIPEWHIP RESTRAINTS
 FIGURE 3.6A-33



◆ BREAK LOCATION

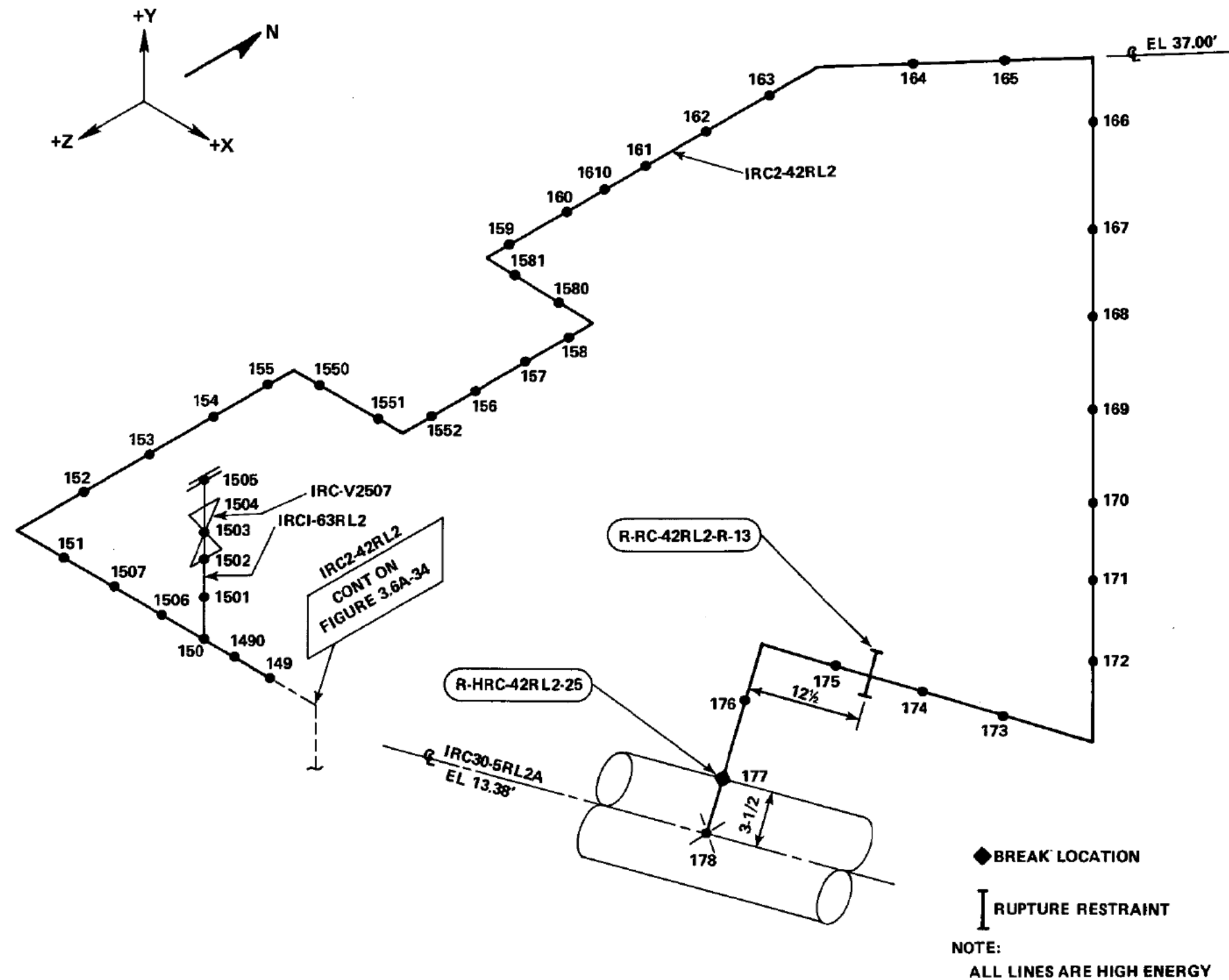
┃ RUPTURE RESTRAINT

NOTE:
ALL LINES ARE HIGH ENERGY

LOUISIANA POWER & LIGHT CO.

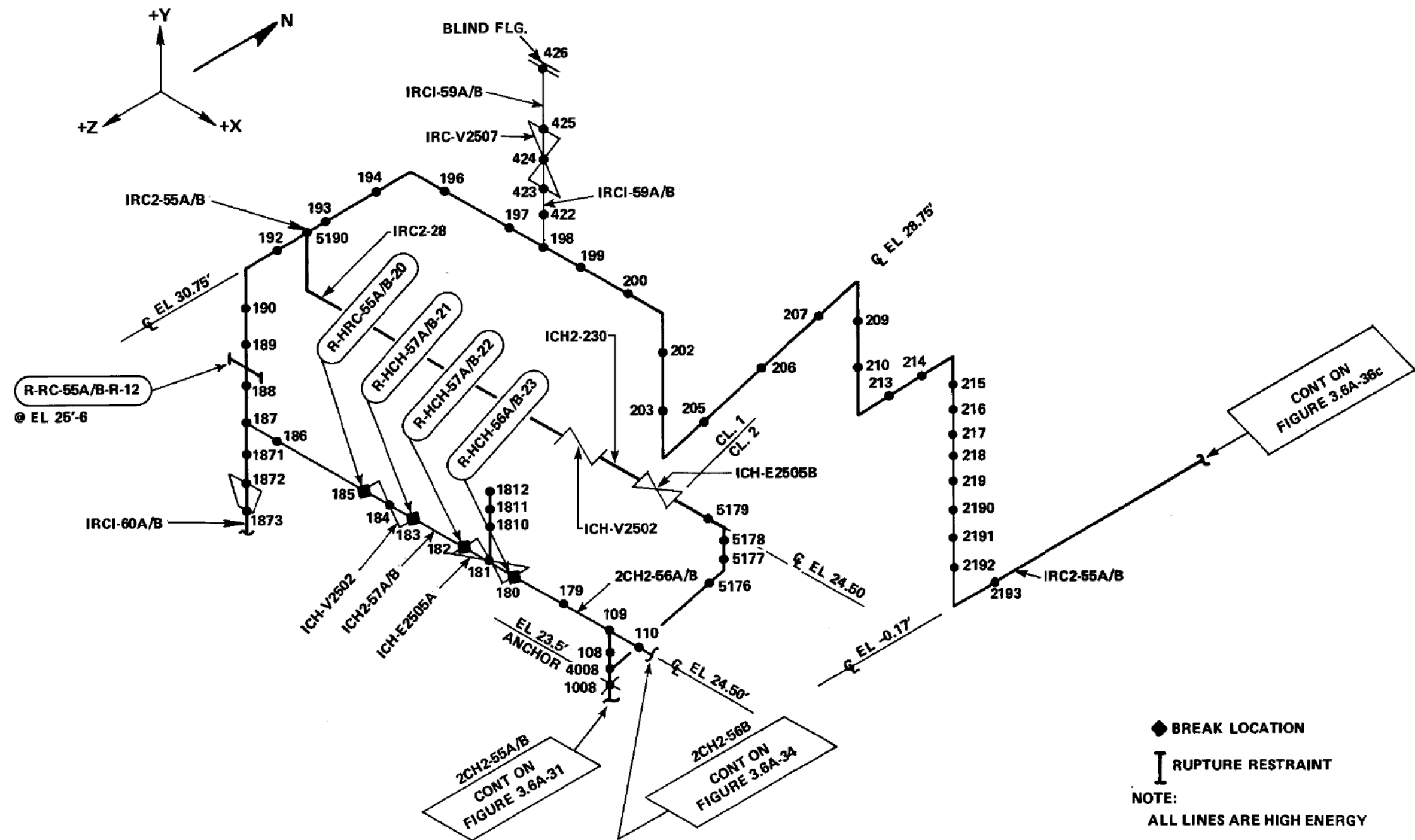
Waterford Steam Electric Station

REACTOR BUILDING
CHEMICAL & VOLUME CONTROL PIPING
BREAKPOINTS & PIPEWHIP RESTRAINTS
FIGURE 3.6A-34



LOUISIANA POWER & LIGHT CO.
 Waterford Steam Electric Station

REACTOR BUILDING
 CHEMICAL & VOLUME CONTROL PIPING
 BREAKPOINTS & PIPEWHIP RESTRAINTS
 FIGURE 3.6A-35



SYMBOLS:

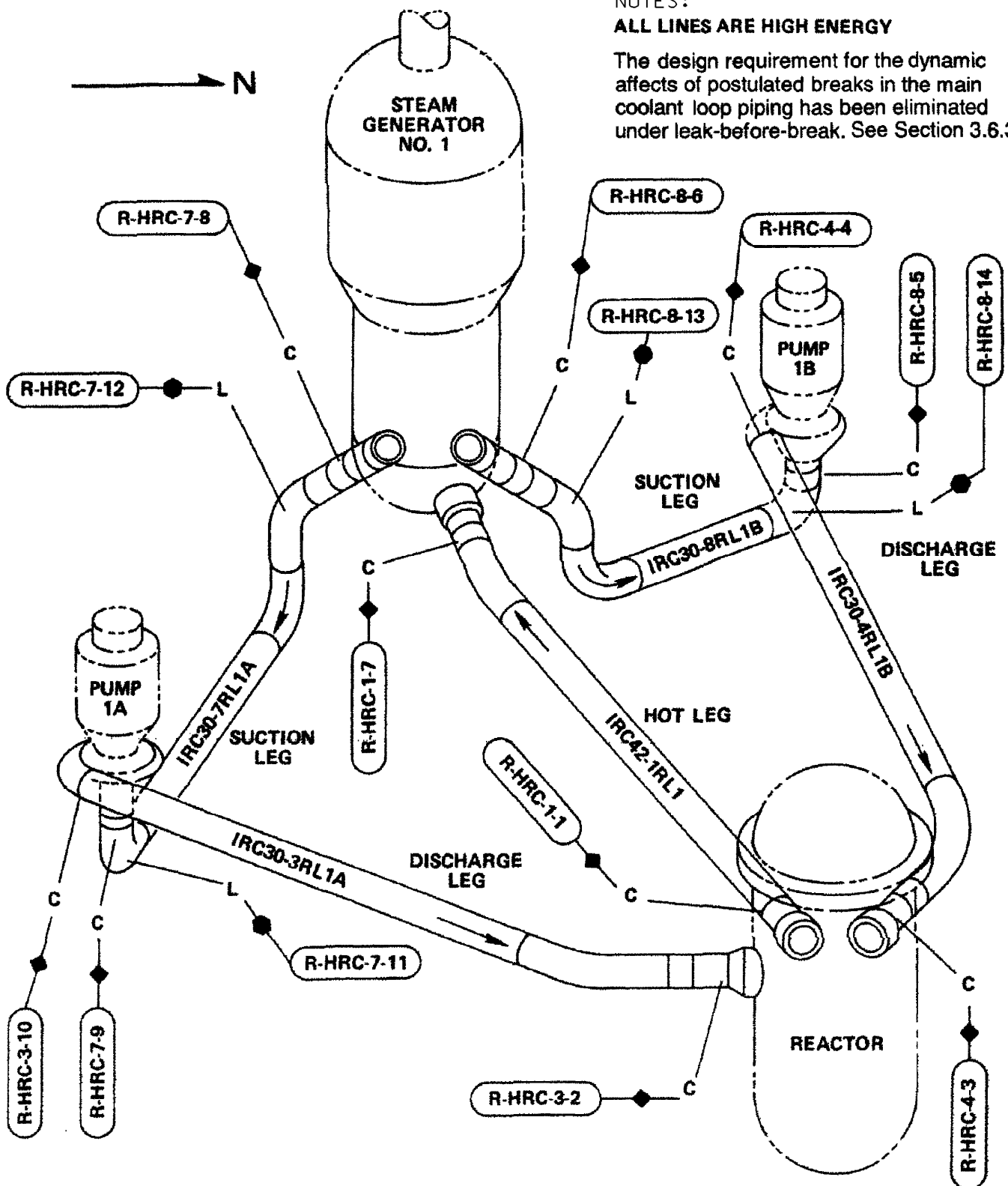
C = CIRCUMFERENTIAL BREAK = ◆

L = LONGITUDINAL BREAK = ●

NOTES:

ALL LINES ARE HIGH ENERGY

The design requirement for the dynamic affects of postulated breaks in the main coolant loop piping has been eliminated under leak-before-break. See Section 3.6.3.



REVISION 305 (11/11)

LOUISIANA
POWER & LIGHT CO.
Waterford Steam
Electric Station

REACTOR COOLANT SYSTEM
DESIGN BASIS PIPE BREAKS
TYPES & LOCATIONS

Figure
3.6A-36a

SYMBOLS:

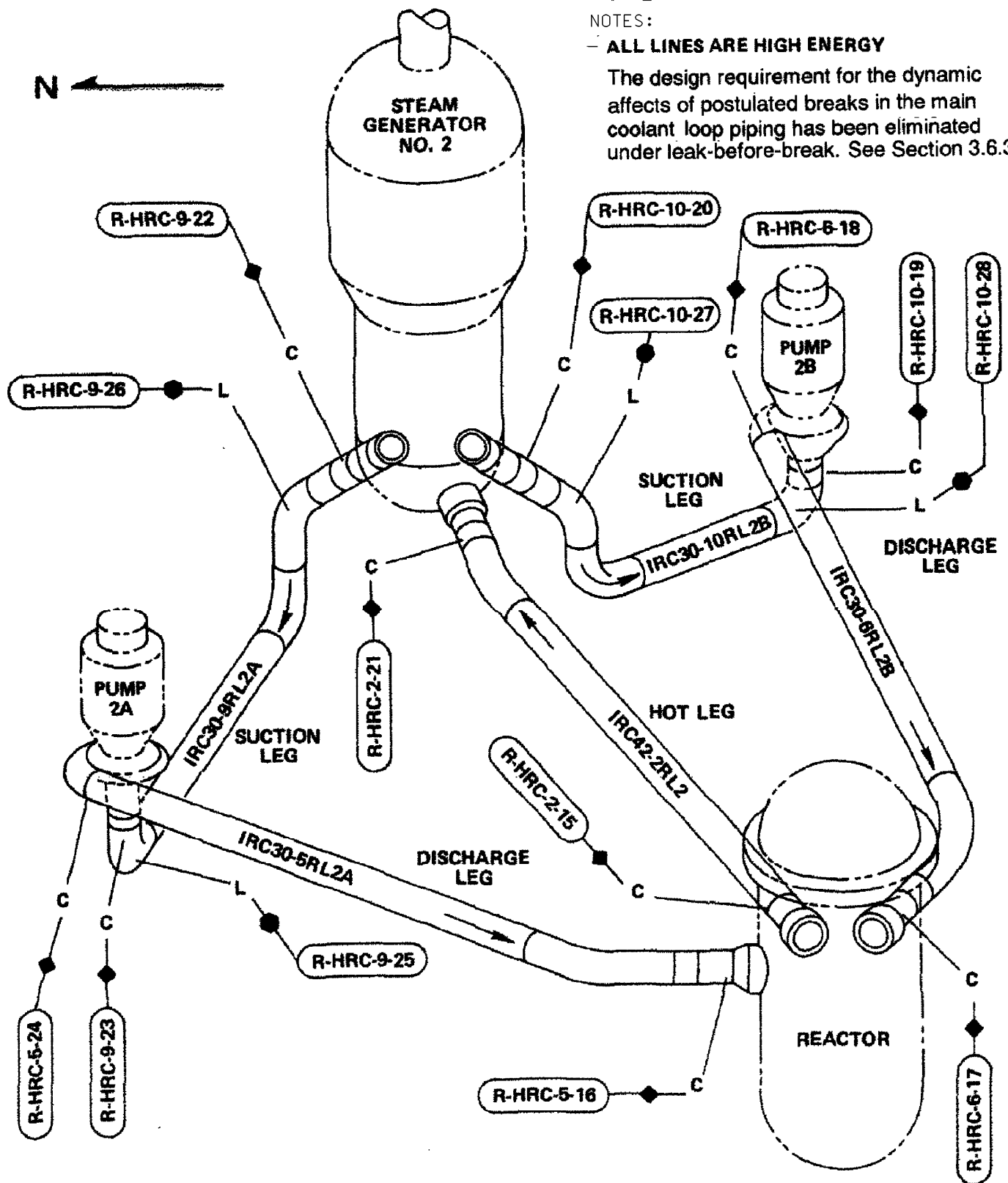
C = CIRCUMFERENTIAL BREAK = ◆

L = LONGITUDINAL BREAK = ●

NOTES:

— ALL LINES ARE HIGH ENERGY

The design requirement for the dynamic effects of postulated breaks in the main coolant loop piping has been eliminated under leak-before-break. See Section 3.6.3.

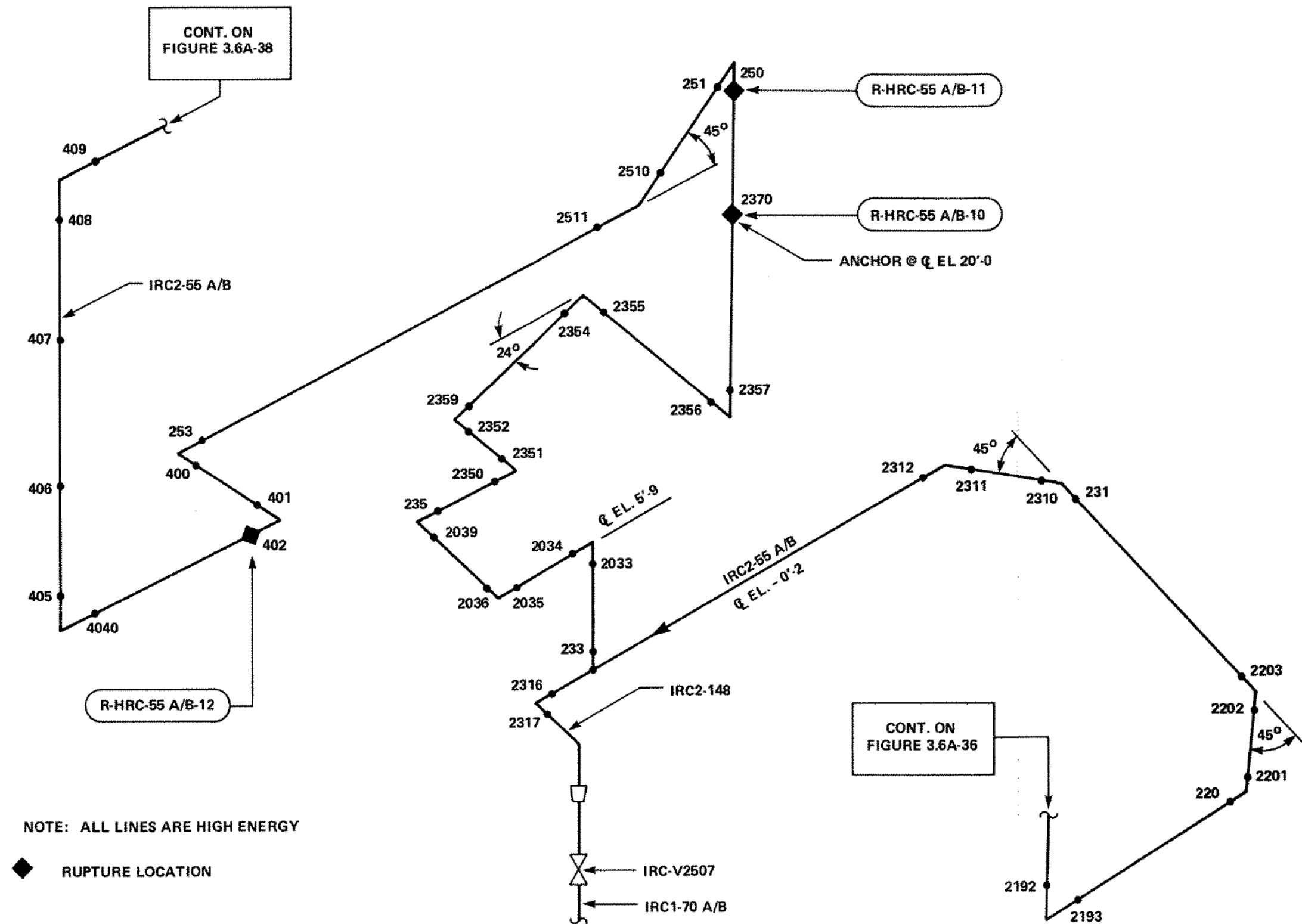


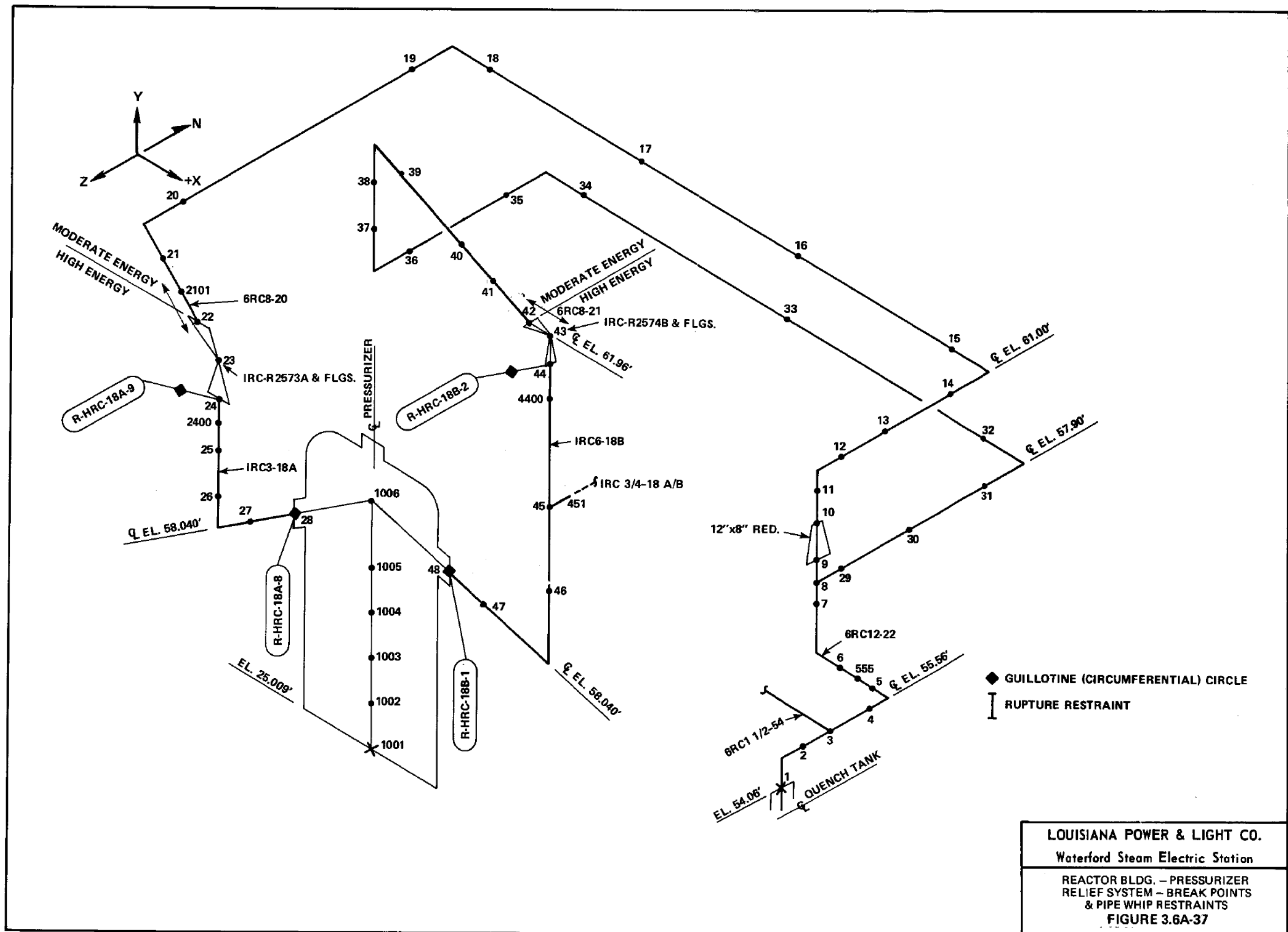
REVISION 305 (11/11)

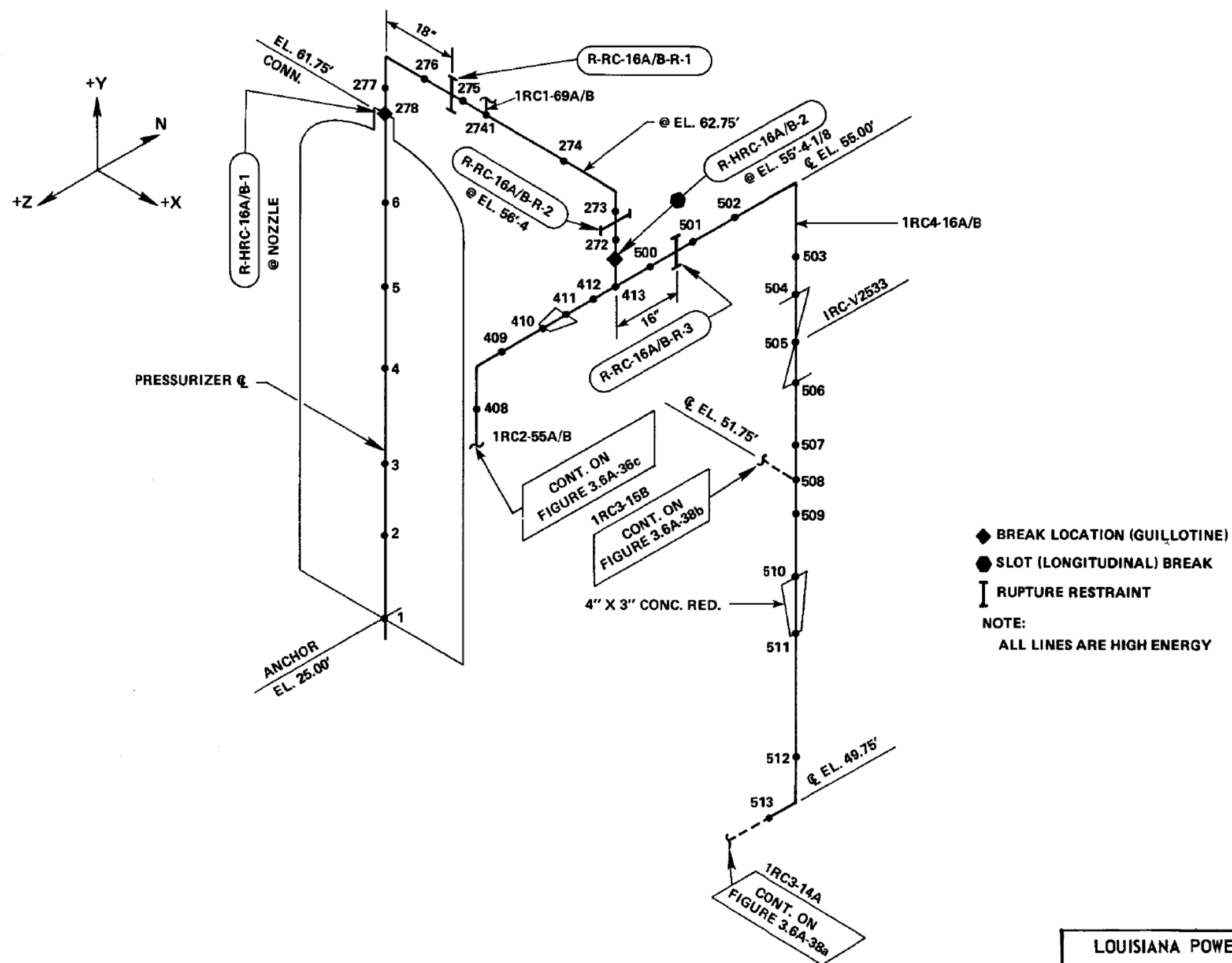
LOUISIANA
POWER & LIGHT CO.
Waterford Steam
Electric Station

REACTOR COOLANT SYSTEM
DESIGN BASIS PIPE BREAKS
TYPES & LOCATIONS

Figure
3.6A-36b



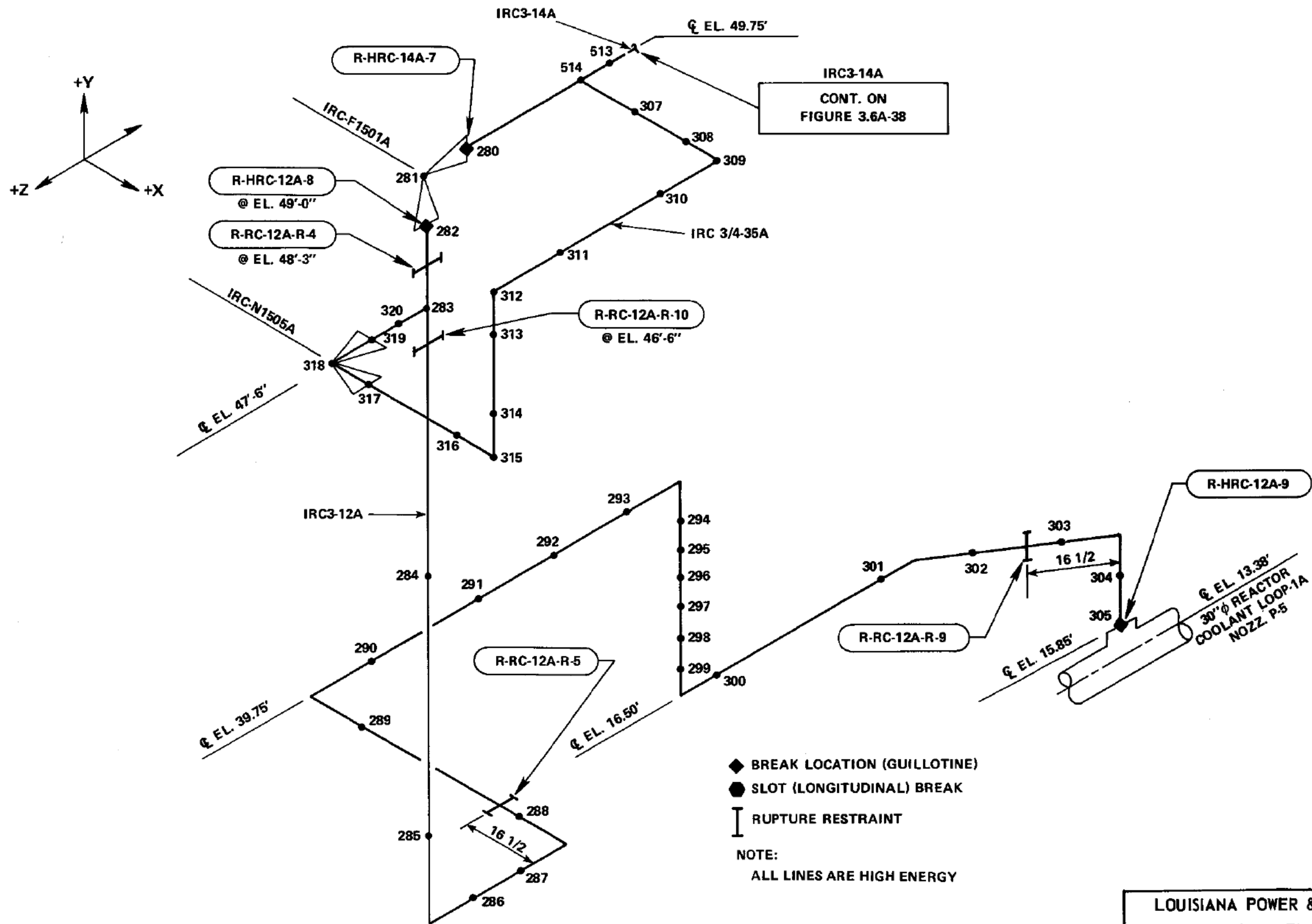




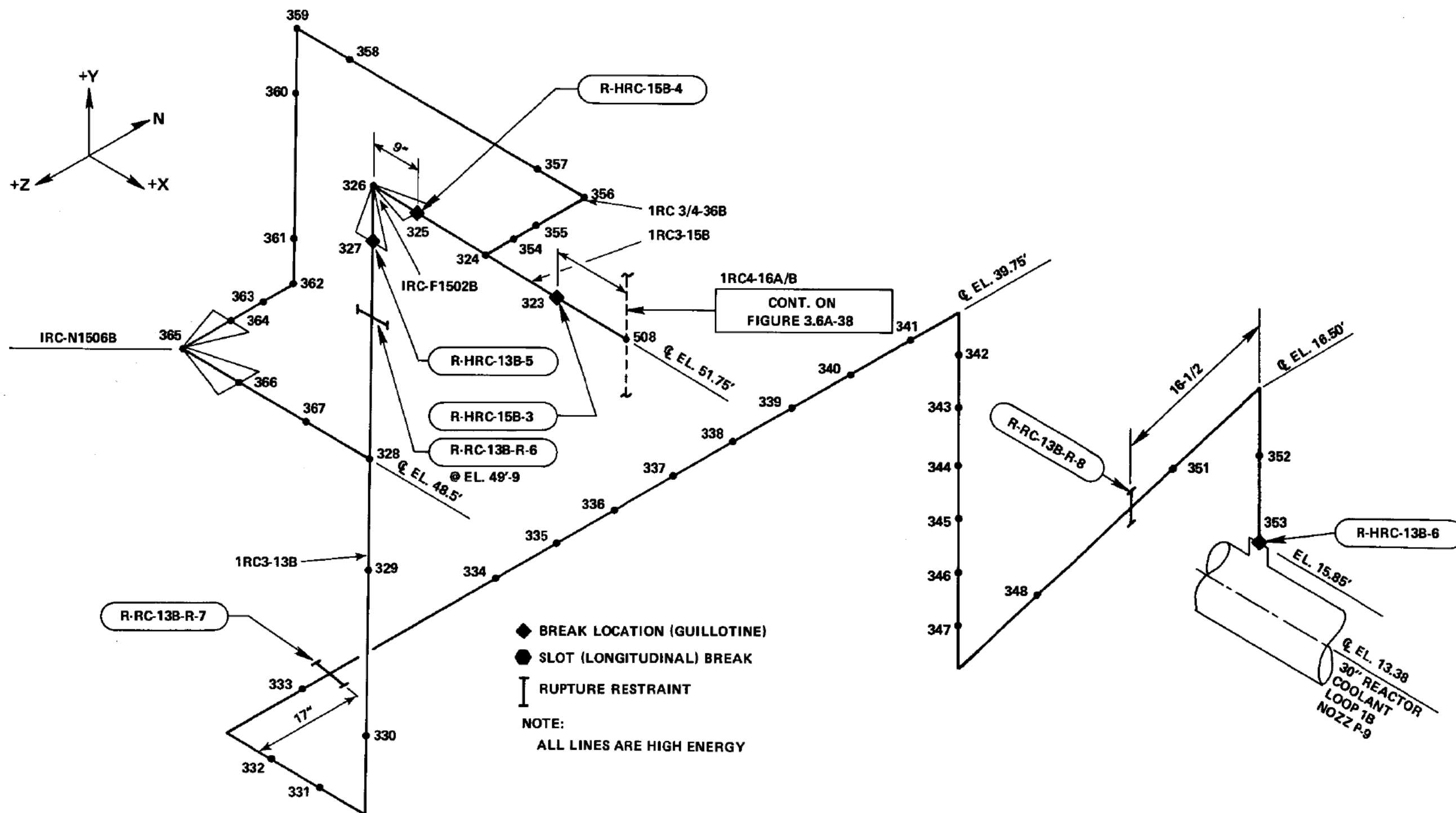
LOUISIANA POWER & LIGHT CO.
Waterford Steam Electric Station

REACTOR BUILDING - REACTOR COOLANT
PIPING PRESSURIZER SPRAY
BREAK POINTS & PIPE WHIP RESTRAINTS

FIGURE 3.6A-38



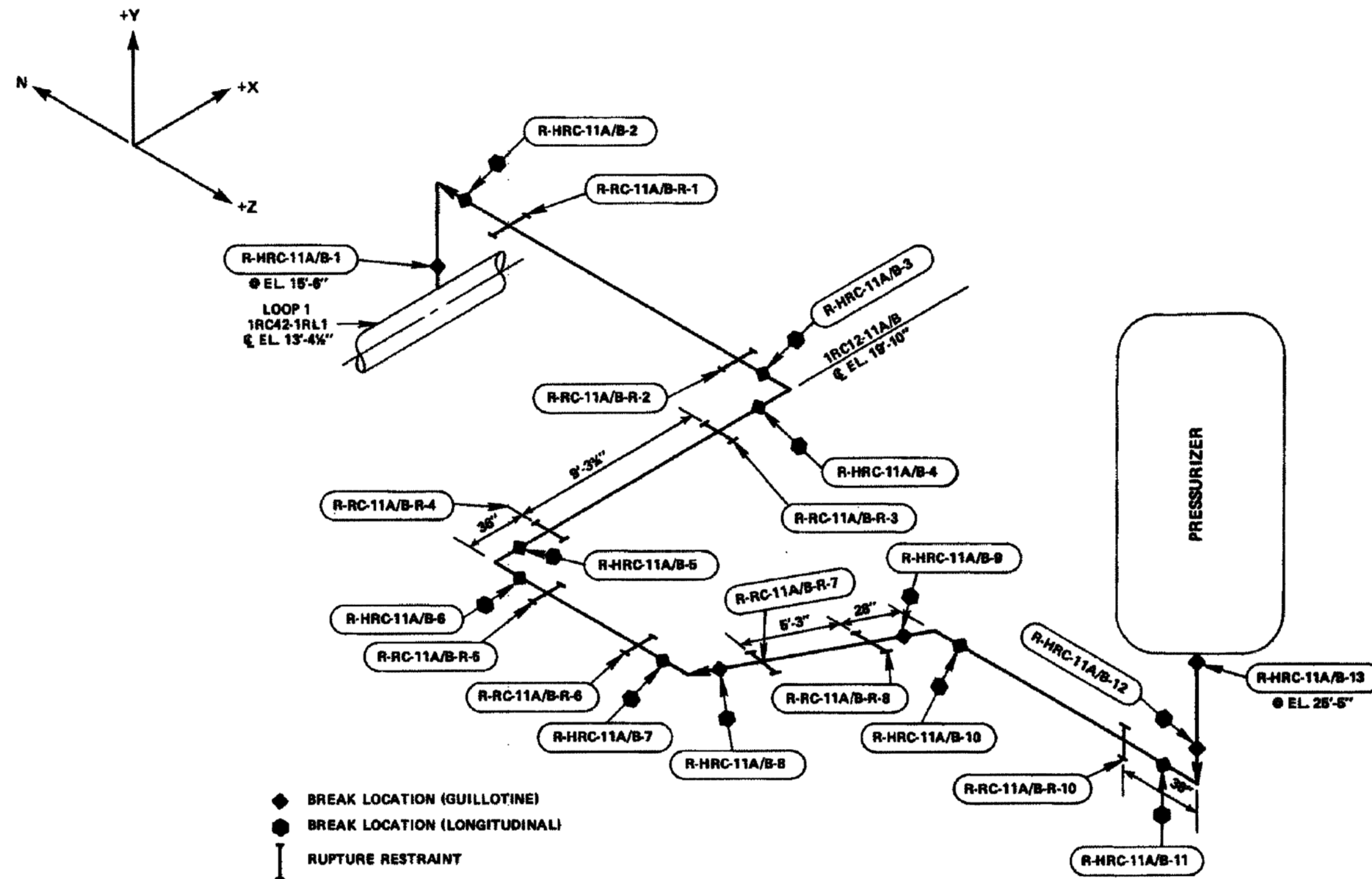
LOUISIANA POWER & LIGHT CO.
Waterford Steam Electric Station
REACTOR BUILDING - REACTOR COOLANT
PIPING PRESSURIZER SPRAY
BREAK POINTS & PIPE WHIP RESTRAINTS
FIGURE 3.6A-38a



LOUISIANA POWER & LIGHT CO.
Waterford Steam Electric Station

REACTOR BUILDING - REACTOR COOLANT
PIPING PRESSURIZER SPRAY
BREAK POINTS & PIPE WHIP RESTRAINTS

FIGURE 3.6A-38b



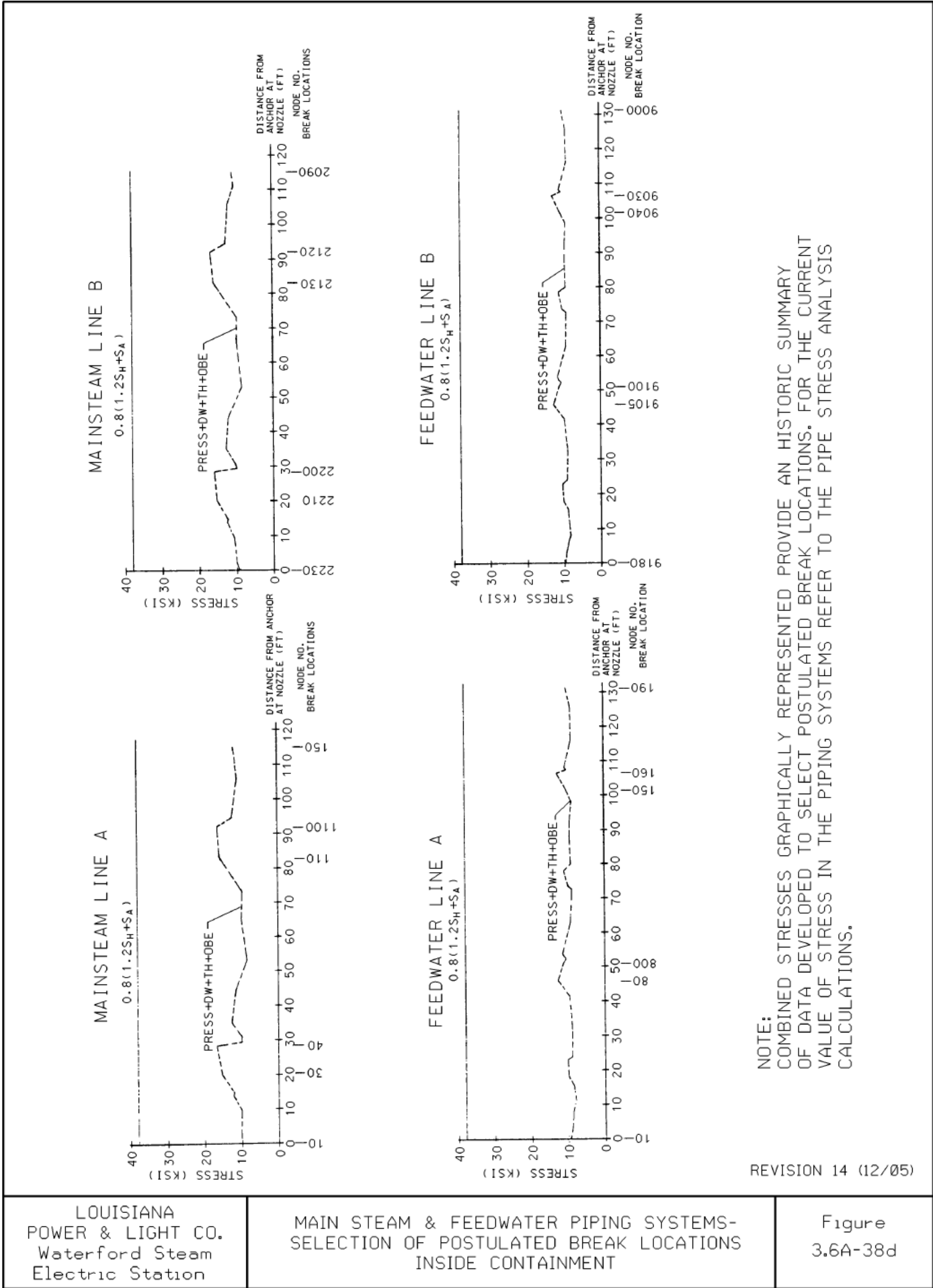
- ◆ BREAK LOCATION (GUILLOTINE)
- BREAK LOCATION (LONGITUDINAL)
- | RUPTURE RESTRAINT

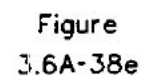
NOTES:

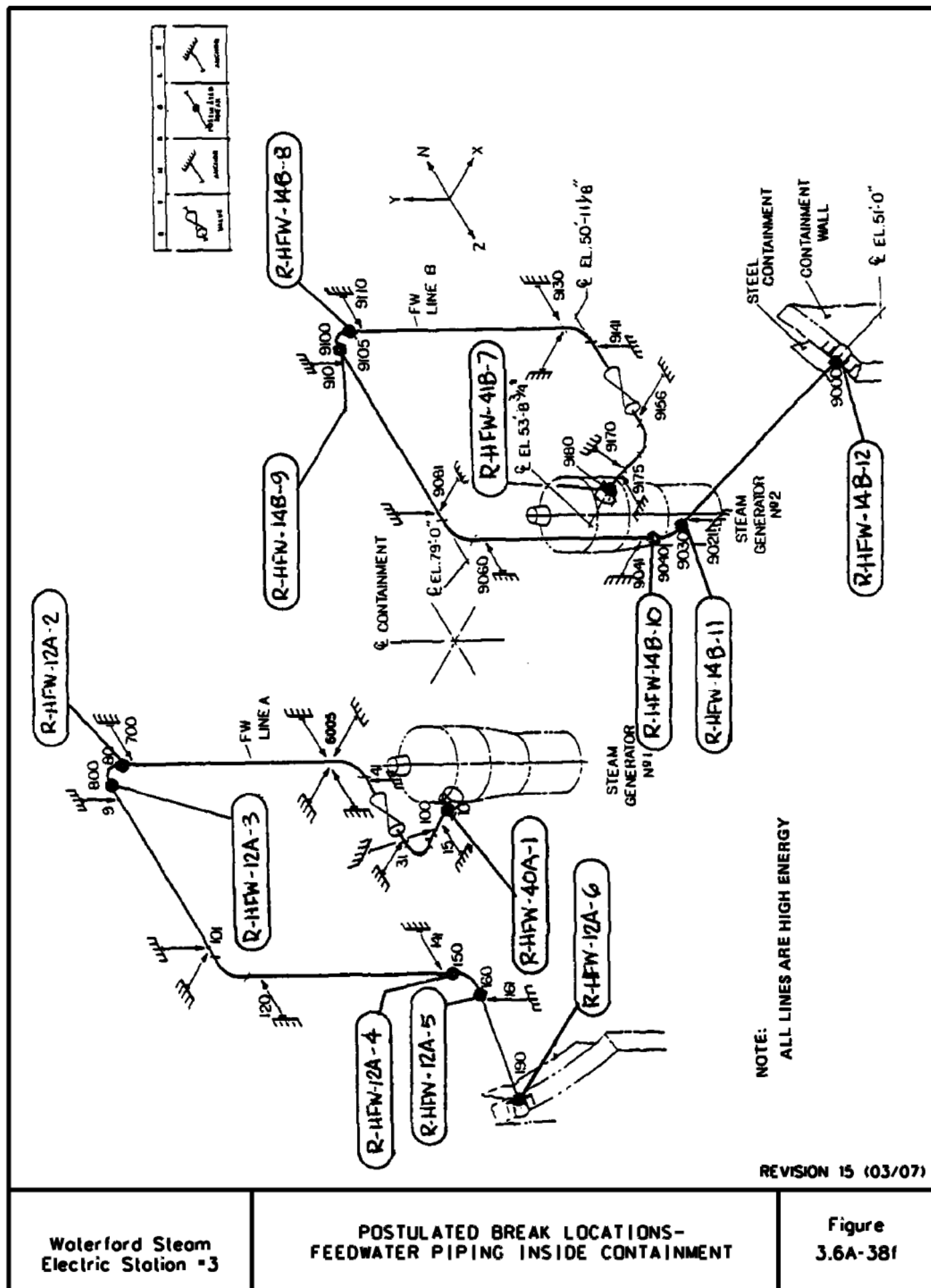
1. ALL LINES ARE HIGH ENERGY
2. The design requirement for the dynamic effect of postulated break locations shown have been eliminated due to LBB as discussed in Section 3.6.3.
3. AS ALLOWED BY EC 19087, PIPE WHIP RETRAINT R-RC-11A/B-R-4 IS DELETED BY EC 8439.

REVISION 307 (07/13)

LOUISIANA POWER & LIGHT CO.
Waterford Steam Electric Station
REACTOR BUILDING
PRESSURIZER SURGE PIPING
BREAK POINTS & PIPEWHIP RESTRAINTS
FIGURE 3.6a-38c





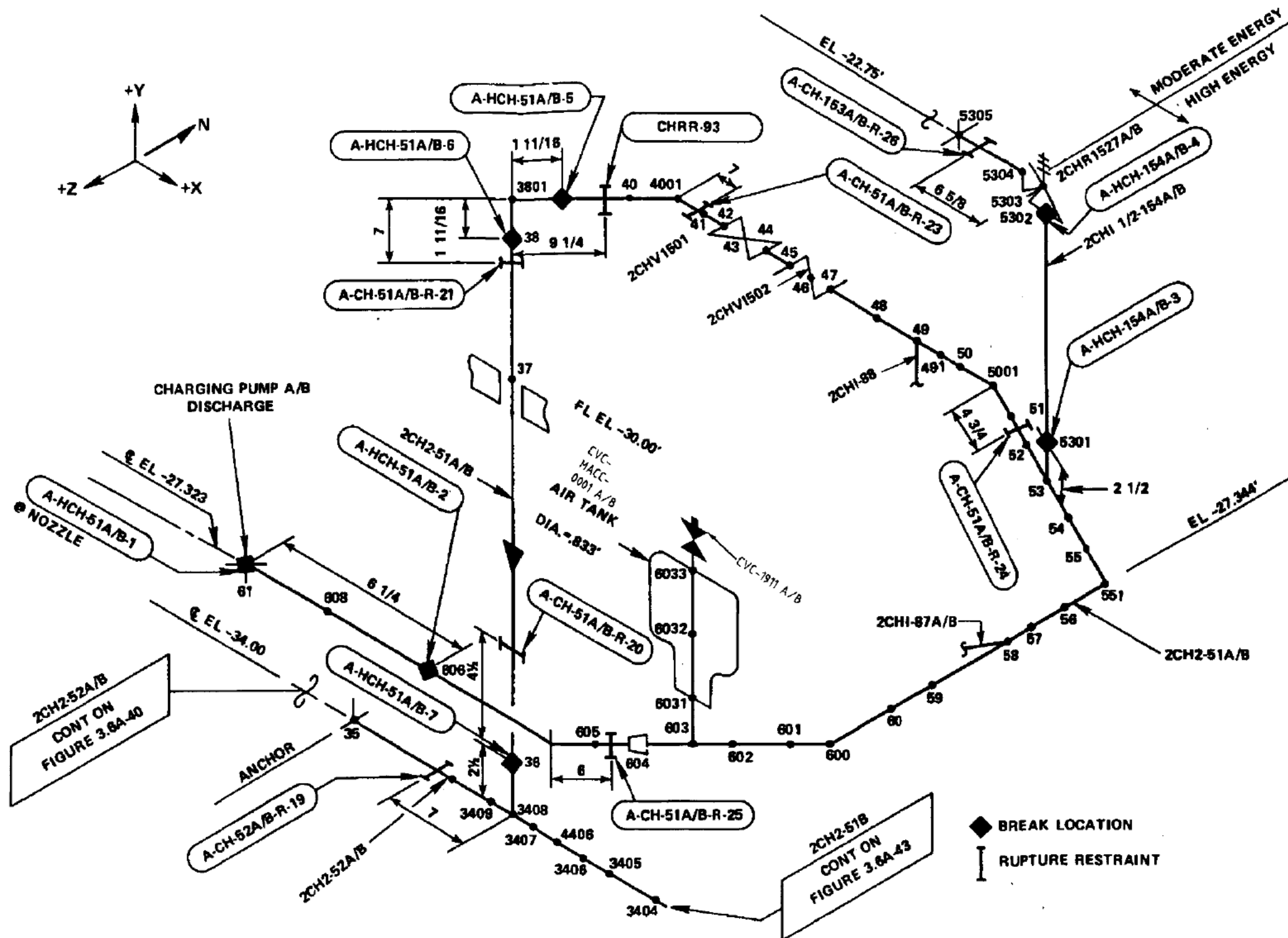


REVISION 15 (03/07)

Waterford Steam
Electric Station #3

POSTULATED BREAK LOCATIONS-
FEEDWATER PIPING INSIDE CONTAINMENT

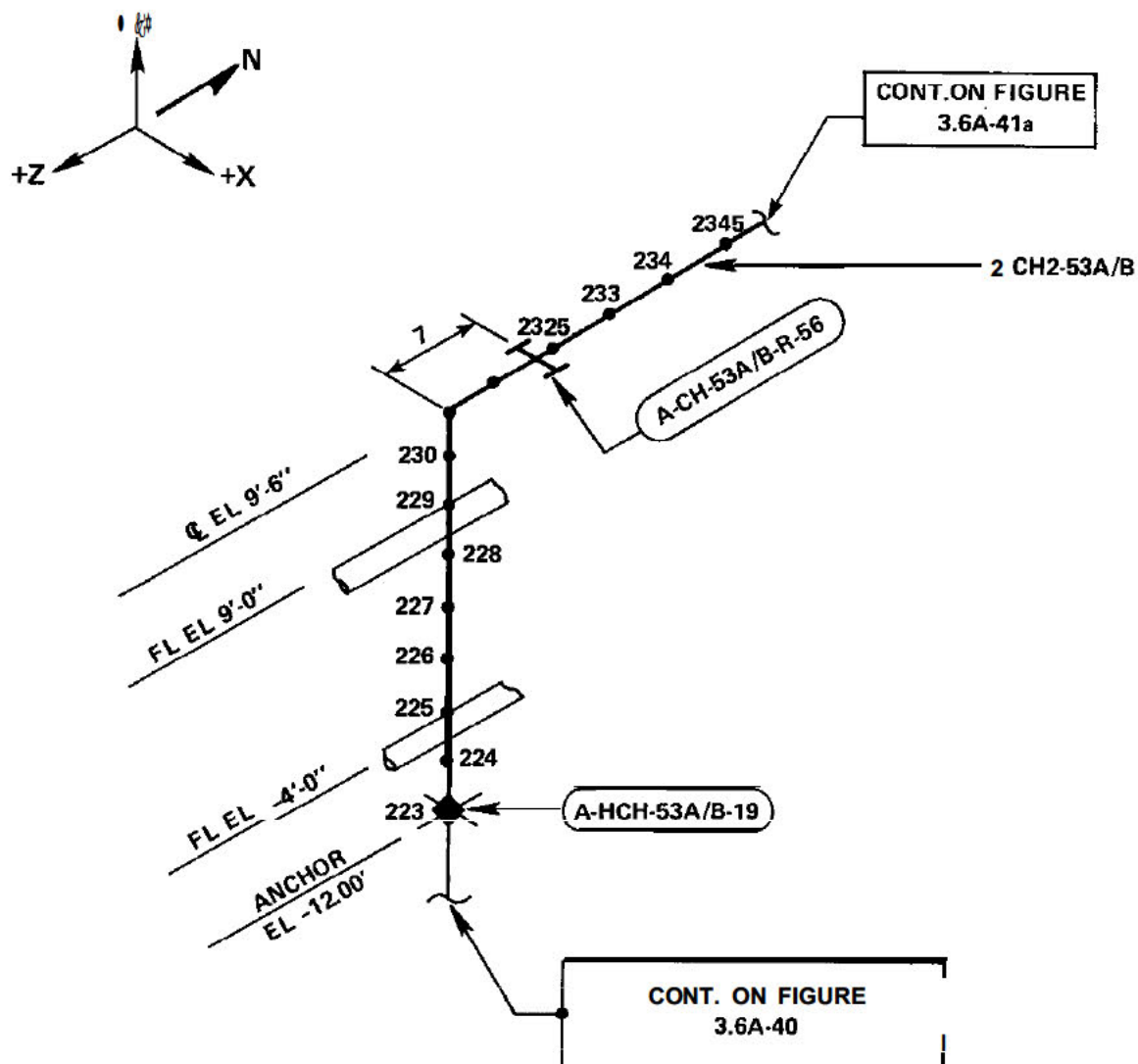
Figure
3.6A-38f

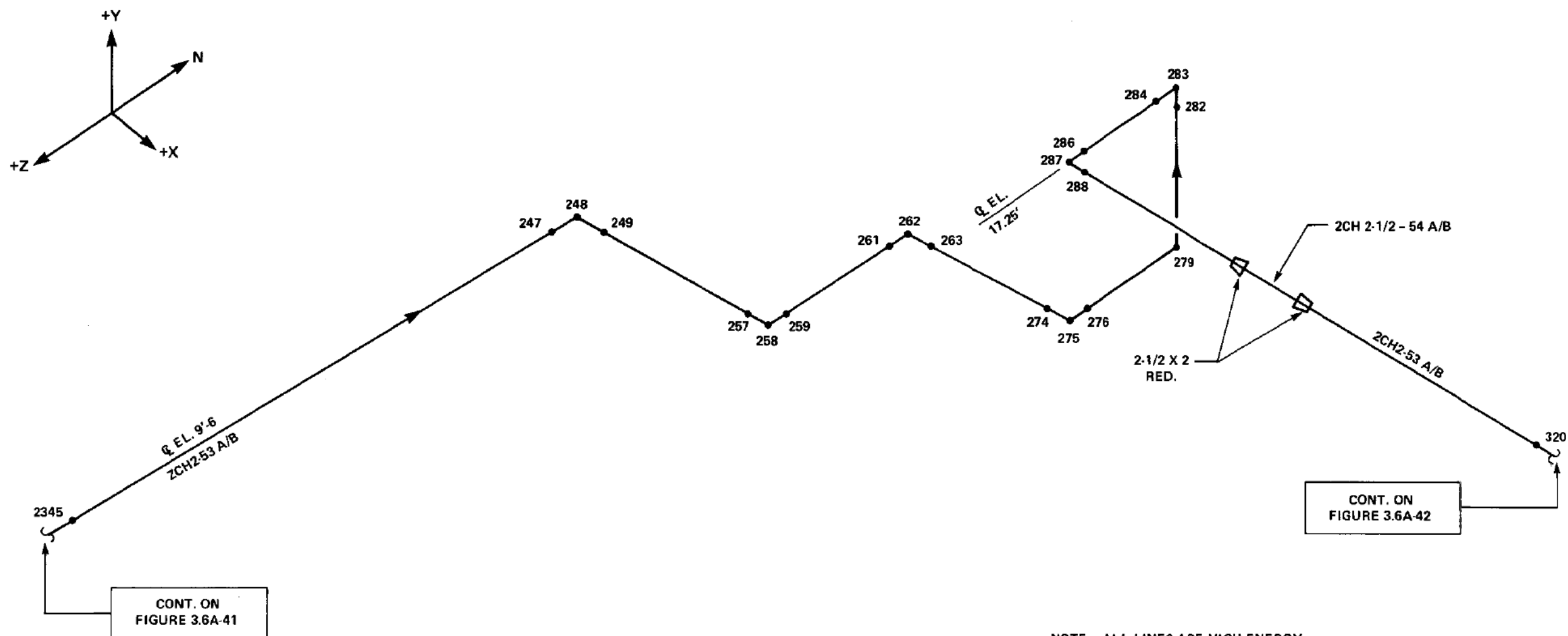


REVISION 9 (12/97)

WATERFORD STEAM
ELECTRIC STATION #3

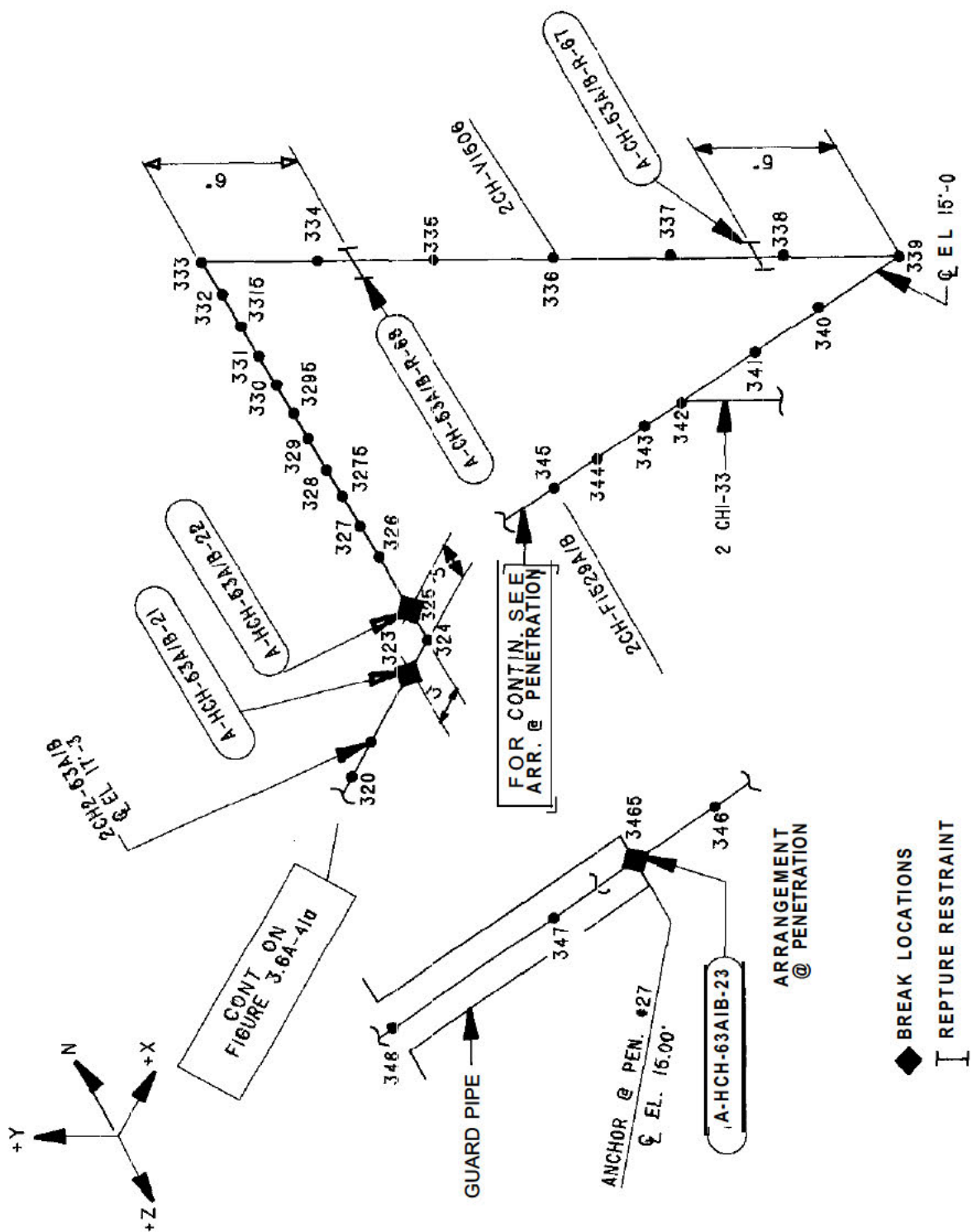
AUXILIARY BUILDING
CHEMICAL & VOLUME CONTROL PIPING
(CHARGING)
BREAK POINTS & PIPEWHIP RESTRAINTS
FIGURE 3.6A-39






NOTE: ALL LINES ARE HIGH ENERGY


LOUISIANA POWER & LIGHT CO.
 Waterford Steam Electric Station
 REACTOR AUXILIARY BUILDING
 CHEMICAL & VOLUME CONTROL PIPING
 (CHARGING)
 BREAKPOINTS & PIPEWHIP RESTRAINTS
 FIGURE 3.6A-41a




Security Related Information
Figure Withheld Under 10 CFR 2.390

LEGEND:

 SAFETY RELATED EQUIPMENT

 RUPTURE RE RESTRAINT

 BREAK LOCATION




NOTE:
ALL PIPING ARE HIGH ENERGY

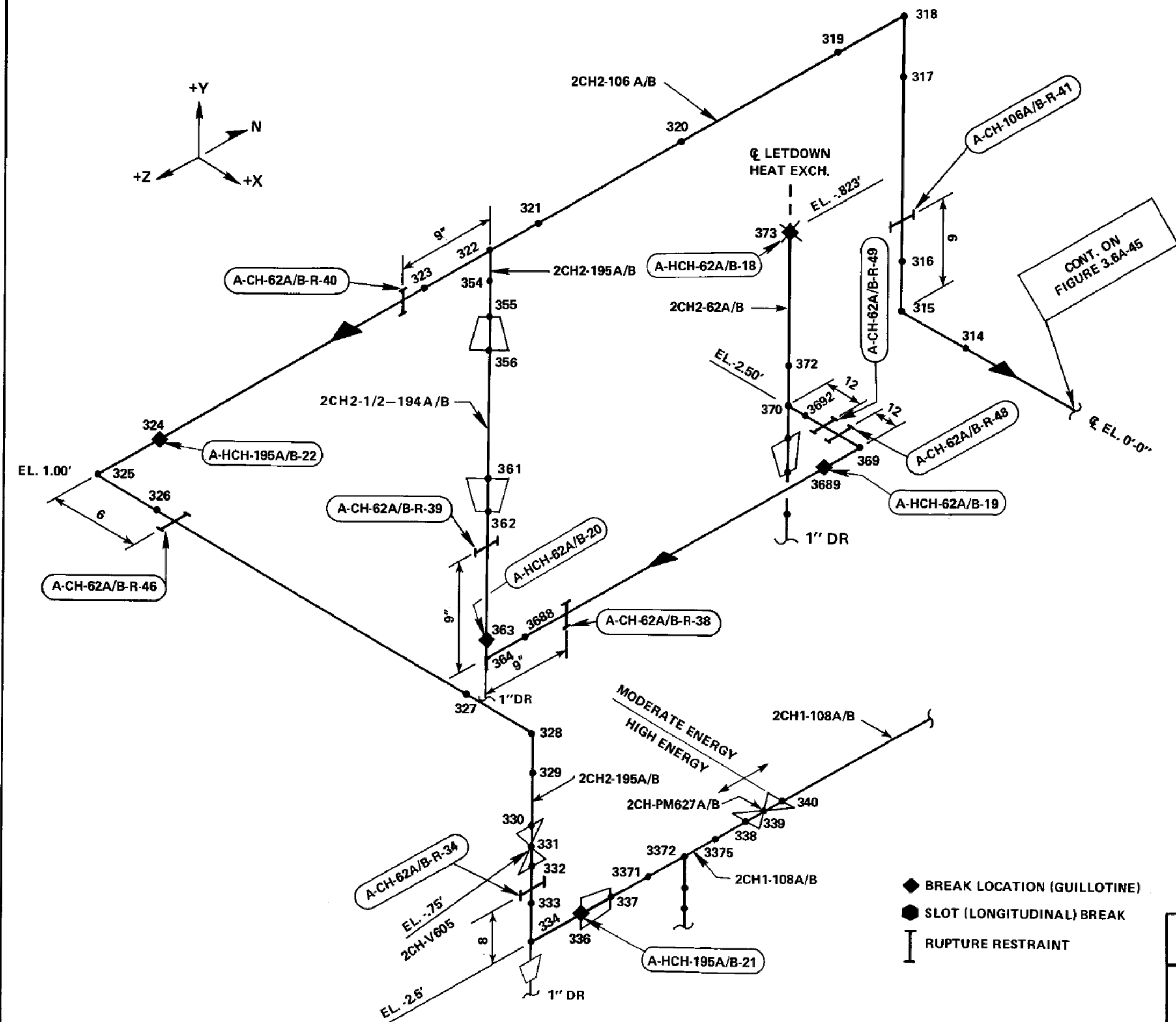
LOUISIANA POWER & LIGHT CO.
Waterford Steam Electric Station

REACTOR AUXILIARY BUILDING – CVCS
CHARGING SYSTEM – BREAK POINTS AND
PIPE WHIP RESTRAINTS

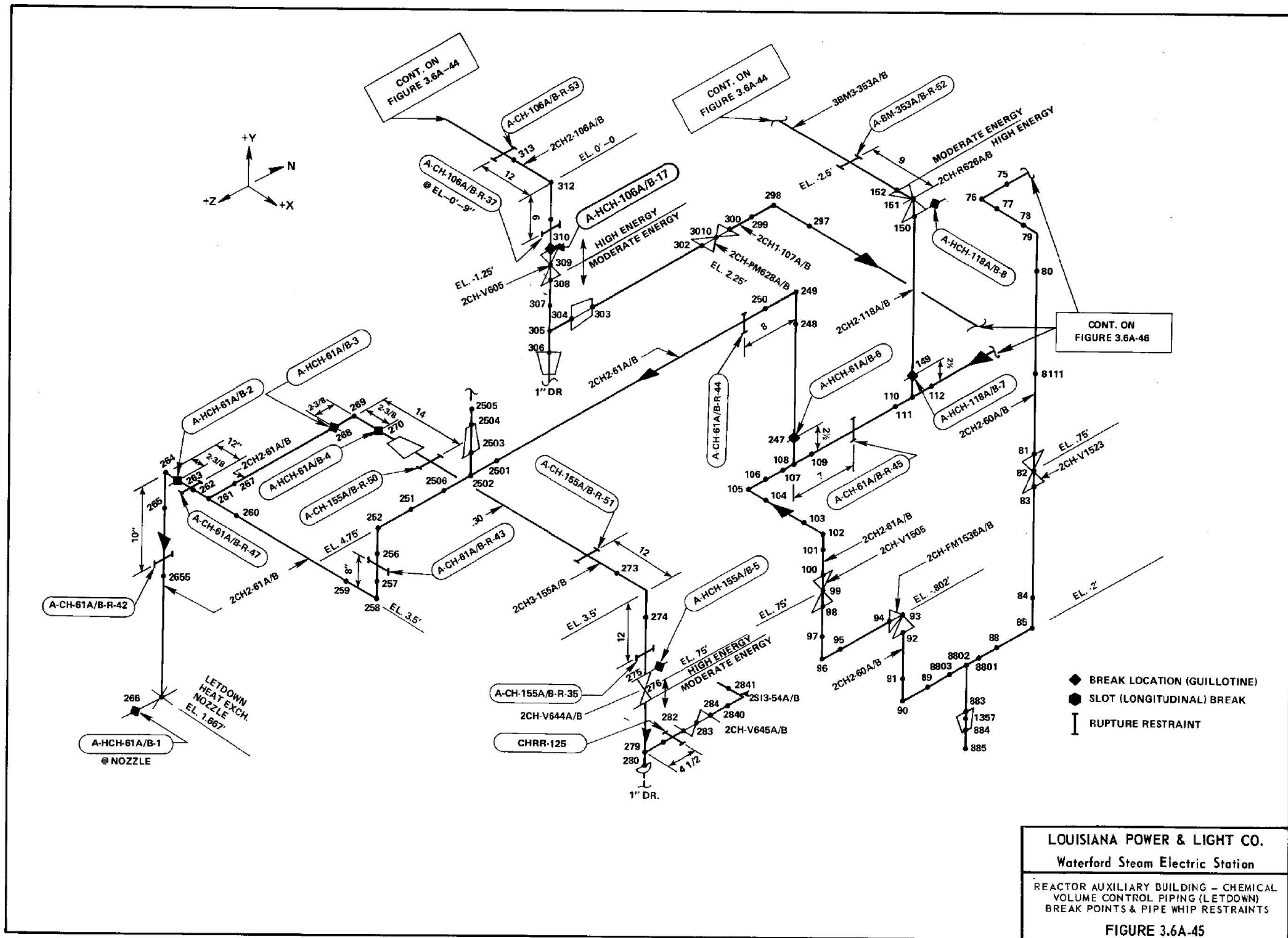
FIGURE 3.6A-43a

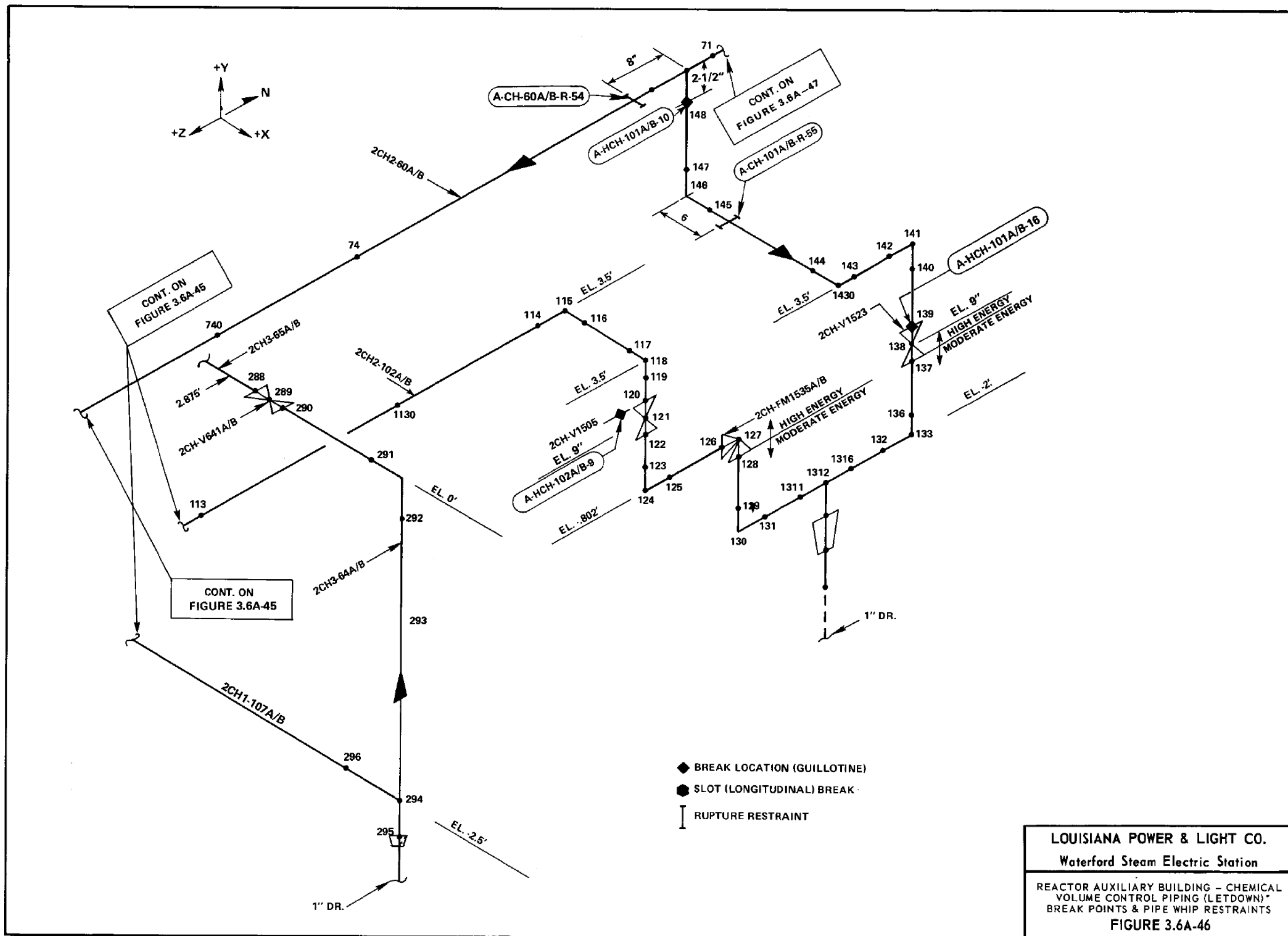
Security Related Information
Figure Withheld Under 10 CFR 2.390

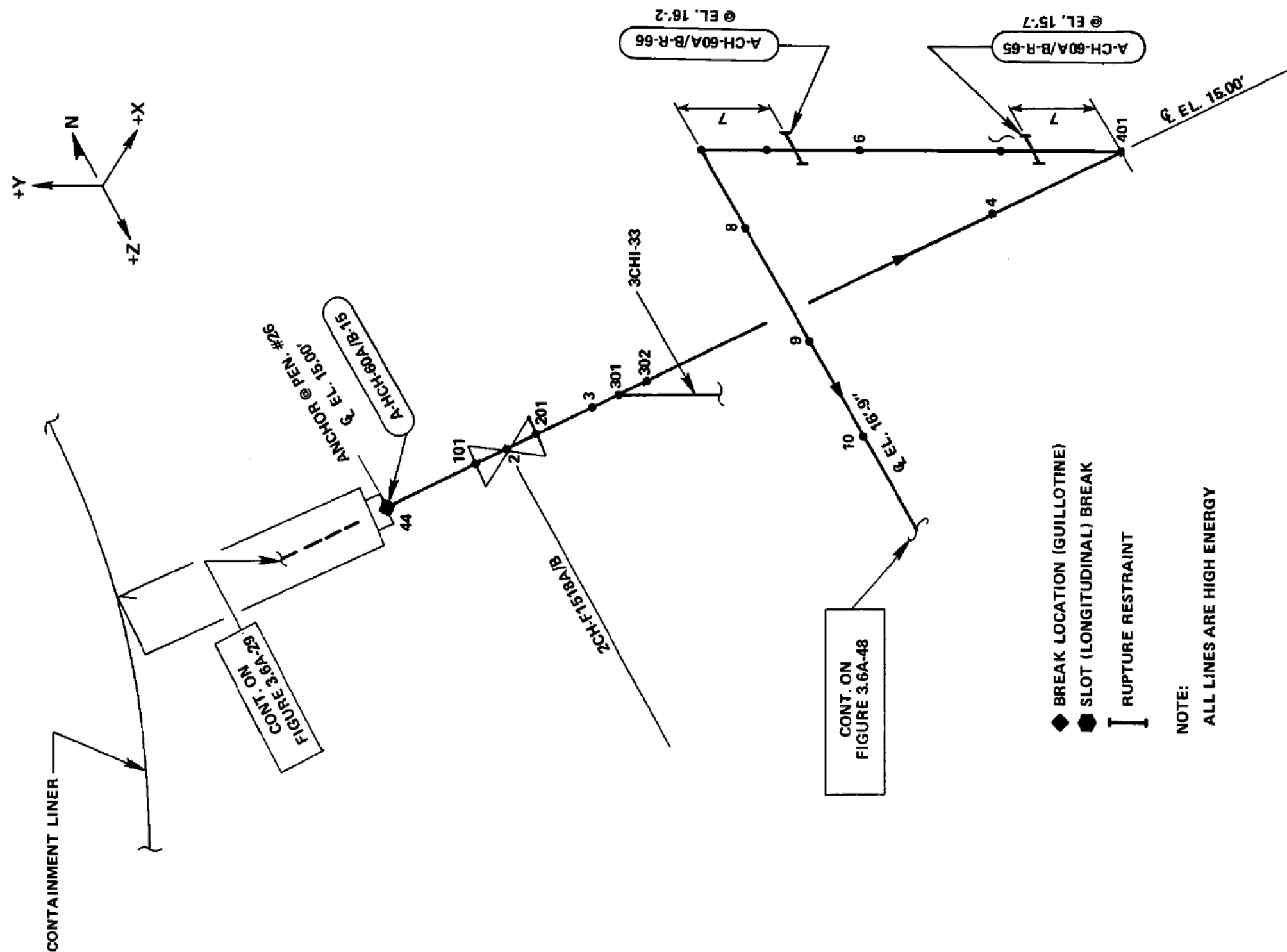
-  SAFETY RELATED EQUIPMENT
-  RUPTURE RE RESTRAINT
-  BREAK LOCATION



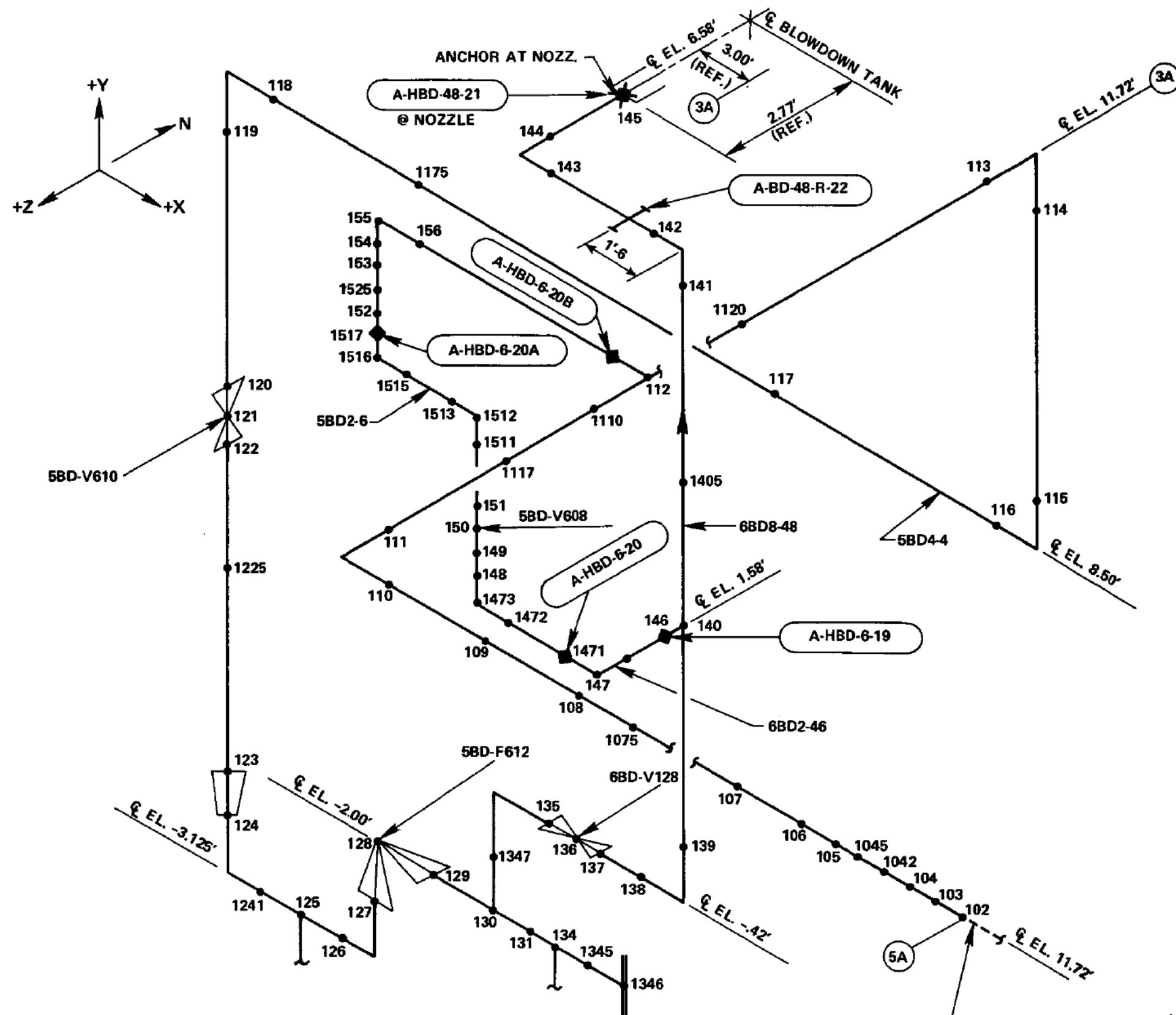
LOUISIANA POWER & LIGHT CO.
 Waterford Steam Electric Station
 REACTOR AUXILIARY BUILDING - CHEMICAL
 VOLUME CONTROL PIPING (LETDOWN)
 BREAK POINTS & PIPE WHIP RESTRAINTS
 FIGURE 3.6A-44





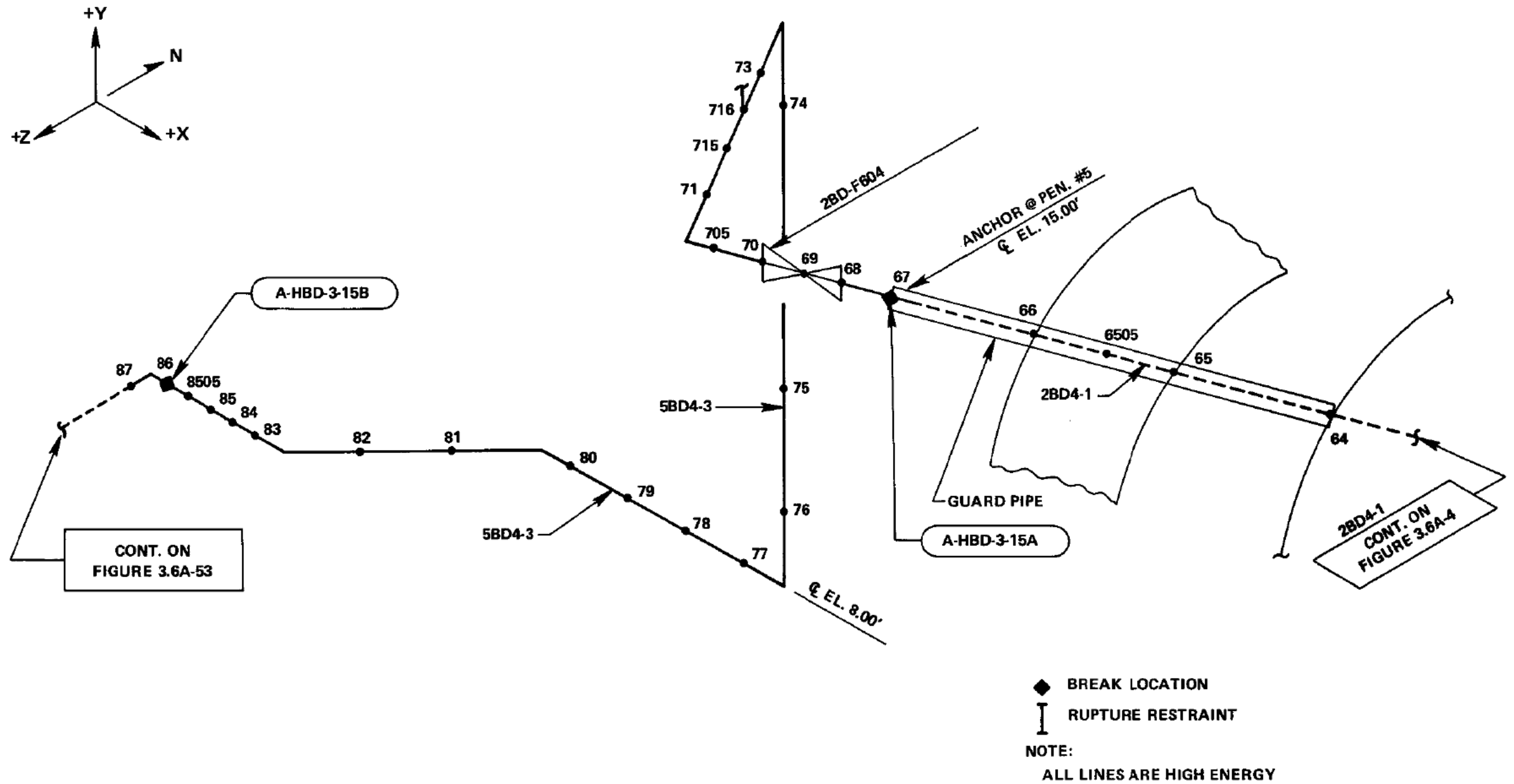


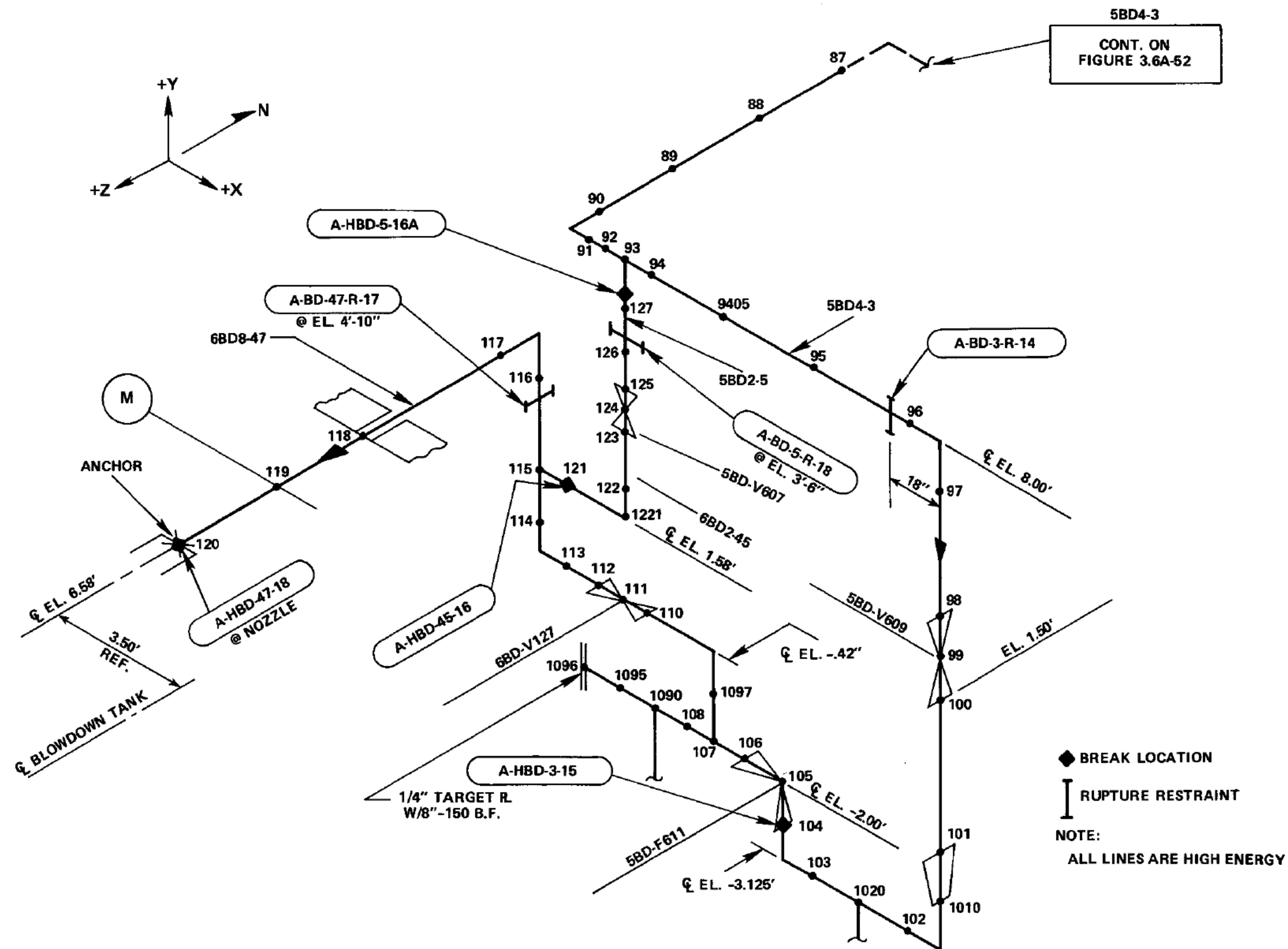
LOUISIANA POWER & LIGHT CO.
Waterford Steam Electric Station
REACTOR AUXILIARY BUILDING - CHEMICAL
VOLUME CONTROL PIPING (LETDOWN)
BREAK POINTS & PIPE WHIP RESTRAINTS
FIGURE 3.6A-49



◆ BREAK LOCATION
 | RUPTURE RESTRAINT
 NOTE:
 ALL LINES ARE HIGH ENERGY

LOUISIANA POWER & LIGHT CO.
 Waterford Steam Electric Station
 REACTOR AUXILIARY BUILDING
 BLOWDOWN PIPING
 BREAK POINTS & PIPEWHIP RESTRAINTS
 FIGURE 3.6A-51





LOUISIANA POWER & LIGHT CO.
 Waterford Steam Electric Station
 REACTOR AUXILIARY BUILDING
 BLOWDOWN SYSTEM
 BREAKPOINTS & PIPEWHIP RESTRAINTS
 FIGURE 3.6A-53

Security Related Information
Figure Withheld Under 10 CFR 2.390

LOUISIANA POWER & LIGHT CO. Waterford Steam Electric Station	MAIN STEAM & FEEDWATER PIPING SYSTEMS- SUPERPIPE REGION COMBINED OPERATING & PIPE RUPTURE STRESSES OUTSIDE CONTAINMENT	Figure 3.6A-54
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Security Related Information
Figure Withheld Under 10 CFR 2.390

LOUISIANA POWER & LIGHT CO.
Waterford Steam Electric Station
REACTOR AUXILIARY BUILDING – MAIN STEAM AND FEEDWATER – BREAK EXCLUSION REGION
FIGURE 3.6A-54a

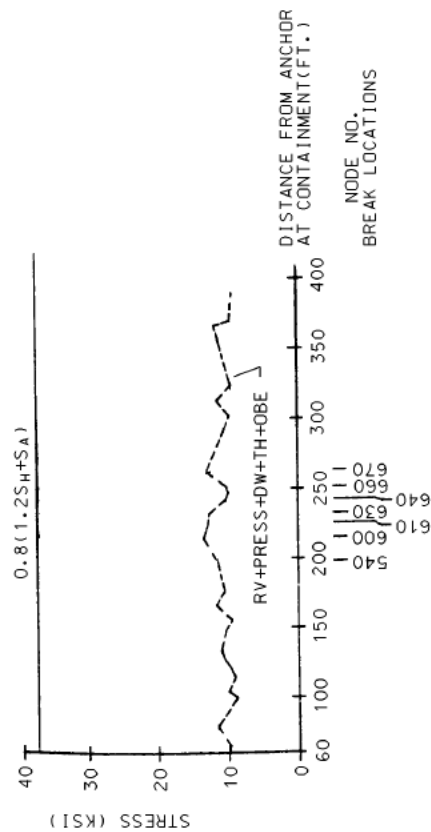
Security Related Information
Figure Withheld Under 10 CFR 2.390

Security Related Information
Figure Withheld Under 10 CFR 2.390

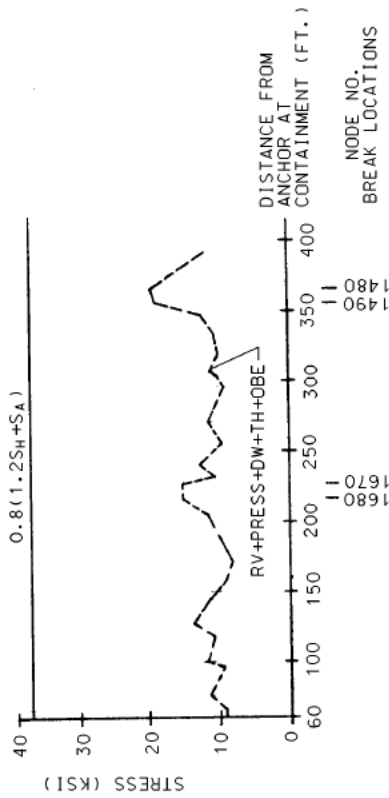
LOUISIANA POWER & LIGHT CO. Waterford Steam Electric Station	POSTULATED BREAK LOCATIONS - MAIN STEAM BREAK OUTSIDE CONTAINMENT TO 'G' ROW	Figure 3.6A-55
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Security Related Information
Figure Withheld Under 10 CFR 2.390

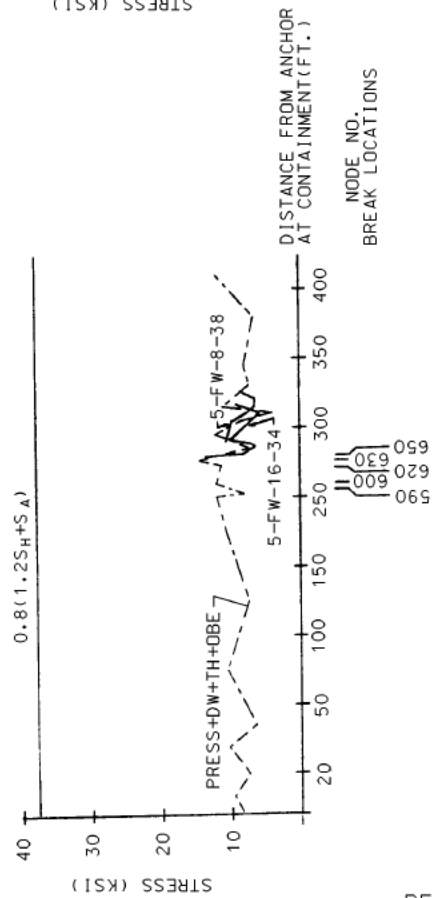
MAINSTEAM LINE A



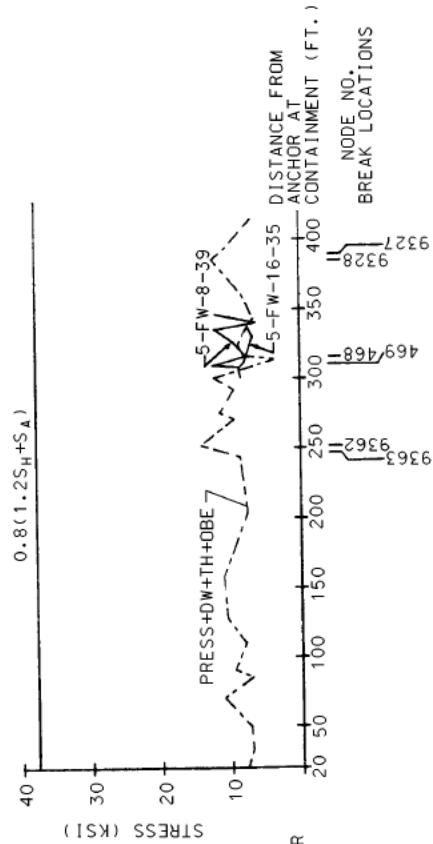
MAINSTEAM LINE B



FEEDWATER LINE A



FEEDWATER LINE B



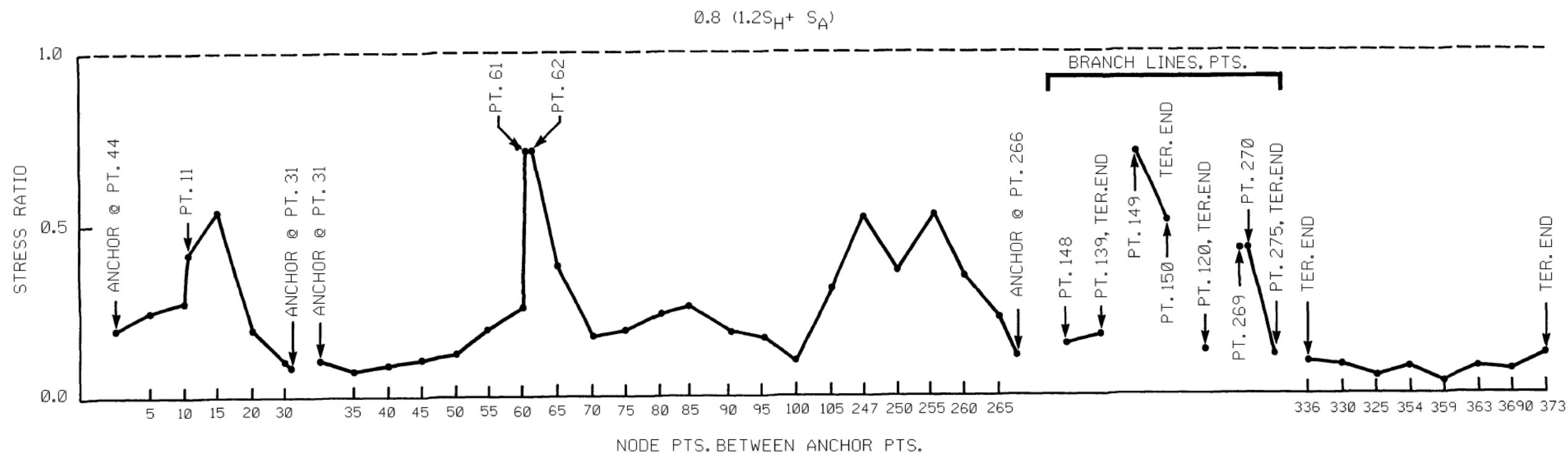
NOTE: COMBINED STRESSES GRAPHICALLY REPRESENTED PROVIDE AN HISTORIC SUMMARY OF DATA DEVELOPED TO SELECT POSTULATED BREAK LOCATIONS. FOR THE CURRENT VALUE OF STRESS IN THE PIPING SYSTEMS REFER TO THE PIPE STRESS ANALYSIS CALCULATIONS.

REVISION 14 (12/05)

LOUISIANA
POWER & LIGHT CO.
Waterford Steam
Electric Station

MAIN STEAM & FEEDWATER PIPING SYSTEMS
SELECTION OF POSTULATED BREAK
LOCATIONS - ISOLATION VALVES TO "G" ROW
OUTSIDE CONTAINMENT

Figure
3.6A-57



REFER TO
FSAR FIGURES

3.6A - 49
3.6A - 48
3.6A - 47
3.6A - 46
3.6A - 45
3.6A - 44

NOTE:

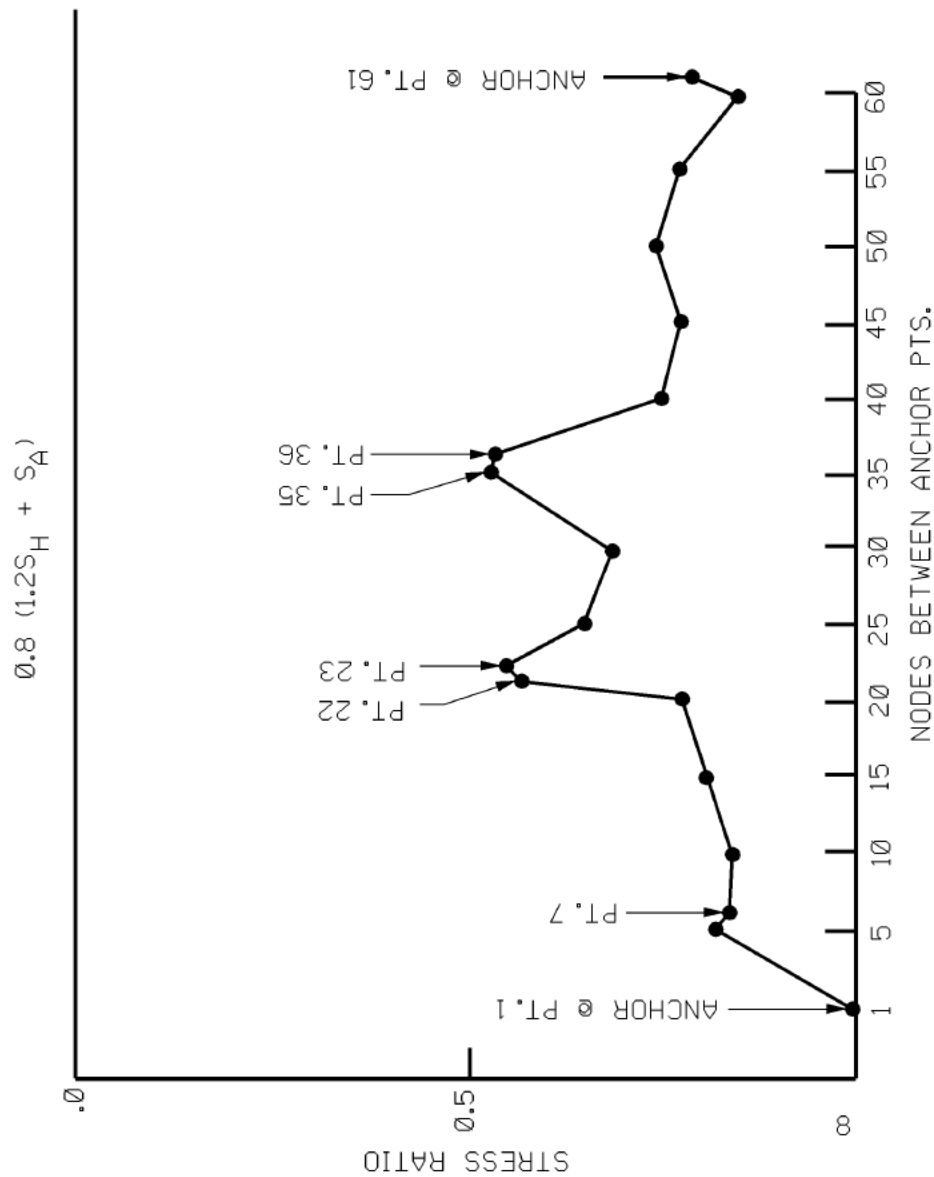
STRESS RATIOS REPRESENT AN HISTORIC SUMMARY OF DATA DEVELOPED TO SELECT POSTULATED BREAK LOCATIONS. FOR THE CURRENT VALUE OF STRESS RATIOS IN THE PIPING SYSTEMS REFER TO THE PIPE STRESS ANALYSIS CALCULATIONS.

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LOUISIANA POWER & LIGHT CO.
Waterford Steam Electric Station

CVCS LETDOWN (RAB)

3.6A-58



REFER TO
FSAR FIGURES

A. 3.6A - 3
B. 3.6A - 4

NOTE:
STRESS RATIOS REPRESENT AN HISTORIC SUMMARY OF DATA DEVELOPED TO SELECT
POSTULATED BREAK LOCATIONS. FOR THE CURRENT VALUE OF STRESS RATIOS IN THE
PIPING SYSTEMS REFER TO THE PIPE STRESS ANALYSIS CALCULATIONS.

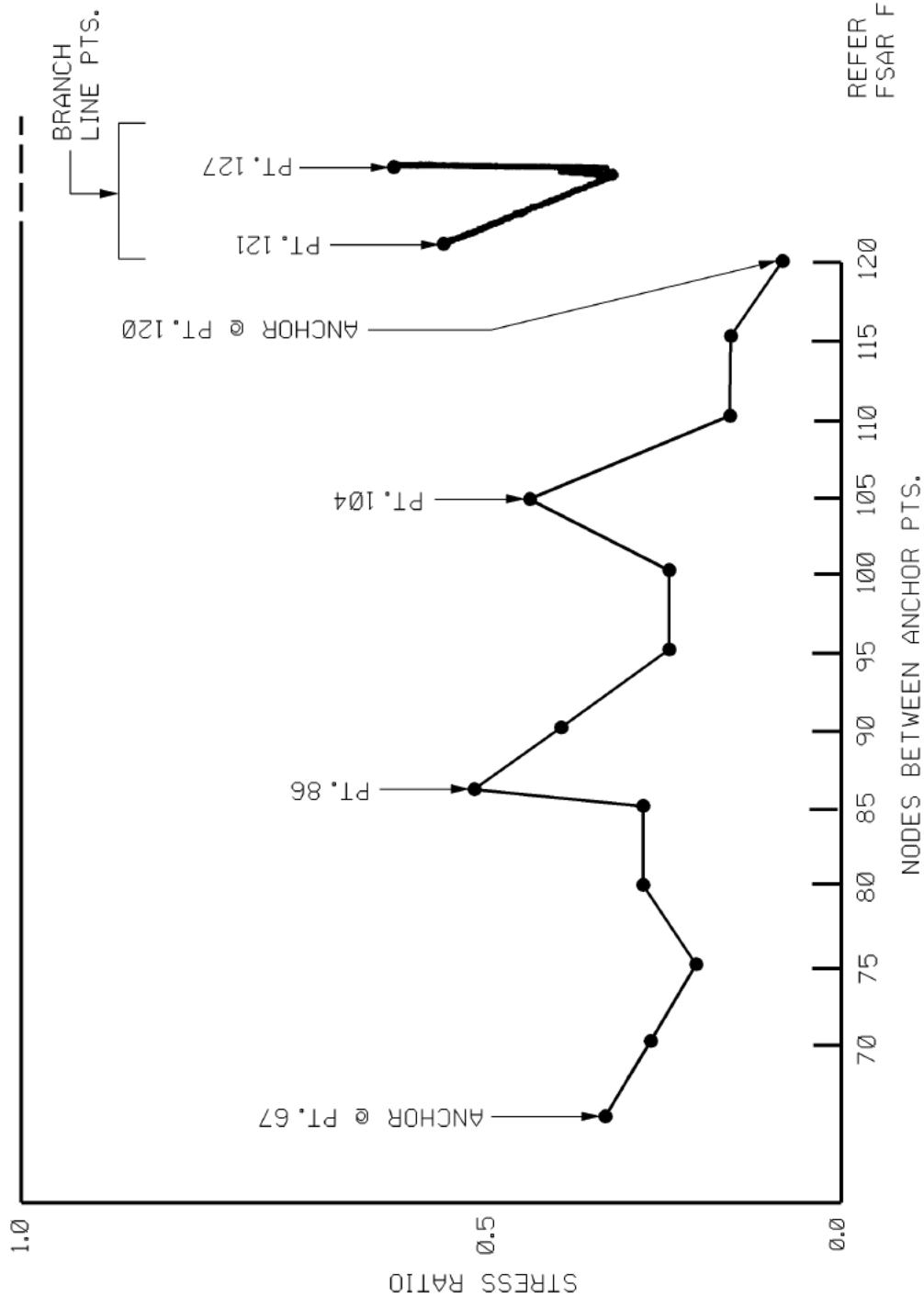
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LOUISIANA
POWER & LIGHT CO.
Waterford Steam
Electric Station

BLOWDOWN, RLB (STEAM GENERATOR NO. 1)

Figure
3.6A-59

$$0.8 (1.2S_H + S_A)$$



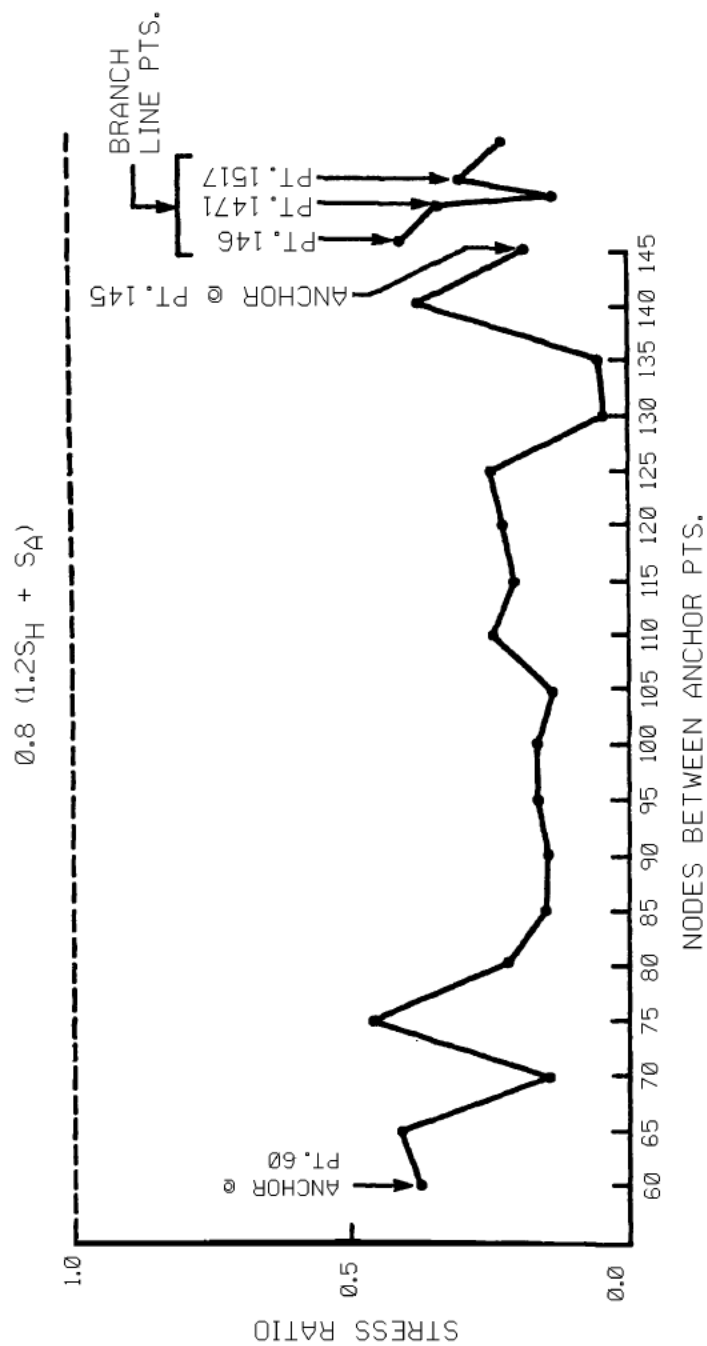
NOTE:
STRESS RATIOS REPRESENT AN HISTORIC SUMMARY OF DATA DEVELOPED TO SELECT POSTULATED BREAK LOCATIONS. FOR THE CURRENT VALUE OF STRESS RATIOS IN THE PIPING SYSTEMS REFER TO THE PIPE STRESS ANALYSIS CALCULATIONS.

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LOUISIANA
POWER & LIGHT CO.
Waterford Steam
Electric Station

BLOWDOWN, RAB (STEAM GENERATOR NO. 1)

Figure
3.6A-60



REFER TO
FSAR FIGURE
A. 3.6A - 50
B. 3.6A - 51

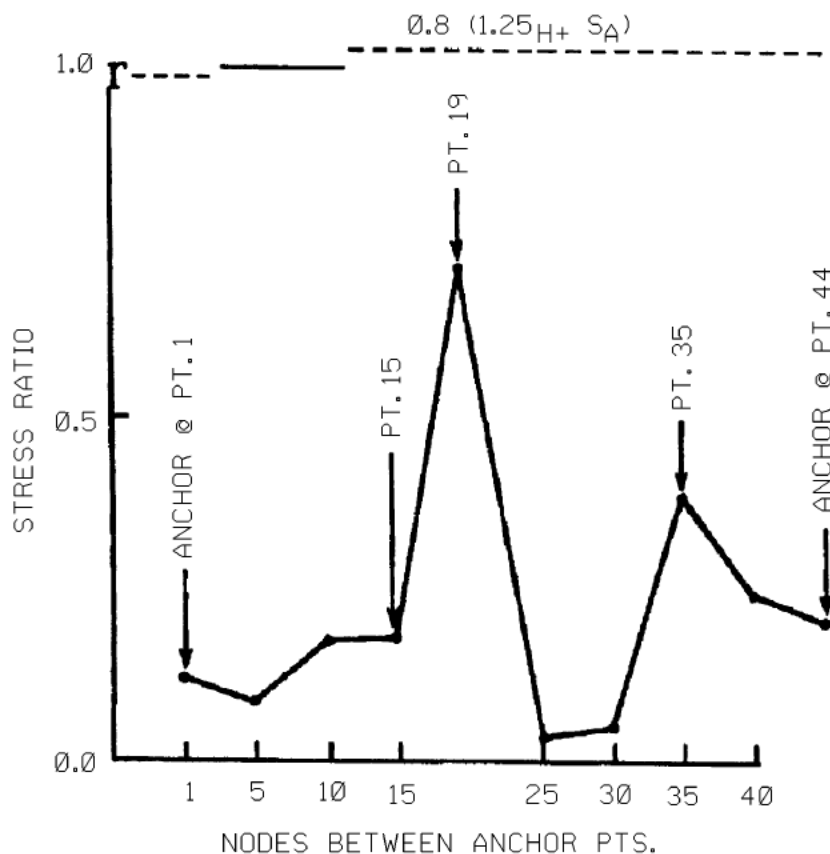
NOTE:
STRESS RATIOS REPRESENT AN HISTORIC SUMMARY OF DATA DEVELOPED TO SELECT
POSTULATED BREAK LOCATIONS. FOR THE CURRENT VALUE OF STRESS RATIOS IN THE
PIPING SYSTEMS REFER TO THE PIPE STRESS ANALYSIS CALCULATIONS.

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LOUISIANA
POWER & LIGHT CO.
Waterford Steam
Electric Station

BLOWDOWN, RAB (STEAM GENERATOR NO. 2)

Figure
3.6A-61



REFER TO
FSAR FIGURES

A. 3.6A - 28

B. 3.6A - 29

NOTE:

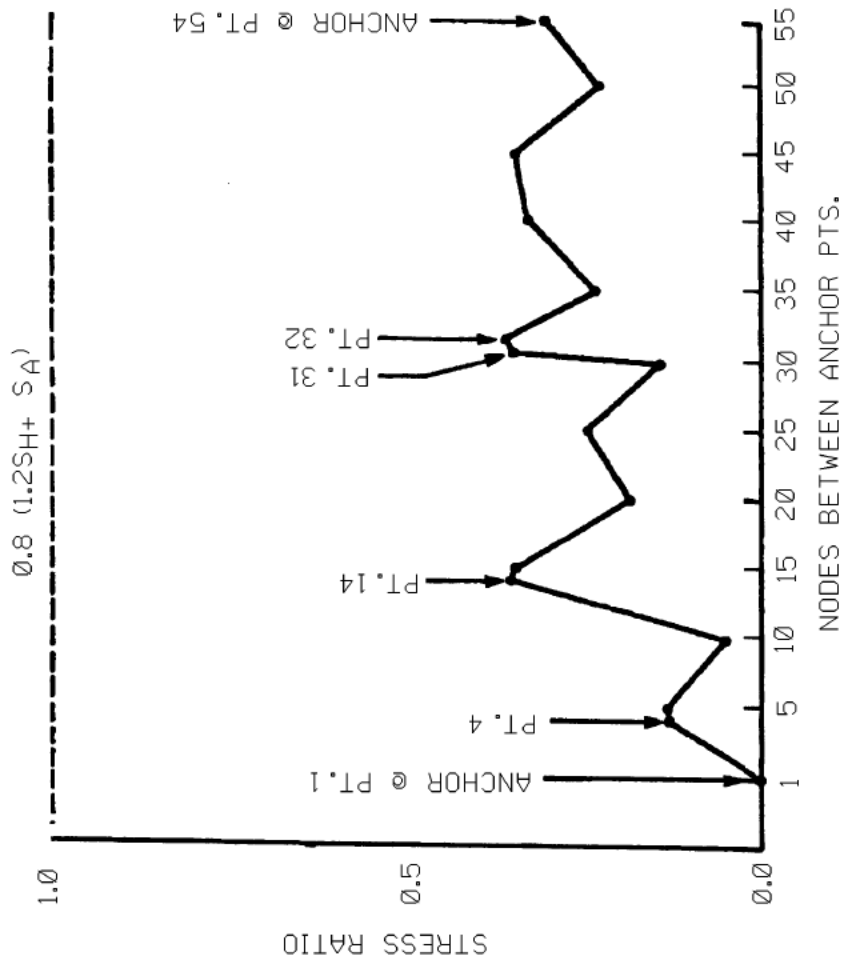
STRESS RATIOS REPRESENT AN HISTORIC SUMMARY OF DATA DEVELOPED TO SELECT POSTULATED BREAK LOCATIONS. FOR THE CURRENT VALUE OF STRESS RATIOS IN THE PIPING SYSTEMS REFER TO THE PIPE STRESS ANALYSIS CALCULATIONS.

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LOUISIANA
POWER & LIGHT CO.
Waterford Steam
Electric Station

CVCS LETDOWN (RCB)

Figure
3.6A-62



REFER TO
FSAR FIGURES

A. 3.6A - 1
B. 3.6A - 2

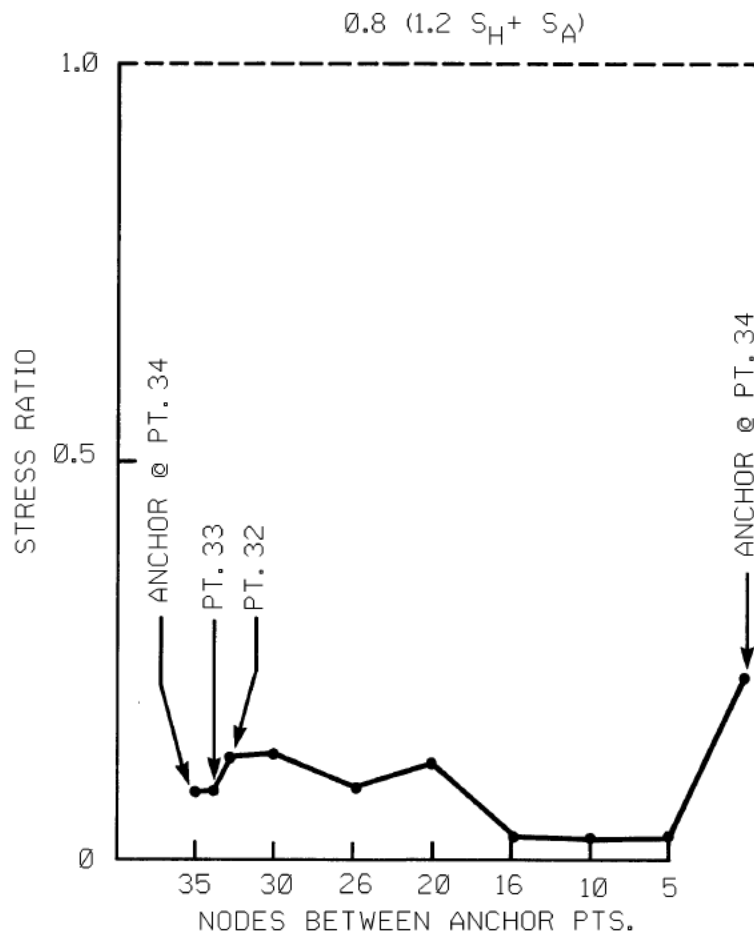
NOTE:
STRESS RATIOS REPRESENT AN HISTORIC SUMMARY OF DATA DEVELOPED TO SELECT
POSTULATED BREAK LOCATIONS. FOR THE CURRENT VALUE OF STRESS RATIOS IN THE
PIPING SYSTEMS REFER TO THE PIPE STRESS ANALYSIS CALCULATIONS.

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LOUISIANA
POWER & LIGHT CO.
Waterford Steam
Electric Station

BLOWDOWN, RLB (STEAM GENERATOR NO. 2)

Figure
3.6A-63



REFER TO
FSAR FIGURE

A. 3.6A - 30

NOTE:

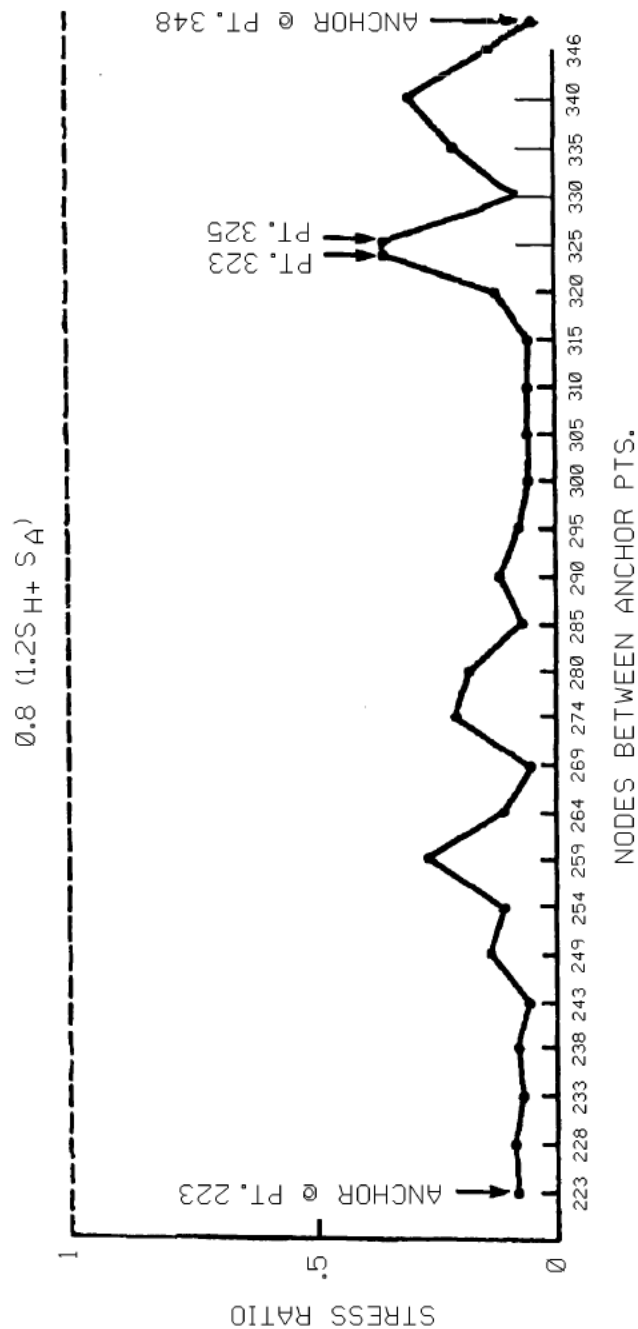
STRESS RATIOS REPRESENT AN HISTORIC SUMMARY OF DATA DEVELOPED TO SELECT POSTULATED BREAK LOCATIONS. FOR THE CURRENT VALUE OF STRESS RATIOS IN THE PIPING SYSTEMS REFER TO THE PIPE STRESS ANALYSIS CALCULATIONS.

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LOUISIANA
POWER & LIGHT CO.
Waterford Steam
Electric Station

CVCS CHARGING (RCB, PENETRATION TO
REGENERATIVE HEAT EXCHANGER)

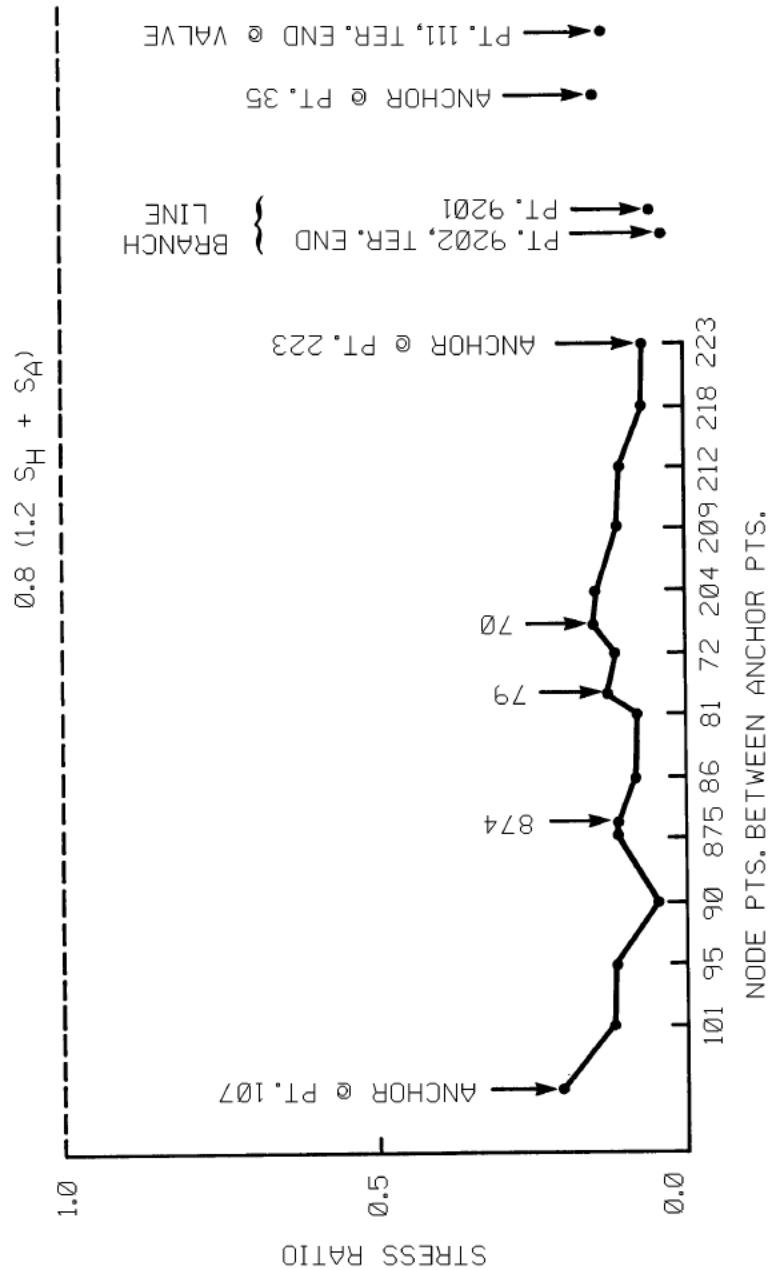
Figure
3.6A-64



REFER TO
FSAR FIGURES

3.6A - 40
3.6A - 41
3.6A - 41a
3.6A - 42

NOTE:
STRESS RATIOS REPRESENT AN HISTORIC SUMMARY OF DATA DEVELOPED TO SELECT
POSTULATED BREAK LOCATIONS. FOR THE CURRENT VALUE OF STRESS RATIOS IN THE
PIPING SYSTEMS REFER TO THE PIPE STRESS ANALYSIS CALCULATIONS.



REFER TO
FSAR FIGURE
3.6A - 40

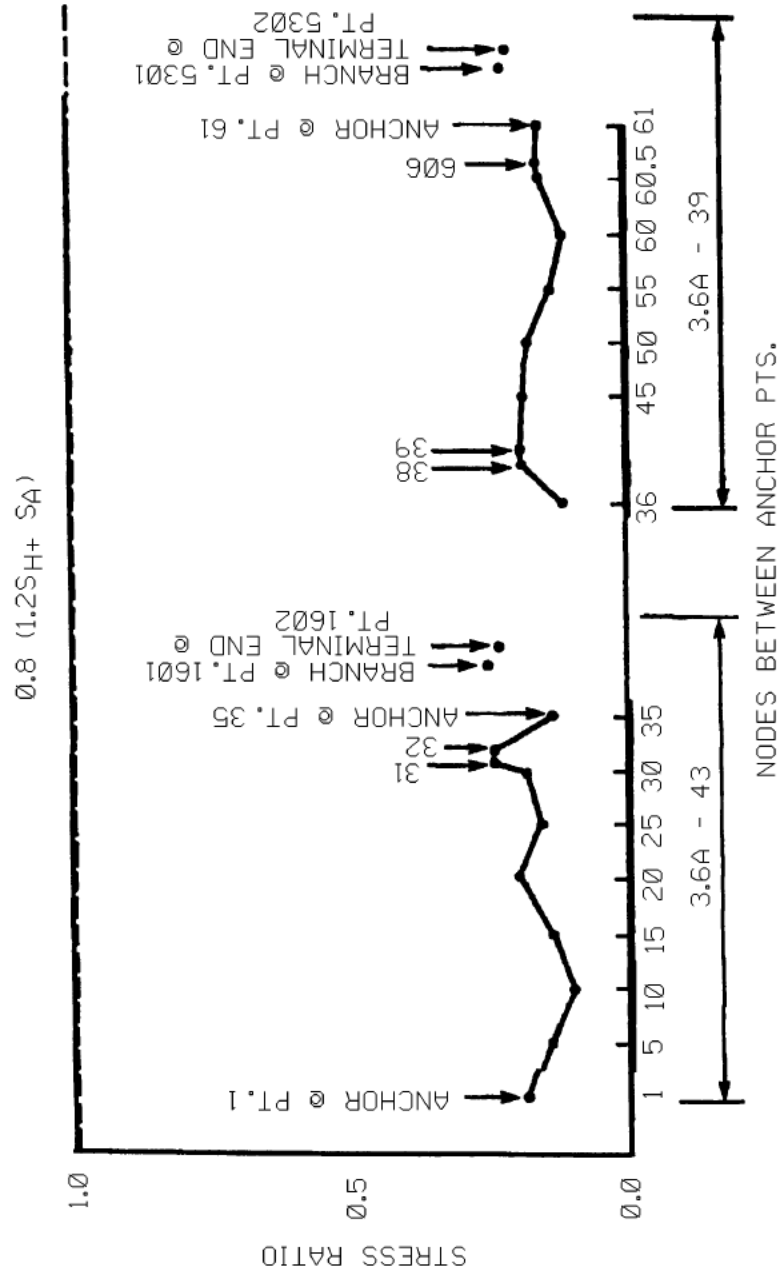
NOTE:
STRESS RATIOS REPRESENT AN HISTORIC SUMMARY OF DATA DEVELOPED TO SELECT
POSTULATED BREAK LOCATIONS. FOR THE CURRENT VALUE OF STRESS RATIOS IN THE
PIPING SYSTEMS REFER TO THE PIPE STRESS ANALYSIS CALCULATIONS.

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LOUISIANA
POWER & LIGHT CO.
Waterford Steam
Electric Station

CVCS CHARGING (RAB, FROM PUMP A)

Figure
3.6A-66



REFER TO
FSAR FIGURES

3.6A - 43
3.6A - 39

NOTE:
STRESS RATIOS REPRESENT AN HISTORIC SUMMARY OF DATA DEVELOPED TO SELECT
POSTULATED BREAK LOCATIONS. FOR THE CURRENT VALUE OF STRESS RATIOS IN THE
PIPING SYSTEMS REFER TO THE PIPE STRESS ANALYSIS CALCULATIONS.

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LOUISIANA
POWER & LIGHT CO.
Waterford Steam
Electric Station

CVCS CHARGING (RAB, FROM PUMPS B AND A/B)

Figure
3.6A-67