

TENNESSEE VALLEY AUTHORITY

DIVISION OF ENGINEERING DESIGN

WATTS BAR NUCLEAR PLANT

830228F0015

5

CONSTRUCTION SPECIFICATION

NO. N3C-928

FOR LOCATING ATTACHMENTS ON
EMBEDDED PLATES

	REVISION 0	R1	R2	R3	R4	R5
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1.0 GENERAL

This Watts Bar Nuclear Plant project construction specification provides requirements for locating attachments on embedded plates. (See reference 5.1.)

2.0 LOCATION OF ATTACHMENTS

2.1 Minimum Edge Distance

The minimum edge distances given in section 3.0 shall be applied to the location of an attachment to an embedded plate unless a Division of Engineering Design (EN DES) approved drawing, which shows both the attachment and the plate edge, specifically calls for a closer edge distance.

2.2 Minimum Spacing Between Attachments

The minimum spacing given in section 4.0 shall be applied to the spacing between attachments on an embedded plate unless an EN DES drawing which shows both attachments specifically calls for a closer spacing.

2.3 Minimum Spacing Between Expansion Anchors and Attachments

The minimum spacing between expansion anchors and attachments to embedded plates shall be in accordance with TVA General Construction Specification No. G-32, "Bolt Anchors Set in Hardened Concrete." Attachment location tolerances shall not be used to reduce the minimum edge distances or spacing.

2.4 Exemptions

2.4.1 If conformance to the requirements for edge distance or the requirements for spacing between attachments on the embedded plate is impractical, a Field Change Request (FCR) shall be submitted to EN DES. The FCR shall include the following:

2.4.1.1 The unique identification number for the embedded plate. For the initial request, the identification number shall be obtained from EN DES and shall be permanently affixed to the plate.

NOTE

The written requests required by TVA General Construction Specification No. G-32 for expansion anchors spaced closer than the minimum to attachments on embedded plates do not require unique plate identification numbers.

2.4.1.2 A sketch showing the location on the embedded plate of new attachments which do not meet the edge distance requirements and of existing attachments which are spaced closer than the

2.0 LOCATION OF ATTACHMENTS (Continued)

2.4 Exemptions (Continued)

minimum to the new attachment. The sketch shall also show expansion anchors which are spaced closer to the new attachment than the minimum spacing given in TVA General Construction Specification No. G-32. The sketch shall include enough information for EN DES to determine the location and loading on each attachment.

- 2.4.2 Some specific sizes and types of attachments may be exempted from the requirements of this construction specification. The exempted attachments shall be those listed on EN DES drawings. Exempt attachments do not require review of their location by EN DES and need not be shown on sketches submitted to EN DES.

3.0 EDGE DISTANCE

In general, the minimum clear distance between an attachment and the long edge of a rectangular plate or the edge of a square plate shall be 2 inches. The minimum clear distance between an attachment and the short edge of a rectangular plate shall be 6 inches. For a specific plate, the minimum clear distance may be reduced to the distance from the plate edge to the centerline of the row of studs parallel to the edge. (See Figure 1.)

4.0 SPACING

4.1 General

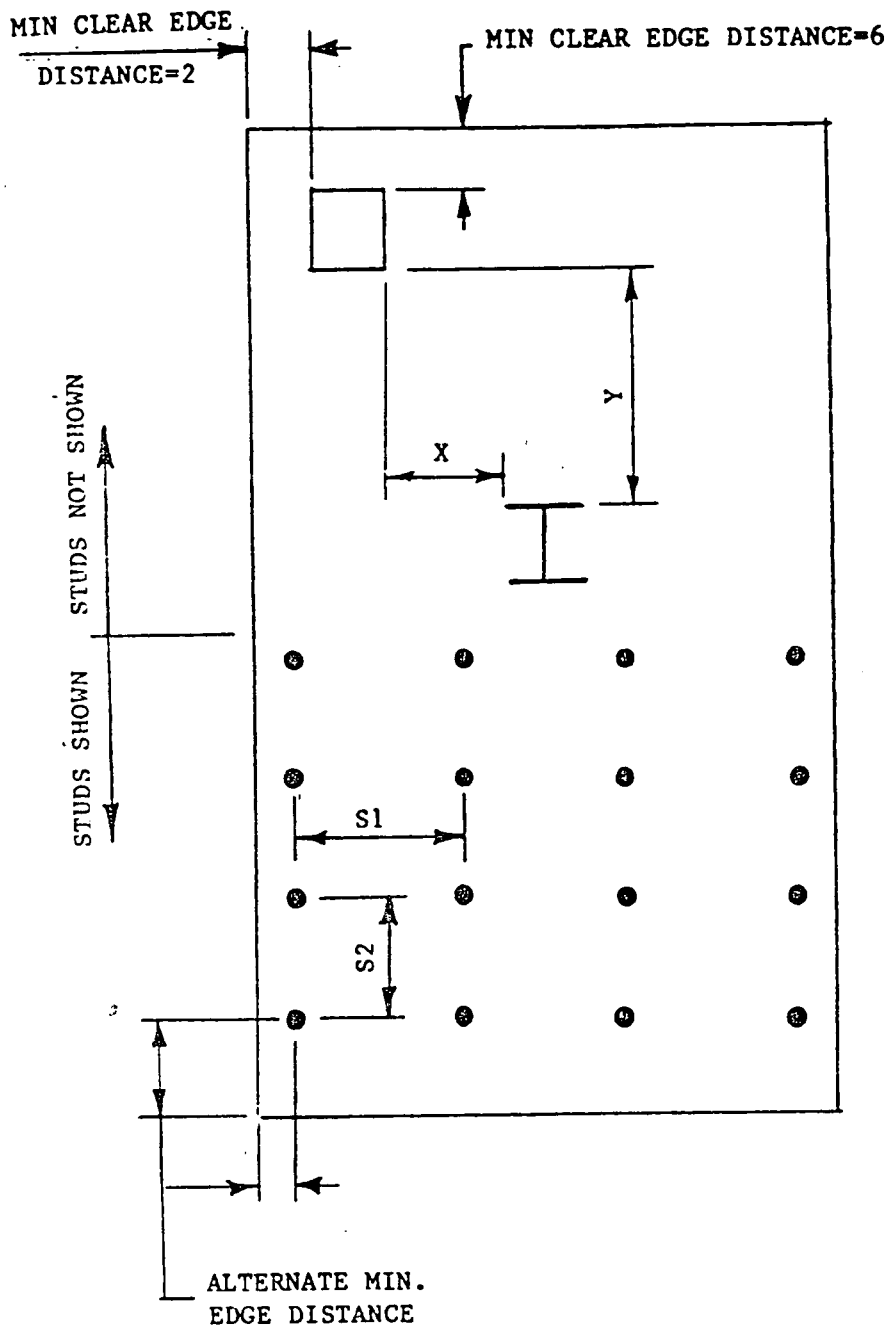
In general, the clear distance between attachments to embedded plates shall be determined by two measurements. Each measurement shall be taken parallel to a plate edge as shown in Figure 1.

4.2 Minimum Clear Distance

The minimum clear distance in at least one direction parallel to a plate edge shall be 24 inches. For a specific plate, the minimum clear distance may be reduced to two times the spacing of the stud rows which are perpendicular to the direction of measurement. (See Figure 1.)

5.0 REFERENCES

- 5.1 Memo from J. C. Standifer to Guenter Wadewitz, dated November 10, 1982, subject, "Watts Bar Nuclear Plant - Interim Requirements for Locating Attachments on Embedded Plates - Quality Information" (CEB 321110 017)
- 5.2 TVA General Construction Specification No. G-32 (R7), "Bolt Anchors Set in Hardened Concrete"



GENERAL REQUIREMENTS FOR SPACING

SPACING BETWEEN ATTACHMENTS IS ACCEPTABLE IF EITHER X OR Y IS GREATER THAN OR EQUAL TO 24

ALTERNATE REQUIREMENTS FOR SPACING

SPACING BETWEEN ATTACHMENTS IS ACCEPTABLE IF EITHER X OR Y IS GREATER THAN 2 TIMES S1 OR 2 TIMES S2 RESPECTIVELY

FIGURE 1