

LOUISIANA
POWER & LIGHT

142 DELARONDE STREET
P. O. BOX 6008 • NEW ORLEANS, LOUISIANA 70174 • (504) 366-2345

November 13, 1984

W3P84-3214
3-A1.16.07
A4.05

Director, Nuclear Reactor Regulation
Attention: Mr. D. M. Crutchfield,
Assistant Director for Safety Assessment
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

SUBJECT: WATERFORD 3 SES
ADDITIONAL INFORMATION ON BASEMAT
HAIRLINE CRACKS

Dear Mr. Crutchfield:

At a meeting on November 2, 1984 held in the USNRC offices in Bethesda, Maryland, your staff requested additional information concerning the basemat cracking at Waterford 3. The purpose of this letter is to provide the requested information.

Enclosed is Appendix No. 6 prepared by Muenow and Associates, Inc. entitled, "Cross Sections Illustrating The Most Probable Crack Depth And Orientation For Internal Discontinuities Under the RCB And Their Relationship To Cracks On The East And West Sides Of The RCB." The cross-hatch shaded areas represent the vertical face of each crack and its associated depth in feet. The "long" continuous cracks are indicated by vertical shading or cross-hatch shading from upper left to lower right. The "short" non-continuous cracks are indicated with cross-hatch shading from upper right to lower left. Over shading as shown on Crack Nos. 4 and 7 indicate two (2) cracks (one continuous and one non-continuous) in close proximity, on the order of 18 inches, to each other. The dashed cross-hatch shading on Crack No. 3 indicates Muenow and Associates, Inc. "best estimate" hypothesis for Crack No. 3 because it does not emerge on the east side of the RCB.

During the November 2, 1984 meeting your staff requested plan views for the seven (7) major cracks under the RCB both from a "conservative" and a "best estimate" perspective. After careful re-evaluation and re-analysis of the non-destructive test results it was determined that the transducer data is based on substantial and confirmed readings therefore only the "most probable" crack maps are provided. The enclosed "most probable" illustrations are considered by Muenow and Associates, Inc. to represent both the "conservative" and "best estimate" view of the crack depths and orientations.

50-382

8411150135 841113
PDR ADOCK 05000382
S PDR

Bood
1/2

D. M. Crutchfield
W3P84-3214
Page 2

We trust that the information provided adequately addresses your information request, however, should you have any questions or wish to discuss this matter further, please do not hesitate to contact me.

Very truly yours,

K. W. Cook by nnc

K. W. Cook
Nuclear Support & Licensing Manager

KWC:WAC:pc

Enclosures

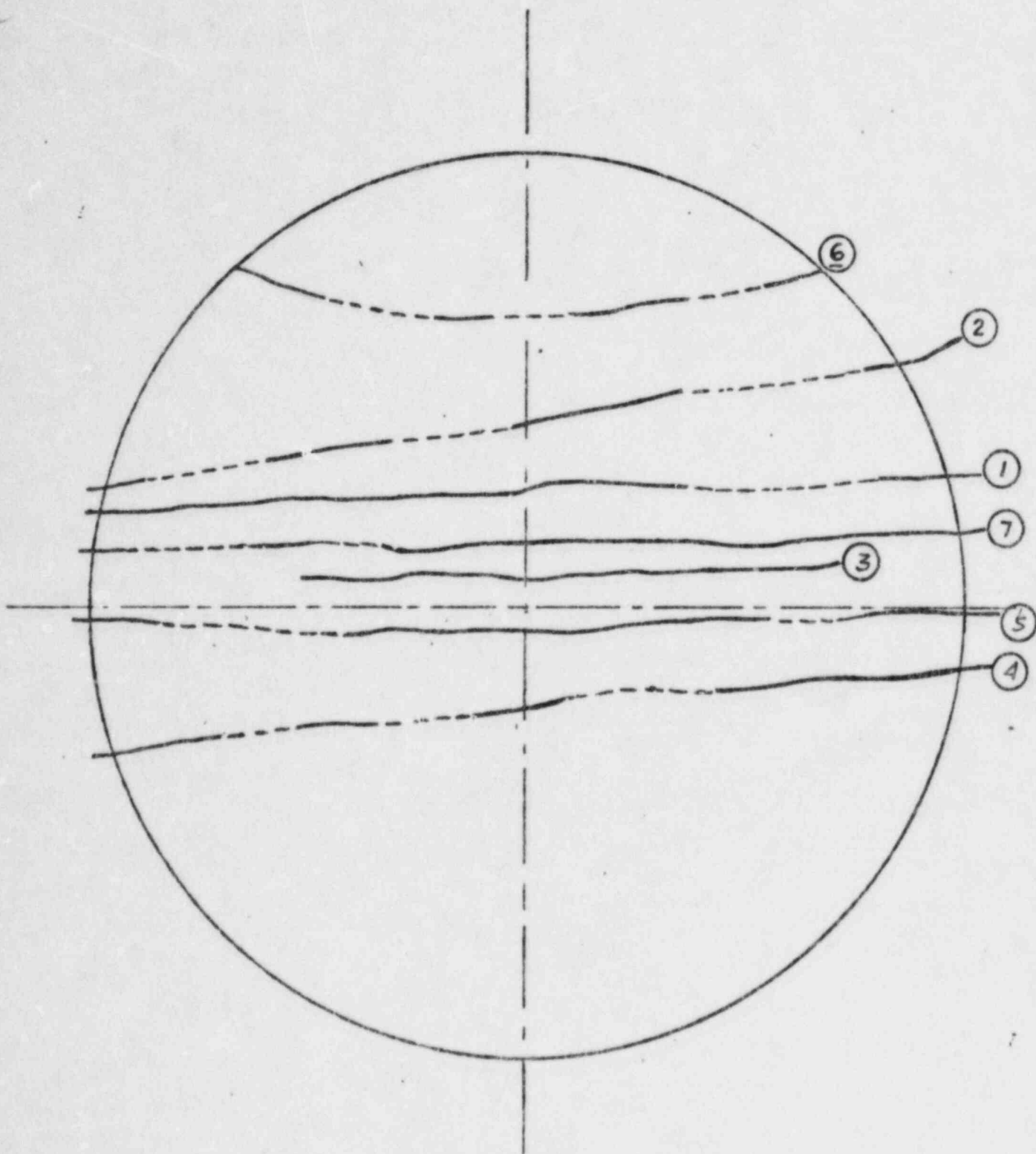
cc: E. L. Blake, W. M. Stevenson, G. W. Knighton, J. H. Wilson, J. P. Knight,
G. L. Constable. J. T. Collins

Muenow and Associates, Inc.

MATERIALS AND NONDESTRUCTIVE TESTING
3940 HUNTCLIFF DR
CHARLOTTE, NORTH CAROLINA 28211
(704) 377-4041 · (704) 542-2223

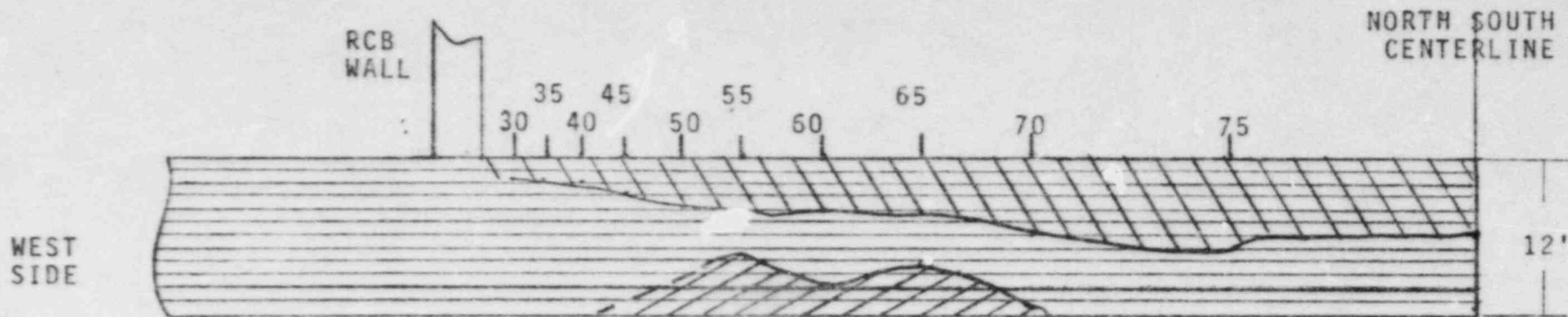
APPENDIX NO. 6

CROSS SECTIONS
ILLUSTRATING THE MOST PROBABLE CRACK DEPTH
AND ORIENTATION
FOR INTERNAL DISCONTINUITIES UNDER THE RCB
AND THEIR RELATIONSHIP TO CRACKS ON THE EAST AND WEST SIDES
OF THE R C B



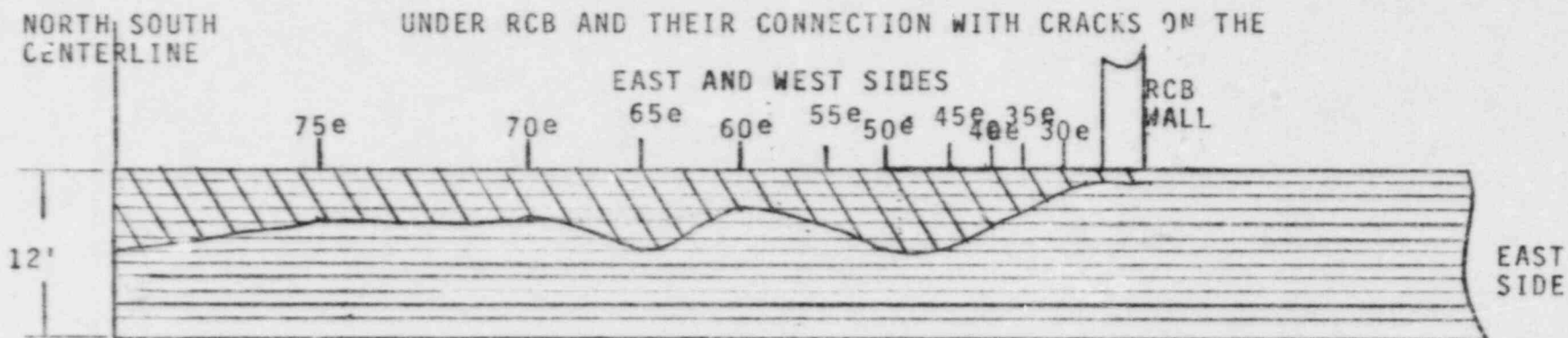
MUENOW AND ASSOCIATES, INC. CHARLOTTE, NORTH CAROLINA
LOUISIANA POWER AND LIGHT WATERFORD NO. 3
NONDESTRUCTIVE TEST EVALUATION OF BASE MAT CONCRETE

CRACK DEPTH AND ORIENTATION GRAPHIC SHEET
60° TRANSDUCER



CROSS SECTIONS ILLUSTRATING PROPOSED CRACK DEPTHS

UNDER RCB AND THEIR CONNECTION WITH CRACKS ON THE



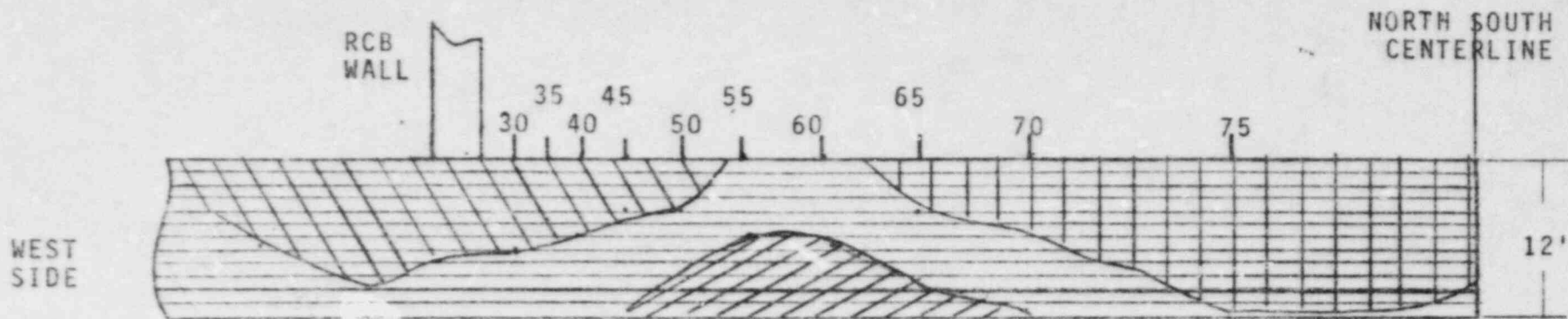
LOUISIANA POWER AND LIGHT CO.
WATERFORD NO 3

Shaded areas represent
vertical face of crack
and depth in feet

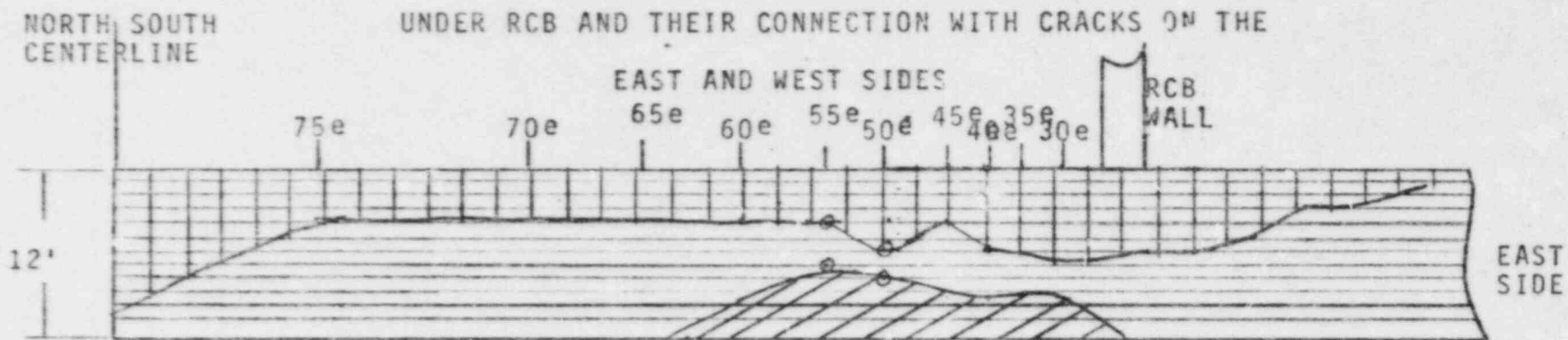
muenow and associates, inc.
charlotte, north carolina

Scale 1cm=5feet
Each horizontal line equals
one foot of depth
Darkened line at 10 feet of
depth is top of lower R/F

CRACK NO. 6



CROSS SECTIONS ILLUSTRATING PROPOSED CRACK DEPTHS
 UNDER RCB AND THEIR CONNECTION WITH CRACKS ON THE



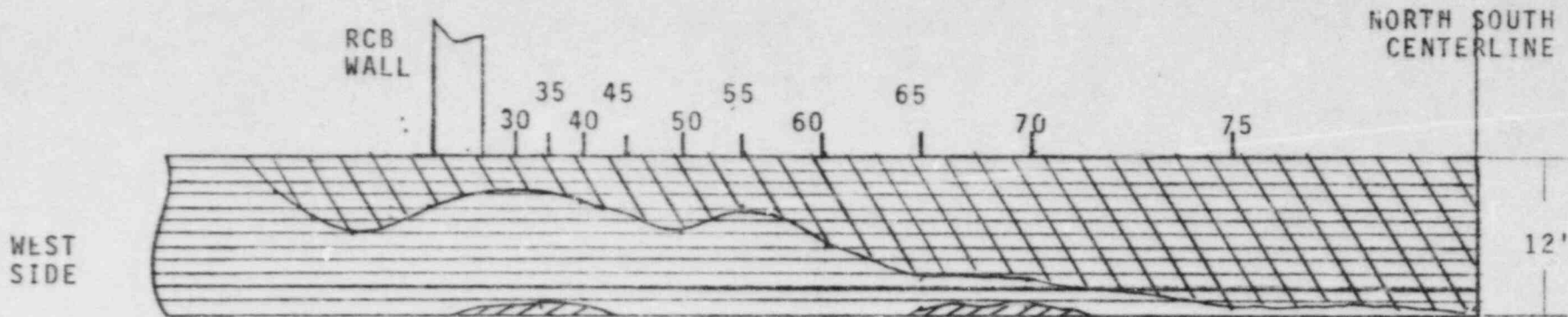
LOUISIANA POWER AND LIGHT CO.
 WATERFORD NO 3

muenow and associates, inc.
 charlotte, north carolina

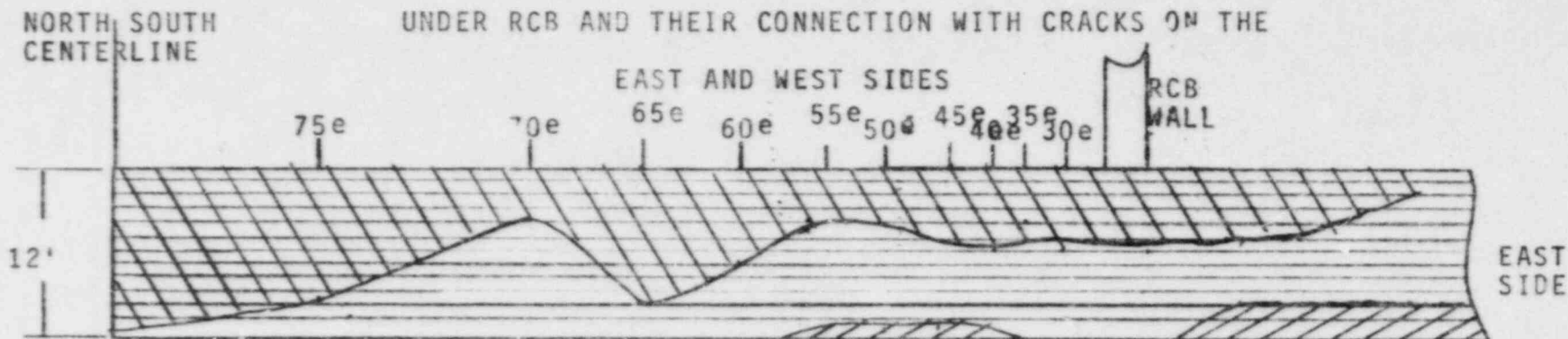
Scale 1cm=5feet
 Each horizontal line equals
 one foot of depth
 Darkened line at 10 feet of
 depth is top of lower R/F

Shaded areas represent
 vertical face of crack
 and depth in feet

CRACK NO. 2



CROSS SECTIONS ILLUSTRATING PROPOSED CRACK DEPTHS
UNDER RCB AND THEIR CONNECTION WITH CRACKS ON THE



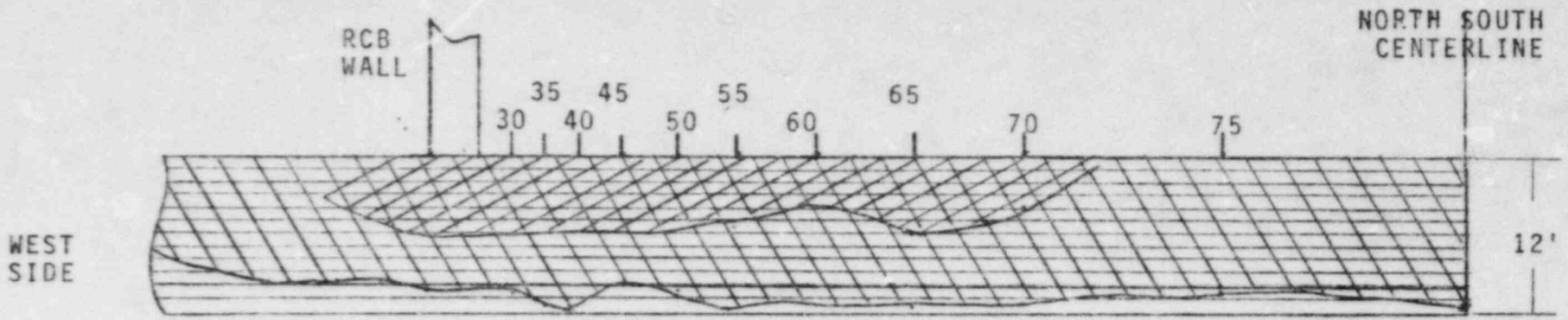
LOUISIANA POWER AND LIGHT CO.
WATERFORD NO 3

muenow and associates, inc.
charlotte, north carolina

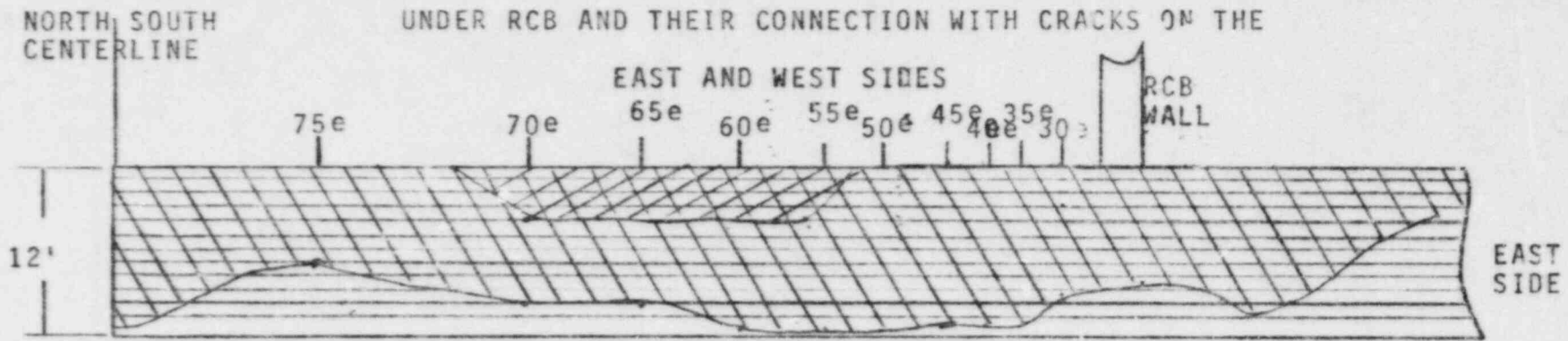
Scale 1cm=5feet
Each horizontal line equals
one foot of depth
Darkened line at 10 feet of
depth is top of lower R/F

Shaded areas represent
vertical face of crack
and depth in feet

CRACK NO. 1



CROSS SECTIONS ILLUSTRATING PROPOSED CRACK DEPTHS
 UNDER RCB AND THEIR CONNECTION WITH CRACKS ON THE



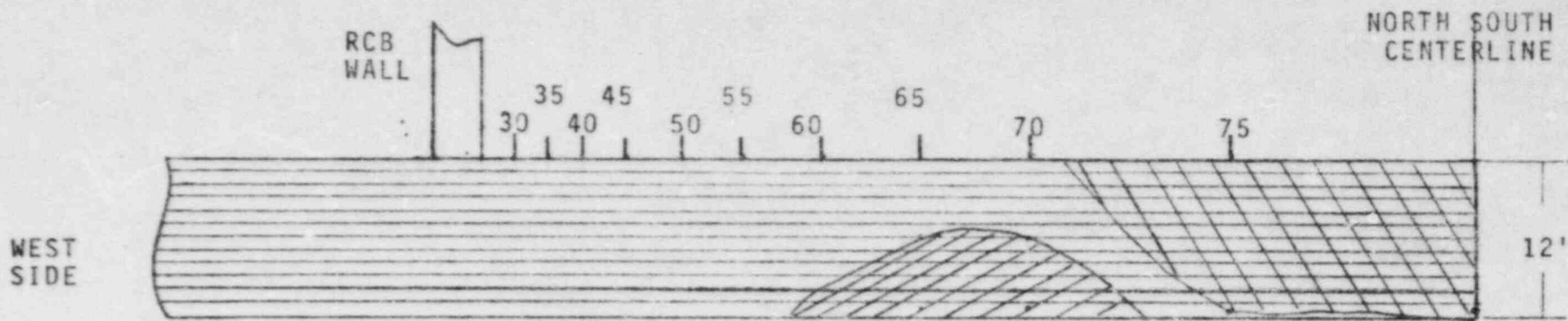
LOUISIANA POWER AND LIGHT CO.
 WATERFORD NO 3

muenow and associates, inc.
 charlotte, north carolina

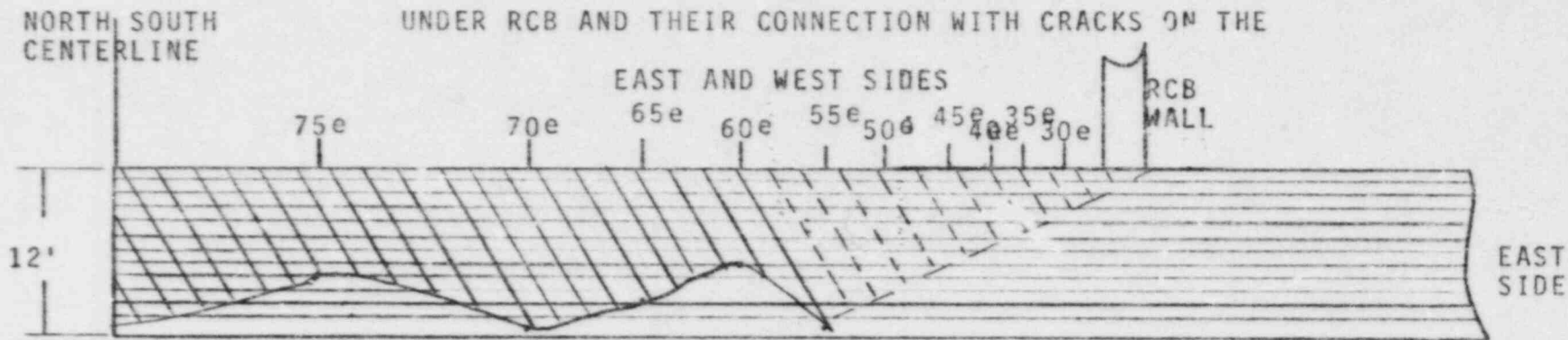
Scale 1cm=5feet
 Each horizontal line equals
 one foot of depth
 Darkened line at 10 feet of
 depth is top of lower R/F

Shaded areas represent
 vertical face of crack
 and depth in feet

CRACK NO. 7



CROSS SECTIONS ILLUSTRATING PROPOSED CRACK DEPTHS
 UNDER RCB AND THEIR CONNECTION WITH CRACKS ON THE



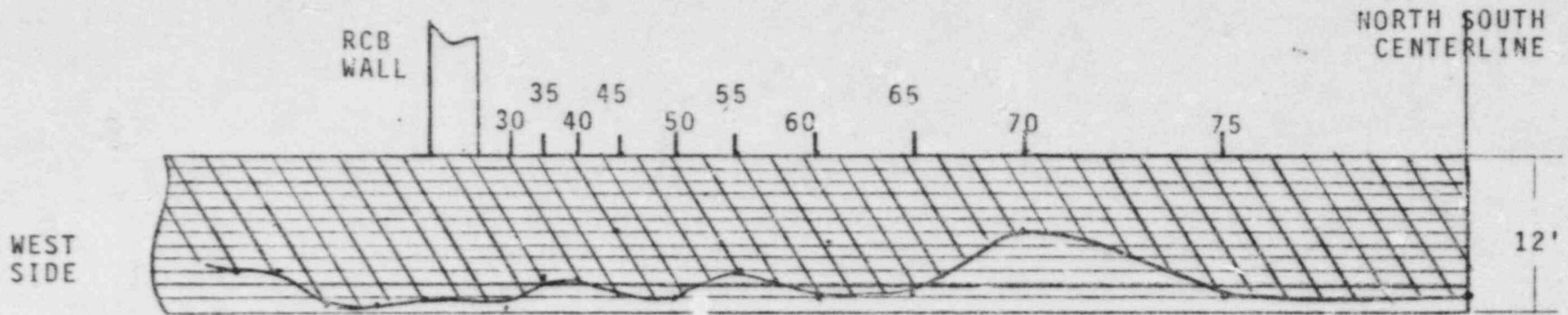
LOUISIANA POWER AND LIGHT CO.
 WATERFORD NO 3

muenow and associates, inc.
 charlotte, north carolina

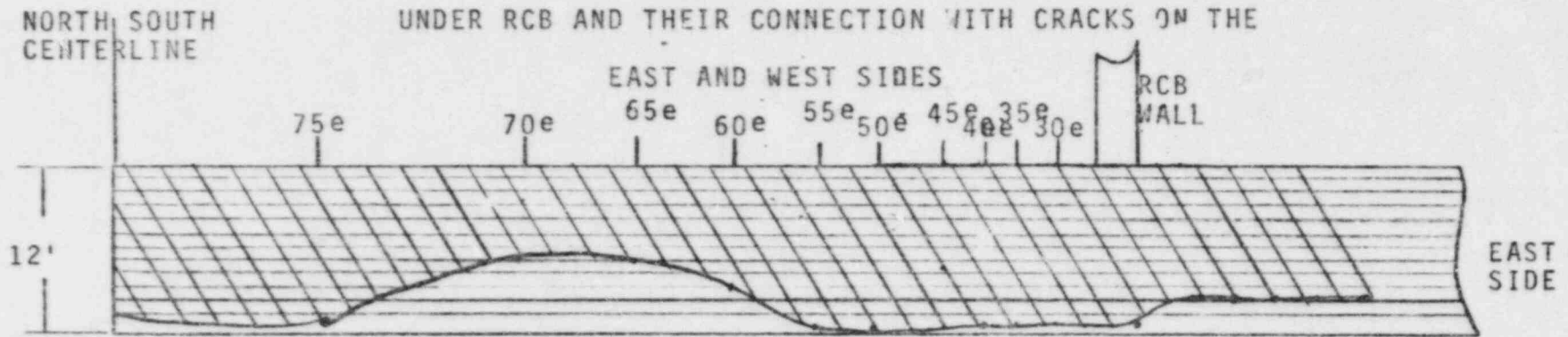
Scale 1cm=5feet
 Each horizontal line equals
 one foot of depth
 Darkened line at 10 feet of
 depth is top of lower R/F

Shaded areas represent
 vertical face of crack
 and depth in feet

CRACK NO. 3



CROSS SECTIONS ILLUSTRATING PROPOSED CRACK DEPTHS
UNDER RCB AND THEIR CONNECTION WITH CRACKS ON THE



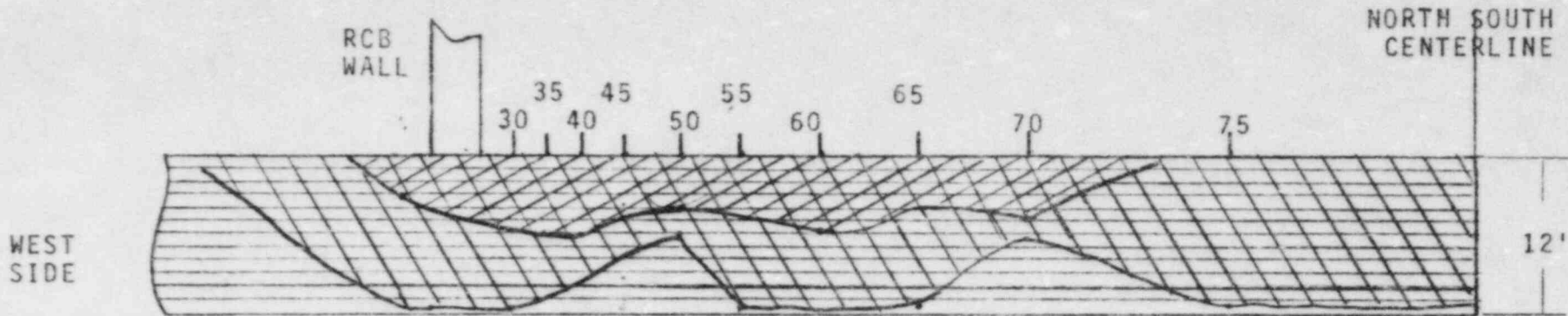
LOUISIANA POWER AND LIGHT CO.
WATERFORD NO 3

Shaded areas represent
vertical face of crack
and depth in feet

muenow and associates, inc.
charlotte, north carolina

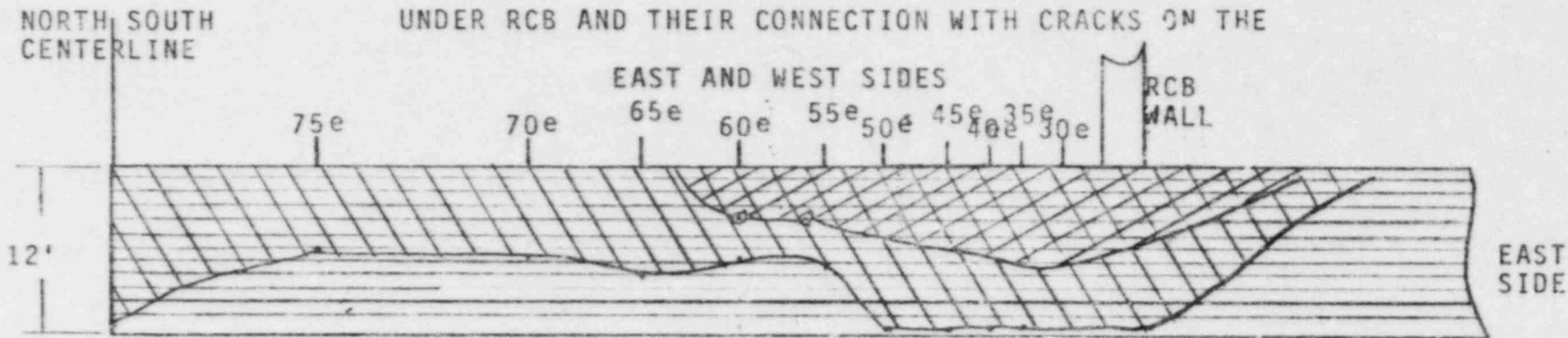
Scale 1cm=5feet
Each horizontal line equals
one foot of depth
Darkened line at 10 feet of
depth is top of lower R/F

CRACK NO. 5



CROSS SECTIONS ILLUSTRATING PROPOSED CRACK DEPTHS

UNDER RCB AND THEIR CONNECTION WITH CRACKS ON THE



LOUISIANA POWER AND LIGHT CO.
WATERFORD NO 3

muenow and associates, inc.
charlotte, north carolina

Scale 1cm=5feet
Each horizontal line equals
one foot of depth
Darkened line at 10 feet of
depth is top of lower R/F

Shaded areas represent
vertical face of crack
and depth in feet

CRACK NO. 4