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DIVISION OF ENGINEERING AND TECHNICAL SERVICES (DETS)

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| CAS | RLH | RLH | RLH | | | RLH | RLH | | | | | | | | |
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| RLH | RLH | RLH | RLH | RLH | RLH | RLH | RLH | | | | | | | | |

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PREFACE

Design Criteria BFN-50-714 represents the design basis for Browns Ferry electrical conduit seismic qualification. Based upon physical tests conducted by TVA (reference 6.7 and 6.8), a greater level of understanding exists as to the behavior of conduit housing electrical cables. Because of this increased level of understanding and because the design basis is not completely reflected in the as-built construction, the design basis is being updated to a more realistic approach.

This document is the revised design basis and provides:

1. A more realistic, test-founded, criteria for evaluating installations which are in nonconformance to the original criteria, BFN-50-714.
2. A more definitive, implementable, and cost effective criteria for all future installations.

Design Criteria BFN-50-714 has been retired and superseded by Design Criteria BFN-50-723 as of the date of this issue.

ABBREVIATIONS

OBE - Operating Basis Earthquake - That earthquake which produces the vibratory ground motion for which those features of the nuclear power generating station, necessary for continued operation without undue risk to the health and safety of the public, are designed to remain functional.

SSE - Safe Shutdown Earthquake - (Design Basis Earthquake - DBE - As defined in FSAR) That earthquake which produces vibratory ground motion for which those features of the nuclear power generating station, necessary to shut down the reactor and maintain the station in a safe condition without undue risk to the health and safety of the public, are designed to remain functional.

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1.0 SCOPE

These criteria have been established for design and spacing of seismic category 1 electrical conduit support systems which are subject to combined earthquake and deadweight loadings.

Consideration is given both to lateral and axial support of the conduit.

Conduit sizes and material most commonly used are covered.

2.0 DEFINITIONS

2.1 Axial Force

Force acting parallel to the conduit longitudinal axis (reference figure 2.0-1).

2.2 Lateral Force

Force acting perpendicular to the conduit longitudinal axis (reference figure 2.0-2).

2.3 Horizontal Seismic Force

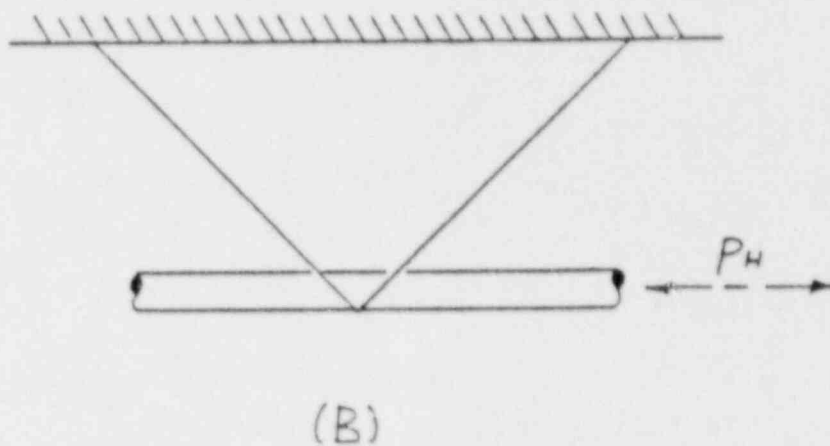
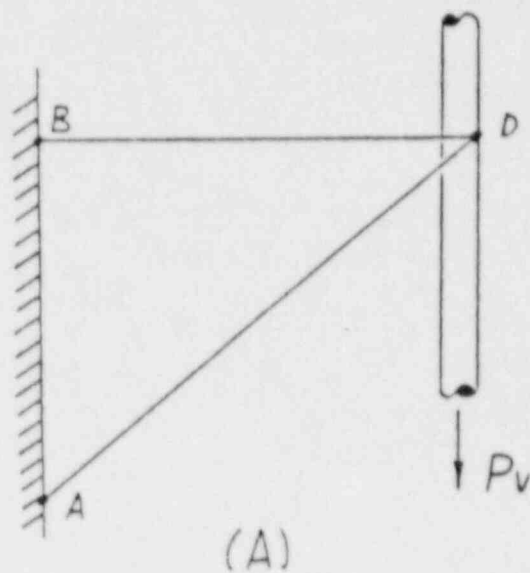
Force due to the horizontal seismic acceleration and is independent of the conduit orientation. This can be either an axial or lateral force on the conduit.

2.4 Vertical Seismic Force

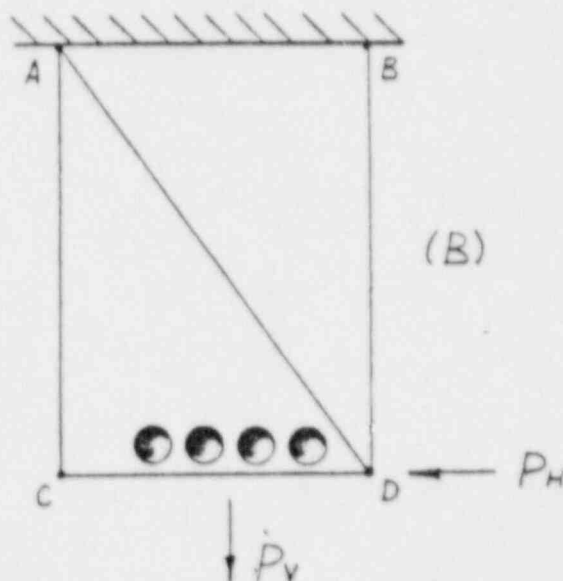
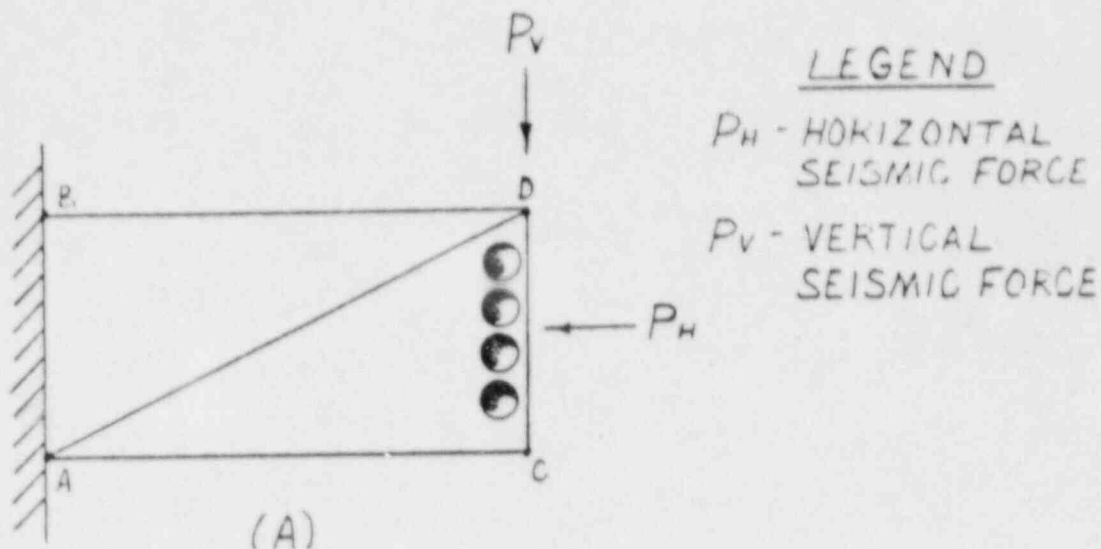
Force due to the vertical seismic acceleration and is independent of the conduit orientation. This can be either an axial or lateral force on the conduit.

2.5 Span

A conduit span is the distance, along the conduit, measured between any two adjacent supports. The span may be of any length up to and including the maximum support spacings tabulated in the attached appendices. Spans longer than that given in the appendices may be allowed if qualified by a rigorous analysis.



AXIAL FORCES
FIGURE 2.0-1



LATERAL FORCES
FIGURE 2.0-2

3.0 ANALYTICAL BASIS

Support spans and loadings given in Appendix A and B were generated by the conservative assumption of a straight run of conduit restrained from movement by equally spaced lateral supports. The model consists of four horizontal continuous simply supported spans. The conduit displacement, stress, and reactions under seismic plus deadweight loads were determined for an engineered range of lateral support spacings and conduit configurations which envelop standard elbows, tees, bends, and electrical boxes acting as supports.

A computer program was written using the above model to obtain the seismic response for the various conduit sizes, materials, and spans. For a complete description of the computer program, see reference 6.3.

Rigid conduit which interfaces with equipment through the use of flexible conduit attached to the free end of a cantilevered length of rigid conduit was analyzed as a special case. This condition was qualified for a range of cantilever lengths, spans, and conduit sizes for aluminum conduit only, using the "GTSTRUDL" computer program (reference 6.9).

Conduit dimensions and weights used in the analysis are listed in table 3.0-1. Cable weights are listed in table 3.0-2.

Conduit stress and support loads are based on SSE response spectra for the following locations:

| | |
|------------------|--------------------------------------|
| Reactor building | ≤ EL 664.00 (≤ means "at or below") |
| (main concrete) | ≤ EL 621.25 |
| | ≤ EL 565.00 |
| RPV shield wall | ≤ EL 622.83 |
| | ≤ EL 595.25 |
| DG building | ≤ EL 595.00 |

For other category I buildings, use reactor building elevation 621.25 load data. In addition, conduit stress and support loads are provided for specific types and sizes of conduit based on the following spectral damping data:

| Conduit Type | Size | Damping |
|--------------|---------------|-------------|
| Steel | All | 5 Percent* |
| Aluminum | 1/2" - 1-1/2" | 15 Percent* |
| Aluminum | 2" - 3" | 10 Percent* |
| Aluminum | 4" - 5" | 7 Percent* |

*Recent tests performed by TVA verify that these damping ratios are minimum values for the given conduit sizes (reference 6.7 and 6.8).

Note: Conduit rigidly attached to or supported from piping or vibrating equipment is specifically excluded from the scope of this criteria.

Deadweight plus earthquake stress for conduit is limited to a maximum of $1.0 S_y$ (S_y = yield stress). A stress intensification factor of 0.75×2.3 is used for threaded connections to take into account the lower strength of the connection which may occur anywhere in the conduit. The allowable stress for conduit within the scope of this criteria is as follows:

Mild Steel - ASTM A-72 or Similar

$$S_y = 25,000 \text{ psi} \quad S_y / (0.75 \times 2.3) = 14,493 \text{ psi}$$

Aluminum - 6063-T1 or Similar

$$S_y = 13,000 \text{ psi} \quad S_y / (0.75 \times 2.3) = 7,536 \text{ psi}$$

The evaluations performed to develop the data included in this criteria are documented in reference 6.4.

TABLE 3.0-1

DIMENSIONS AND WEIGHTS OF RIGID CONDUIT¹

| Nominal Size, Inches | Nominal Dimensions | | Weight, Pound/Foot | |
|----------------------------|--------------------------------|-------------------------------|--------------------|--------|
| | Outside Diameter, Inches | Inside Diameter, Inches | Aluminum | Steel |
| | | | | |
| 1/2 | 0.840 | 0.622 | 0.298 | 0.850 |
| 3/4 | 1.050 | 0.824 | 0.398 | 1.130 |
| 1 | 1.315 | 1.049 | 0.589 | 1.680 |
| 1-1/2 | 1.900 | 1.610 | 0.956 | 2.720 |
| 2 | 2.375 | 2.067 | 1.288 | 3.650 |
| 2-1/2 | 2.875 | 2.469 | 2.047 | 5.790 |
| 3 | 3.500 | 3.068 | 2.680 | 7.580 |
| 4 | 4.500 | 4.026 | 3.821 | 10.790 |
| 5 | 5.563 | 5.047 | 5.215 | 14.620 |

The weight of cable in each conduit size considered is listed in table 3.0-2.

¹In some instances, it may be necessary to substitute other grades of piping for conduit. The design data given in the appendices for mild steel conduit are valid for schedule 40 carbon steel or stainless steel piping provided the yield strength of the piping material is 25,000 lb/in² or greater. Also, the design data given in the appendices for aluminum conduit are valid for aluminum piping provided the minimum yield strength of the piping material is 9,000 lb/in² or greater. However, 13,000 lb/in² may be assumed for dynamic design purposes. This recommendation is based upon full-scale, full-section earthquake tests where stresses greatly exceeding 13,000 lb/in² were observed with no visible damage or permanent distortion.

Electrical boxes, such as junction boxes, terminal boxes, and pull boxes should be anchored to the building superstructure or other appropriately rigid structure. However, at times, this may not be practical, possible, or, for other reasons, may not have been accomplished.

Full-scale dynamic tests have been performed on single boxes mounted on aluminum conduit. These tests demonstrate the principle and show that, with this worst case and under controlled conditions, these types of boxes may be line supported instead of supported from external structure. The line mounting of electrical boxes is not encouraged for new designs. However, for hardship design cases and for evaluating as-built cases, line mounted boxes may be accepted if the following conditions are met:

1. The boxes must be installed to good industrial practice.
2. Sufficient support must be provided on conduit segments on each side of the line mounted boxes to assure structural stability of the system. The conduit to box attachment behaves as a pinned connection.
3. For boxes with a single conduit in and a single conduit out, the conduit may be of any size, provided the total span does not exceed 10 feet.
4. For boxes with a single conduit in and a single conduit out, the box must be of a size consistent with the one-conduit application.
5. Demonstrated engineering judgments may be used to accept similarly installed boxes containing multiple conduits.
6. Line mounted boxes are allowed for aluminum conduit spans of 10 feet or less, and 5 foot spans are allowed for steel conduit.

When these conditions are met, line mounted boxes, installed in any attitude, are acceptable when installed in spans of conduit which do not exceed 10 feet between the supports which define the span.

TABLE 3.0-2

CABLE WEIGHTS

| <u>Conduit Size (Inch)</u> | <u>Cable Weight, (Pound/Foot)</u> |
|------------------------------------|---|
| 1/2 | 0.156 |
| 3/4 | 0.260 |
| 1 | 0.517 |
| 1-1/2 | 0.873 |
| 2 | 1.460 |
| 2-1/2 | 3.120 |
| 3 | 5.190 |
| 4 | 5.690 |
| 5 | 8.360 |

4.0 DESIGN CONSIDERATIONS

4.1 Supports

Table 4.1-1 provides allowable stress and load rating requirements for support components. Support stiffness requirements for support steel are satisfied if any of the following is met:

- (1) Assume baseplates do not deflect and ensure that the maximum support deflection under *maximum load (DW + EQ) is $\leq 1.33 \times 1/16$ inch at the load application point for each load component (F_x , F_y , or F_z) considered separately.

-or-

- (2) Account for baseplate flexibility and ensure that the maximum support deflection under *maximum load (DW + EQ) is $\leq 1.33 \times 1/8$ inch at the load application point for each load component (F_x , F_y , or F_z) considered separately.

-or-

- (3) The first natural frequency of the support (with the mass of the supported conduit lumped at the support point) must be ≥ 20 hertz for each support direction. This requirement may be satisfied by limiting the support deflection under 1 "g" acceleration (with the mass of the supported conduit lumped at the support point) to a maximum of 0.024 inch in each support direction.

Note: Support stiffness must be evaluated for cantilevers and other supports which are designed to carry load primarily in bending. Struts, framed systems, or braced structures which are designed such that members carry load primarily in tension or compression are considered to be acceptable rigid supports and no evaluation of support frequency or deflection is required.

Support stiffness requirements are not applicable if the support will withstand the peak of the response spectra loads.

*Ordinarily, the weight of the support need not be considered unless it is estimated to be 50 percent or more of the supported weight.

TABLE 4.1-1

TABLE OF MAXIMUM DESIGN LOADS AND ALLOWABLE STRESS FOR CONDUIT SUPPORT DESIGN

| <u>Type Support</u> | <u>Maximum Load¹</u> | <u>Allowable Stress²</u> |
|---|---------------------------------|--|
| Linear support | DW + OBE | 1.0 SAISC |
| Linear support | DW + SSE | 1.33 SAISC (not to exceed $0.9 S_y$) |
| Bolt anchor set in hardened concrete | DW + SSE | SLDA |

Definitions

SAISC = The allowable stress defined in part I of the AISC specification, 8th edition.

SLDA = Service load design allowable as defined in TVA Civil Design Standard DS-C1.7.1 (reference 6.2).

DW = Deadweight of conduit, cable, and structure where applicable.

OBE = Seismic load (OBE)

SSE = Seismic load (SSE)

Notes

1. For conduit supports with two horizontal loads, it is acceptable to separate those loads into two separate load cases (vertical load plus one horizontal load for each case) for evaluation of support stress or for determining the acceptability of load rated components.
2. Designing to the above limits using SSE + DW load will ensure adequate design for all conditions, except that the OBE + DW load case governs for support designed for vertical loads only.

4.2 Lateral Supports

Lateral supports are required to restrain the conduit in a direction perpendicular to its longitudinal axis. The conduit run may either be vertical or horizontal.

For a lateral support, both the vertical force and horizontal force must be considered when the conduit run is horizontal; however, only the horizontal forces need to be considered for lateral load when the conduit run is vertical. Tables in appendix A are from reference 6.4 and give results of the computer analysis showing the maximum allowable lateral seismic plus deadweight support span distances and corresponding conduit reactions in the vertical and horizontal directions. The horizontal and vertical reactions are for a single conduit run. All conduit being supported must be included in the total support load. When it is required to support various sizes of conduit running parallel to each other, the maximum support spacing shall be that for the smallest size.

The maximum seismic displacements must be considered when establishing support spacings to assure that damage due to interferences will not result during a seismic event. In locations where seismic movements could create an interference, the support spacing shall be evaluated for acceptance.

4.3 Axial Supports

Axial supports are required to restrain the conduit run in a direction parallel to its longitudinal axis. It is preferred that this support be along the conduit longitudinal axis instead of through a support located around a bend; however, axial support for a single span can be provided by placing a lateral support within 5 nominal conduit diameters from the centerline of the conduit run after the change in direction. Should it become necessary to provide axial support for an axial run exceeding one span length with a lateral support around a bend, the bending stress in the conduit must be limited to $0.9 S_y$. The stress must be calculated due to the weight of cable and conduit for the length of the axial run with the acceleration equal to 1.0 times the peak of the response spectra curve, or methods described in 5.0. Support loads are calculated in the same manner.

The maximum axial seismic load is determined by multiplying the run length between axial supports by the vertical or horizontal axial load factor given by the tables in the appendices. The axial vertical seismic force applies to vertical runs and the axial horizontal seismic force applies to horizontal runs. Note that clamps may be used for both lateral and axial supports.

4.4 Cantilever Supports

Where rigid conduit interfaces with equipment or control panels, flexible conduit is preferred. The flexible conduit, when installed properly, will permit thermal growth and seismic movements of the equipment and rigid conduit without damage to the electrical conductors.

The cantilever support is defined as the first support adjacent to the free end of a rigid conduit run. A cantilever support may be either a lateral or an axial support as defined above.

The distance from the last rigid conduit support to the flex conduit fitting is defined as the free end as L1. L2 is defined as the rigid conduit span of the system approaching the free end.

Where the field conditions are such that the L2 spans differ, the first span adjacent to the cantilever shall be used as the controlling L2 value. This is justified since successive spans away from the free end have diminishing influence on the free end responses and because of conservatism inherent in this approach.

Rigid conduit frequencies, conduit stresses, support loads, and dynamic free end deflections are shown in Appendix C.

The dynamic responses have been computed for a range of L1 and L2 lengths for all conduit sizes, in any orientation.

The responses shown in Appendix C have been computed according to the following:

1. The SSE response spectra for the refueling floor elevation 664.0 has been used for all cases.
2. Seismic spectra loads are based on conduit damping ratios given in Section 3.
3. The supports for the conduit system are assumed rigid; however, the responses have been computed to envelope the conditions where support flexibility exists.
4. The responses have been computed for aluminum conduit only.
5. The responses shown are the dynamic increment only and must be combined with the static deadweight where applicable.

The calculation package documenting these results are in reference 6.9.

4.5 Additional Support Design Considerations

If conduit support systems are designed in accordance with this criteria, dead load supports per reference 6.1 are not required. Evaluations of existing dead load supports may be made using this criteria.

*Where conduit terminates in a conduit box, cabinet, or panel, the conduit and its attachments must be treated as a support. The resulting seismic forces for the attachments are computed exactly as a conduit support.

5.0 ALTERNATE QUALIFICATION METHODS

1. Conduit support systems may be evaluated by the response spectrum modal analysis method using approved computer programs or by test or other justifiable means. The support stiffness requirements of section 4.1 may be waived when support flexibility is included in the analysis. For response spectra, see reference 6.5 and 6.6.
2. Any as-installed conduit installation which cannot be directly associated with the model, which section 1 through 4 of this criteria is based on, is a candidate for qualification using the Data Base Standard of appendix D, reference 6.11.

6.0 REFERENCES

- 6.1 "Installing Electrical Conduit Systems and Fabricated Conduit Boxes," General Construction Specification No. G-3, Revised May 15, 1973.
- 6.2 Civil Design Standard DS-C.1.7.1, "General Anchorage to Concrete."
- 6.3 EN DES Calculations Package B41 860327 014, "CONDUIT Computer Program Documentation."
- 6.4 EN DES Calculations Package (B41 860327 015) "BFN Conduit Support Design."
- 6.5 Report CEB-85-46 R0, Addendum to the Report on the Earthquake Analysis of the Reactor Building - Floor Response Spectra (B41 851112 048).
- 6.6 CEB Report 80-37, Diesel Generator Building Earthquake Analysis (CEB 800619 C J).

*Conduit boxes, cabinets, or panels are not to be considered as terminal points as defined in paragraph E-3 of Construction Specification G-3.



- 6.7 "A Preliminary Study of Vibration Damping in Electrical Conduit"
TVA Engineering Laboratory Report No. WR28-4-900-140
(B41 860327 002).
- 6.8 "An Experimental Investigation of Vibration Damping In Aluminum
Electrical Conduit," TVA Engineering Laboratory Report No. WR28-
4-900-176 (B41 860327 003).
- 6.9 EN DES Calculation Package (B41 860327 021).
- 6.10 GTSTRU DL, Revision F, April 1983, GTICES Systems Laboratory,
School of Civil Engineering Georgia Institute of Technology,
Atlanta, Georgia 30332.
- 6.11 EN DES Calculations Package (B41 860328 001).

LIST OF APPENDICES

Appendix A - Uninsulated Aluminum

| <u>Table</u> | <u>Building</u> | <u>Elevation</u> |
|---------------|-----------------|------------------|
| A2-1A, 2A, 3A | Reactor | 664.00 |
| A2-1B, 2B, 3B | Reactor | 621.25 |
| A2-1C, 2C, 3C | Reactor | 565.00 |
| A2-1D, 2D, 3D | RPV Shield Wall | 622.83 |
| A2-1E, 2E, 3E | RPV Shield Wall | 595.25 |
| A2-4F | DC Building | 595.00 |

Appendix B - Uninsulated Steel

| <u>Table</u> | <u>Building</u> | <u>Elevation</u> |
|--------------|-----------------|------------------|
| S2-4A | Reactor | 664.00 |
| S2-4B | Reactor | 621.25 |
| S2-4C | Reactor | 565.00 |
| S2-4D | RPV Shield Wall | 622.83 |
| S2-4E | RPV Shield Wall | 595.25 |
| S2-4F | DC Building | 595.00 |

Appendix C - Cantilever Supports - Reactor Building EL 664.00

| <u>Table</u> | <u>Conduit Size</u> |
|--------------|---------------------|
| C-1 | 1/2 |
| C-2 | 3/4 |
| C-3 | 1 |
| C-4 | 1-1/2 |
| C-5 | 2 |
| C-6 | 2-1/2 |
| C-7 | 3 |
| C-8 | 4 |
| C-9 | 5 |

APPENDIX A

TABLE A2-1A-1

BROWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 664.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .640

VERTICAL RIGID RESPONSE = .130

CONDUIT MATERIAL

CONDUIT SIZE: .500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 3.00 | .0197 | .0051 | 172. | 2. | 1. |
| 4.00 | .0351 | .0163 | 306. | 2. | 2. |
| 5.00 | .0543 | .0410 | 493. | 3. | 2. |
| 6.00 | .0790 | .0490 | 742. | 4. | 3. |
| 7.00 | .1075 | .1371 | 1136. | 4. | 4. |
| 8.00 | .1404 | .4126 | 1903. | 5. | 6. |
| 9.00 | .1777 | .7212 | 2654. | 6. | 9. |
| 10.00 | .2194 | 1.1035 | 3310. | 7. | 10. |
| 11.00 | .2655 | 1.6170 | 4019. | 7. | 11. |
| 12.00 | .3159 | 2.2907 | 4789. | 8. | 13. |
| 13.00 | .3708 | 3.1606 | 5629. | 9. | 14. |
| 14.00 | .4300 | 4.2670 | 6551. | 9. | 15. |
| * 15.00 | .4936 | 5.6315 | 7533. | 10. | 16. |
| 16.00 | .5616 | 7.2903 | 8571. | 11. | 17. |
| 17.00 | .6340 | 9.2414 | 9678. | 11. | 18. |
| 18.00 | .7108 | ***** | 10850. | 12. | 19. |
| 19.00 | .7920 | ***** | 12090. | 13. | 20. |
| 20.00 | .8775 | ***** | 13396. | 13. | 21. |
| 21.00 | .9675 | ***** | 14770. | 14. | 22. |
| 22.00 | 1.0618 | ***** | 16210. | 15. | 23. |
| 23.00 | 1.1625 | ***** | 17717. | 16. | 24. |
| 24.00 | 1.2637 | ***** | 19291. | 16. | 25. |
| 25.00 | 1.3712 | ***** | 20932. | 17. | 26. |
| 26.00 | 1.4831 | ***** | 22640. | 18. | 27. |
| 27.00 | 1.5993 | ***** | 24415. | 18. | 28. |
| 28.00 | 1.7200 | ***** | 26257. | 19. | 29. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .29

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = .51

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-1A-2

DOWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:
 REACTOR BUILDING MAIN CONCRETE EL. 664.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .640

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: .750 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0237 | .0108 | 255. | 3. | 2. |
| 5.00 | .0449 | .0270 | 405. | 4. | 3. |
| 6.00 | .0644 | .0580 | 604. | 5. | 4. |
| 7.00 | .0879 | .1131 | 864. | 6. | 5. |
| 8.00 | .1148 | .2255 | 1307. | 7. | 7. |
| 9.00 | .1453 | .4577 | 2084. | 8. | 11. |
| 10.00 | .1794 | .7353 | 2745. | 9. | 14. |
| 11.00 | .2171 | 1.0905 | 3348. | 10. | 16. |
| 12.00 | .2584 | 1.5316 | 3997. | 11. | 18. |
| 13.00 | .3032 | 2.1103 | 4699. | 12. | 20. |
| 14.00 | .3517 | 2.8398 | 5452. | 13. | 21. |
| 15.00 | .4037 | 3.7553 | 6277. | 14. | 23. |
| 16.00 | .4593 | 4.8725 | 7160. | 15. | 24. |
| 17.00 | .5185 | 6.2142 | 8090. | 17. | 26. |
| 18.00 | .5813 | 7.8107 | 9070. | 18. | 27. |
| 19.00 | .6477 | 9.6969 | 10107. | 19. | 29. |
| 20.00 | .7177 | ***** | 11199. | 20. | 30. |
| 21.00 | .7913 | ***** | 12348. | 21. | 32. |
| 22.00 | .8684 | ***** | 13552. | 22. | 33. |
| 23.00 | .9491 | ***** | 14812. | 22. | 35. |
| 24.00 | 1.0335 | ***** | 16128. | 23. | 36. |
| 25.00 | 1.1214 | ***** | 17500. | 24. | 38. |
| 26.00 | 1.2129 | ***** | 18928. | 25. | 39. |
| 27.00 | 1.3080 | ***** | 20412. | 26. | 41. |
| 28.00 | 1.4067 | ***** | 21953. | 27. | 42. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .42

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = .74

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-1A-3

BROWNS FERRY NUCLEAR PLANT - CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 664.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .640

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 1.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0242 | .0077 | 228. | 6. | 4. |
| 5.00 | .0379 | .0190 | 359. | 7. | 5. |
| 6.00 | .0545 | .0405 | 530. | 9. | 6. |
| 7.00 | .0742 | .0779 | 747. | 10. | 8. |
| 8.00 | .0969 | .1423 | 1040. | 12. | 10. |
| 9.00 | .1227 | .2739 | 1567. | 14. | 14. |
| 10.00 | .1515 | .5032 | 2331. | 15. | 21. |
| 11.00 | .1833 | .7476 | 2966. | 17. | 26. |
| 12.00 | .2181 | 1.0408 | 3557. | 19. | 29. |
| 13.00 | .2560 | 1.5035 | 4186. | 21. | 33. |
| 14.00 | .2969 | 2.0231 | 4864. | 22. | 36. |
| 15.00 | .3408 | 2.6661 | 5584. | 24. | 38. |
| 16.00 | .3878 | 3.4612 | 6369. | 26. | 41. |
| * 17.00 | .4378 | 4.4234 | 7210. | 28. | 43. |
| 18.00 | .4903 | 5.5668 | 8095. | 29. | 46. |
| 19.00 | .5465 | 6.9109 | 9020. | 31. | 48. |
| 20.00 | .6059 | 8.4351 | 9996. | 33. | 51. |
| 21.00 | .6680 | ***** | 11021. | 34. | 54. |
| 22.00 | .7331 | ***** | 12096. | 36. | 56. |
| 23.00 | .8013 | ***** | 13221. | 38. | 59. |
| 24.00 | .8725 | ***** | 14396. | 39. | 61. |
| 25.00 | .9467 | ***** | 15621. | 41. | 64. |
| 26.00 | 1.0240 | ***** | 16896. | 43. | 66. |
| 27.00 | 1.1043 | ***** | 18221. | 44. | 69. |
| 28.00 | 1.1876 | ***** | 19595. | 46. | 71. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .71

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.25

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-1A-4

BROWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:
 REACTOR BUILDING MAIN CONCRETE EL. 664.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .640
 VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM
 CONDUIT SIZE: 1.500 INCH SCHEDULE NO. NA

| SUPPORT SPACING (FT) | FIRST PERIOD (SEC) | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|----------------------------|--------------------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0165 | .0036 | 153. | 10. | 6. |
| 5.00 | .0259 | .0058 | 240. | 12. | 8. |
| 6.00 | .0372 | .0184 | 347. | 14. | 10. |
| 7.00 | .0507 | .0346 | 482. | 17. | 12. |
| 8.00 | .0660 | .0610 | 648. | 19. | 14. |
| 9.00 | .0838 | .1010 | 846. | 22. | 17. |
| 10.00 | .1034 | .1679 | 1133. | 25. | 21. |
| 11.00 | .1251 | .2406 | 1607. | 28. | 30. |
| 12.00 | .1489 | .4839 | 2246. | 30. | 41. |
| 13.00 | .1748 | .6974 | 2786. | 34. | 50. |
| 14.00 | .2027 | .9411 | 3251. | 37. | 56. |
| 15.00 | .2327 | 1.2419 | 3749. | 39. | 62. |
| 16.00 | .2647 | 1.6082 | 4273. | 42. | 67. |
| 17.00 | .2989 | 2.0501 | 4830. | 45. | 72. |
| 18.00 | .3351 | 2.5768 | 5415. | 48. | 76. |
| 19.00 | .3733 | 3.2049 | 6044. | 51. | 80. |
| 20.00 | .4137 | 3.9464 | 6714. | 53. | 84. |
| * 21.00 | .4561 | 4.8030 | 7413. | 56. | 88. |
| 22.00 | .5005 | 5.7900 | 8144. | 59. | 93. |
| 23.00 | .5471 | 6.9168 | 8901. | 62. | 97. |
| 24.00 | .5957 | 8.2007 | 9693. | 65. | 101. |
| 25.00 | .6463 | 9.6556 | 10519. | 68. | 105. |
| 26.00 | .6991 | ***** | 11377. | 70. | 110. |
| 27.00 | .7539 | ***** | 12270. | 73. | 114. |
| 28.00 | .8108 | ***** | 13196. | 76. | 118. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.17

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 2.07

* - MAXIMUM ALLOWABLE SUPPORT SPACING

FACONS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (10% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 664.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .640

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 2.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING (FT) | FIRST PERIOD (SEC) | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|----------------------------|--------------------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0138 | .0035 | 135. | 14. | 9. |
| 5.00 | .0216 | .0062 | 210. | 18. | 12. |
| 6.00 | .0311 | .0128 | 303. | 22. | 14. |
| 7.00 | .0424 | .0245 | 425. | 25. | 16. |
| 8.00 | .0553 | .0435 | 576. | 29. | 22. |
| 9.00 | .0701 | .0712 | 746. | 33. | 26. |
| 10.00 | .0865 | .1123 | 951. | 38. | 30. |
| 11.00 | .1046 | .1710 | 1259. | 42. | 35. |
| 12.00 | .1245 | .3281 | 1890. | 45. | 57. |
| 13.00 | .1462 | .5810 | 2646. | 51. | 85. |
| 14.00 | .1695 | .8361 | 3538. | 56. | 107. |
| 15.00 | .1946 | 1.1067 | 4150. | 61. | 118. |
| 16.00 | .2214 | 1.4363 | 4754. | 65. | 132. |
| 17.00 | .2499 | 1.8316 | 5381. | 70. | 143. |
| 18.00 | .2802 | 2.3032 | 6046. | 74. | 154. |
| 19.00 | .3122 | 2.8597 | 6742. | 79. | 164. |
| 20.00 | .3459 | 3.5110 | 7471. | 83. | 172. |
| 21.00 | .3814 | 4.2689 | 8239. | 87. | 181. |
| 22.00 | .4186 | 5.1555 | 9063. | 92. | 189. |
| 23.00 | .4575 | 6.1615 | 9911. | 97. | 198. |
| 24.00 | .4991 | 7.3113 | 10803. | 101. | 207. |
| 25.00 | .5405 | 8.6082 | 11722. | 106. | 215. |
| 26.00 | .5846 | ***** | 12678. | 110. | 224. |
| 27.00 | .6305 | ***** | 13673. | 114. | 233. |
| 28.00 | .6780 | ***** | 14705. | 119. | 241. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.76

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 3.11

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-2A-2

TOWNS FERRY NUCLEAR PLANT - CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (10% DAMPING) FOR:
 REACTOR BUILDING MAIN CONCRETE EL. 664.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .640
 VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 2.500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0125 | .0021 | 133. | 27. | 18. |
| 5.00 | .0196 | .0051 | 208. | 34. | 22. |
| 6.00 | .0282 | .0105 | 300. | 41. | 27. |
| 7.00 | .0383 | .0193 | 416. | 47. | 32. |
| 8.00 | .0501 | .0351 | 563. | 54. | 40. |
| 9.00 | .0634 | .0578 | 733. | 62. | 48. |
| 10.00 | .0782 | .0897 | 922. | 70. | 54. |
| 11.00 | .0947 | .1383 | 1170. | 76. | 64. |
| 12.00 | .1127 | .2302 | 1620. | 86. | 87. |
| 13.00 | .1322 | .4081 | 2422. | 94. | 132. |
| 14.00 | .1533 | .6522 | 3351. | 103. | 180. |
| 15.00 | .1760 | .9038 | 4093. | 113. | 218. |
| 16.00 | .2003 | 1.1733 | 4685. | 122. | 239. |
| 17.00 | .2261 | 1.4986 | 5324. | 131. | 266. |
| 18.00 | .2535 | 1.8542 | 5973. | 139. | 285. |
| 19.00 | .2824 | 2.3401 | 6675. | 148. | 306. |
| 20.00 | .3129 | 2.8734 | 7401. | 156. | 324. |
| 21.00 | .3450 | 3.4926 | 8160. | 164. | 340. |
| 22.00 | .3787 | 4.2074 | 8957. | 172. | 356. |
| 23.00 | .4139 | 5.0393 | 9812. | 181. | 372. |
| 24.00 | .4506 | 5.9772 | 10688. | 189. | 389. |
| 25.00 | .4890 | 7.0450 | 11612. | 198. | 405. |
| 26.00 | .5289 | 8.2416 | 12560. | 206. | 421. |
| 27.00 | .5703 | 9.5846 | 13545. | 214. | 437. |
| 28.00 | .6134 | ***** | 14562. | 223. | 453. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 3.31

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 5.84

* - MAXIMUM ALLOWABLE SUPPORT SPACING

JOHN F. RAY NUCLEAR PLANT CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (10% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE SLAB 104-0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .640

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 7.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 2.00 | .0027 | .0001 | 31. | 21. | 14. |
| 4.00 | .0110 | .0016 | 125. | 41. | 27. |
| 6.00 | .0247 | .0051 | 282. | 62. | 41. |
| 8.00 | .0440 | .0266 | 519. | 82. | 59. |
| 10.00 | .0687 | .0635 | 851. | 105. | 61. |
| 12.00 | .0990 | .1540 | 1332. | 130. | 110. |
| 14.00 | .1347 | .4172 | 2722. | 155. | 225. |
| 16.00 | .1760 | .9034 | 4378. | 184. | 354. |
| 18.00 | .2227 | 1.4540 | 5606. | 211. | 427. |
| * 20.00 | .2750 | 2.2182 | 6949. | 237. | 489. |
| 22.00 | .3327 | 3.2484 | 8418. | 261. | 543. |
| 24.00 | .3960 | 4.6071 | 10031. | 286. | 592. |
| 26.00 | .4647 | 6.3595 | 11797. | 313. | 641. |
| 28.00 | .5390 | 8.5596 | 13693. | 339. | 691. |
| 30.00 | .6187 | ***** | 15720. | 363. | 740. |
| 32.00 | .7040 | ***** | 17887. | 386. | 789. |
| 34.00 | .7947 | ***** | 20193. | 413. | 839. |
| 36.00 | .8910 | ***** | 22640. | 438. | 888. |
| 38.00 | .9917 | ***** | 25229. | 462. | 937. |
| 40.00 | 1.1000 | ***** | 27950. | 487. | 987. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 5.04

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 2.69

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-3A-1

FROWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (7% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 664.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .640

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 4.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 2.00 | .0020 | .0001 | 20. | 25. | 16. |
| 4.00 | .0078 | .0008 | 91. | 50. | 33. |
| 6.00 | .0176 | .0041 | 183. | 75. | 49. |
| 8.00 | .0312 | .0130 | 326. | 100. | 66. |
| 10.00 | .0436 | .0330 | 530. | 125. | 90. |
| 12.00 | .0703 | .0734 | 818. | 153. | 122. |
| 14.00 | .0957 | .1474 | 1205. | 184. | 162. |
| 16.00 | .1250 | .3320 | 2043. | 217. | 264. |
| 18.00 | .1532 | .9510 | 4101. | 253. | 520. |
| 20.00 | .1953 | 1.4038 | 5593. | 290. | 696. |
| * 22.00 | .2363 | 2.0637 | 6847. | 324. | 825. |
| 24.00 | .2812 | 2.9245 | 8172. | 356. | 919. |
| 26.00 | .3300 | 4.0300 | 9614. | 387. | 1014. |
| 28.00 | .3827 | 5.4206 | 11150. | 417. | 1092. |
| 30.00 | .4393 | 7.1555 | 12819. | 450. | 1170. |
| 32.00 | .4999 | 9.2695 | 14596. | 483. | 1248. |
| 34.00 | .5643 | ***** | 16480. | 514. | 1326. |
| 36.00 | .6326 | ***** | 18477. | 544. | 1404. |
| 38.00 | .7049 | ***** | 20588. | 576. | 1482. |
| 40.00 | .7910 | ***** | 22812. | 606. | 1560. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 6.09

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 10.75

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-3A-2

BROWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (7% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 664.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .640

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 5.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 2.00 | .0016 | .0000 | 17. | 36. | 23. |
| 4.00 | .0064 | .0006 | 69. | 71. | 47. |
| 6.00 | .0145 | .0028 | 154. | 107. | 70. |
| 8.00 | .0258 | .0088 | 274. | 143. | 94. |
| 10.00 | .0403 | .0219 | 437. | 178. | 122. |
| 12.00 | .0580 | .0460 | 661. | 216. | 162. |
| 14.00 | .0789 | .0952 | 963. | 257. | 212. |
| 16.00 | .1031 | .1779 | 1373. | 303. | 279. |
| 18.00 | .1305 | .3935 | 2359. | 351. | 470. |
| 20.00 | .1611 | .8927 | 4321. | 402. | 847. |
| 22.00 | .1949 | 1.3993 | 5696. | 455. | 1092. |
| * 24.00 | .2320 | 1.9891 | 6849. | 504. | 1272. |
| 26.00 | .2723 | 2.7420 | 8066. | 549. | 1412. |
| 28.00 | .3158 | 3.6905 | 9385. | 594. | 1559. |
| 30.00 | .3625 | 4.8635 | 10774. | 638. | 1670. |
| 32.00 | .4124 | 6.2998 | 12264. | 682. | 1781. |
| 34.00 | .4656 | 8.0374 | 13859. | 727. | 1893. |
| 36.00 | .5220 | ***** | 15551. | 777. | 2004. |
| 38.00 | .5816 | ***** | 17327. | 820. | 2115. |
| 40.00 | .6444 | ***** | 19199. | 864. | 2227. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 5.69

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 15.34

* - MAXIMUM ALLOWABLE SUPPORT SPACING

BROWN FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 621.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .500

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: .500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 3.00 | .0197 | .0047 | 159. | 2. | 1. |
| 4.00 | .0351 | .0151 | 233. | 2. | 1. |
| 5.00 | .0548 | .0376 | 452. | 3. | 2. |
| 6.00 | .0790 | .0811 | 676. | 4. | 2. |
| 7.00 | .1075 | .1640 | 1000. | 4. | 3. |
| 8.00 | .1404 | .3349 | 1552. | 5. | 5. |
| 9.00 | .1777 | .5833 | 2152. | 6. | 6. |
| 10.00 | .2194 | .8930 | 2679. | 7. | 7. |
| 11.00 | .2655 | 1.3084 | 3252. | 7. | 8. |
| 12.00 | .3159 | 1.8535 | 3875. | 8. | 9. |
| 13.00 | .3708 | 2.5598 | 4552. | 9. | 10. |
| 14.00 | .4300 | 3.4626 | 5314. | 9. | 11. |
| 15.00 | .4936 | 4.5733 | 6117. | 10. | 11. |
| 16.00 | .5616 | 5.9204 | 6960. | 11. | 12. |
| 17.00 | .6340 | 7.5457 | 7859. | 11. | 13. |
| 18.00 | .7108 | 9.4842 | 8811. | 12. | 14. |
| 19.00 | .7920 | ***** | 9818. | 13. | 14. |
| 20.00 | .8775 | ***** | 10845. | 13. | 15. |
| 21.00 | .9675 | ***** | 11956. | 13. | 16. |
| 22.00 | 1.0618 | ***** | 13122. | 14. | 17. |
| 23.00 | 1.1606 | ***** | 14342. | 15. | 17. |
| 24.00 | 1.2637 | ***** | 15617. | 15. | 18. |
| 25.00 | 1.3712 | ***** | 16945. | 16. | 19. |
| 26.00 | 1.4831 | ***** | 18328. | 17. | 20. |
| 27.00 | 1.5993 | ***** | 19765. | 17. | 20. |
| 28.00 | 1.7200 | ***** | 21256. | 18. | 21. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .23

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = .51

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-12-C

BROWN FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 621.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .500

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: .750 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0287 | .0100 | 236. | 3. | 2. |
| 5.00 | .0449 | .0248 | 373. | 4. | 2. |
| 6.00 | .0646 | .0528 | 551. | 5. | 3. |
| 7.00 | .0879 | .1030 | 787. | 6. | 4. |
| 8.00 | .1148 | .1943 | 1132. | 7. | 5. |
| 9.00 | .1453 | .3691 | 1688. | 8. | 8. |
| 10.00 | .1794 | .5947 | 2222. | 9. | 10. |
| 11.00 | .2171 | .8744 | 2710. | 10. | 11. |
| 12.00 | .2544 | 1.2393 | 3234. | 11. | 13. |
| 13.00 | .3032 | 1.7076 | 3802. | 12. | 14. |
| 14.00 | .3517 | 2.2984 | 4412. | 13. | 15. |
| 15.00 | .4037 | 3.0449 | 5088. | 14. | 16. |
| 16.00 | .4593 | 3.9554 | 5811. | 15. | 17. |
| 17.00 | .5185 | 5.0465 | 6569. | 17. | 19. |
| 18.00 | .5813 | 6.3431 | 7365. | 18. | 20. |
| 19.00 | .6477 | 7.8751 | 8208. | 19. | 21. |
| 20.00 | .7177 | 9.6686 | 9095. | 20. | 22. |
| 21.00 | .7913 | ***** | 10028. | 21. | 23. |
| 22.00 | .8694 | ***** | 10971. | 20. | 24. |
| 23.00 | .9491 | ***** | 11991. | 21. | 25. |
| 24.00 | 1.0335 | ***** | 13057. | 22. | 26. |
| 25.00 | 1.1214 | ***** | 14167. | 23. | 27. |
| 26.00 | 1.2129 | ***** | 15323. | 24. | 28. |
| 27.00 | 1.3080 | ***** | 16525. | 25. | 29. |
| 28.00 | 1.4067 | ***** | 17771. | 26. | 31. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .33

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = .74

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-1A-3

BROWN'S FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 621.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .500

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 1.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0242 | .0072 | 211. | 6. | 3. |
| 5.00 | .0379 | .0176 | 331. | 7. | 3. |
| 6.00 | .0544 | .0371 | 485. | 9. | 4. |
| 7.00 | .0742 | .0708 | 679. | 10. | 6. |
| 8.00 | .0969 | .1189 | 944. | 12. | 7. |
| 9.00 | .1227 | .2311 | 1329. | 14. | 10. |
| 10.00 | .1515 | .4078 | 1895. | 15. | 15. |
| 11.00 | .1833 | .6708 | 2402. | 17. | 19. |
| 12.00 | .2181 | .9827 | 2879. | 19. | 21. |
| 13.00 | .2560 | 1.2166 | 3388. | 21. | 23. |
| 14.00 | .2969 | 1.6370 | 3936. | 22. | 26. |
| 15.00 | .3408 | 2.1573 | 4519. | 24. | 28. |
| 16.00 | .3878 | 2.8049 | 5161. | 26. | 29. |
| 17.00 | .4378 | 3.5898 | 5850. | 28. | 31. |
| 18.00 | .4908 | 4.5208 | 6573. | 29. | 33. |
| * 19.00 | .5469 | 5.6123 | 7324. | 31. | 35. |
| 20.00 | .6059 | 6.8908 | 8117. | 33. | 37. |
| 21.00 | .6680 | 8.3762 | 8950. | 34. | 39. |
| 22.00 | .7331 | ***** | 9823. | 36. | 40. |
| 23.00 | .8013 | ***** | 10737. | 36. | 42. |
| 24.00 | .8725 | ***** | 11655. | 38. | 44. |
| 25.00 | .9467 | ***** | 12646. | 39. | 46. |
| 26.00 | 1.0240 | ***** | 13678. | 41. | 48. |
| 27.00 | 1.1043 | ***** | 14750. | 42. | 50. |
| 28.00 | 1.1876 | ***** | 15863. | 44. | 51. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .55

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.25

* = MAXIMUM ALLOWABLE SUPPORT SPACING

KONGS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SOIL ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 621.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .500

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 1.500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0165 | .0033 | 142. | 10. | 5. |
| 5.00 | .0259 | .0081 | 222. | 12. | 6. |
| 6.00 | .0370 | .0170 | 321. | 14. | 7. |
| 7.00 | .0507 | .0319 | 442. | 17. | 8. |
| 8.00 | .0662 | .0556 | 590. | 19. | 10. |
| 9.00 | .0838 | .0924 | 774. | 22. | 12. |
| 10.00 | .1034 | .1690 | 1013. | 25. | 16. |
| 11.00 | .1251 | .2435 | 1353. | 28. | 21. |
| 12.00 | .1489 | .3926 | 1828. | 30. | 30. |
| 13.00 | .1748 | .5640 | 2255. | 34. | 36. |
| 14.00 | .2027 | .7617 | 2634. | 37. | 40. |
| 15.00 | .2327 | 1.0049 | 3035. | 39. | 44. |
| 16.00 | .2647 | 1.3013 | 3457. | 42. | 48. |
| 17.00 | .2989 | 1.6586 | 3908. | 45. | 52. |
| 18.00 | .3351 | 2.0850 | 4382. | 48. | 55. |
| 19.00 | .3733 | 2.5959 | 4895. | 51. | 58. |
| 20.00 | .4137 | 3.2013 | 5445. | 53. | 61. |
| 21.00 | .4561 | 3.8988 | 6016. | 56. | 64. |
| 22.00 | .5005 | 4.7020 | 6613. | 59. | 67. |
| * 23.00 | .5471 | 5.6171 | 7228. | 62. | 70. |
| 24.00 | .5957 | 6.6599 | 7871. | 65. | 73. |
| 25.00 | .6463 | 7.8416 | 8542. | 68. | 76. |
| 26.00 | .6991 | 9.1736 | 9239. | 70. | 79. |
| 27.00 | .7539 | ***** | 9964. | 73. | 82. |
| 28.00 | .8108 | ***** | 10717. | 76. | 85. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .91

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 2.07

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 42-2B-1

PEOWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (10% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 621.25 FT. AND BELOW

HORIZONTAL RIGID RESPONSE = .500

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 2.000 INCH SCHEDULE NO. 40

| SUPPORT SPACING (FT) | FIRST PERIOD (SEC) | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|----------------------------|--------------------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0136 | .0023 | 125. | 14. | 7. |
| 5.00 | .0216 | .0057 | 195. | 13. | 9. |
| 6.00 | .0311 | .0119 | 280. | 22. | 10. |
| 7.00 | .0424 | .0222 | 385. | 25. | 12. |
| 8.00 | .0553 | .0385 | 511. | 29. | 15. |
| 9.00 | .0701 | .0638 | 668. | 33. | 18. |
| 10.00 | .0869 | .1016 | 860. | 38. | 21. |
| 11.00 | .1046 | .1573 | 1099. | 42. | 27. |
| 12.00 | .1245 | .2628 | 1523. | 46. | 39. |
| 13.00 | .1462 | .4488 | 2207. | 51. | 60. |
| 14.00 | .1695 | .6433 | 2764. | 56. | 76. |
| 15.00 | .1946 | .8528 | 3201. | 61. | 84. |
| 16.00 | .2214 | 1.1070 | 3665. | 65. | 93. |
| 17.00 | .2499 | 1.4116 | 4148. | 70. | 101. |
| 18.00 | .2802 | 1.7750 | 4660. | 74. | 109. |
| 19.00 | .3122 | 2.2039 | 5196. | 79. | 116. |
| 20.00 | .3459 | 2.7058 | 5758. | 83. | 122. |
| 21.00 | .3814 | 3.2906 | 6351. | 87. | 128. |
| 22.00 | .4186 | 3.9811 | 6997. | 92. | 134. |
| 23.00 | .4575 | 4.7593 | 7654. | 97. | 140. |
| 24.00 | .4981 | 5.6509 | 8348. | 101. | 146. |
| 25.00 | .5405 | 6.6532 | 9059. | 106. | 152. |
| 26.00 | .5846 | 7.7833 | 9798. | 110. | 158. |
| 27.00 | .6305 | 9.0521 | 10568. | 114. | 164. |
| 28.00 | .6790 | ***** | 11366. | 119. | 170. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.37

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 3.11

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-2B-2

BROWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (10% DAMPING) FOR:
 REACTOR BUILDING MAIN CONCRETE EL. 621.25 FT. AND BELOW

HORIZONTAL RIGID RESPONSE = .500
 VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM
 CONDUIT SIZE: 2.500 INCH SCHEDULE NO. 40

| SUPPORT SPACING (FT) | FIRST PERIOD (SEC) | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------------------|------------------------------|--|--------------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0125 | .0019 | 123. | 27. | 13. |
| 5.00 | .0196 | .0047 | 193. | 34. | 16. |
| 6.00 | .0252 | .0097 | 278. | 41. | 19. |
| 7.00 | .0343 | .0181 | 390. | 47. | 23. |
| 8.00 | .0501 | .0312 | 501. | 54. | 27. |
| 9.00 | .0634 | .0514 | 652. | 62. | 32. |
| 10.00 | .0762 | .0812 | 833. | 70. | 38. |
| 11.00 | .0947 | .1247 | 1056. | 78. | 47. |
| 12.00 | .1127 | .1925 | 1363. | 86. | 62. |
| 13.00 | .1322 | .3211 | 1915. | 94. | 91. |
| 14.00 | .1533 | .5032 | 2593. | 103. | 127. |
| 15.00 | .1760 | .6960 | 3155. | 113. | 154. |
| 16.00 | .2003 | .9043 | 3614. | 122. | 169. |
| 17.00 | .2261 | 1.1549 | 4104. | 131. | 188. |
| 18.00 | .2535 | 1.4521 | 4608. | 139. | 201. |
| 19.00 | .2824 | 1.8034 | 5144. | 148. | 216. |
| 20.00 | .3129 | 2.2144 | 5704. | 156. | 229. |
| 21.00 | .3450 | 2.6917 | 6289. | 164. | 240. |
| 22.00 | .3767 | 3.2427 | 6903. | 172. | 252. |
| 23.00 | .4139 | 3.8908 | 7574. | 181. | 263. |
| 24.00 | .4506 | 4.6164 | 8253. | 189. | 275. |
| 25.00 | .4890 | 5.4450 | 8974. | 198. | 286. |
| 26.00 | .5289 | 6.3899 | 9707. | 206. | 298. |
| 27.00 | .5703 | 7.4078 | 10468. | 214. | 309. |
| 28.00 | .6134 | 8.5631 | 11258. | 223. | 320. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 2.58

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 5.84

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-2E-3

PACOWS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (10% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE FL. 621.25 FT. AND BELOW

HORIZONTAL RIGID RESPONSE = .500

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 3.000 INCH SCHEDULE NO. 8A

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HOFIZ. (LB) |
| (FT) | (SEC) | | | | |
| 2.00 | .0027 | .0001 | 29. | 21. | 10. |
| 4.00 | .0110 | .0015 | 116. | 41. | 20. |
| 6.00 | .0247 | .0075 | 261. | 62. | 29. |
| 8.00 | .0440 | .0239 | 468. | 82. | 41. |
| 10.00 | .0667 | .0613 | 768. | 105. | 56. |
| 12.00 | .0990 | .1383 | 1197. | 130. | 81. |
| 14.00 | .1347 | .3425 | 2143. | 155. | 156. |
| 16.00 | .1760 | .6957 | 3374. | 184. | 250. |
| 18.00 | .2227 | 1.1206 | 4321. | 211. | 301. |
| 20.00 | .2750 | 1.7095 | 5356. | 237. | 345. |
| 22.00 | .3327 | 2.5034 | 6488. | 261. | 384. |
| 24.00 | .3960 | 3.5539 | 7737. | 286. | 418. |
| 26.00 | .4647 | 4.9130 | 9112. | 313. | 453. |
| 28.00 | .5390 | 6.6156 | 10582. | 339. | 488. |
| 30.00 | .6187 | 8.7185 | 12149. | 363. | 523. |
| 32.00 | .7040 | ***** | 13825. | 386. | 558. |
| 34.00 | .7947 | ***** | 15602. | 413. | 593. |
| 36.00 | .8910 | ***** | 17499. | 438. | 628. |
| 38.00 | .9927 | ***** | 19497. | 462. | 662. |
| 40.00 | 1.1000 | ***** | 21603. | 487. | 697. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 3.94

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 8.89

* - MAXIMUM ALLOWABLE SUPPORT SPACING

KOWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (7% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 621.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .500

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 4.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 2.00 | .0029 | .0000 | 19. | 25. | 12. |
| 4.00 | .0078 | .0007 | 75. | 50. | 24. |
| 6.00 | .0176 | .0038 | 170. | 75. | 36. |
| 8.00 | .0312 | .0120 | 302. | 100. | 48. |
| 10.00 | .0458 | .0297 | 479. | 125. | 63. |
| 12.00 | .0703 | .0643 | 718. | 153. | 81. |
| 14.00 | .0957 | .1296 | 1058. | 184. | 112. |
| 16.00 | .1250 | .2757 | 1700. | 217. | 137. |
| 18.00 | .1572 | .6444 | 3116. | 253. | 367. |
| 20.00 | .1953 | 1.0579 | 4220. | 290. | 496. |
| 22.00 | .2363 | 1.5553 | 5162. | 324. | 586. |
| 24.00 | .2812 | 2.2039 | 6160. | 356. | 653. |
| * 26.00 | .3300 | 3.0369 | 7245. | 387. | 720. |
| 28.00 | .3827 | 4.0849 | 8403. | 417. | 776. |
| 30.00 | .4393 | 5.3992 | 9671. | 450. | 831. |
| 32.00 | .4999 | 6.9967 | 11017. | 483. | 887. |
| 34.00 | .5643 | 8.9196 | 12442. | 514. | 942. |
| 36.00 | .6326 | ***** | 13949. | 544. | 998. |
| 38.00 | .7049 | ***** | 15544. | 576. | 1053. |
| 40.00 | .7810 | ***** | 17223. | 606. | 1108. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 4.76

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 10.75

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 42-32-2

SHOWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

USE ENVELOPE SEISMIC RESPONSE SPECTRUM (7% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 661.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .500

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 5.000 INCH SCHEDULE NO. 40

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 2.00 | .0016 | .0000 | 16. | 36. | 17. |
| 4.00 | .0064 | .0005 | 63. | 71. | 34. |
| 6.00 | .0145 | .0026 | 143. | 107. | 51. |
| 8.00 | .0252 | .0042 | 254. | 143. | 68. |
| 10.00 | .0403 | .0200 | 399. | 178. | 87. |
| 12.00 | .0560 | .0427 | 590. | 216. | 111. |
| 14.00 | .0719 | .0727 | 836. | 257. | 140. |
| 16.00 | .1051 | .1554 | 1200. | 303. | 196. |
| 18.00 | .1305 | .3193 | 1920. | 351. | 335. |
| 20.00 | .1611 | .6754 | 3278. | 402. | 600. |
| 22.00 | .1949 | 1.0645 | 4297. | 455. | 773. |
| 24.00 | .2320 | 1.4991 | 5164. | 504. | 904. |
| 26.00 | .2723 | 2.0664 | 6080. | 549. | 1003. |
| 28.00 | .3158 | 2.7211 | 7072. | 594. | 1107. |
| 30.00 | .3625 | 3.6651 | 8119. | 636. | 1187. |
| 32.00 | .4124 | 4.7496 | 9246. | 682. | 1266. |
| 34.00 | .4656 | 6.0647 | 10455. | 727. | 1345. |
| 36.00 | .5220 | 7.6329 | 11740. | 777. | 1424. |
| 38.00 | .5816 | 9.4757 | 13081. | 820. | 1503. |
| 40.00 | .6444 | ***** | 14495. | 864. | 1582. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 6.79

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 15.34

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-1C-1

MCWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SSI ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 545.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: .500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 3.00 | .0197 | .0044 | 148. | 2. | 0. |
| 4.00 | .0351 | .0140 | 263. | 2. | 1. |
| 5.00 | .0548 | .0345 | 415. | 3. | 1. |
| 6.00 | .0790 | .0732 | 611. | 4. | 1. |
| 7.00 | .1075 | .1395 | 855. | 4. | 1. |
| 8.00 | .1404 | .2459 | 1153. | 5. | 2. |
| 9.00 | .1777 | .4188 | 1547. | 6. | 2. |
| 10.00 | .2194 | .6469 | 1943. | 7. | 3. |
| 11.00 | .2655 | .9477 | 2356. | 7. | 3. |
| 12.00 | .3159 | 1.3425 | 2806. | 8. | 4. |
| 13.00 | .3708 | 1.8584 | 3308. | 9. | 4. |
| 14.00 | .4300 | 2.5266 | 3875. | 9. | 4. |
| 15.00 | .4936 | 3.3436 | 4471. | 10. | 5. |
| 16.00 | .5616 | 4.3286 | 5087. | 11. | 5. |
| 17.00 | .6340 | 5.5172 | 5745. | 11. | 5. |
| 18.00 | .7108 | 6.9348 | 6442. | 12. | 5. |
| * 19.00 | .7920 | 8.6093 | 7179. | 13. | 6. |
| 20.00 | .8775 | ***** | 7908. | 13. | 6. |
| 21.00 | .9675 | ***** | 8719. | 13. | 6. |
| 22.00 | 1.0618 | ***** | 9568. | 14. | 7. |
| 23.00 | 1.1606 | ***** | 10458. | 15. | 7. |
| 24.00 | 1.2637 | ***** | 11337. | 15. | 7. |
| 25.00 | 1.3711 | ***** | 12356. | 16. | 8. |
| 26.00 | 1.4831 | ***** | 13364. | 17. | 8. |
| 27.00 | 1.5993 | ***** | 14412. | 17. | 8. |
| 28.00 | 1.7200 | ***** | 15499. | 18. | 8. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .11

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = .51

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE: A2-1C-2

HAWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

USE ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 565.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: .750 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 6.00 | .0227 | .0093 | 220. | 3. | 1. |
| 7.00 | .0449 | .0229 | 344. | 4. | 1. |
| 8.00 | .0646 | .0483 | 504. | 5. | 1. |
| 9.00 | .0879 | .0915 | 702. | 6. | 2. |
| 10.00 | .1145 | .1603 | 940. | 7. | 2. |
| 11.00 | .1455 | .2657 | 1230. | 8. | 3. |
| 12.00 | .1794 | .4273 | 1599. | 9. | 4. |
| 13.00 | .2171 | .6034 | 1965. | 10. | 4. |
| 14.00 | .2584 | .8977 | 2343. | 11. | 5. |
| 15.00 | .3032 | 1.2367 | 2752. | 12. | 6. |
| 16.00 | .3517 | 1.6658 | 3198. | 13. | 6. |
| 17.00 | .4037 | 2.2172 | 3703. | 14. | 7. |
| 18.00 | .4593 | 2.8590 | 4242. | 15. | 7. |
| 19.00 | .5185 | 3.6596 | 4801. | 17. | 7. |
| 20.00 | .5813 | 4.6377 | 5384. | 18. | 8. |
| 21.00 | .6477 | 5.7581 | 6001. | 19. | 8. |
| 22.00 | .7177 | 7.0696 | 6650. | 20. | 9. |
| 23.00 | .7913 | 8.5934 | 7332. | 21. | 9. |
| 24.00 | .8684 | ***** | 8000. | 20. | 10. |
| 25.00 | .9491 | ***** | 8743. | 21. | 10. |
| 26.00 | 1.0335 | ***** | 9520. | 22. | 11. |
| 27.00 | 1.1214 | ***** | 10330. | 23. | 11. |
| 28.00 | 1.2129 | ***** | 11173. | 24. | 11. |
| 29.00 | 1.3080 | ***** | 12049. | 25. | 12. |
| 30.00 | 1.4067 | ***** | 12958. | 26. | 12. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .16

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = .74

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-1C-3

BROWN'S FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE FL. 565.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 1.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 4.00 | .0242 | .0067 | 196. | 6. | 1. |
| 5.00 | .0379 | .0163 | 307. | 7. | 2. |
| 6.00 | .0545 | .0341 | 446. | 9. | 2. |
| 7.00 | .0742 | .0644 | 618. | 10. | 3. |
| 8.00 | .0969 | .1123 | 825. | 12. | 4. |
| 9.00 | .1227 | .1644 | 1070. | 14. | 4. |
| 10.00 | .1515 | .2418 | 1369. | 15. | 5. |
| 11.00 | .1832 | .4469 | 1732. | 17. | 7. |
| 12.00 | .2191 | .6394 | 2037. | 19. | 8. |
| 13.00 | .2560 | .8812 | 2455. | 21. | 9. |
| 14.00 | .2969 | 1.1856 | 2849. | 22. | 10. |
| 15.00 | .3408 | 1.5626 | 3273. | 24. | 11. |
| 16.00 | .3875 | 2.0395 | 3750. | 26. | 12. |
| 17.00 | .4378 | 2.6201 | 4267. | 28. | 13. |
| 18.00 | .4908 | 3.3052 | 4804. | 29. | 13. |
| 19.00 | .5468 | 4.1033 | 5353. | 31. | 14. |
| 20.00 | .6059 | 5.0393 | 5934. | 33. | 15. |
| 21.00 | .6680 | 6.1246 | 6543. | 34. | 15. |
| 22.00 | .7331 | 7.3773 | 7192. | 36. | 16. |
| 23.00 | .8013 | 8.8131 | 7851. | 38. | 17. |
| 24.00 | .8725 | ***** | 8498. | 38. | 18. |
| 25.00 | .9467 | ***** | 9221. | 39. | 18. |
| 26.00 | 1.0240 | ***** | 9973. | 41. | 19. |
| 27.00 | 1.1043 | ***** | 10755. | 42. | 20. |
| 28.00 | 1.1876 | ***** | 11557. | 44. | 21. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .27

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.25

* = MAXIMUM ALLOWABLE SUPPORT SPACING

KADONS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 565.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 1.500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0165 | .0031 | 132. | 10. | 2. |
| 5.00 | .0259 | .0076 | 206. | 12. | 3. |
| 6.00 | .0372 | .0157 | 297. | 14. | 4. |
| 7.00 | .0507 | .0293 | 407. | 17. | 4. |
| 8.00 | .0662 | .0508 | 540. | 19. | 5. |
| 9.00 | .0838 | .0828 | 694. | 22. | 6. |
| 10.00 | .1034 | .1286 | 874. | 25. | 7. |
| 11.00 | .1251 | .1822 | 1079. | 28. | 9. |
| 12.00 | .1489 | .2507 | 1322. | 30. | 11. |
| 13.00 | .1748 | .4044 | 1619. | 34. | 13. |
| 14.00 | .2027 | .5521 | 1913. | 37. | 16. |
| 15.00 | .2327 | .7278 | 2198. | 39. | 17. |
| 16.00 | .2647 | .9426 | 2505. | 42. | 19. |
| 17.00 | .2989 | 1.2014 | 2829. | 45. | 20. |
| 18.00 | .3351 | 1.5102 | 3174. | 46. | 22. |
| 19.00 | .3733 | 1.8851 | 3553. | 51. | 23. |
| 20.00 | .4137 | 2.3340 | 3967. | 53. | 24. |
| 21.00 | .4561 | 2.8474 | 4392. | 56. | 26. |
| 22.00 | .5005 | 3.4377 | 4833. | 59. | 27. |
| 23.00 | .5471 | 4.1068 | 5283. | 62. | 28. |
| 24.00 | .5957 | 4.8694 | 5754. | 65. | 29. |
| 25.00 | .6463 | 5.7330 | 6245. | 68. | 30. |
| 26.00 | .6991 | 6.7076 | 6755. | 70. | 32. |
| 27.00 | .7539 | 7.8008 | 7285. | 73. | 33. |
| 28.00 | .8108 | 9.0224 | 7836. | 76. | 34. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .44

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 2.07

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A7-2C-1

RODNEY FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (10% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 565.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .100

CONDUIT ALUMINUM

CONDUIT SIZE: 2.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0136 | .0022 | 116. | 14. | 4. |
| 5.00 | .0216 | .0053 | 181. | 15. | 4. |
| 6.00 | .0311 | .0110 | 261. | 22. | 5. |
| 7.00 | .0424 | .0206 | 357. | 25. | 7. |
| 8.00 | .0553 | .0358 | 475. | 29. | 9. |
| 9.00 | .0701 | .0594 | 622. | 33. | 11. |
| 10.00 | .0865 | .0924 | 785. | 35. | 13. |
| 11.00 | .1046 | .1357 | 953. | 42. | 14. |
| 12.00 | .1245 | .1945 | 1147. | 46. | 16. |
| 13.00 | .1462 | .2602 | 1403. | 51. | 19. |
| 14.00 | .1695 | .4011 | 1727. | 56. | 25. |
| 15.00 | .1946 | .5445 | 2047. | 61. | 30. |
| 16.00 | .2214 | .7108 | 2355. | 65. | 34. |
| 17.00 | .2499 | .9064 | 2653. | 70. | 36. |
| 18.00 | .2802 | 1.1398 | 2991. | 74. | 40. |
| 19.00 | .3122 | 1.4152 | 3335. | 79. | 42. |
| 20.00 | .3459 | 1.7377 | 3697. | 83. | 45. |
| 21.00 | .3814 | 2.1148 | 4081. | 87. | 48. |
| 22.00 | .4186 | 2.5745 | 4520. | 92. | 50. |
| 23.00 | .4575 | 3.0809 | 4951. | 97. | 52. |
| 24.00 | .4981 | 3.6654 | 5413. | 101. | 54. |
| 25.00 | .5405 | 4.3155 | 5974. | 106. | 57. |
| 26.00 | .5846 | 5.0486 | 6553. | 110. | 59. |
| 27.00 | .6305 | 5.8720 | 6854. | 114. | 61. |
| 28.00 | .6780 | 6.7418 | 7372. | 119. | 64. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .66

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 3.11

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-20-2

DOWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

USE ENVELOPE SEISMIC RESPONSE SPECTRUM (10% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 565.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 2.500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0125 | .0018 | 115. | 27. | 7. |
| 5.00 | .0195 | .0043 | 179. | 34. | 8. |
| 6.00 | .0242 | .0090 | 258. | 41. | 10. |
| 7.00 | .0367 | .0168 | 353. | 47. | 12. |
| 8.00 | .0501 | .0289 | 465. | 54. | 16. |
| 9.00 | .0634 | .0479 | 607. | 62. | 20. |
| 10.00 | .0782 | .0753 | 774. | 70. | 24. |
| 11.00 | .0947 | .1110 | 944. | 78. | 27. |
| 12.00 | .1127 | .1576 | 1126. | 86. | 30. |
| 13.00 | .1322 | .2223 | 1351. | 94. | 33. |
| 14.00 | .1533 | .3143 | 1641. | 103. | 41. |
| 15.00 | .1760 | .4398 | 1996. | 113. | 52. |
| 16.00 | .2003 | .5793 | 2320. | 122. | 61. |
| 17.00 | .2261 | .7415 | 2635. | 131. | 67. |
| 18.00 | .2535 | .9324 | 2959. | 139. | 73. |
| 19.00 | .2824 | 1.1530 | 3302. | 148. | 79. |
| 20.00 | .3129 | 1.4219 | 3660. | 156. | 84. |
| 21.00 | .3450 | 1.7286 | 4038. | 164. | 89. |
| 22.00 | .3737 | 2.0830 | 4434. | 172. | 94. |
| 23.00 | .4139 | 2.5148 | 4891. | 181. | 98. |
| 24.00 | .4506 | 2.9370 | 5325. | 189. | 102. |
| 25.00 | .4890 | 3.5319 | 5819. | 198. | 107. |
| 26.00 | .5289 | 4.1318 | 6294. | 206. | 111. |
| 27.00 | .5703 | 4.8051 | 6789. | 214. | 115. |
| 28.00 | .6134 | 5.5579 | 7301. | 223. | 119. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.24

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 5.94

* = MAXIMUM ALLOWABLE SUPPORT SPACING

BROWN HARRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (10% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 565.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .170

CONDUIT ALUMINUM

CONDUIT SIZE: 3.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIXED PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS | LATERAL REACTIONS | |
|--------------------|-----------------|--|-------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 2.00 | .0017 | .0001 | 27. | 21. | 5. |
| 4.00 | .0110 | .0014 | 108. | 41. | 10. |
| 6.00 | .0247 | .0070 | 243. | 62. | 15. |
| 8.00 | .0440 | .0222 | 435. | 82. | 22. |
| 10.00 | .0667 | .0571 | 714. | 105. | 35. |
| 12.00 | .0990 | .1214 | 1056. | 130. | 45. |
| 14.00 | .1347 | .2322 | 1480. | 155. | 55. |
| 16.00 | .1740 | .4396 | 2135. | 184. | 85. |
| 18.00 | .2277 | .7195 | 2776. | 211. | 108. |
| 20.00 | .2750 | 1.0978 | 3439. | 237. | 126. |
| 22.00 | .3377 | 1.6376 | 4165. | 261. | 142. |
| 24.00 | .3960 | 2.2699 | 4993. | 281. | 156. |
| 26.00 | .4647 | 3.1419 | 5893. | 313. | 169. |
| 28.00 | .5390 | 4.2912 | 6862. | 339. | 182. |
| 30.00 | .6187 | 5.6555 | 7879. | 363. | 195. |
| 32.00 | .7040 | 7.3219 | 8967. | 388. | 208. |
| 34.00 | .7947 | 9.3315 | 10124. | 413. | 221. |
| 36.00 | .8910 | ***** | 11352. | 438. | 234. |
| 38.00 | .9927 | ***** | 12648. | 462. | 247. |
| 40.00 | 1.1000 | ***** | 14015. | 487. | 260. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.89

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 4.49

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 42-1C-1

OWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (7% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 565.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 4.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACEMENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|---|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 2.00 | .0000 | .0000 | 18. | 25. | 6. |
| 4.00 | .0075 | .0007 | 70. | 50. | 12. |
| 6.00 | .0175 | .0035 | 158. | 75. | 19. |
| 8.00 | .0312 | .0111 | 281. | 100. | 25. |
| 10.00 | .0488 | .0278 | 448. | 125. | 37. |
| 12.00 | .0703 | .0607 | 677. | 153. | 56. |
| 14.00 | .0957 | .1162 | 953. | 184. | 70. |
| 16.00 | .1250 | .2049 | 1286. | 217. | 83. |
| 18.00 | .1582 | .3598 | 1775. | 253. | 119. |
| 20.00 | .1953 | .5915 | 2367. | 290. | 166. |
| 22.00 | .2363 | .8759 | 2908. | 324. | 197. |
| 24.00 | .2812 | 1.2417 | 3472. | 356. | 224. |
| 26.00 | .3300 | 1.7106 | 4079. | 387. | 247. |
| 28.00 | .3827 | 2.3011 | 4734. | 417. | 269. |
| 30.00 | .4393 | 3.0610 | 5478. | 450. | 288. |
| 32.00 | .4999 | 3.9753 | 6257. | 483. | 307. |
| 34.00 | .5643 | 5.0711 | 7072. | 514. | 326. |
| 36.00 | .6325 | 6.3740 | 7929. | 544. | 346. |
| 38.00 | .7049 | 7.9138 | 8837. | 576. | 365. |
| 40.00 | .7810 | 9.7161 | 9792. | 606. | 384. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 2.28

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 10.75

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 42-3C-7

P. OWENS PERRY NUCLEAR PLANT- CONDUIT CRITERIA

THE ENVELOPE SEISMIC RESPONSE SPECTRUM (7% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 565.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 5.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LP) |
| (FT) | (SEC) | | | | |
| 2.00 | .0016 | .0000 | 15. | 36. | 9. |
| 4.00 | .0064 | .0025 | 59. | 71. | 18. |
| 6.00 | .0144 | .0024 | 133. | 107. | 26. |
| 8.00 | .0256 | .0076 | 236. | 143. | 35. |
| 12.00 | .0403 | .0187 | 372. | 178. | 48. |
| 12.00 | .0582 | .0401 | 554. | 216. | 71. |
| 16.00 | .0766 | .0776 | 737. | 257. | 98. |
| 16.00 | .1021 | .1361 | 1037. | 303. | 116. |
| 16.00 | .1225 | .2265 | 1387. | 351. | 135. |
| 20.00 | .1611 | .3769 | 1861. | 402. | 194. |
| 22.00 | .1949 | .5895 | 2410. | 455. | 261. |
| 24.00 | .2320 | .8445 | 2912. | 504. | 305. |
| 26.00 | .2723 | 1.1643 | 3428. | 549. | 345. |
| 28.00 | .3158 | 1.5664 | 3980. | 594. | 378. |
| 30.00 | .3625 | 2.0646 | 4574. | 638. | 411. |
| 32.00 | .4124 | 2.6817 | 5219. | 682. | 438. |
| 34.00 | .4656 | 3.4383 | 5922. | 727. | 466. |
| 36.00 | .5220 | 4.3396 | 6673. | 777. | 493. |
| 38.00 | .5814 | 5.3873 | 7435. | 820. | 521. |
| 40.00 | .6444 | 6.6145 | 8239. | 864. | 548. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 3.26

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 15.34

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-10-1

SHOWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 622.83

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: .500 INCH SCHEDULE NO. 8A

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 3.00 | .0197 | .0053 | 176. | 2. | 1. |
| 4.00 | .0351 | .0167 | 314. | 2. | 2. |
| 5.00 | .0548 | .0417 | 501. | 3. | 2. |
| 6.00 | .0790 | .0923 | 765. | 4. | 3. |
| 7.00 | .1075 | .1843 | 1125. | 4. | 4. |
| 8.00 | .1404 | .3456 | 1764. | 5. | 6. |
| 9.00 | .1777 | .7527 | 2752. | 6. | 9. |
| 10.00 | .2194 | 1.1834 | 3539. | 7. | 11. |
| 11.00 | .2655 | 1.7358 | 4309. | 7. | 12. |
| 12.00 | .3159 | 2.4595 | 5138. | 8. | 14. |
| 13.00 | .3708 | 3.3932 | 6043. | 9. | 15. |
| 14.00 | .4300 | 4.5788 | 7030. | 9. | 16. |
| 15.00 | .4936 | 6.0417 | 8082. | 10. | 17. |
| 16.00 | .5616 | 7.8214 | 9196. | 11. | 18. |
| 17.00 | .6340 | 9.9682 | 10383. | 11. | 20. |
| 18.00 | .7108 | ***** | 11641. | 12. | 21. |
| 19.00 | .7920 | ***** | 12971. | 13. | 22. |
| 20.00 | .8775 | ***** | 14346. | 13. | 23. |
| 21.00 | .9675 | ***** | 15816. | 13. | 24. |
| 22.00 | 1.0618 | ***** | 17359. | 14. | 25. |
| 23.00 | 1.1606 | ***** | 18972. | 15. | 27. |
| 24.00 | 1.2637 | ***** | 20654. | 15. | 28. |
| 25.00 | 1.3712 | ***** | 22415. | 16. | 29. |
| 26.00 | 1.4831 | ***** | 24245. | 17. | 30. |
| 27.00 | 1.5993 | ***** | 26145. | 17. | 31. |
| 28.00 | 1.7200 | ***** | 28111. | 18. | 32. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .26

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = .51

* = MAXIMUM ALLOWABLE SUPPORT SPACING

FIGURE 42-10-2 NUCLEAR PLANT- CONDUIT CRITERIA

USE ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 422.93

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: .750 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0257 | .0111 | 262. | 3. | 2. |
| 5.00 | .0449 | .0274 | 412. | 4. | 3. |
| 6.00 | .0644 | .0594 | 619. | 5. | 4. |
| 7.00 | .0879 | .1171 | 895. | 6. | 5. |
| 8.00 | .1149 | .2174 | 1269. | 7. | 7. |
| 9.00 | .1453 | .4280 | 1953. | 8. | 10. |
| 10.00 | .1794 | .7694 | 2851. | 9. | 14. |
| 11.00 | .2171 | 1.1555 | 3579. | 10. | 17. |
| 12.00 | .2594 | 1.6442 | 4285. | 11. | 19. |
| 13.00 | .3032 | 2.2655 | 5039. | 12. | 21. |
| 14.00 | .3517 | 3.0493 | 5854. | 13. | 23. |
| * 15.00 | .4037 | 4.0305 | 6738. | 14. | 25. |
| 16.00 | .4593 | 5.2279 | 7682. | 15. | 27. |
| 17.00 | .5185 | 6.6669 | 8679. | 17. | 28. |
| 18.00 | .5813 | 8.3797 | 9731. | 18. | 30. |
| 19.00 | .6477 | ***** | 10844. | 19. | 32. |
| 20.00 | .7177 | ***** | 12015. | 20. | 33. |
| 21.00 | .7913 | ***** | 13247. | 21. | 35. |
| 22.00 | .8684 | ***** | 14513. | 20. | 37. |
| 23.00 | .9491 | ***** | 15862. | 21. | 38. |
| 24.00 | 1.0335 | ***** | 17272. | 22. | 40. |
| 25.00 | 1.1214 | ***** | 18741. | 23. | 42. |
| 26.00 | 1.2139 | ***** | 20270. | 24. | 43. |
| 27.00 | 1.3080 | ***** | 21859. | 25. | 45. |
| 28.00 | 1.4067 | ***** | 23508. | 26. | 47. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .38

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = .74

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-10-3

TOWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 622.63

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 1.000 INCH SCHEDULE NO. 40

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACEMENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|---|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0242 | .0079 | 234. | 6. | 4. |
| 5.00 | .0379 | .0194 | 366. | 7. | 5. |
| 6.00 | .0545 | .0412 | 539. | 9. | 6. |
| 7.00 | .0742 | .0605 | 771. | 10. | 8. |
| 8.00 | .0969 | .1452 | 1065. | 12. | 10. |
| 9.00 | .1227 | .2609 | 1500. | 14. | 14. |
| 10.00 | .1515 | .4151 | 2244. | 15. | 20. |
| 11.00 | .1833 | .5080 | 3104. | 17. | 27. |
| 12.00 | .2151 | 1.1697 | 3802. | 19. | 31. |
| 13.00 | .2560 | 1.6139 | 4487. | 21. | 35. |
| 14.00 | .2969 | 2.1718 | 5215. | 22. | 39. |
| 15.00 | .3408 | 2.5629 | 5997. | 24. | 42. |
| 16.00 | .3878 | 3.7154 | 6837. | 26. | 45. |
| 17.00 | .4373 | 4.7464 | 7737. | 28. | 48. |
| 18.00 | .4905 | 5.9724 | 8685. | 29. | 51. |
| 19.00 | .5469 | 7.4144 | 9677. | 31. | 53. |
| 20.00 | .6059 | 9.1032 | 10724. | 33. | 56. |
| 21.00 | .6680 | ***** | 11824. | 34. | 59. |
| 22.00 | .7331 | ***** | 12977. | 36. | 62. |
| 23.00 | .8013 | ***** | 14185. | 38. | 65. |
| 24.00 | .8725 | ***** | 15417. | 38. | 67. |
| 25.00 | .9467 | ***** | 16725. | 39. | 70. |
| 26.00 | 1.0240 | ***** | 18093. | 41. | 73. |
| 27.00 | 1.1043 | ***** | 19512. | 42. | 76. |
| 28.00 | 1.1876 | ***** | 20934. | 44. | 79. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .64

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.03

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-10-4

STAND BY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING PPV SHIELD WALL EL. 620.43

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 1.500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0165 | .0037 | 157. | 10. | 7. |
| 5.00 | .0259 | .0090 | 246. | 12. | 9. |
| 6.00 | .0372 | .0196 | 355. | 14. | 10. |
| 7.00 | .0507 | .0353 | 490. | 17. | 12. |
| 8.00 | .0660 | .0626 | 664. | 19. | 15. |
| 9.00 | .0835 | .1052 | 890. | 22. | 18. |
| 10.00 | .1034 | .1686 | 1142. | 25. | 22. |
| 11.00 | .1251 | .2555 | 1530. | 28. | 28. |
| 12.00 | .1489 | .4057 | 2139. | 30. | 39. |
| 13.00 | .1746 | .7246 | 2869. | 34. | 50. |
| 14.00 | .2027 | 1.0095 | 3479. | 37. | 60. |
| 15.00 | .2327 | 1.3319 | 4009. | 39. | 66. |
| 16.00 | .2647 | 1.7264 | 4581. | 42. | 72. |
| 17.00 | .2989 | 2.2005 | 5179. | 45. | 78. |
| 18.00 | .3351 | 2.7670 | 5815. | 48. | 84. |
| 19.00 | .3733 | 3.4407 | 6489. | 51. | 88. |
| 20.00 | .4137 | 4.2351 | 7206. | 53. | 93. |
| 21.00 | .4561 | 5.1534 | 7955. | 56. | 97. |
| 22.00 | .5005 | 6.2118 | 8735. | 59. | 102. |
| 23.00 | .5471 | 7.4207 | 9550. | 62. | 107. |
| 24.00 | .5957 | 8.7981 | 10399. | 65. | 111. |
| 25.00 | .6463 | ***** | 11285. | 68. | 116. |
| 26.00 | .6991 | ***** | 12206. | 70. | 121. |
| 27.00 | .7539 | ***** | 13164. | 73. | 125. |
| 28.00 | .8109 | ***** | 14157. | 76. | 130. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.06

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 2.07

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-20-1

BROWN'S FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (10% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 622.93

HORIZONTAL RIGID RESPONSE = .540

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 2.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACEMENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|---|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0138 | .0026 | 134. | 14. | 10. |
| 5.00 | .0216 | .0063 | 216. | 15. | 13. |
| 6.00 | .0311 | .0132 | 311. | 22. | 15. |
| 7.00 | .0424 | .0249 | 431. | 25. | 19. |
| 8.00 | .0553 | .0437 | 540. | 29. | 23. |
| 9.00 | .0701 | .0734 | 767. | 33. | 27. |
| 10.00 | .0865 | .1168 | 989. | 38. | 32. |
| 11.00 | .1046 | .1775 | 1242. | 42. | 35. |
| 12.00 | .1245 | .2553 | 1660. | 46. | 40. |
| 13.00 | .1462 | .4807 | 2367. | 51. | 62. |
| 14.00 | .1695 | .7894 | 3342. | 56. | 94. |
| 15.00 | .1946 | 1.1690 | 4334. | 61. | 119. |
| 16.00 | .2214 | 1.5657 | 5155. | 65. | 139. |
| 17.00 | .2499 | 1.9978 | 5843. | 70. | 152. |
| 18.00 | .2802 | 2.5149 | 6595. | 74. | 167. |
| 19.00 | .3122 | 3.1233 | 7349. | 79. | 179. |
| 20.00 | .3459 | 3.8356 | 8156. | 83. | 190. |
| 21.00 | .3814 | 4.6645 | 9002. | 87. | 201. |
| 22.00 | .4185 | 5.6308 | 9899. | 92. | 211. |
| 23.00 | .4575 | 6.7290 | 10824. | 97. | 221. |
| 24.00 | .4981 | 7.9837 | 11796. | 101. | 230. |
| 25.00 | .5405 | 9.3998 | 12800. | 106. | 240. |
| 26.00 | .5846 | ***** | 13844. | 110. | 249. |
| 27.00 | .6305 | ***** | 14931. | 114. | 259. |
| 28.00 | .6780 | ***** | 16055. | 119. | 268. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.59

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 3.11

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 42-20-2

KAGWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

USE ENVELOPE SEISMIC RESPONSE SPECTRUM (10% DAMPING) FOR:

FACTOR BUILDING R/V SHI-LO WALL EL. 622.83

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 2.500 INCH

SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0125 | .0021 | 137. | 27. | 19. |
| 5.00 | .0196 | .0052 | 214. | 34. | 24. |
| 6.00 | .0232 | .0107 | 308. | 41. | 29. |
| 7.00 | .0353 | .0202 | 424. | 47. | 34. |
| 8.00 | .0501 | .0352 | 566. | 54. | 41. |
| 9.00 | .0634 | .0566 | 745. | 62. | 49. |
| 10.00 | .0732 | .0833 | 962. | 70. | 59. |
| 11.00 | .0947 | .1424 | 1207. | 78. | 69. |
| 12.00 | .1127 | .2112 | 1501. | 86. | 81. |
| 13.00 | .1322 | .3441 | 2056. | 94. | 107. |
| 14.00 | .1533 | .5645 | 2899. | 103. | 150. |
| 15.00 | .1760 | .8956 | 3998. | 113. | 201. |
| 16.00 | .2003 | 1.2506 | 4951. | 122. | 246. |
| 17.00 | .2261 | 1.6333 | 5769. | 131. | 279. |
| 18.00 | .2535 | 2.0553 | 6494. | 139. | 304. |
| 19.00 | .2824 | 2.5354 | 7271. | 148. | 332. |
| 20.00 | .3129 | 3.1383 | 8068. | 156. | 354. |
| 21.00 | .3450 | 3.8157 | 8908. | 164. | 376. |
| 22.00 | .3787 | 4.5974 | 9787. | 172. | 397. |
| 23.00 | .4139 | 5.5240 | 10717. | 181. | 415. |
| 24.00 | .4506 | 6.5280 | 11674. | 189. | 433. |
| 25.00 | .4897 | 7.6428 | 12681. | 198. | 451. |
| 26.00 | .5319 | 8.9995 | 13715. | 206. | 469. |
| 27.00 | .5703 | ***** | 14791. | 214. | 487. |
| 28.00 | .6134 | ***** | 15907. | 223. | 505. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 3.00

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 5.84

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 42-75-3

TOWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (10% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 622.83

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 3.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 2.00 | .0027 | .0001 | 32. | 21. | 15. |
| 4.00 | .0110 | .0016 | 129. | 41. | 29. |
| 6.00 | .0247 | .0083 | 289. | 62. | 44. |
| 8.00 | .0440 | .0269 | 526. | 82. | 61. |
| 10.00 | .0647 | .0704 | 879. | 105. | 86. |
| 12.00 | .0990 | .1571 | 1362. | 130. | 116. |
| 14.00 | .1347 | .3665 | 2295. | 155. | 142. |
| 16.00 | .1760 | .6950 | 4275. | 184. | 320. |
| 18.00 | .2227 | 1.5449 | 6077. | 211. | 449. |
| 20.00 | .2750 | 2.4216 | 7563. | 237. | 528. |
| 22.00 | .3327 | 3.5485 | 9195. | 261. | 597. |
| 24.00 | .3960 | 5.0331 | 10959. | 286. | 659. |
| 26.00 | .4647 | 6.9451 | 12884. | 313. | 714. |
| 28.00 | .5390 | 9.3467 | 14952. | 339. | 769. |
| 30.00 | .6187 | ***** | 17166. | 363. | 824. |
| 32.00 | .7040 | ***** | 19532. | 388. | 879. |
| 34.00 | .7947 | ***** | 22050. | 413. | 934. |
| 36.00 | .8910 | ***** | 24721. | 433. | 989. |
| 38.00 | .9927 | ***** | 27545. | 462. | 1043. |
| 40.00 | 1.1000 | ***** | 30520. | 487. | 1098. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 4.56

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 8.89

* - MAXIMUM ALLOWABLE SUPPORT SPACING

LOWE FLORY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (7% DAMPING) FOR:
 REACTOR BUILDING RPV SHIELD WALL SL. 422.92

HORIZONTAL RIGID RESPONSE = .560
 VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM
 CONDUIT SIZE: 4.000 INCH SCHEDULE NO. 4A

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACEMENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|---|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 2.00 | .0020 | .0001 | 21. | 25. | 15. |
| 4.00 | .0076 | .0008 | 33. | 50. | 30. |
| 6.00 | .0176 | .0042 | 184. | 75. | 53. |
| 8.00 | .0312 | .0133 | 335. | 100. | 71. |
| 10.00 | .0448 | .0344 | 553. | 125. | 99. |
| 12.00 | .0703 | .0763 | 871. | 153. | 139. |
| 14.00 | .0957 | .1507 | 1236. | 184. | 176. |
| 16.00 | .1250 | .2490 | 1851. | 217. | 234. |
| 18.00 | .1562 | .7143 | 3444. | 253. | 422. |
| * 20.00 | .1953 | 1.4586 | 5856. | 290. | 702. |
| 22.00 | .2363 | 2.2673 | 7541. | 324. | 874. |
| 24.00 | .2812 | 3.2486 | 9057. | 356. | 1013. |
| 26.00 | .3300 | 4.4775 | 10662. | 387. | 1123. |
| 28.00 | .3827 | 6.0253 | 12394. | 417. | 1231. |
| 30.00 | .4393 | 7.9511 | 14245. | 450. | 1319. |
| 32.00 | .4999 | ***** | 16217. | 483. | 1406. |
| 34.00 | .5643 | ***** | 18311. | 514. | 1494. |
| 36.00 | .6326 | ***** | 20529. | 547. | 1582. |
| 38.00 | .7049 | ***** | 22874. | 576. | 1670. |
| 40.00 | .7810 | ***** | 25345. | 605. | 1759. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 5.52

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 10.75

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 42-10-2

FACONS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SIF ENVELOPE SEISMIC RESPONSE SPECTRUM (7% DAMPING) FOP:

REACTOR BUILDING (RPV SHIELD) WALL EL. 622.53

HORIZONTAL RIGID RESPONSE = .540

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 5.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 2.00 | .0016 | .0000 | 18. | 36. | 25. |
| 4.00 | .0064 | .0006 | 70. | 71. | 51. |
| 6.00 | .0145 | .0029 | 151. | 107. | 76. |
| 8.00 | .0255 | .0090 | 281. | 143. | 101. |
| 10.00 | .0403 | .0227 | 452. | 178. | 134. |
| 12.00 | .0580 | .0506 | 696. | 216. | 182. |
| 14.00 | .0769 | .1003 | 1020. | 257. | 242. |
| 16.00 | .1031 | .1760 | 1366. | 303. | 289. |
| 18.00 | .1305 | .3444 | 2078. | 351. | 404. |
| 20.00 | .1611 | .7685 | 3706. | 402. | 696. |
| * 22.00 | .1949 | 1.4927 | 5958. | 455. | 1099. |
| 24.00 | .2320 | 2.2051 | 7549. | 504. | 1355. |
| 26.00 | .2721 | 3.0445 | 8927. | 549. | 1545. |
| 28.00 | .3158 | 4.0996 | 10398. | 594. | 1714. |
| 30.00 | .3625 | 5.4060 | 11975. | 638. | 1881. |
| 32.00 | .4124 | 7.0017 | 13631. | 682. | 2007. |
| 34.00 | .4656 | 8.9311 | 15400. | 727. | 2133. |
| 36.00 | .5220 | ***** | 17275. | 777. | 2258. |
| 38.00 | .5816 | ***** | 19251. | 820. | 2384. |
| 40.00 | .6444 | ***** | 21332. | 864. | 2509. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT = 7.87

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 15.34

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-1E-1

HOMANS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 595.25

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: .500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 3.00 | .0197 | .0053 | 178. | 2. | 1. |
| 4.00 | .0351 | .0169 | 313. | 2. | 2. |
| 5.00 | .0545 | .0437 | 524. | 3. | 2. |
| 6.00 | .0790 | .1042 | 857. | 4. | 4. |
| 7.00 | .1075 | .1955 | 1199. | 4. | 5. |
| 8.00 | .1404 | .3630 | 1690. | 5. | 6. |
| 9.00 | .1777 | .7299 | 2466. | 6. | 8. |
| 10.00 | .2194 | 1.1584 | 3462. | 7. | 10. |
| 11.00 | .2655 | 1.6994 | 4216. | 7. | 12. |
| 12.00 | .3159 | 2.4079 | 5029. | 8. | 13. |
| 13.00 | .3708 | 3.3226 | 5917. | 9. | 15. |
| 14.00 | .4300 | 4.4541 | 6884. | 9. | 16. |
| 15.00 | .4936 | 5.9171 | 7915. | 10. | 17. |
| 16.00 | .5616 | 7.6601 | 9006. | 11. | 18. |
| 17.00 | .6340 | 9.7626 | 10169. | 11. | 19. |
| 18.00 | .7108 | ***** | 11400. | 12. | 20. |
| 19.00 | .7920 | ***** | 12703. | 13. | 21. |
| 20.00 | .8775 | ***** | 14049. | 13. | 22. |
| 21.00 | .9675 | ***** | 15489. | 13. | 24. |
| 22.00 | 1.0615 | ***** | 16999. | 14. | 25. |
| 23.00 | 1.1606 | ***** | 18530. | 15. | 26. |
| 24.00 | 1.2637 | ***** | 20230. | 15. | 27. |
| 25.00 | 1.3712 | ***** | 21951. | 16. | 28. |
| 26.00 | 1.4831 | ***** | 23723. | 17. | 29. |
| 27.00 | 1.5993 | ***** | 25604. | 17. | 30. |
| 28.00 | 1.7200 | ***** | 27536. | 18. | 31. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .26

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = .51

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-1E-2

RODENS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

330 ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 395.25

HORIZONTAL RIGID RESPONSE = .560

VERTICAL RIGID RESPONSE = .130

CONDUIT ALL MINUM

CONDUIT SIZE: .750 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0257 | .0112 | 264. | 3. | 3. |
| 5.00 | .0449 | .0280 | 420. | 4. | 3. |
| 6.00 | .0644 | .0457 | 690. | 5. | 5. |
| 7.00 | .0877 | .0796 | 992. | 6. | 6. |
| 8.00 | .1144 | .2237 | 1313. | 7. | 6. |
| 9.00 | .1453 | .4012 | 1839. | 8. | 10. |
| 10.00 | .1794 | .7463 | 2762. | 9. | 14. |
| 11.00 | .2171 | 1.1343 | 3502. | 10. | 16. |
| 12.00 | .2584 | 1.6093 | 4190. | 11. | 19. |
| 13.00 | .3032 | 2.2180 | 4931. | 12. | 21. |
| 14.00 | .3517 | 2.9257 | 5732. | 13. | 23. |
| 15.00 | .4037 | 3.9469 | 6598. | 14. | 24. |
| * 16.00 | .4593 | 5.1200 | 7524. | 15. | 26. |
| 17.00 | .5185 | 6.5294 | 8500. | 17. | 29. |
| 18.00 | .5813 | 8.2069 | 9530. | 18. | 29. |
| 19.00 | .6477 | ***** | 10620. | 19. | 31. |
| 20.00 | .7177 | ***** | 11767. | 20. | 32. |
| 21.00 | .7913 | ***** | 12974. | 21. | 34. |
| 22.00 | .8684 | ***** | 14212. | 20. | 36. |
| 23.00 | .9441 | ***** | 15534. | 21. | 37. |
| 24.00 | 1.0335 | ***** | 16914. | 22. | 39. |
| 25.00 | 1.1214 | ***** | 18353. | 23. | 41. |
| 26.00 | 1.2129 | ***** | 19851. | 24. | 42. |
| 27.00 | 1.3050 | ***** | 21407. | 25. | 44. |
| 28.00 | 1.4067 | ***** | 23022. | 26. | 45. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .39

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = .74

* = MAXIMUM ALLOWABLE SUPPORT SPACING

BROWN'S FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 595.25

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 1.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 4.00 | .0242 | .0080 | 236. | 6. | 4. |
| 5.00 | .0379 | .0197 | 372. | 7. | 5. |
| 6.00 | .0545 | .0431 | 561. | 9. | 7. |
| 7.00 | .0742 | .0909 | 867. | 10. | 10. |
| 8.00 | .0969 | .1584 | 1162. | 12. | 12. |
| 9.00 | .1227 | .2561 | 1487. | 14. | 15. |
| 10.00 | .1515 | .4542 | 2104. | 15. | 19. |
| 11.00 | .1833 | .7143 | 3009. | 17. | 26. |
| 12.00 | .2181 | 1.1450 | 3720. | 19. | 30. |
| 13.00 | .2560 | 1.5796 | 4385. | 21. | 34. |
| 14.00 | .2969 | 2.1262 | 5104. | 22. | 38. |
| 15.00 | .3408 | 2.8032 | 5871. | 24. | 41. |
| 16.00 | .3878 | 3.6352 | 6695. | 26. | 44. |
| 17.00 | .4378 | 4.6483 | 7577. | 28. | 46. |
| 18.00 | .4908 | 5.8492 | 8506. | 29. | 49. |
| 19.00 | .5463 | 7.2614 | 9476. | 31. | 52. |
| 20.00 | .6059 | 8.9155 | 10503. | 33. | 55. |
| 21.00 | .6680 | ***** | 11580. | 34. | 57. |
| 22.00 | .7331 | ***** | 12710. | 36. | 60. |
| 23.00 | .8013 | ***** | 13892. | 38. | 63. |
| 24.00 | .8725 | ***** | 15099. | 38. | 66. |
| 25.00 | .9467 | ***** | 16382. | 39. | 68. |
| 26.00 | 1.0240 | ***** | 17719. | 41. | 71. |
| 27.00 | 1.1043 | ***** | 19108. | 42. | 74. |
| 28.00 | 1.1876 | ***** | 20550. | 44. | 76. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .64

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.25

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 42-1E-4

ADAMS PERRY NUCLEAR PLANT- CONDUIT CRITERIA

5% ENVELOPE SEISMIC RESPONSE SPECTRUM (15% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL FL. 595.25

HORIZONTAL RIGID RESPONSE = .560

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 1.500 INCH SCHEDULE NO. 4A

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0155 | .0037 | 159. | 10. | 7. |
| 5.00 | .0259 | .0091 | 248. | 12. | 9. |
| 6.00 | .0377 | .0191 | 360. | 14. | 11. |
| 7.00 | .0507 | .0362 | 502. | 17. | 13. |
| 8.00 | .0662 | .0700 | 737. | 19. | 18. |
| 9.00 | .0838 | .1176 | 984. | 22. | 23. |
| 10.00 | .1034 | .1807 | 1227. | 25. | 26. |
| 11.00 | .1231 | .2666 | 1493. | 28. | 29. |
| 12.00 | .1439 | .4110 | 2006. | 30. | 36. |
| 13.00 | .1748 | .7023 | 2778. | 34. | 48. |
| 14.00 | .2027 | .9582 | 3405. | 37. | 58. |
| 15.00 | .2327 | 1.3037 | 3922. | 39. | 63. |
| 16.00 | .2647 | 1.6902 | 4483. | 42. | 70. |
| 17.00 | .2989 | 2.1546 | 5068. | 45. | 75. |
| 18.00 | .3351 | 2.7091 | 5693. | 48. | 81. |
| 19.00 | .3733 | 3.3691 | 6353. | 51. | 86. |
| 20.00 | .4137 | 4.1474 | 7057. | 53. | 90. |
| 21.00 | .4561 | 5.0470 | 7790. | 56. | 95. |
| 22.00 | .5005 | 6.0737 | 8557. | 59. | 99. |
| 23.00 | .5471 | 7.2676 | 9353. | 62. | 104. |
| 24.00 | .5957 | 8.6167 | 10185. | 65. | 108. |
| 25.00 | .6463 | ***** | 11052. | 68. | 113. |
| 26.00 | .6991 | ***** | 11954. | 70. | 117. |
| 27.00 | .7539 | ***** | 12892. | 73. | 122. |
| 28.00 | .8108 | ***** | 13865. | 76. | 126. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.06

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 2.07

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A7-2F-1

BROWN'S FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (10% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL FL. 595.25

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 2.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACEMENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0137 | .0026 | 139. | 14. | 11. |
| 5.00 | .0216 | .0044 | 216. | 12. | 12. |
| 6.00 | .0311 | .0133 | 314. | 22. | 16. |
| 7.00 | .0424 | .0249 | 433. | 25. | 19. |
| 8.00 | .0553 | .0460 | 606. | 29. | 24. |
| 9.00 | .0701 | .0865 | 896. | 33. | 35. |
| 10.00 | .0865 | .1369 | 1151. | 36. | 43. |
| 11.00 | .1046 | .2009 | 1409. | 42. | 49. |
| 12.00 | .1245 | .2762 | 1684. | 46. | 55. |
| 13.00 | .1462 | .4527 | 2243. | 51. | 67. |
| 14.00 | .1695 | .7794 | 3293. | 56. | 93. |
| 15.00 | .1946 | 1.1288 | 4202. | 61. | 116. |
| 16.00 | .2214 | 1.4974 | 4931. | 65. | 132. |
| 17.00 | .2499 | 1.9111 | 5592. | 70. | 145. |
| 18.00 | .2802 | 2.4054 | 6299. | 74. | 155. |
| * 19.00 | .3122 | 2.9872 | 7030. | 79. | 169. |
| 20.00 | .3459 | 3.6792 | 7807. | 83. | 182. |
| 21.00 | .3814 | 4.4613 | 8610. | 87. | 191. |
| 22.00 | .4186 | 5.3666 | 9469. | 92. | 200. |
| 23.00 | .4575 | 6.4374 | 10355. | 97. | 209. |
| 24.00 | .4981 | 7.6362 | 11286. | 101. | 215. |
| 25.00 | .5405 | 8.9930 | 12246. | 106. | 227. |
| 26.00 | .5846 | ***** | 13245. | 110. | 236. |
| 27.00 | .6305 | ***** | 14285. | 114. | 245. |
| 28.00 | .6780 | ***** | 15363. | 119. | 255. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.59

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 3.51

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-2E-2

LOWE RUBY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (10% DAMPING) FOR:

REACTOR BUILDING PROV SHIELD WALL FL. 595.25

HORIZONTAL EIGID RESPONSE = .540

VERTICAL EIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 2.500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACEMENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|---|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .2125 | .0021 | 136. | 27. | 20. |
| 5.00 | .0196 | .0052 | 216. | 34. | 25. |
| 6.00 | .0232 | .0109 | 311. | 41. | 30. |
| 7.00 | .0373 | .0203 | 427. | 47. | 35. |
| 8.00 | .0501 | .0358 | 575. | 54. | 43. |
| 9.00 | .0634 | .0661 | 831. | 62. | 59. |
| 10.00 | .0782 | .1110 | 1133. | 70. | 79. |
| 11.00 | .0947 | .1643 | 1392. | 78. | 90. |
| 12.00 | .1127 | .2331 | 1655. | 86. | 102. |
| 13.00 | .1322 | .3237 | 1971. | 94. | 112. |
| 14.00 | .1533 | .5343 | 2745. | 103. | 143. |
| 15.00 | .1760 | .8839 | 3940. | 113. | 198. |
| 16.00 | .2003 | 1.2136 | 4822. | 122. | 240. |
| 17.00 | .2261 | 1.5621 | 5516. | 131. | 265. |
| 18.00 | .2535 | 1.9462 | 6214. | 139. | 289. |
| 19.00 | .2824 | 2.4440 | 6953. | 148. | 314. |
| 20.00 | .3129 | 3.0015 | 7717. | 156. | 335. |
| 21.00 | .3450 | 3.6500 | 8527. | 164. | 358. |
| 22.00 | .3787 | 4.3970 | 9360. | 172. | 376. |
| 23.00 | .4139 | 5.2652 | 10252. | 181. | 393. |
| 24.00 | .4506 | 6.2450 | 11168. | 189. | 410. |
| 25.00 | .4890 | 7.3599 | 12132. | 198. | 427. |
| 26.00 | .5289 | 8.6101 | 13122. | 206. | 444. |
| 27.00 | .5703 | ***** | 14151. | 214. | 461. |
| 28.00 | .6134 | ***** | 15219. | 223. | 479. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 3.00

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 5.84

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-28-3

DOWNS FEELY NUCLEAR PLANT - CONDUIT CRITERIA

USE ENVELOPE SEISMIC RESPONSE SPECTRUM (10% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 555.25

HORIZONTAL RIGID RESPONSE = .560

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 3.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING (FT) | FIRST PERIOD (SEC) | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|----------------------------|--------------------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 2.00 | .0027 | .0001 | 32. | 21. | 15. |
| 4.00 | .0110 | .0017 | 130. | 41. | 30. |
| 6.00 | .0247 | .0084 | 292. | 62. | 45. |
| 8.00 | .0449 | .0170 | 528. | 82. | 62. |
| 10.00 | .0817 | .0328 | 1023. | 105. | 100. |
| 12.00 | .0990 | .1797 | 1559. | 130. | 151. |
| 14.00 | .1347 | .3439 | 2192. | 155. | 187. |
| 16.00 | .1760 | .8135 | 4214. | 184. | 322. |
| 18.00 | .2277 | 1.5153 | 5813. | 211. | 426. |
| 20.00 | .2750 | 2.3167 | 7240. | 237. | 503. |
| 22.00 | .3327 | 3.3941 | 8789. | 261. | 563. |
| 24.00 | .3960 | 4.8142 | 10482. | 286. | 625. |
| 26.00 | .4647 | 6.6442 | 12326. | 313. | 677. |
| 28.00 | .5390 | 8.9423 | 14305. | 339. | 729. |
| 30.00 | .6187 | ***** | 16423. | 363. | 781. |
| 32.00 | .7040 | ***** | 18657. | 386. | 833. |
| 34.00 | .7947 | ***** | 21096. | 413. | 885. |
| 36.00 | .8910 | ***** | 23652. | 438. | 937. |
| 38.00 | .9927 | ***** | 26353. | 462. | 989. |
| 40.00 | 1.1000 | ***** | 29200. | 487. | 1041. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 4.56

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 2.89

* = MAXIMUM ALLOWABLE SUPPORT SPACING

MCOWS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

USE ENVELOPE SEISMIC RESPONSE SPECTRUM (7% DAMPING) FOP:

REACTOR BUILDING RPV SHIELD WALL EL. 595.25

HORIZONTAL RIGID RESPONSE = .560

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINUM

CONDUIT SIZE: 4.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACEMENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|---|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 2.00 | .0320 | .0001 | 21. | 25. | 13. |
| 4.00 | .0177 | .0008 | 84. | 50. | 36. |
| 6.00 | .0176 | .0142 | 190. | 75. | 55. |
| 8.00 | .0312 | .0134 | 337. | 100. | 73. |
| 10.00 | .0488 | .0342 | 550. | 125. | 99. |
| 12.00 | .0703 | .0918 | 1011. | 153. | 172. |
| 14.00 | .0937 | .1600 | 1472. | 184. | 233. |
| 16.00 | .1250 | .3115 | 1958. | 217. | 290. |
| 18.00 | .1552 | .5481 | 3314. | 253. | 410. |
| 20.00 | .1993 | 1.4127 | 5593. | 290. | 662. |
| 22.00 | .2363 | 2.1141 | 7008. | 324. | 803. |
| 24.00 | .2812 | 3.0164 | 8411. | 356. | 932. |
| 26.00 | .3300 | 4.1576 | 9907. | 387. | 1039. |
| 28.00 | .3827 | 5.5941 | 11507. | 417. | 1132. |
| 30.00 | .4393 | 7.3838 | 13228. | 450. | 1213. |
| 32.00 | .4999 | 9.5436 | 15061. | 483. | 1294. |
| 34.00 | .5643 | ***** | 17026. | 514. | 1375. |
| 36.00 | .6326 | ***** | 19065. | 544. | 1455. |
| 38.00 | .7049 | ***** | 21244. | 576. | 1536. |
| 40.00 | .7810 | ***** | 23539. | 606. | 1617. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 5.52

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 10.75

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 42-3E-2

PWS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (7% DAMPING) FOR:

REACTION BUILDING RPV SHIELD WALL EL. 595.25

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT ALUMINIUM

CONDUIT SIZE: 3.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 2.00 | .0016 | .0000 | 12. | 36. | 26. |
| 4.00 | .0064 | .0000 | 71. | 71. | 52. |
| 6.00 | .0145 | .0029 | 160. | 107. | 78. |
| 8.00 | .0251 | .0091 | 284. | 143. | 104. |
| 10.00 | .0403 | .0226 | 449. | 178. | 133. |
| 12.00 | .0526 | .0536 | 733. | 216. | 195. |
| 14.00 | .0719 | .1199 | 1207. | 257. | 313. |
| 16.00 | .1031 | .2597 | 1827. | 303. | 385. |
| 18.00 | .1303 | .3406 | 2391. | 351. | 452. |
| 20.00 | .1611 | .7452 | 3583. | 402. | 674. |
| 22.00 | .1949 | 1.4066 | 5688. | 455. | 1068. |
| 24.00 | .2320 | 2.0476 | 7013. | 504. | 1251. |
| 26.00 | .2723 | 2.8045 | 8305. | 549. | 1433. |
| 28.00 | .3153 | 3.8066 | 9658. | 594. | 1582. |
| 30.00 | .3625 | 5.0192 | 11119. | 638. | 1731. |
| 32.00 | .4124 | 6.5012 | 12657. | 682. | 1848. |
| 34.00 | .4656 | 8.2233 | 14301. | 727. | 1962. |
| 36.00 | .5220 | ***** | 16047. | 777. | 2077. |
| 38.00 | .5816 | ***** | 17879. | 820. | 2193. |
| 40.00 | .6444 | ***** | 19811. | 864. | 2308. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 7.87

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 15.34

* * MAXIMUM ALLOWABLE SUPPORT SPACING

POCONO PERRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVIRONMENTAL SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

DIESEL GENERATOR BUILDING BL. 505.0

HORIZONTAL RIGID RESPONSE = .904

VERTICAL RIGID RESPONSE = .290

CONDUIT ALUMINUM

CONDUIT SIZE: .500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACEMENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|---|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 3.00 | .0197 | .0092 | 307. | 3. | 3. |
| 4.00 | .0351 | .0241 | 547. | 4. | 4. |
| 5.00 | .0548 | .0709 | 854. | 5. | 4. |
| 6.00 | .0790 | .1471 | 1230. | 5. | 5. |
| 7.00 | .1075 | .2725 | 1574. | 6. | 6. |
| 8.00 | .1404 | .4649 | 2187. | 7. | 7. |
| 9.00 | .1777 | .7446 | 2767. | 8. | 8. |
| 10.00 | .2194 | 1.1349 | 3417. | 9. | 9. |
| 11.00 | .2655 | 1.6316 | 4134. | 10. | 10. |
| 12.00 | .3159 | 2.3533 | 4920. | 11. | 11. |
| 13.00 | .3708 | 3.2414 | 5774. | 12. | 12. |
| 14.00 | .4300 | 4.3598 | 6696. | 13. | 12. |
| 15.00 | .4936 | 5.7456 | 7687. | 14. | 13. |
| 16.00 | .5616 | 7.4377 | 8746. | 14. | 14. |
| 17.00 | .6340 | 9.4788 | 9874. | 15. | 15. |
| 18.00 | .7108 | ***** | 11070. | 16. | 16. |
| 19.00 | .7920 | ***** | 12334. | 17. | 17. |
| 20.00 | .8775 | ***** | 13666. | 18. | 18. |
| 21.00 | .9675 | ***** | 15067. | 19. | 19. |
| 22.00 | 1.0618 | ***** | 16536. | 20. | 20. |
| 23.00 | 1.1606 | ***** | 18073. | 21. | 21. |
| 24.00 | 1.2637 | ***** | 19679. | 22. | 21. |
| 25.00 | 1.3712 | ***** | 21353. | 23. | 22. |
| 26.00 | 1.4831 | ***** | 23096. | 23. | 23. |
| 27.00 | 1.5993 | ***** | 24907. | 24. | 24. |
| 28.00 | 1.7200 | ***** | 26786. | 25. | 25. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .23

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = .59

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-4F-2

CROWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

DIESEL GENERATOR BUILDING EL. 595.0

HORIZONTAL RIGID RESPONSE = .504

VERTICAL RIGID RESPONSE = .290

CONDUIT ALUMINUM

CONDUIT SIZE: .750 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0217 | .0194 | 457. | 5. | 5. |
| 5.00 | .0449 | .0474 | 714. | 7. | 6. |
| 6.00 | .0646 | .0964 | 1028. | 8. | 8. |
| 7.00 | .0879 | .1223 | 1400. | 9. | 9. |
| 8.00 | .1141 | .3109 | 1828. | 10. | 10. |
| 9.00 | .1453 | .4960 | 2314. | 12. | 12. |
| 10.00 | .1744 | .7591 | 2856. | 13. | 13. |
| 11.00 | .2171 | 1.1114 | 3456. | 14. | 14. |
| 12.00 | .2514 | 1.5740 | 4113. | 15. | 16. |
| 13.00 | .3032 | 2.1660 | 4827. | 17. | 17. |
| 14.00 | .3517 | 2.9161 | 5599. | 18. | 18. |
| 15.00 | .4037 | 3.9428 | 6427. | 20. | 19. |
| 16.00 | .4593 | 4.9747 | 7313. | 21. | 21. |
| 17.00 | .5185 | 6.3399 | 8255. | 22. | 22. |
| 18.00 | .5813 | 7.9685 | 9255. | 24. | 23. |
| 19.00 | .6477 | 9.8924 | 10312. | 25. | 25. |
| 20.00 | .7177 | ***** | 11426. | 26. | 26. |
| 21.00 | .7913 | ***** | 12597. | 27. | 27. |
| 22.00 | .8694 | ***** | 13825. | 29. | 28. |
| 23.00 | .9491 | ***** | 15111. | 30. | 30. |
| 24.00 | 1.0335 | ***** | 16453. | 31. | 31. |
| 25.00 | 1.1214 | ***** | 17853. | 33. | 32. |
| 26.00 | 1.2129 | ***** | 19310. | 34. | 34. |
| 27.00 | 1.3085 | ***** | 20824. | 35. | 35. |
| 28.00 | 1.4067 | ***** | 22395. | 37. | 36. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .33

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = .85

* * * MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-4F-3

DOWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

DIESEL GENERATOR BUILDING CL. 595.0

HORIZONTAL RIGID RESPONSE = .504

VERTICAL RIGID RESPONSE = .290

CONDUIT ALUMINUM

CONDUIT SIZE: 1.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 4.00 | .0242 | .0139 | 408. | 9. | 7. |
| 5.00 | .0379 | .0135 | 637. | 11. | 11. |
| 6.00 | .0545 | .0701 | 918. | 13. | 13. |
| 7.00 | .0742 | .1299 | 1249. | 15. | 15. |
| 8.00 | .0969 | .2016 | 1632. | 18. | 17. |
| 9.00 | .1277 | .3550 | 2065. | 20. | 20. |
| 10.00 | .1515 | .5410 | 2550. | 22. | 22. |
| 11.00 | .1833 | .7421 | 3095. | 24. | 24. |
| 12.00 | .2151 | 1.1219 | 3672. | 26. | 26. |
| 13.00 | .2560 | 1.5452 | 4309. | 29. | 28. |
| 14.00 | .2969 | 2.0764 | 4997. | 31. | 30. |
| 15.00 | .3408 | 2.7389 | 5737. | 33. | 33. |
| 16.00 | .3878 | 3.5457 | 6527. | 35. | 35. |
| * 17.00 | .4378 | 4.5187 | 7369. | 37. | 37. |
| 18.00 | .4908 | 5.6795 | 8261. | 40. | 39. |
| 19.00 | .5468 | 7.0507 | 9204. | 42. | 41. |
| 20.00 | .6059 | 8.6564 | 10199. | 44. | 43. |
| 21.00 | .6680 | ***** | 11244. | 46. | 46. |
| 22.00 | .7331 | ***** | 12341. | 48. | 48. |
| 23.00 | .8013 | ***** | 13488. | 51. | 50. |
| 24.00 | .8725 | ***** | 14636. | 53. | 52. |
| 25.00 | .9467 | ***** | 15936. | 55. | 54. |
| 26.00 | 1.0240 | ***** | 17236. | 57. | 57. |
| 27.00 | 1.1043 | ***** | 18537. | 59. | 59. |
| 28.00 | 1.1876 | ***** | 19990. | 62. | 61. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .56

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.43

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-4F-4

FEDONS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:
DIESEL GENERATOR BUILDING FL. 595.0

HORIZONTAL RIGID RESPONSE = .504
VERTICAL RIGID RESPONSE = .290

CONDUIT ALUMINUM

CONDUIT SIZE: 1.500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0165 | .0065 | 275. | 15. | 14. |
| 5.00 | .0259 | .0158 | 429. | 16. | 18. |
| 6.00 | .0372 | .0327 | 618. | 22. | 22. |
| 7.00 | .0507 | .0605 | 841. | 25. | 25. |
| 8.00 | .0660 | .1033 | 1099. | 29. | 29. |
| 9.00 | .0837 | .1654 | 1391. | 33. | 32. |
| 10.00 | .1034 | .2522 | 1717. | 36. | 36. |
| 11.00 | .1251 | .3692 | 2075. | 40. | 40. |
| 12.00 | .1489 | .5229 | 2473. | 44. | 43. |
| 13.00 | .1743 | .7202 | 2902. | 47. | 47. |
| 14.00 | .2027 | .9687 | 3365. | 51. | 50. |
| 15.00 | .2327 | 1.2765 | 3863. | 55. | 54. |
| 16.00 | .2647 | 1.6526 | 4396. | 58. | 58. |
| 17.00 | .2989 | 2.1061 | 4962. | 62. | 61. |
| 18.00 | .3351 | 2.6472 | 5563. | 65. | 65. |
| 19.00 | .3733 | 3.2563 | 6199. | 69. | 68. |
| 20.00 | .4137 | 4.0347 | 6868. | 73. | 72. |
| 21.00 | .4561 | 4.9042 | 7572. | 76. | 76. |
| 22.00 | .5005 | 5.9072 | 8311. | 80. | 79. |
| 23.00 | .5471 | 7.0567 | 9083. | 84. | 83. |
| 24.00 | .5957 | 8.3663 | 9890. | 87. | 86. |
| 25.00 | .6463 | 9.8503 | 10732. | 91. | 90. |
| 26.00 | .6991 | ***** | 11608. | 95. | 93. |
| 27.00 | .7539 | ***** | 12518. | 98. | 97. |
| 28.00 | .8105 | ***** | 13462. | 102. | 101. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .92

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 2.36

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-4F-5

FLOWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

DIESEL GENERATOR BUILDING EL. 595.0

HORIZONTAL RIGID RESPONSE = .504

VERTICAL RIGID RESPONSE = .290

CONDUIT ALUMINUM

CONDUIT SIZE: 3.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 4.00 | .0135 | .0045 | 240. | 22. | 22. |
| 5.00 | .0216 | .0110 | 375. | 27. | 27. |
| 6.00 | .0311 | .0229 | 540. | 33. | 33. |
| 7.00 | .0424 | .0423 | 730. | 38. | 38. |
| 8.00 | .0553 | .0722 | 961. | 44. | 47. |
| 9.00 | .0701 | .1157 | 1216. | 49. | 49. |
| 10.00 | .0865 | .1764 | 1501. | 55. | 54. |
| 11.00 | .1046 | .2542 | 1816. | 60. | 59. |
| 12.00 | .1245 | .3457 | 2162. | 66. | 65. |
| 13.00 | .1462 | .5037 | 2537. | 71. | 70. |
| 14.00 | .1695 | .6775 | 2942. | 77. | 76. |
| 15.00 | .1946 | .9928 | 3377. | 82. | 81. |
| 16.00 | .2214 | 1.1558 | 3843. | 87. | 86. |
| 17.00 | .2499 | 1.4730 | 4338. | 93. | 92. |
| 18.00 | .2802 | 1.8513 | 4864. | 98. | 97. |
| 19.00 | .3122 | 2.2953 | 5419. | 104. | 103. |
| 20.00 | .3459 | 2.8217 | 6004. | 109. | 106. |
| 21.00 | .3814 | 3.4298 | 6620. | 115. | 113. |
| 22.00 | .4186 | 4.1313 | 7265. | 120. | 119. |
| 23.00 | .4575 | 4.9352 | 7941. | 126. | 124. |
| 24.00 | .4981 | 5.8512 | 8646. | 131. | 130. |
| 25.00 | .5405 | 6.8890 | 9382. | 137. | 135. |
| 26.00 | .5846 | 8.0592 | 10147. | 142. | 140. |
| 27.00 | .6305 | 9.3724 | 10943. | 148. | 146. |
| 28.00 | .6780 | ***** | 11759. | 153. | 151. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.39

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 3.54

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-4F-6

DOWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

DIESEL GENERATOR BUILDING FL. 595.0

HORIZONTAL RIGID RESPONSE = .504

VERTICAL RIGID RESPONSE = .290

CONDUIT ALUMINUM

CONDUIT SIZE: 2.500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0125 | .0037 | 238. | 41. | 41. |
| 5.00 | .0196 | .0090 | 372. | 51. | 51. |
| 6.00 | .0282 | .0187 | 535. | 62. | 61. |
| 7.00 | .0333 | .0347 | 729. | 72. | 71. |
| 8.00 | .0511 | .0591 | 952. | 82. | 81. |
| 9.00 | .0534 | .0947 | 1205. | 92. | 91. |
| 10.00 | .0782 | .1443 | 1437. | 103. | 102. |
| 11.00 | .0947 | .2113 | 1799. | 113. | 112. |
| 12.00 | .1127 | .2993 | 2141. | 123. | 122. |
| 13.00 | .1322 | .4122 | 2513. | 134. | 132. |
| 14.00 | .1533 | .5545 | 2915. | 144. | 142. |
| 15.00 | .1760 | .7307 | 3346. | 154. | 152. |
| 16.00 | .2003 | .9459 | 3807. | 164. | 163. |
| 17.00 | .2261 | 1.2055 | 4298. | 175. | 173. |
| 18.00 | .2535 | 1.5151 | 4818. | 185. | 183. |
| 19.00 | .2824 | 1.8810 | 5369. | 195. | 193. |
| 20.00 | .3129 | 2.3093 | 5949. | 206. | 203. |
| 21.00 | .3450 | 2.8070 | 6558. | 216. | 213. |
| 22.00 | .3787 | 3.3811 | 7198. | 226. | 223. |
| 23.00 | .4139 | 4.0390 | 7867. | 236. | 234. |
| 24.00 | .4506 | 4.7586 | 8566. | 247. | 244. |
| 25.00 | .4890 | 5.5350 | 9295. | 257. | 254. |
| 26.00 | .5289 | 6.3956 | 10053. | 267. | 264. |
| 27.00 | .5703 | 7.6704 | 10841. | 277. | 274. |
| 28.00 | .6134 | 8.8715 | 11659. | 283. | 284. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 2.60

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 6.67

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-4F-7

BROWN'S FERRY NUCLEAR PLANT- CONDUIT C-ITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

DIESEL GENERATOR BUILDING EL. 595.0

HORIZONTAL RIGID RESPONSE = .504

VERTICAL RIGID RESPONSE = .290

CONDUIT ALUMINUM

CONDUIT SIZE: 3.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 1.00 | .0027 | .0002 | 56. | 31. | 31. |
| 4.00 | .0110 | .0029 | 224. | 63. | 62. |
| 6.00 | .0247 | .0144 | 503. | 94. | 93. |
| 8.00 | .0440 | .0456 | 895. | 125. | 124. |
| 10.00 | .0687 | .1114 | 1398. | 157. | 155. |
| 12.00 | .0990 | .2311 | 2013. | 188. | 186. |
| 14.00 | .1347 | .4281 | 2740. | 219. | 217. |
| 16.00 | .1780 | .7304 | 3579. | 250. | 243. |
| 18.00 | .2227 | 1.1699 | 4529. | 282. | 279. |
| 20.00 | .2750 | 1.7831 | 5592. | 313. | 309. |
| * 22.00 | .3327 | 2.6107 | 6766. | 344. | 340. |
| 24.00 | .3960 | 3.6975 | 8052. | 375. | 371. |
| 26.00 | .4647 | 5.0928 | 9450. | 407. | 402. |
| 28.00 | .5390 | 6.8501 | 10960. | 438. | 433. |
| 30.00 | .6187 | 9.0272 | 12581. | 470. | 464. |
| 32.00 | .7040 | ***** | 14315. | 501. | 495. |
| 34.00 | .7947 | ***** | 16160. | 532. | 526. |
| 36.00 | .8910 | ***** | 18117. | 563. | 557. |
| 38.00 | .9927 | ***** | 20186. | 594. | 587. |
| 40.00 | 1.1000 | ***** | 22367. | 625. | 617. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 3.97

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 10.15

* - MAXIMUM ALLOWABLE SUPPORT SPACING

BROWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

DIESEL GENERATOR BUILDING EL. 595.0

HORIZONTAL RIGID RESPONSE = .504

VERTICAL RIGID RESPONSE = .290

CONDUIT ALUMINUM

CONDUIT SIZE: 4.000 INCH SCHEDULE NO. 40

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 2.00 | .0020 | .0001 | 36. | 38. | 37. |
| 4.00 | .0078 | .0014 | 145. | 76. | 75. |
| 6.00 | .0176 | .0073 | 326. | 113. | 112. |
| 8.00 | .0312 | .0230 | 580. | 151. | 150. |
| 10.00 | .0488 | .0562 | 906. | 189. | 187. |
| 12.00 | .0703 | .1165 | 1305. | 227. | 224. |
| 14.00 | .0957 | .2158 | 1776. | 265. | 262. |
| 16.00 | .1250 | .3632 | 2320. | 303. | 299. |
| 18.00 | .1582 | .5898 | 2936. | 340. | 337. |
| 20.00 | .1953 | .8990 | 3624. | 378. | 374. |
| 22.00 | .2363 | 1.3162 | 4386. | 416. | 411. |
| 24.00 | .2812 | 1.8641 | 5219. | 454. | 449. |
| 26.00 | .3300 | 2.5675 | 6125. | 492. | 486. |
| * 28.00 | .3827 | 3.4534 | 7104. | 530. | 524. |
| 30.00 | .4393 | 4.5510 | 8155. | 567. | 561. |
| 32.00 | .4999 | 5.8914 | 9279. | 605. | 598. |
| 34.00 | .5643 | 7.5082 | 10475. | 643. | 636. |
| 36.00 | .6326 | 9.4369 | 11743. | 681. | 673. |
| 38.00 | .7049 | ***** | 13084. | 719. | 711. |
| 40.00 | .7810 | ***** | 14498. | 757. | 748. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 4.79

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 12.27

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE A2-4F-9

PROWNS FERRY NUCLEAR PLANT- CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

DIESEL GENERATOR BUILDING EL. 595.0

HORIZONTAL RIGID RESPONSE = .504

VERTICAL RIGID RESPONSE = .290

CONDUIT ALUMINUM

CONDUIT SIZE:

5.000 INCH

SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 2.00 | .0016 | .0001 | 31. | 54. | 53. |
| 4.00 | .0064 | .0010 | 122. | 108. | 107. |
| 6.00 | .0145 | .0050 | 275. | 162. | 160. |
| 8.00 | .0258 | .0157 | 438. | 216. | 214. |
| 10.00 | .0403 | .0383 | 763. | 270. | 267. |
| 12.00 | .0580 | .0793 | 1098. | 324. | 320. |
| 14.00 | .0789 | .1470 | 1495. | 378. | 374. |
| 16.00 | .1031 | .2507 | 1952. | 432. | 427. |
| 18.00 | .1305 | .4016 | 2471. | 486. | 480. |
| 20.00 | .1611 | .6121 | 3051. | 540. | 534. |
| 22.00 | .1949 | .8961 | 3691. | 594. | 587. |
| 24.00 | .2320 | 1.2691 | 4393. | 648. | 641. |
| 26.00 | .2723 | 1.7481 | 5156. | 702. | 694. |
| 28.00 | .3158 | 2.3513 | 5979. | 756. | 747. |
| 30.00 | .3625 | 3.0985 | 6864. | 810. | 801. |
| 32.00 | .4124 | 4.0111 | 7810. | 864. | 854. |
| 34.00 | .4656 | 5.1119 | 8816. | 918. | 907. |
| 36.00 | .5220 | 6.4251 | 9884. | 972. | 961. |
| 38.00 | .5816 | 7.9763 | 11013. | 1026. | 1014. |
| 40.00 | .6444 | 9.7928 | 12202. | 1080. | 1068. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 6.84

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 17.51

* - MAXIMUM ALLOWABLE SUPPORT SPACING

APPENDIX B

TABLE S2-4A-1

HAWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 654.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .640

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: .500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 3.00 | .0170 | .0038 | 384. | 4. | 3. |
| 4.00 | .0302 | .0121 | 682. | 5. | 3. |
| 5.00 | .0471 | .0306 | 1104. | 7. | 5. |
| 6.00 | .0679 | .0679 | 1695. | 8. | 6. |
| 7.00 | .0924 | .1362 | 2494. | 10. | 8. |
| 8.00 | .1207 | .3069 | 4224. | 11. | 14. |
| 9.00 | .1527 | .4522 | 10149. | 14. | 32. |
| 10.00 | .1845 | 1.6327 | 14542. | 16. | 46. |
| 11.00 | .2241 | 2.3497 | 17735. | 18. | 54. |
| 12.00 | .2715 | 3.4042 | 21281. | 19. | 61. |
| 13.00 | .3156 | 4.6934 | 25030. | 21. | 68. |
| 14.00 | .3626 | 6.3142 | 29094. | 23. | 74. |
| 15.00 | .4242 | 8.3227 | 33405. | 25. | 79. |
| 16.00 | .4827 | ***** | 38014. | 26. | 84. |
| 17.00 | .5449 | ***** | 42918. | 28. | 90. |
| 18.00 | .6109 | ***** | 48116. | 30. | 95. |
| 19.00 | .6807 | ***** | 53611. | 31. | 100. |
| 20.00 | .7542 | ***** | 59403. | 33. | 105. |
| 21.00 | .8315 | ***** | 65432. | 35. | 111. |
| 22.00 | .9126 | ***** | 71878. | 36. | 116. |
| 23.00 | .9974 | ***** | 78561. | 38. | 121. |
| 24.00 | 1.0860 | ***** | 85540. | 40. | 126. |
| 25.00 | 1.1784 | ***** | 92817. | 41. | 132. |
| 26.00 | 1.2746 | ***** | 100391. | 43. | 137. |
| 27.00 | 1.3745 | ***** | 108262. | 45. | 142. |
| 28.00 | 1.4782 | ***** | 116430. | 46. | 147. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .64

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.14

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 52-4A-2

CROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE SL. 664.0 FT AND BELOW

HORIZONTAL PIGIO RESPONSE = .640

VERTICAL PIGIO RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: .750 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0241 | .0077 | 544. | 7. | 5. |
| 5.00 | .0376 | .0191 | 861. | 9. | 6. |
| 6.00 | .0542 | .0414 | 1293. | 11. | 8. |
| 7.00 | .0735 | .0818 | 1674. | 13. | 11. |
| 8.00 | .0964 | .1501 | 2629. | 15. | 14. |
| 9.00 | .1225 | .3190 | 4335. | 18. | 22. |
| 10.00 | .1506 | .9026 | 9726. | 21. | 47. |
| 11.00 | .1822 | 1.5236 | 14014. | 24. | 70. |
| 12.00 | .2152 | 2.1542 | 16500. | 27. | 80. |
| 13.00 | .2544 | 2.9587 | 19877. | 29. | 91. |
| 14.00 | .2951 | 4.0240 | 23156. | 32. | 101. |
| 15.00 | .3385 | 5.3051 | 26617. | 34. | 109. |
| 16.00 | .3854 | 6.8689 | 30290. | 36. | 116. |
| 17.00 | .4351 | 8.7558 | 34201. | 39. | 124. |
| 18.00 | .4878 | ***** | 38348. | 41. | 131. |
| 19.00 | .5435 | ***** | 42730. | 43. | 138. |
| 20.00 | .6022 | ***** | 47347. | 46. | 146. |
| 21.00 | .6640 | ***** | 52200. | 48. | 153. |
| 22.00 | .7237 | ***** | 57290. | 50. | 160. |
| 23.00 | .7965 | ***** | 62617. | 53. | 167. |
| 24.00 | .8672 | ***** | 68180. | 55. | 175. |
| 25.00 | .9410 | ***** | 73980. | 57. | 182. |
| 26.00 | 1.0173 | ***** | 80017. | 59. | 189. |
| 27.00 | 1.0976 | ***** | 86291. | 62. | 196. |
| 28.00 | 1.1804 | ***** | 92801. | 64. | 204. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .89

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.57

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4A-3

BROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 664.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .640

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 1.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0197 | .0052 | 456. | 12. | 8. |
| 5.00 | .0305 | .0126 | 714. | 14. | 10. |
| 6.00 | .0444 | .0270 | 1057. | 17. | 12. |
| 7.00 | .0604 | .0524 | 1506. | 20. | 16. |
| 8.00 | .0789 | .0951 | 2086. | 24. | 20. |
| 9.00 | .0998 | .1629 | 2823. | 27. | 25. |
| 10.00 | .1233 | .3317 | 4570. | 31. | 39. |
| 11.00 | .1491 | .5507 | 9603. | 36. | 60. |
| * 12.00 | .1775 | 1.4456 | 13991. | 41. | 121. |
| 13.00 | .2083 | 1.9962 | 16506. | 45. | 134. |
| 14.00 | .2416 | 2.6938 | 19341. | 49. | 154. |
| 15.00 | .2773 | 3.5523 | 22260. | 53. | 168. |
| 16.00 | .3155 | 4.6023 | 25416. | 57. | 184. |
| 17.00 | .3562 | 5.8664 | 28698. | 61. | 195. |
| 18.00 | .3994 | 7.3746 | 32179. | 65. | 207. |
| 19.00 | .4450 | 9.1568 | 35861. | 68. | 213. |
| 20.00 | .4930 | ***** | 39738. | 72. | 230. |
| 21.00 | .5436 | ***** | 43814. | 76. | 241. |
| 22.00 | .5966 | ***** | 48067. | 79. | 253. |
| 23.00 | .6520 | ***** | 52559. | 83. | 264. |
| 24.00 | .7100 | ***** | 57228. | 87. | 275. |
| 25.00 | .7704 | ***** | 62096. | 90. | 287. |
| 26.00 | .8332 | ***** | 67164. | 94. | 299. |
| 27.00 | .8986 | ***** | 72430. | 98. | 310. |
| 28.00 | .9663 | ***** | 77894. | 101. | 322. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.41

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 2.48

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-42-4

ROCKWELL PERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 664.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .640

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 1.500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 4.00 | .0134 | .0024 | 304. | 19. | 12. |
| 5.00 | .0209 | .0058 | 475. | 24. | 16. |
| 6.00 | .0301 | .0121 | 694. | 28. | 19. |
| 7.00 | .0410 | .0225 | 950. | 33. | 23. |
| 8.00 | .0534 | .0403 | 1282. | 38. | 28. |
| 9.00 | .0678 | .0677 | 1698. | 43. | 34. |
| 10.00 | .0837 | .1087 | 2207. | 49. | 41. |
| 11.00 | .1013 | .1701 | 2848. | 55. | 50. |
| 12.00 | .1205 | .3054 | 4225. | 61. | 73. |
| 13.00 | .1414 | .6566 | 7615. | 68. | 130. |
| * 14.00 | .1640 | 1.1527 | 11641. | 76. | 199. |
| 15.00 | .1883 | 1.6281 | 14578. | 84. | 248. |
| 16.00 | .2142 | 2.1125 | 16682. | 91. | 273. |
| 17.00 | .2418 | 2.6996 | 18993. | 98. | 306. |
| 18.00 | .2711 | 3.3947 | 21334. | 104. | 329. |
| 19.00 | .3021 | 4.2181 | 23866. | 111. | 357. |
| 20.00 | .3347 | 5.1796 | 26451. | 117. | 376. |
| 21.00 | .3690 | 6.2967 | 29167. | 123. | 395. |
| 22.00 | .4050 | 7.5856 | 32015. | 129. | 414. |
| 23.00 | .4427 | 9.0632 | 34997. | 135. | 433. |
| 24.00 | .4820 | ***** | 38110. | 141. | 451. |
| 25.00 | .5230 | ***** | 41354. | 147. | 470. |
| 26.00 | .5657 | ***** | 44729. | 153. | 489. |
| 27.00 | .6100 | ***** | 48237. | 159. | 508. |
| 28.00 | .6561 | ***** | 51876. | 165. | 527. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 2.30

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 4.06

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 52-4A-5

BROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 564.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .640

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 2.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0109 | .0016 | 251. | 27. | 18. |
| 5.00 | .0170 | .0038 | 393. | 34. | 22. |
| 6.00 | .0245 | .0080 | 566. | 40. | 24. |
| 7.00 | .0334 | .0149 | 774. | 47. | 31. |
| 8.00 | .0436 | .0260 | 1033. | 54. | 37. |
| 9.00 | .0552 | .0430 | 1349. | 61. | 45. |
| 10.00 | .0681 | .0684 | 1737. | 68. | 54. |
| 11.00 | .0824 | .1049 | 2200. | 75. | 64. |
| 12.00 | .0980 | .1562 | 2751. | 85. | 76. |
| 13.00 | .1151 | .2593 | 3631. | 94. | 102. |
| 14.00 | .1335 | .4603 | 6049. | 104. | 162. |
| 15.00 | .1532 | .9598 | 10418. | 114. | 271. |
| * 16.00 | .1743 | 1.3711 | 13426. | 126. | 361. |
| 17.00 | .1968 | 1.7792 | 15512. | 137. | 401. |
| 18.00 | .2206 | 2.2417 | 17509. | 146. | 443. |
| 19.00 | .2458 | 2.7387 | 19635. | 156. | 487. |
| 20.00 | .2724 | 3.4254 | 21798. | 165. | 520. |
| 21.00 | .3003 | 4.1670 | 24120. | 174. | 560. |
| 22.00 | .3295 | 5.0202 | 26485. | 183. | 598. |
| 23.00 | .3602 | 5.9979 | 28951. | 192. | 615. |
| 24.00 | .3927 | 7.1120 | 31527. | 200. | 642. |
| 25.00 | .4256 | 8.3746 | 34214. | 209. | 669. |
| 26.00 | .4603 | 9.7984 | 37010. | 218. | 695. |
| 27.00 | .4964 | ***** | 39914. | 226. | 722. |
| 28.00 | .5338 | ***** | 42928. | 235. | 749. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 3.27

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 5.77

* = MAXIMUM ALLOWABLE SUPPORT SPACING

BROWN'S FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 664.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .640

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 2.500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 4.00 | .0095 | .0012 | 231. | 47. | 31. |
| 5.00 | .0148 | .0029 | 361. | 59. | 38. |
| 6.00 | .0214 | .0061 | 520. | 70. | 46. |
| 7.00 | .0291 | .0112 | 708. | 82. | 54. |
| 8.00 | .0380 | .0194 | 937. | 94. | 63. |
| 9.00 | .0480 | .0319 | 1214. | 106. | 75. |
| 10.00 | .0593 | .0504 | 1551. | 118. | 89. |
| 11.00 | .0713 | .0769 | 1954. | 132. | 106. |
| 12.00 | .0854 | .1139 | 2429. | 146. | 124. |
| 13.00 | .1002 | .1648 | 2992. | 161. | 145. |
| 14.00 | .1163 | .2364 | 4136. | 177. | 195. |
| 15.00 | .1335 | .4304 | 6381. | 194. | 303. |
| 16.00 | .1518 | .9182 | 10819. | 212. | 497. |
| * 17.00 | .1714 | 1.3062 | 13656. | 232. | 649. |
| 18.00 | .1922 | 1.6967 | 15967. | 251. | 739. |
| 19.00 | .2141 | 2.1105 | 17884. | 269. | 804. |
| 20.00 | .2373 | 2.5982 | 19982. | 285. | 893. |
| 21.00 | .2616 | 3.1591 | 22055. | 301. | 944. |
| 22.00 | .2871 | 3.8077 | 24274. | 317. | 1010. |
| 23.00 | .3138 | 4.5511 | 26592. | 333. | 1073. |
| 24.00 | .3417 | 5.3964 | 28958. | 348. | 1119. |
| 25.00 | .3707 | 6.3543 | 31428. | 364. | 1166. |
| 26.00 | .4010 | 7.4346 | 33994. | 379. | 1212. |
| 27.00 | .4324 | 8.6472 | 36664. | 394. | 1259. |
| 28.00 | .4650 | ***** | 39434. | 409. | 1306. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 5.70

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 10.07

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4A-7

BROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 664.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .640

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 3.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 2.00 | .0020 | .0001 | 51. | 34. | 22. |
| 4.00 | .0081 | .0009 | 204. | 67. | 44. |
| 6.00 | .0162 | .0044 | 460. | 101. | 66. |
| 8.00 | .0324 | .0140 | 820. | 135. | 89. |
| 10.00 | .0506 | .0356 | 1235. | 168. | 122. |
| 12.00 | .0728 | .0794 | 2064. | 206. | 166. |
| 14.00 | .0991 | .1601 | 3052. | 243. | 222. |
| 16.00 | .1294 | .4044 | 5777. | 294. | 412. |
| 18.00 | .1633 | 1.1437 | 12925. | 343. | 907. |
| 20.00 | .2022 | 1.8604 | 17466. | 403. | 1186. |
| 22.00 | .2447 | 2.7641 | 21391. | 450. | 1410. |
| 24.00 | .2912 | 3.9188 | 25566. | 496. | 1535. |
| 26.00 | .3415 | 5.4005 | 30061. | 541. | 1733. |
| 28.00 | .3964 | 7.2655 | 34372. | 584. | 1871. |
| 30.00 | .4550 | 9.5769 | 40041. | 627. | 2003. |
| 32.00 | .5177 | ***** | 45562. | 670. | 2139. |
| 34.00 | .5845 | ***** | 51436. | 713. | 2272. |
| 36.00 | .6553 | ***** | 57666. | 755. | 2406. |
| 38.00 | .7301 | ***** | 64252. | 797. | 2540. |
| 40.00 | .8090 | ***** | 71193. | 839. | 2673. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 8.17

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 14.43

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4A-B

BROWN FERRY NUCLEAR PLANT-CONDUIT CRITERIA

USE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

FACTOR BUILDING MAIN CONCRETE EL. 564.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .640

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 4.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 2.00 | .0015 | .0000 | 35. | 43. | 28. |
| 4.00 | .0059 | .0005 | 141. | 87. | 57. |
| 6.00 | .0134 | .0024 | 313. | 130. | 85. |
| 8.00 | .0237 | .0075 | 566. | 174. | 114. |
| 10.00 | .0371 | .0185 | 895. | 217. | 146. |
| 12.00 | .0534 | .0401 | 1342. | 261. | 192. |
| 14.00 | .0727 | .0792 | 1944. | 310. | 250. |
| 16.00 | .0950 | .1451 | 2724. | 363. | 321. |
| 18.00 | .1202 | .3025 | 4407. | 422. | 499. |
| 20.00 | .1464 | .8393 | 9698. | 488. | 1069. |
| 22.00 | .1796 | 1.4798 | 14580. | 561. | 1659. |
| 24.00 | .2137 | 2.1016 | 17468. | 628. | 1877. |
| 26.00 | .2506 | 2.9031 | 20684. | 688. | 2153. |
| 28.00 | .2908 | 3.9084 | 24085. | 747. | 2386. |
| 30.00 | .3339 | 5.1532 | 27701. | 805. | 2588. |
| 32.00 | .3799 | 6.6723 | 31524. | 861. | 2760. |
| 34.00 | .4288 | 8.5051 | 35595. | 917. | 2933. |
| 36.00 | .4803 | ***** | 39911. | 972. | 3105. |
| 38.00 | .5357 | ***** | 44472. | 1028. | 3278. |
| 40.00 | .5936 | ***** | 49277. | 1082. | 3450. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 10.55

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 18.62

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4A-9

KFOUYS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 664.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .640

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 5.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 2.00 | .0012 | .0000 | 29. | 61. | 40. |
| 4.00 | .0046 | .0003 | 116. | 121. | 79. |
| 6.00 | .0109 | .0016 | 262. | 182. | 119. |
| 8.00 | .0194 | .0050 | 465. | 242. | 159. |
| 10.00 | .0303 | .0122 | 727. | 303. | 199. |
| 12.00 | .0436 | .0259 | 1075. | 363. | 253. |
| 14.00 | .0593 | .0503 | 1530. | 426. | 323. |
| 16.00 | .0775 | .0912 | 2120. | 497. | 409. |
| 18.00 | .0980 | .1561 | 2862. | 572. | 511. |
| 20.00 | .1210 | .3102 | 4524. | 655. | 785. |
| 22.00 | .1464 | .7854 | 9281. | 747. | 1575. |
| * 24.00 | .1743 | 1.3704 | 13969. | 849. | 2436. |
| 26.00 | .2045 | 1.9237 | 16812. | 946. | 2786. |
| 28.00 | .2372 | 2.5969 | 19717. | 1028. | 3224. |
| 30.00 | .2723 | 3.4242 | 22684. | 1113. | 3506. |
| 32.00 | .3095 | 4.4368 | 25914. | 1193. | 3849. |
| 34.00 | .3493 | 5.6554 | 29260. | 1274. | 4089. |
| 36.00 | .3921 | 7.1094 | 32809. | 1351. | 4330. |
| 38.00 | .4369 | 8.8275 | 36562. | 1429. | 4570. |
| 40.00 | .4841 | ***** | 40517. | 1506. | 4811. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 14.71

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 25.97

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 50-48-1

POWENS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSR ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 621.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .500

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: .500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 3.00 | .0170 | .0035 | 356. | 4. | 2. |
| 4.00 | .0302 | .0112 | 632. | 5. | 3. |
| 5.00 | .0471 | .0279 | 1006. | 7. | 3. |
| 6.00 | .0679 | .0605 | 1512. | 8. | 4. |
| 7.00 | .0924 | .1187 | 2177. | 10. | 6. |
| 8.00 | .1207 | .2509 | 3473. | 11. | 10. |
| 9.00 | .1527 | .7082 | 7592. | 14. | 23. |
| 10.00 | .1843 | 1.2034 | 10726. | 16. | 33. |
| 11.00 | .2231 | 1.7712 | 13157. | 18. | 39. |
| 12.00 | .2715 | 2.5108 | 15706. | 19. | 44. |
| 13.00 | .3186 | 3.4617 | 18497. | 21. | 48. |
| 14.00 | .3696 | 4.6580 | 21462. | 23. | 52. |
| 15.00 | .4242 | 6.1409 | 24647. | 25. | 56. |
| 16.00 | .4827 | 7.9519 | 28051. | 26. | 60. |
| 17.00 | .5449 | ***** | 31672. | 28. | 63. |
| 18.00 | .6109 | ***** | 35508. | 30. | 67. |
| 19.00 | .6807 | ***** | 39564. | 31. | 71. |
| 20.00 | .7542 | ***** | 43838. | 33. | 74. |
| 21.00 | .8315 | ***** | 48332. | 35. | 78. |
| 22.00 | .9126 | ***** | 53045. | 36. | 82. |
| 23.00 | .9974 | ***** | 57976. | 38. | 86. |
| 24.00 | 1.0860 | ***** | 63127. | 40. | 89. |
| 25.00 | 1.1784 | ***** | 68498. | 41. | 93. |
| 26.00 | 1.2746 | ***** | 74037. | 43. | 97. |
| 27.00 | 1.3745 | ***** | 79896. | 45. | 100. |
| 28.00 | 1.4782 | ***** | 85923. | 46. | 104. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .50

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.14

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 52-48-2

BROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

50% ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE FL. 621.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .500

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: .750 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0241 | .0071 | 504. | 7. | 3. |
| 5.00 | .0375 | .0176 | 793. | 9. | 4. |
| 6.00 | .0542 | .0374 | 1169. | 11. | 6. |
| 7.00 | .0738 | .0724 | 1663. | 13. | 7. |
| 8.00 | .0964 | .1303 | 2287. | 15. | 9. |
| 9.00 | .1220 | .2597 | 3549. | 18. | 15. |
| 10.00 | .1506 | .6811 | 7362. | 21. | 34. |
| 11.00 | .1822 | 1.1228 | 10334. | 24. | 50. |
| 12.00 | .2165 | 1.5971 | 12422. | 27. | 57. |
| 13.00 | .2544 | 2.2040 | 14669. | 29. | 64. |
| 14.00 | .2951 | 2.9694 | 17095. | 32. | 72. |
| 15.00 | .3359 | 3.9132 | 19632. | 34. | 77. |
| 16.00 | .3854 | 5.0676 | 22345. | 36. | 82. |
| 17.00 | .4351 | 6.4606 | 25235. | 39. | 87. |
| 18.00 | .4878 | 8.1220 | 28298. | 41. | 93. |
| 19.00 | .5435 | ***** | 31533. | 43. | 98. |
| 20.00 | .6022 | ***** | 34940. | 46. | 103. |
| 21.00 | .6640 | ***** | 38522. | 48. | 108. |
| 22.00 | .7287 | ***** | 42279. | 50. | 113. |
| 23.00 | .7965 | ***** | 46210. | 53. | 118. |
| 24.00 | .8672 | ***** | 50316. | 55. | 123. |
| 25.00 | .9410 | ***** | 54596. | 57. | 129. |
| 26.00 | 1.0178 | ***** | 59051. | 59. | 134. |
| 27.00 | 1.0976 | ***** | 63681. | 62. | 139. |
| 28.00 | 1.1804 | ***** | 68486. | 64. | 144. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .70

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.57

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4B-3

TOWNES FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 821.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .500

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 1.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0197 | .0046 | 423. | 12. | 6. |
| 5.00 | .0308 | .0117 | 661. | 14. | 7. |
| 6.00 | .0444 | .0246 | 965. | 17. | 9. |
| 7.00 | .0604 | .0470 | 1353. | 20. | 11. |
| 8.00 | .0789 | .0838 | 1844. | 24. | 14. |
| 9.00 | .0998 | .1424 | 2470. | 27. | 17. |
| 10.00 | .1233 | .2689 | 3726. | 31. | 23. |
| 11.00 | .1491 | .5052 | 7442. | 36. | 28. |
| 12.00 | .1775 | 1.0653 | 10315. | 41. | 35. |
| 13.00 | .2093 | 1.4726 | 12192. | 45. | 95. |
| 14.00 | .2416 | 1.9265 | 14265. | 49. | 109. |
| 15.00 | .2773 | 2.6203 | 16434. | 53. | 120. |
| 16.00 | .3155 | 3.3945 | 18745. | 57. | 130. |
| 17.00 | .3562 | 4.3275 | 21169. | 61. | 138. |
| 18.00 | .3994 | 5.4409 | 23741. | 65. | 146. |
| 19.00 | .4450 | 6.7500 | 26461. | 68. | 154. |
| 20.00 | .4930 | 8.2969 | 29324. | 72. | 163. |
| 21.00 | .5436 | ***** | 32333. | 76. | 171. |
| 22.00 | .5966 | ***** | 35437. | 79. | 179. |
| 23.00 | .6520 | ***** | 38736. | 83. | 187. |
| 24.00 | .7100 | ***** | 42233. | 87. | 195. |
| 25.00 | .7704 | ***** | 45826. | 90. | 203. |
| 26.00 | .8332 | ***** | 49565. | 94. | 211. |
| 27.00 | .8986 | ***** | 53452. | 98. | 219. |
| 28.00 | .9663 | ***** | 57485. | 101. | 223. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.10

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 2.40

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 52-4B-4

CROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE FL. 621.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .500

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 1.500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0134 | .0022 | 282. | 19. | 9. |
| 5.00 | .0209 | .0054 | 440. | 24. | 11. |
| 6.00 | .0321 | .0112 | 634. | 28. | 14. |
| 7.00 | .0410 | .0209 | 872. | 33. | 16. |
| 8.00 | .0536 | .0364 | 1160. | 38. | 20. |
| 9.00 | .0676 | .0603 | 1516. | 43. | 24. |
| 10.00 | .0837 | .0954 | 1941. | 49. | 29. |
| 11.00 | .1013 | .1427 | 2423. | 55. | 35. |
| 12.00 | .1205 | .2496 | 3476. | 61. | 52. |
| 13.00 | .1414 | .5455 | 6320. | 68. | 101. |
| 14.00 | .1640 | .8729 | 9889. | 76. | 149. |
| 15.00 | .1887 | 1.2001 | 10752. | 84. | 175. |
| 16.00 | .2142 | 1.5587 | 12330. | 91. | 195. |
| 17.00 | .2413 | 1.9907 | 14008. | 98. | 217. |
| 18.00 | .2711 | 2.5039 | 15745. | 104. | 233. |
| 19.00 | .3021 | 3.1111 | 17602. | 111. | 253. |
| 20.00 | .3347 | 3.8206 | 19510. | 117. | 266. |
| 21.00 | .3690 | 4.6451 | 21516. | 123. | 279. |
| 22.00 | .4050 | 5.5967 | 23620. | 129. | 292. |
| 23.00 | .4427 | 6.6876 | 25823. | 135. | 306. |
| 24.00 | .4820 | 7.9300 | 28122. | 141. | 319. |
| 25.00 | .5230 | 9.3374 | 30518. | 147. | 332. |
| 26.00 | .5657 | ***** | 33009. | 153. | 346. |
| 27.00 | .6100 | ***** | 35597. | 159. | 359. |
| 28.00 | .6561 | ***** | 38283. | 165. | 372. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.30

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 4.00

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4B-5

BROWN'S FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 621.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .500

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 2.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 4.00 | .0109 | .0015 | 233. | 27. | 13. |
| 5.00 | .0170 | .0036 | 364. | 34. | 16. |
| 6.00 | .0245 | .0074 | 524. | 40. | 19. |
| 7.00 | .0334 | .0137 | 716. | 47. | 23. |
| 8.00 | .0436 | .0237 | 945. | 54. | 27. |
| 9.00 | .0552 | .0388 | 1219. | 61. | 32. |
| 10.00 | .0681 | .0609 | 1549. | 68. | 38. |
| 11.00 | .0824 | .0922 | 1937. | 76. | 45. |
| 12.00 | .0980 | .1354 | 2389. | 85. | 52. |
| 13.00 | .1151 | .2152 | 3195. | 94. | 72. |
| 14.00 | .1335 | .3692 | 4912. | 104. | 120. |
| 15.00 | .1532 | .7143 | 7790. | 114. | 193. |
| 16.00 | .1743 | 1.0168 | 10100. | 126. | 264. |
| 17.00 | .1968 | 1.3119 | 11445. | 137. | 283. |
| 18.00 | .2206 | 1.6546 | 12954. | 146. | 319. |
| 19.00 | .2458 | 2.0565 | 14482. | 156. | 344. |
| 20.00 | .2724 | 2.5266 | 16089. | 165. | 369. |
| 21.00 | .3003 | 3.0735 | 17794. | 174. | 397. |
| 22.00 | .3295 | 3.7029 | 19534. | 183. | 416. |
| 23.00 | .3602 | 4.4246 | 21356. | 192. | 435. |
| 24.00 | .3922 | 5.2470 | 23259. | 200. | 454. |
| 25.00 | .4256 | 6.1792 | 25244. | 209. | 473. |
| 26.00 | .4603 | 7.2305 | 27310. | 218. | 492. |
| 27.00 | .4964 | 8.4093 | 29454. | 226. | 510. |
| 28.00 | .5338 | 9.7269 | 31679. | 235. | 529. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 2.56

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 5.77

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 52-48-6

BROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

USE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 621.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .500

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 2.500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 4.00 | .0095 | .0011 | 214. | 47. | 22. |
| 5.00 | .0145 | .0027 | 335. | 59. | 29. |
| 6.00 | .0214 | .0056 | 462. | 70. | 34. |
| 7.00 | .0291 | .0104 | 656. | 82. | 39. |
| 8.00 | .0350 | .0179 | 863. | 94. | 46. |
| 9.00 | .0480 | .0290 | 1105. | 106. | 54. |
| 10.00 | .0593 | .0452 | 1395. | 118. | 63. |
| 11.00 | .0713 | .0662 | 1737. | 132. | 74. |
| 12.00 | .0854 | .0993 | 2133. | 146. | 86. |
| 13.00 | .1002 | .1441 | 2617. | 161. | 102. |
| 14.00 | .1163 | .2224 | 3446. | 177. | 137. |
| 15.00 | .1335 | .3893 | 5181. | 194. | 224. |
| 16.00 | .1513 | .6971 | 8073. | 212. | 353. |
| 17.00 | .1714 | .9924 | 10465. | 232. | 488. |
| 18.00 | .1922 | 1.2507 | 11779. | 251. | 522. |
| 19.00 | .2141 | 1.5573 | 13218. | 269. | 575. |
| 20.00 | .2373 | 1.9159 | 14738. | 285. | 631. |
| 21.00 | .2616 | 2.3298 | 16271. | 301. | 668. |
| 22.00 | .2871 | 2.8091 | 17931. | 317. | 723. |
| 23.00 | .3133 | 3.3567 | 19612. | 333. | 758. |
| 24.00 | .3417 | 3.9906 | 21360. | 348. | 791. |
| 25.00 | .3707 | 4.6877 | 23182. | 364. | 824. |
| 26.00 | .4010 | 5.4351 | 25080. | 379. | 857. |
| 27.00 | .4324 | 6.3505 | 27052. | 394. | 890. |
| 28.00 | .4650 | 7.3509 | 29099. | 409. | 923. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 4.46

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 10.07

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 52-44-7

FOWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 621.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .500

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 3.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 2.00 | .0020 | .0001 | 47. | 34. | 16. |
| 4.00 | .0081 | .0008 | 189. | 67. | 32. |
| 6.00 | .0182 | .0041 | 426. | 101. | 43. |
| 8.00 | .0324 | .0129 | 759. | 135. | 65. |
| 10.00 | .0506 | .0323 | 1212. | 168. | 87. |
| 12.00 | .0728 | .0704 | 1833. | 206. | 117. |
| 14.00 | .0991 | .1395 | 2463. | 243. | 155. |
| 16.00 | .1294 | .3240 | 4049. | 294. | 243. |
| 18.00 | .1639 | .6696 | 9365. | 343. | 677. |
| * 20.00 | .2022 | 1.3868 | 12892. | 403. | 840. |
| 22.00 | .2447 | 2.0383 | 15778. | 450. | 997. |
| 24.00 | .2912 | 2.8910 | 18885. | 496. | 1134. |
| 26.00 | .3418 | 3.9836 | 22174. | 541. | 1228. |
| 28.00 | .3964 | 5.3603 | 25727. | 584. | 1323. |
| 30.00 | .4550 | 7.0670 | 29546. | 627. | 1417. |
| 32.00 | .5177 | 9.1497 | 33622. | 670. | 1512. |
| 34.00 | .5845 | ***** | 37952. | 713. | 1606. |
| 36.00 | .6553 | ***** | 42556. | 755. | 1701. |
| 38.00 | .7301 | ***** | 47417. | 797. | 1795. |
| 40.00 | .8090 | ***** | 52539. | 839. | 1890. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 6.39

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 14.43

* = MAXIMUM ALLOWABLE SUPPORT SPACING

BROWN'S FERRY NUCLEAR PLANT-CONDUIT CRITERIA

5% ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 621.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .500

VERTICAL RIGID RESPONSE = .150

CONDUIT MILD STEEL

CONDUIT SIZE: 4.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 2.00 | .0015 | .0000 | 33. | 43. | 21. |
| 4.00 | .0059 | .0004 | 131. | 87. | 41. |
| 6.00 | .0134 | .0022 | 295. | 130. | 62. |
| 8.00 | .0237 | .0069 | 524. | 174. | 83. |
| 10.00 | .0371 | .0170 | 824. | 217. | 106. |
| 12.00 | .0534 | .0362 | 1215. | 261. | 137. |
| 14.00 | .0727 | .0702 | 1726. | 310. | 175. |
| 16.00 | .0950 | .1261 | 2372. | 363. | 222. |
| 18.00 | .1202 | .2477 | 3629. | 422. | 352. |
| 20.00 | .1484 | .6888 | 7621. | 488. | 793. |
| 22.00 | .1796 | 1.0904 | 10751. | 561. | 1173. |
| * 24.00 | .2137 | 1.5307 | 12910. | 641. | 1342. |
| 26.00 | .2508 | .1408 | 15257. | 688. | 1522. |
| 28.00 | .2908 | 2.8834 | 17792. | 747. | 1707. |
| 30.00 | .3339 | 3.8011 | 20432. | 805. | 1829. |
| 32.00 | .3799 | 4.9224 | 23256. | 861. | 1951. |
| 34.00 | .4288 | 6.2755 | 26263. | 917. | 2073. |
| 36.00 | .4808 | 7.8896 | 29451. | 972. | 2195. |
| 38.00 | .5357 | 9.7955 | 32819. | 1028. | 2317. |
| 40.00 | .5936 | ***** | 36365. | 1082. | 2439. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 8.24

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 18.62

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 52-45-2

PACWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 621.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .500

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 5.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 2.00 | .0012 | .0000 | 27. | 61. | 29. |
| 4.00 | .0048 | .0003 | 108. | 121. | 58. |
| 6.00 | .0109 | .0015 | 263. | 182. | 87. |
| 8.00 | .0194 | .0046 | 431. | 242. | 116. |
| 10.00 | .0303 | .0113 | 674. | 303. | 145. |
| 12.00 | .0436 | .0237 | 984. | 363. | 182. |
| 14.00 | .0593 | .0452 | 1376. | 426. | 229. |
| 16.00 | .0775 | .0806 | 1874. | 497. | 281. |
| 18.00 | .0980 | .1354 | 2486. | 572. | 352. |
| 20.00 | .1210 | .2533 | 3715. | 655. | 554. |
| 22.00 | .1464 | .6398 | 7557. | 747. | 1209. |
| 24.00 | .1743 | 1.0265 | 10510. | 849. | 1780. |
| 26.00 | .2045 | 1.4189 | 12413. | 948. | 1975. |
| 28.00 | .2372 | 1.9150 | 14542. | 1048. | 2279. |
| 30.00 | .2723 | 2.5256 | 16743. | 1113. | 2471. |
| 32.00 | .3098 | 3.2724 | 19112. | 1193. | 2721. |
| 34.00 | .3493 | 4.1718 | 21583. | 1274. | 2891. |
| 36.00 | .3921 | 5.2451 | 24205. | 1351. | 3061. |
| 38.00 | .4369 | 6.5136 | 26978. | 1429. | 3231. |
| 40.00 | .4841 | 7.9926 | 29896. | 1506. | 3401. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 11.49

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 25.97

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 52-4C-1

BROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 565.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: .500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 3.00 | .0170 | .0033 | 331. | 4. | 1. |
| 4.00 | .0302 | .0104 | 588. | 5. | 1. |
| 5.00 | .0471 | .0262 | 943. | 7. | 2. |
| 6.00 | .0679 | .0572 | 1431. | 8. | 3. |
| 7.00 | .0924 | .1093 | 2009. | 10. | 4. |
| 8.00 | .1207 | .1731 | 2715. | 11. | 5. |
| 9.00 | .1527 | .2475 | 3524. | 14. | 7. |
| 10.00 | .1880 | .3393 | 5269. | 16. | 10. |
| 11.00 | .2241 | .4792 | 5532. | 18. | 12. |
| 12.00 | .2715 | 1.2432 | 7811. | 19. | 14. |
| 13.00 | .3195 | 1.7223 | 9196. | 21. | 15. |
| 14.00 | .3696 | 2.3706 | 10690. | 23. | 17. |
| 15.00 | .4242 | 3.0631 | 12292. | 25. | 18. |
| 16.00 | .4827 | 3.9699 | 14002. | 26. | 19. |
| 17.00 | .5449 | 5.0616 | 15815. | 28. | 20. |
| 18.00 | .6109 | 6.3619 | 17732. | 30. | 21. |
| 19.00 | .6807 | 7.8981 | 19758. | 31. | 23. |
| 20.00 | .7542 | 9.6968 | 21893. | 33. | 24. |
| 21.00 | .8315 | ***** | 24138. | 35. | 25. |
| 22.00 | .9126 | ***** | 26371. | 35. | 26. |
| 23.00 | .9974 | ***** | 28823. | 36. | 27. |
| 24.00 | 1.0860 | ***** | 31384. | 38. | 28. |
| 25.00 | 1.1784 | ***** | 34054. | 39. | 30. |
| 26.00 | 1.2746 | ***** | 36833. | 41. | 31. |
| 27.00 | 1.3745 | ***** | 39720. | 43. | 32. |
| 28.00 | 1.4782 | ***** | 42717. | 44. | 33. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .24

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.14

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4C-2

RAJONS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

USE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:
 REACTOR BUILDING MAIN CONCRETE SL. 565.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: .750 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0241 | .0086 | 468. | 7. | 2. |
| 5.00 | .0374 | .0134 | 739. | 9. | 2. |
| 6.00 | .0542 | .0353 | 1104. | 11. | 4. |
| 7.00 | .0735 | .0692 | 1566. | 13. | 5. |
| 8.00 | .0964 | .1195 | 2101. | 15. | 7. |
| 9.00 | .1230 | .1976 | 2744. | 18. | 7. |
| 10.00 | .1526 | .3356 | 3740. | 21. | 10. |
| 11.00 | .1813 | .5470 | 5046. | 24. | 15. |
| 12.00 | .2167 | .7934 | 6186. | 27. | 18. |
| 13.00 | .2544 | 1.0952 | 7291. | 29. | 20. |
| 14.00 | .2951 | 1.4760 | 8490. | 32. | 22. |
| 15.00 | .3388 | 1.9480 | 9769. | 34. | 24. |
| 16.00 | .3854 | 2.5255 | 11134. | 36. | 26. |
| 17.00 | .4351 | 3.2234 | 12598. | 39. | 28. |
| 18.00 | .4879 | 4.0550 | 14125. | 41. | 29. |
| 19.00 | .5435 | 5.0360 | 15746. | 43. | 31. |
| 20.00 | .6022 | 6.1829 | 17448. | 46. | 33. |
| 21.00 | .6640 | 7.5155 | 19238. | 48. | 34. |
| 22.00 | .7287 | 9.0527 | 21114. | 50. | 36. |
| 23.00 | .7965 | ***** | 23078. | 53. | 38. |
| 24.00 | .8672 | ***** | 25129. | 55. | 39. |
| 25.00 | .9410 | ***** | 27143. | 54. | 41. |
| 26.00 | 1.0178 | ***** | 29356. | 57. | 43. |
| 27.00 | 1.0976 | ***** | 31659. | 59. | 44. |
| 28.00 | 1.1804 | ***** | 34048. | 61. | 46. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .33

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.57

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 52-4C-3

CROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 565.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 1.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0197 | .0044 | 393. | 12. | 3. |
| 5.00 | .0308 | .0109 | 615. | 14. | 4. |
| 6.00 | .0444 | .0131 | 904. | 17. | 5. |
| 7.00 | .0604 | .0447 | 1234. | 20. | 4. |
| 8.00 | .0789 | .0784 | 1727. | 24. | 10. |
| 9.00 | .0998 | .1288 | 2241. | 27. | 12. |
| 10.00 | .1233 | .2022 | 2849. | 31. | 13. |
| 11.00 | .1491 | .3279 | 3784. | 36. | 18. |
| 12.00 | .1775 | .5158 | 5003. | 41. | 25. |
| 13.00 | .2083 | .7313 | 6079. | 45. | 30. |
| 14.00 | .2414 | .9566 | 7089. | 49. | 34. |
| 15.00 | .2773 | 1.3027 | 8170. | 53. | 38. |
| 16.00 | .3155 | 1.6896 | 9317. | 57. | 41. |
| 17.00 | .3562 | 2.1552 | 10541. | 61. | 44. |
| 18.00 | .3994 | 2.7124 | 11833. | 65. | 47. |
| 19.00 | .4450 | 3.3720 | 13202. | 68. | 49. |
| 20.00 | .4930 | 4.1424 | 14638. | 72. | 52. |
| 21.00 | .5438 | 5.0369 | 16146. | 75. | 54. |
| 22.00 | .5966 | 6.0671 | 17721. | 79. | 57. |
| 23.00 | .6520 | 7.2478 | 19369. | 83. | 59. |
| 24.00 | .7100 | 8.5931 | 21091. | 87. | 62. |
| 25.00 | .7704 | ***** | 22886. | 90. | 65. |
| 26.00 | .8332 | ***** | 24754. | 94. | 67. |
| 27.00 | .8982 | ***** | 26695. | 98. | 70. |
| 28.00 | .9652 | ***** | 28579. | 96. | 72. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .53

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 2.46

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4C-4

PACOWS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE FL. 565.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 1.500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0134 | .0021 | 262. | 19. | 5. |
| 5.00 | .0209 | .0050 | 409. | 24. | 6. |
| 6.00 | .0301 | .0104 | 589. | 28. | 7. |
| 7.00 | .0410 | .0196 | 814. | 33. | 10. |
| 8.00 | .0536 | .0344 | 1095. | 38. | 13. |
| 9.00 | .0678 | .0571 | 1435. | 43. | 18. |
| 10.00 | .0837 | .0887 | 1808. | 49. | 21. |
| 11.00 | .1013 | .1327 | 2233. | 55. | 23. |
| 12.00 | .1205 | .1925 | 2721. | 61. | 26. |
| 13.00 | .1414 | .2849 | 3410. | 68. | 32. |
| 14.00 | .1640 | .4200 | 4323. | 76. | 43. |
| 15.00 | .1883 | .5876 | 5280. | 84. | 53. |
| 16.00 | .2142 | .7745 | 6146. | 91. | 61. |
| 17.00 | .2418 | .9987 | 6961. | 98. | 67. |
| 18.00 | .2711 | 1.2447 | 7830. | 104. | 73. |
| 19.00 | .3021 | 1.5472 | 8744. | 111. | 79. |
| 20.00 | .3347 | 1.9017 | 9706. | 117. | 84. |
| 21.00 | .3690 | 2.3141 | 10717. | 123. | 89. |
| 22.00 | .4050 | 2.7905 | 11774. | 129. | 93. |
| 23.00 | .4427 | 3.3373 | 12883. | 135. | 97. |
| 24.00 | .4820 | 3.9590 | 14037. | 141. | 102. |
| 25.00 | .5230 | 4.6628 | 15238. | 147. | 106. |
| 26.00 | .5657 | 5.4553 | 16483. | 153. | 110. |
| 27.00 | .6100 | 6.3444 | 17776. | 159. | 114. |
| 28.00 | .6561 | 7.3379 | 19115. | 165. | 118. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .96

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 4.06

* = MAXIMUM ALLOWABLE SUPPORT SPACING

SAVONNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE FL. 565.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 2.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0104 | .0014 | 217. | 27. | 7. |
| 5.00 | .0170 | .0033 | 339. | 34. | 8. |
| 6.00 | .0245 | .0069 | 487. | 40. | 10. |
| 7.00 | .0334 | .0128 | 656. | 47. | 12. |
| 8.00 | .0436 | .0222 | 834. | 54. | 16. |
| 9.00 | .0552 | .0367 | 1152. | 61. | 22. |
| 10.00 | .0681 | .0576 | 1467. | 68. | 29. |
| 11.00 | .0824 | .0859 | 1807. | 76. | 38. |
| 12.00 | .0980 | .1239 | 2191. | 85. | 50. |
| 13.00 | .1151 | .1741 | 2623. | 94. | 64. |
| 14.00 | .1335 | .2423 | 3140. | 104. | 81. |
| 15.00 | .1532 | .3502 | 3922. | 114. | 101. |
| 16.00 | .1743 | .4940 | 4868. | 126. | 126. |
| 17.00 | .1966 | .6467 | 5866. | 137. | 158. |
| 18.00 | .2206 | .8217 | 6943. | 146. | 199. |
| 19.00 | .2458 | 1.0215 | 7999. | 156. | 250. |
| 20.00 | .2724 | 1.2560 | 8901. | 165. | 316. |
| 21.00 | .3003 | 1.5284 | 9839. | 174. | 394. |
| 22.00 | .3295 | 1.8429 | 9716. | 183. | 487. |
| 23.00 | .3602 | 2.2038 | 10635. | 192. | 599. |
| 24.00 | .3922 | 2.6153 | 11591. | 200. | 734. |
| 25.00 | .4256 | 3.0623 | 12589. | 209. | 894. |
| * 26.00 | .4603 | 3.6092 | 13629. | 213. | 1081. |
| 27.00 | .4964 | 4.1957 | 14704. | 226. | 1299. |
| 28.00 | .5338 | 4.8576 | 15819. | 235. | 1551. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.23

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 5.77

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE SC-4C-6

FPG-NS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 565.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 3.500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0095 | .0010 | 199. | 47. | 12. |
| 5.00 | .0146 | .0025 | 311. | 59. | 15. |
| 6.00 | .0214 | .0052 | 448. | 70. | 17. |
| 7.00 | .0291 | .0097 | 610. | 82. | 20. |
| 8.00 | .0390 | .0167 | 804. | 94. | 26. |
| 9.00 | .0480 | .0272 | 1037. | 106. | 34. |
| 10.00 | .0593 | .0430 | 1324. | 118. | 46. |
| 11.00 | .0711 | .0644 | 1639. | 132. | 55. |
| 12.00 | .0854 | .0927 | 1983. | 146. | 62. |
| 13.00 | .1002 | .1299 | 2369. | 161. | 68. |
| 14.00 | .1163 | .1781 | 2799. | 177. | 74. |
| 15.00 | .1335 | .2423 | 3312. | 194. | 82. |
| 16.00 | .1518 | .3427 | 4084. | 212. | 105. |
| 17.00 | .1714 | .4732 | 5000. | 232. | 140. |
| 18.00 | .1922 | .6143 | 5806. | 251. | 161. |
| 19.00 | .2141 | .7736 | 6588. | 269. | 181. |
| 20.00 | .2373 | .9514 | 7322. | 285. | 196. |
| 21.00 | .2616 | 1.1579 | 8092. | 301. | 209. |
| 22.00 | .2871 | 1.3945 | 8905. | 317. | 226. |
| 23.00 | .3138 | 1.6699 | 9748. | 333. | 238. |
| 24.00 | .3417 | 1.9817 | 10630. | 348. | 251. |
| 25.00 | .3707 | 2.3354 | 11547. | 364. | 262. |
| 26.00 | .4010 | 2.7346 | 12501. | 379. | 273. |
| 27.00 | .4324 | 3.1832 | 13493. | 394. | 283. |
| 28.00 | .4650 | 3.6945 | 14522. | 409. | 294. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 2.14

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 10.07

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE SC-4C-7

BROWN'S FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 565.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 3.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 2.00 | .0020 | .0000 | 44. | 34. | 5. |
| 4.00 | .0051 | .0007 | 176. | 67. | 17. |
| 6.00 | .0142 | .0036 | 396. | 101. | 25. |
| 8.00 | .0324 | .0120 | 706. | 135. | 34. |
| 10.00 | .0506 | .0304 | 1140. | 168. | 57. |
| 12.00 | .0723 | .0663 | 1726. | 206. | 86. |
| 14.00 | .0991 | .1265 | 2426. | 248. | 105. |
| 16.00 | .1294 | .2250 | 3294. | 294. | 122. |
| 18.00 | .1633 | .4156 | 4301. | 348. | 194. |
| 20.00 | .2022 | .6367 | 5412. | 403. | 264. |
| 22.00 | .2447 | 1.0125 | 7642. | 450. | 311. |
| 24.00 | .2912 | 1.4373 | 9377. | 496. | 354. |
| 26.00 | .3418 | 1.9332 | 11035. | 541. | 389. |
| 28.00 | .3964 | 2.6721 | 12822. | 584. | 421. |
| 30.00 | .4550 | 3.5275 | 14744. | 627. | 451. |
| 32.00 | .5177 | 4.5190 | 16737. | 670. | 481. |
| 34.00 | .5845 | 5.6237 | 18955. | 713. | 511. |
| 36.00 | .6553 | 7.3198 | 21252. | 755. | 541. |
| 38.00 | .7301 | 9.0472 | 23680. | 797. | 571. |
| 40.00 | .8090 | ***** | 25239. | 839. | 601. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 3.06

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 14.43

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4C-8

ADAMS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

* FACTOR BUILDING MAIN CONCRETE EL. 565.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 4.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LR) |
| 2.00 | .0015 | .0000 | 30. | 43. | 11. |
| 4.00 | .0059 | .0004 | 122. | 87. | 22. |
| 6.00 | .0134 | .0020 | 274. | 130. | 32. |
| 8.00 | .0237 | .0064 | 487. | 174. | 43. |
| 10.00 | .0371 | .0159 | 768. | 217. | 58. |
| 12.00 | .0534 | .0342 | 1146. | 261. | 93. |
| 14.00 | .0727 | .0661 | 1627. | 310. | 130. |
| 16.00 | .0950 | .1159 | 2133. | 363. | 155. |
| 18.00 | .1202 | .1914 | 2949. | 422. | 177. |
| 20.00 | .1484 | .3238 | 3869. | 488. | 238. |
| 22.00 | .1796 | .5294 | 5230. | 561. | 349. |
| 24.00 | .2137 | .7706 | 6436. | 628. | 423. |
| 26.00 | .2503 | 1.0436 | 7586. | 688. | 476. |
| 28.00 | .2905 | 1.4335 | 8834. | 747. | 532. |
| 30.00 | .3339 | 1.8920 | 10164. | 805. | 578. |
| 32.00 | .3799 | 2.4529 | 11586. | 861. | 621. |
| 34.00 | .4288 | 3.1306 | 13099. | 917. | 660. |
| 36.00 | .4805 | 3.9388 | 14700. | 972. | 698. |
| 38.00 | .5357 | 4.8919 | 16388. | 1028. | 737. |
| 40.00 | .5936 | 6.0061 | 18160. | 1082. | 776. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 3.96

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 18.62

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4C-2

TOWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING MAIN CONCRETE EL. 565.0 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .240

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 5.000 INCH

SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 2.00 | .0012 | .0000 | 25. | 61. | 15. |
| 4.00 | .0048 | .0003 | 100. | 121. | 30. |
| 6.00 | .0109 | .0014 | 225. | 182. | 45. |
| 8.00 | .0194 | .0043 | 401. | 242. | 60. |
| 10.00 | .0303 | .0105 | 626. | 303. | 75. |
| 12.00 | .0436 | .0222 | 920. | 363. | 109. |
| 14.00 | .0593 | .0430 | 1307. | 426. | 155. |
| 16.00 | .0775 | .0755 | 1753. | 497. | 209. |
| 18.00 | .0980 | .1139 | 2280. | 572. | 244. |
| 20.00 | .1210 | .1643 | 2895. | 655. | 275. |
| 22.00 | .1464 | .2335 | 3828. | 747. | 362. |
| 24.00 | .1743 | .4938 | 5065. | 849. | 519. |
| 26.00 | .2045 | .7038 | 6184. | 946. | 623. |
| 28.00 | .2372 | .9509 | 7224. | 1028. | 708. |
| 30.00 | .2723 | 1.2556 | 8326. | 1113. | 783. |
| 32.00 | .3098 | 1.6277 | 9497. | 1193. | 853. |
| 34.00 | .3498 | 2.0774 | 10745. | 1274. | 913. |
| 36.00 | .3921 | 2.6144 | 12062. | 1351. | 974. |
| * 38.00 | .4369 | 3.2500 | 13457. | 1429. | 1028. |
| 40.00 | .4841 | 3.9933 | 14924. | 1506. | 1082. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 3.52

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 25.97

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-40-1

KROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 622.83 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: .500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 3.00 | .0170 | .0039 | 393. | 4. | 3. |
| 4.00 | .0302 | .0124 | 699. | 5. | 4. |
| 5.00 | .0471 | .0321 | 1156. | 7. | 5. |
| 6.00 | .0679 | .0734 | 1820. | 8. | 7. |
| 7.00 | .0924 | .1434 | 2632. | 10. | 10. |
| 8.00 | .1207 | .2764 | 3845. | 11. | 13. |
| 9.00 | .1527 | .6816 | 7357. | 14. | 23. |
| * 10.00 | .1885 | 1.0600 | 14489. | 16. | 43. |
| 11.00 | .2251 | 2.6296 | 19373. | 18. | 57. |
| 12.00 | .2715 | 3.7355 | 23272. | 19. | 66. |
| 13.00 | .3186 | 5.1531 | 27455. | 21. | 74. |
| 14.00 | .3696 | 6.9375 | 31966. | 23. | 82. |
| 15.00 | .4242 | 9.1440 | 36702. | 25. | 88. |
| 16.00 | .4827 | ***** | 41764. | 26. | 93. |
| 17.00 | .5449 | ***** | 47151. | 28. | 99. |
| 18.00 | .6109 | ***** | 52862. | 30. | 105. |
| 19.00 | .6807 | ***** | 58899. | 31. | 111. |
| 20.00 | .7542 | ***** | 65262. | 33. | 117. |
| 21.00 | .8315 | ***** | 71951. | 35. | 123. |
| 22.00 | .9126 | ***** | 78927. | 35. | 128. |
| 23.00 | .9974 | ***** | 86265. | 36. | 134. |
| 24.00 | 1.0860 | ***** | 93930. | 38. | 140. |
| 25.00 | 1.1784 | ***** | 101920. | 39. | 146. |
| 26.00 | 1.2746 | ***** | 110237. | 41. | 152. |
| 27.00 | 1.3745 | ***** | 118880. | 43. | 158. |
| 28.00 | 1.4782 | ***** | 127849. | 44. | 163. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .58

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.14

* = MAXIMUM ALLOWABLE SUPPORT SPACING

BROWN'S FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:
 REACTOR BUILDING RPV SHIELD WALL FL. 622.83 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .580
 VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL
 CONDUIT SIZE: .750 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 4.00 | .0241 | .0079 | 557. | 7. | 5. |
| 5.00 | .0378 | .0197 | 889. | 9. | 7. |
| 6.00 | .0542 | .0439 | 1368. | 11. | 9. |
| 7.00 | .0738 | .0886 | 2032. | 13. | 13. |
| 8.00 | .0964 | .1565 | 2750. | 15. | 15. |
| 9.00 | .1220 | .2864 | 3928. | 18. | 20. |
| 10.00 | .1504 | .6385 | 6967. | 21. | 34. |
| * 11.00 | .1822 | 1.5724 | 13655. | 24. | 63. |
| 12.00 | .2168 | 3.3740 | 18358. | 27. | 85. |
| 13.00 | .2544 | 5.2763 | 21677. | 29. | 96. |
| 14.00 | .2951 | 6.4180 | 25341. | 32. | 109. |
| 15.00 | .3388 | 5.8264 | 29181. | 34. | 119. |
| 16.00 | .3854 | 7.5469 | 33280. | 36. | 129. |
| 17.00 | .4351 | 9.6197 | 37576. | 39. | 137. |
| 18.00 | .4878 | ***** | 42131. | 41. | 145. |
| 19.00 | .5435 | ***** | 46945. | 43. | 153. |
| 20.00 | .6022 | ***** | 52017. | 46. | 161. |
| 21.00 | .6640 | ***** | 57349. | 48. | 169. |
| 22.00 | .7287 | ***** | 62941. | 50. | 177. |
| 23.00 | .7965 | ***** | 68793. | 53. | 185. |
| 24.00 | .8672 | ***** | 74905. | 55. | 193. |
| 25.00 | .9410 | ***** | 81236. | 54. | 202. |
| 26.00 | 1.0178 | ***** | 87865. | 57. | 210. |
| 27.00 | 1.0976 | ***** | 94753. | 59. | 218. |
| 28.00 | 1.1804 | ***** | 101902. | 61. | 226. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .81

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.57

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-40-3

BROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 622.33 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .560

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 1.000 INCH SCHEDULE 40, NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0197 | .0053 | 468. | 10. | 5. |
| 5.00 | .0308 | .0129 | 732. | 15. | 10. |
| 6.00 | .0444 | .0282 | 1102. | 17. | 13. |
| 7.00 | .0584 | .0551 | 1605. | 20. | 15. |
| 8.00 | .0739 | .1026 | 2257. | 24. | 17. |
| 9.00 | .0998 | .1686 | 2931. | 27. | 27. |
| 10.00 | .1233 | .2968 | 4124. | 31. | 35. |
| 11.00 | .1491 | .4021 | 5590. | 36. | 47. |
| * 12.00 | .1775 | 1.3599 | 12326. | 41. | 101. |
| 13.00 | .2083 | 2.1569 | 17728. | 45. | 141. |
| 14.00 | .2416 | 2.9503 | 21045. | 49. | 170. |
| 15.00 | .2773 | 3.8495 | 24366. | 54. | 182. |
| 16.00 | .3155 | 5.0529 | 27818. | 57. | 196. |
| 17.00 | .3562 | 6.4447 | 31511. | 61. | 216. |
| 18.00 | .3994 | 8.1025 | 35255. | 65. | 227. |
| 19.00 | .4450 | ***** | 39399. | 69. | 242. |
| 20.00 | .4930 | ***** | 43659. | 72. | 255. |
| 21.00 | .5436 | ***** | 48136. | 76. | 267. |
| 22.00 | .5966 | ***** | 52830. | 79. | 281. |
| 23.00 | .6520 | ***** | 57742. | 83. | 293. |
| 24.00 | .7100 | ***** | 62873. | 87. | 304. |
| 25.00 | .7704 | ***** | 68221. | 90. | 317. |
| 26.00 | .8332 | ***** | 73789. | 94. | 331. |
| 27.00 | .8986 | ***** | 79573. | 98. | 344. |
| 28.00 | .9663 | ***** | 85533. | 99. | 357. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.27

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 2.43

* = MAXIMUM ALLOWABLE SUPPORT SPACING

WNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

STEEL-REINFORCED CONCRETE SHIELD WALL EL. 622.33 FT AND BELOW

HORIZONTAL SEISMIC RESPONSE = .580

VERTICAL SEISMIC RESPONSE = .130

CONDUIT TYPE: RCP

CONDUIT SIZE:

1,500 INCH

SCHEDULE NO. NA

| DISTANCE FROM WALL (FT) | FIRST MODE (SEC) | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|-------------------------------|------------------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0114 | .0024 | 311. | 19. | 13. |
| 4.50 | .0114 | .0050 | 487. | 24. | 17. |
| 5.00 | .0321 | .0124 | 701. | 25. | 20. |
| 5.50 | .0417 | .0237 | 987. | 33. | 25. |
| 6.00 | .0535 | .0427 | 1356. | 38. | 32. |
| 6.50 | .0577 | .0731 | 1832. | 43. | 40. |
| 7.00 | .0917 | .1165 | 2360. | 49. | 48. |
| 7.50 | .1013 | .1736 | 2921. | 55. | 55. |
| 8.00 | .1135 | .2752 | 3849. | 61. | 67. |
| 8.50 | .1414 | .4568 | 5729. | 68. | 96. |
| 9.00 | .1647 | .9505 | 9534. | 76. | 155. |
| 9.50 | .1853 | 1.8542 | 14511. | 84. | 231. |
| 10.00 | .2142 | 2.3177 | 19241. | 91. | 293. |
| 10.50 | .2418 | 2.9573 | 20667. | 98. | 319. |
| 11.00 | .2711 | 3.7251 | 23328. | 104. | 353. |
| 11.50 | .3021 | 4.5305 | 26102. | 111. | 382. |
| 12.00 | .3347 | 5.4682 | 28990. | 117. | 409. |
| 12.50 | .3690 | 6.4983 | 32046. | 123. | 438. |
| 13.00 | .4053 | 8.3343 | 35175. | 129. | 458. |
| 13.50 | .4427 | 9.9573 | 38450. | 135. | 479. |
| 14.00 | .4822 | ***** | 41869. | 141. | 500. |
| 14.50 | .5237 | ***** | 45433. | 147. | 521. |
| 15.00 | .5687 | ***** | 49141. | 153. | 541. |
| 15.50 | .6173 | ***** | 52995. | 159. | 563. |
| 16.00 | .6681 | ***** | 56993. | 165. | 583. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 2.05

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 4.06

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-40-5

KAWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:
 REACTOR BUILDING PPV SHIELD WALL EL. 622.33 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .580
 VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL
 CONDUIT SIZE: 2.000 INCH SCHEDULE NO. 7.4

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0109 | .0016 | 258. | 27. | 14. |
| 5.00 | .0170 | .0039 | 403. | 34. | 24. |
| 6.00 | .0245 | .0052 | 530. | 40. | 29. |
| 7.00 | .0334 | .0153 | 795. | 47. | 34. |
| 8.00 | .0436 | .0271 | 1077. | 54. | 42. |
| 9.00 | .0552 | .0456 | 1430. | 61. | 51. |
| 10.00 | .0681 | .0739 | 1874. | 68. | 63. |
| 11.00 | .0824 | .1126 | 2365. | 76. | 75. |
| 12.00 | .0980 | .1623 | 2867. | 85. | 85. |
| 13.00 | .1151 | .2362 | 3541. | 94. | 97. |
| 14.00 | .1335 | .3420 | 4950. | 104. | 130. |
| 15.00 | .1532 | .4918 | 7598. | 114. | 195. |
| 16.00 | .1743 | 1.2522 | 11994. | 126. | 296. |
| 17.00 | .1968 | 1.8536 | 15937. | 137. | 395. |
| 18.00 | .2204 | 2.4582 | 19113. | 146. | 470. |
| 19.00 | .2459 | 3.0555 | 21380. | 156. | 509. |
| 20.00 | .2724 | 3.7391 | 23341. | 165. | 558. |
| 21.00 | .3003 | 4.5745 | 26384. | 174. | 600. |
| 22.00 | .3295 | 5.5128 | 29016. | 183. | 633. |
| 23.00 | .3602 | 6.5697 | 31800. | 192. | 680. |
| 24.00 | .3922 | 7.8140 | 34639. | 200. | 711. |
| 25.00 | .4256 | 9.2010 | 37590. | 209. | 741. |
| 26.00 | .4603 | ***** | 40662. | 218. | 770. |
| 27.00 | .4964 | ***** | 43852. | 226. | 800. |
| 28.00 | .5338 | ***** | 47162. | 235. | 830. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 2.96

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 5.77

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 57-40-6

10-45 FERRY NUCLEAR PLANT-CONDUIT CRITERIA

5% ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 622.83 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 2.500 INCH SCHEDULE NO. NA

| CONDUIT SPACING (FT) | PERIOD (SEC) | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|----------------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0095 | .0012 | 237. | 47. | 33. |
| 5.00 | .0143 | .0030 | 370. | 59. | 42. |
| 6.00 | .0214 | .0062 | 533. | 70. | 50. |
| 7.00 | .0291 | .0115 | 725. | 82. | 58. |
| 8.00 | .0360 | .0201 | 969. | 94. | 69. |
| 9.00 | .0430 | .0335 | 1274. | 106. | 84. |
| 10.00 | .0503 | .0538 | 1653. | 118. | 103. |
| 11.00 | .0718 | .0835 | 2118. | 132. | 125. |
| 12.00 | .0854 | .1217 | 2602. | 146. | 145. |
| 13.00 | .1002 | .1700 | 3098. | 161. | 160. |
| 14.00 | .1163 | .2443 | 3817. | 177. | 185. |
| 15.00 | .1335 | .3921 | 5253. | 194. | 243. |
| 16.00 | .1518 | .6631 | 7756. | 212. | 354. |
| * 17.00 | .1714 | 1.1593 | 11903. | 232. | 522. |
| 18.00 | .1922 | 1.7433 | 16122. | 251. | 706. |
| 19.00 | .2141 | 2.3156 | 19555. | 269. | 862. |
| 20.00 | .2373 | 2.8455 | 21728. | 285. | 925. |
| 21.00 | .2616 | 3.4646 | 24080. | 301. | 1005. |
| 22.00 | .2871 | 4.1311 | 26586. | 317. | 1092. |
| 23.00 | .3138 | 4.9066 | 29101. | 333. | 1154. |
| 24.00 | .3417 | 5.8269 | 31756. | 348. | 1223. |
| 25.00 | .3707 | 6.9816 | 34528. | 364. | 1292. |
| 26.00 | .4010 | 8.1883 | 37349. | 379. | 1343. |
| 27.00 | .4324 | 9.5004 | 40282. | 394. | 1395. |
| 28.00 | .4650 | ***** | 43325. | 409. | 1447. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 5.17

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 10.07

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4D-7

BROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 522.83 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 3.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 2.00 | .0020 | .0001 | 52. | 34. | 24. |
| 4.00 | .0081 | .0009 | 209. | 67. | 48. |
| 6.00 | .0152 | .0045 | 471. | 101. | 71. |
| 8.00 | .0324 | .0143 | 842. | 135. | 95. |
| 10.00 | .0506 | .0375 | 1406. | 168. | 137. |
| 12.00 | .0728 | .0663 | 2240. | 206. | 196. |
| 14.00 | .0991 | .1660 | 3175. | 249. | 247. |
| 16.00 | .1294 | .3503 | 5030. | 294. | 345. |
| 18.00 | .1638 | .9452 | 10566. | 348. | 705. |
| 20.00 | .2022 | 1.9926 | 16325. | 403. | 1207. |
| 22.00 | .2447 | 3.0284 | 23288. | 450. | 1472. |
| 24.00 | .2912 | 4.3027 | 27989. | 496. | 1709. |
| 26.00 | .3418 | 5.9314 | 32966. | 541. | 1893. |
| 28.00 | .3964 | 7.9526 | 38314. | 584. | 2073. |
| 30.00 | .4550 | ***** | 43991. | 627. | 2221. |
| 32.00 | .5177 | ***** | 50056. | 670. | 2370. |
| 34.00 | .5845 | ***** | 56510. | 713. | 2518. |
| 36.00 | .6553 | ***** | 63354. | 755. | 2666. |
| 38.00 | .7301 | ***** | 70589. | 797. | 2814. |
| 40.00 | .8090 | ***** | 78216. | 839. | 2962. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 7.41

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 14.43

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-40-4

BROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL FL. 622.83 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .590

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 4.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 2.00 | .0015 | .0000 | 36. | 43. | 31. |
| 4.00 | .0059 | .0005 | 145. | 87. | 61. |
| 6.00 | .0134 | .0024 | 326. | 130. | 92. |
| 8.00 | .0237 | .0077 | 550. | 174. | 123. |
| 10.00 | .0371 | .0191 | 924. | 217. | 159. |
| 12.00 | .0534 | .0424 | 1419. | 261. | 218. |
| 14.00 | .0727 | .0861 | 2110. | 310. | 295. |
| 16.00 | .0950 | .1518 | 2958. | 363. | 362. |
| 18.00 | .1202 | .2725 | 4018. | 422. | 459. |
| 20.00 | .1484 | .5933 | 6969. | 485. | 765. |
| * 22.00 | .1796 | 1.4325 | 13759. | 561. | 1434. |
| 24.00 | .2137 | 2.3059 | 19103. | 628. | 2014. |
| 26.00 | .2502 | 3.1818 | 22543. | 688. | 2263. |
| 28.00 | .2908 | 4.2914 | 26369. | 747. | 2572. |
| 30.00 | .3339 | 5.6592 | 30359. | 805. | 2813. |
| 32.00 | .3799 | 7.3309 | 34636. | 861. | 3058. |
| 34.00 | .4282 | 9.3443 | 39107. | 917. | 3249. |
| 36.00 | .4805 | ***** | 43849. | 972. | 3440. |
| 38.00 | .5357 | ***** | 48859. | 1028. | 3631. |
| 40.00 | .5936 | ***** | 54135. | 1082. | 3822. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 9.56

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 18.62

* - MAXIMUM ALLOWABLE SUPPORT SPACING

BROWN'S FERRY NUCLEAR PLANT-CONDUIT CRITERIA

5% ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL FL. 622.53 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .550

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 5.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 2.00 | .0012 | .0000 | 30. | 61. | 43. |
| 4.00 | .0046 | .0003 | 114. | 121. | 56. |
| 6.00 | .0109 | .0016 | 266. | 152. | 122. |
| 8.00 | .0194 | .0051 | 477. | 242. | 171. |
| 10.00 | .0303 | .0125 | 745. | 303. | 214. |
| 12.00 | .0436 | .0271 | 1121. | 363. | 280. |
| 14.00 | .0593 | .0538 | 1631. | 426. | 371. |
| 16.00 | .0775 | .0986 | 2289. | 497. | 481. |
| 18.00 | .0990 | .1622 | 3184. | 572. | 570. |
| 20.00 | .1210 | .2791 | 4112. | 655. | 717. |
| 22.00 | .1464 | .5562 | 6685. | 747. | 1126. |
| 24.00 | .1743 | 1.2512 | 12475. | 849. | 1997. |
| 26.00 | .2045 | 2.0533 | 17794. | 946. | 2868. |
| 28.00 | .2372 | 2.9441 | 21439. | 1028. | 3335. |
| 30.00 | .2723 | 3.7577 | 24810. | 1113. | 3766. |
| 32.00 | .3098 | 4.8709 | 28352. | 1193. | 4132. |
| 34.00 | .3498 | 6.2122 | 32109. | 1274. | 4490. |
| 36.00 | .3921 | 7.8111 | 36047. | 1351. | 4797. |
| 38.00 | .4369 | 9.6985 | 40170. | 1429. | 5064. |
| 40.00 | .4841 | ***** | 44514. | 1506. | 5330. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 13.33

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 25.97

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 52-4E-1

ROCKWELL FERRY NUCLEAR PLANT-CONDUIT CRITERIA

5% ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL FL. 595.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .590

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: .500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 3.00 | .0170 | .0040 | 397. | 4. | 3. |
| 4.00 | .0302 | .0125 | 706. | 5. | 4. |
| 5.00 | .0471 | .0317 | 1142. | 7. | 5. |
| 6.00 | .0679 | .0564 | 2130. | 8. | 9. |
| 7.00 | .0924 | .1787 | 3270. | 10. | 13. |
| 8.00 | .1207 | .3095 | 4355. | 11. | 16. |
| 9.00 | .1527 | .6452 | 6995. | 14. | 22. |
| 10.00 | .1885 | 1.5463 | 13540. | 16. | 41. |
| 11.00 | .2291 | 2.4319 | 17926. | 18. | 52. |
| 12.00 | .2715 | 3.4556 | 21545. | 19. | 61. |
| 13.00 | .3156 | 4.7654 | 25395. | 21. | 68. |
| 14.00 | .3696 | 6.4154 | 29560. | 23. | 75. |
| 15.00 | .4242 | 8.4561 | 33941. | 25. | 80. |
| 16.00 | .4807 | ***** | 38623. | 26. | 86. |
| 17.00 | .5449 | ***** | 43605. | 28. | 91. |
| 18.00 | .6109 | ***** | 48586. | 30. | 96. |
| 19.00 | .6807 | ***** | 54469. | 31. | 102. |
| 20.00 | .7542 | ***** | 60354. | 33. | 107. |
| 21.00 | .8315 | ***** | 66541. | 35. | 113. |
| 22.00 | .9126 | ***** | 72935. | 35. | 118. |
| 23.00 | .9974 | ***** | 79771. | 36. | 123. |
| 24.00 | 1.0860 | ***** | 86855. | 38. | 129. |
| 25.00 | 1.1764 | ***** | 94247. | 39. | 134. |
| 26.00 | 1.2746 | ***** | 101938. | 41. | 139. |
| 27.00 | 1.3745 | ***** | 109930. | 43. | 145. |
| 28.00 | 1.4752 | ***** | 118224. | 44. | 150. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .53

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.14

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4E-2

FACONS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

500 ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING PPV SHIELD WALL FL. 595.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: .750 INCH SCHEDULE NO. 1A

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACEMENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|---|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0241 | .0080 | 562. | 7. | 5. |
| 5.00 | .0376 | .0196 | 886. | 9. | 7. |
| 6.00 | .0547 | .0455 | 1410. | 11. | 10. |
| 7.00 | .0735 | .1059 | 2467. | 13. | 16. |
| 8.00 | .0964 | .1948 | 3414. | 15. | 21. |
| 9.00 | .1220 | .3163 | 4396. | 18. | 25. |
| 10.00 | .1505 | .6037 | 6646. | 21. | 33. |
| 11.00 | .1822 | 1.4149 | 12730. | 24. | 59. |
| 12.00 | .2169 | 2.1950 | 16976. | 27. | 78. |
| 13.00 | .2544 | 3.0304 | 20063. | 29. | 89. |
| 14.00 | .2951 | 4.0254 | 23435. | 32. | 100. |
| 15.00 | .3389 | 5.3883 | 26998. | 34. | 110. |
| 16.00 | .3854 | 6.9790 | 30775. | 36. | 118. |
| 17.00 | .4351 | 8.8960 | 34749. | 39. | 126. |
| 18.00 | .4878 | ***** | 38962. | 41. | 133. |
| 19.00 | .5435 | ***** | 43414. | 43. | 141. |
| 20.00 | .6022 | ***** | 48105. | 46. | 148. |
| 21.00 | .6640 | ***** | 53036. | 48. | 155. |
| 22.00 | .7267 | ***** | 58208. | 50. | 163. |
| 23.00 | .7965 | ***** | 63620. | 53. | 170. |
| 24.00 | .8672 | ***** | 69272. | 55. | 178. |
| 25.00 | .9410 | ***** | 75120. | 54. | 185. |
| 26.00 | 1.0173 | ***** | 81250. | 57. | 192. |
| 27.00 | 1.0975 | ***** | 87620. | 59. | 200. |
| 28.00 | 1.1604 | ***** | 94231. | 61. | 207. |

* MAXIMUM HORIZONTAL SEISMIC FORCE LB/FT. = .41

* MAXIMUM VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.57

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 52-4E-3

ROCKWELL PERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 595.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .560

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 1.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 4.00 | .0197 | .0053 | 472. | 12. | 8. |
| 5.00 | .0308 | .0131 | 738. | 14. | 11. |
| 6.00 | .0444 | .0276 | 1082. | 17. | 13. |
| 7.00 | .0604 | .0617 | 1754. | 20. | 20. |
| 8.00 | .0789 | .1269 | 2766. | 24. | 31. |
| 9.00 | .0998 | .2095 | 3635. | 27. | 38. |
| 10.00 | .1233 | .3234 | 4559. | 31. | 44. |
| 11.00 | .1491 | .5776 | 6598. | 36. | 57. |
| 12.00 | .1775 | 1.2983 | 12260. | 41. | 97. |
| 13.00 | .2083 | 2.0125 | 16584. | 45. | 132. |
| 14.00 | .2416 | 2.7292 | 19475. | 49. | 148. |
| 15.00 | .2773 | 3.6066 | 22544. | 53. | 167. |
| 16.00 | .3155 | 4.6727 | 25729. | 57. | 182. |
| 17.00 | .3562 | 5.9601 | 29150. | 61. | 199. |
| 18.00 | .3994 | 7.4928 | 32695. | 65. | 211. |
| 19.00 | .4450 | 9.3035 | 36435. | 68. | 222. |
| 20.00 | .4930 | ***** | 40375. | 72. | 234. |
| 21.00 | .5436 | ***** | 44516. | 76. | 246. |
| 22.00 | .5966 | ***** | 48657. | 79. | 257. |
| 23.00 | .6520 | ***** | 53400. | 83. | 269. |
| 24.00 | .7100 | ***** | 58144. | 87. | 281. |
| 25.00 | .7704 | ***** | 63091. | 90. | 293. |
| 26.00 | .8332 | ***** | 68239. | 94. | 304. |
| 27.00 | .8986 | ***** | 73589. | 98. | 316. |
| 28.00 | .9663 | ***** | 79094. | 96. | 328. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.27

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 2.46

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4E-4

DOWNS PERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 595.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 1.500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0134 | .0025 | 314. | 19. | 14. |
| 5.00 | .0209 | .0060 | 491. | 24. | 17. |
| 6.00 | .0301 | .0125 | 707. | 28. | 21. |
| 7.00 | .0410 | .0234 | 976. | 33. | 25. |
| 8.00 | .0536 | .0440 | 1389. | 38. | 32. |
| 9.00 | .0673 | .0660 | 2133. | 43. | 40. |
| 10.00 | .0837 | .1454 | 2943. | 49. | 47. |
| 11.00 | .1013 | .2156 | 3620. | 55. | 77. |
| 12.00 | .1205 | .3036 | 4365. | 61. | 87. |
| 13.00 | .1414 | .4506 | 5404. | 65. | 99. |
| 14.00 | .1640 | .5996 | 9009. | 76. | 147. |
| 15.00 | .1883 | 1.5407 | 13559. | 84. | 218. |
| 16.00 | .2142 | 2.1430 | 16870. | 91. | 269. |
| 17.00 | .2418 | 2.7351 | 19125. | 96. | 294. |
| 18.00 | .2711 | 3.4460 | 21597. | 104. | 326. |
| 19.00 | .3021 | 4.2820 | 24140. | 111. | 351. |
| 20.00 | .3347 | 5.2605 | 26820. | 117. | 377. |
| 21.00 | .3690 | 6.3977 | 29634. | 123. | 402. |
| 22.00 | .4050 | 7.7072 | 32528. | 129. | 421. |
| 23.00 | .4427 | 9.2083 | 35558. | 135. | 440. |
| 24.00 | .4820 | ***** | 38720. | 141. | 459. |
| 25.00 | .5230 | ***** | 42017. | 147. | 478. |
| 26.00 | .5657 | ***** | 45446. | 153. | 498. |
| 27.00 | .6100 | ***** | 49009. | 159. | 517. |
| 28.00 | .6561 | ***** | 52707. | 165. | 536. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 2.08

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 4.06

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4E-5

BROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 595.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 2.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACEMENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|---|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0109 | .0016 | 260. | 27. | 20. |
| 5.00 | .0170 | .0040 | 406. | 34. | 25. |
| 6.00 | .0245 | .0053 | 585. | 40. | 29. |
| 7.00 | .0334 | .0153 | 799. | 47. | 34. |
| 8.00 | .0436 | .0266 | 1059. | 54. | 41. |
| 9.00 | .0552 | .0477 | 1437. | 61. | 54. |
| 10.00 | .0681 | .0772 | 2188. | 68. | 75. |
| 11.00 | .0824 | .1402 | 2929. | 76. | 103. |
| 12.00 | .0980 | .2018 | 3557. | 85. | 118. |
| 13.00 | .1151 | .2805 | 4225. | 94. | 134. |
| 14.00 | .1335 | .3814 | 4956. | 104. | 148. |
| 15.00 | .1532 | .6546 | 7219. | 114. | 192. |
| * 16.00 | .1743 | 1.2107 | 11602. | 126. | 290. |
| 17.00 | .1968 | 1.7322 | 14947. | 137. | 374. |
| 18.00 | .2206 | 2.2730 | 17679. | 146. | 432. |
| 19.00 | .2458 | 2.8260 | 19786. | 156. | 470. |
| 20.00 | .2724 | 3.4774 | 22072. | 165. | 516. |
| 21.00 | .3003 | 4.2302 | 24400. | 174. | 552. |
| 22.00 | .3295 | 5.0982 | 26841. | 183. | 588. |
| 23.00 | .3602 | 6.0939 | 29412. | 192. | 625. |
| 24.00 | .3922 | 7.2260 | 32033. | 200. | 657. |
| 25.00 | .4256 | 8.5086 | 34762. | 209. | 690. |
| 26.00 | .4603 | 9.9553 | 37603. | 218. | 709. |
| 27.00 | .4964 | ***** | 40554. | 226. | 735. |
| 28.00 | .5338 | ***** | 43615. | 235. | 762. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 2.96

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 5.77

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 52-4F-c

ROCKNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

10% ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 595.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 2.500 INCH SCHEDULE NO. 4A

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0095 | .0212 | 239. | 47. | 34. |
| 5.00 | .0145 | .0030 | 373. | 59. | 43. |
| 6.00 | .0214 | .0063 | 538. | 70. | 51. |
| 7.00 | .0291 | .0116 | 732. | 82. | 60. |
| 8.00 | .0380 | .0200 | 965. | 94. | 69. |
| 9.00 | .0480 | .0333 | 1264. | 106. | 83. |
| 10.00 | .0593 | .0566 | 1756. | 119. | 114. |
| 11.00 | .0713 | .1017 | 2551. | 132. | 161. |
| 12.00 | .0854 | .1522 | 3241. | 146. | 201. |
| 13.00 | .1002 | .2112 | 3841. | 161. | 225. |
| 14.00 | .1163 | .2865 | 4505. | 177. | 251. |
| 15.00 | .1335 | .3814 | 5227. | 194. | 273. |
| 16.00 | .1518 | .6292 | 7385. | 212. | 350. |
| 17.00 | .1714 | 1.1177 | 11485. | 232. | 510. |
| 18.00 | .1922 | 1.6261 | 15090. | 251. | 668. |
| 19.00 | .2141 | 2.1411 | 18085. | 269. | 793. |
| 20.00 | .2373 | 2.6317 | 20106. | 285. | 853. |
| 21.00 | .2616 | 3.2047 | 22289. | 301. | 928. |
| 22.00 | .2871 | 3.8662 | 24532. | 317. | 1002. |
| 23.00 | .3135 | 4.6206 | 26916. | 333. | 1061. |
| 24.00 | .3417 | 5.4814 | 29381. | 348. | 1127. |
| 25.00 | .3707 | 6.4562 | 31929. | 364. | 1185. |
| 26.00 | .4010 | 7.5537 | 34539. | 379. | 1234. |
| 27.00 | .4324 | 8.7857 | 37251. | 394. | 1281. |
| 28.00 | .4650 | ***** | 40065. | 409. | 1329. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 5.17

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 10.07

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TAPL. 52-4F-7

TOWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 595.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 3.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 2.00 | .0020 | .0001 | 53. | 34. | 24. |
| 4.00 | .0051 | .0009 | 211. | 67. | 46. |
| 6.00 | .0112 | .0045 | 476. | 101. | 70. |
| 8.00 | .0324 | .0144 | 847. | 135. | 93. |
| 10.00 | .0506 | .0379 | 1415. | 168. | 137. |
| 12.00 | .0728 | .1057 | 2714. | 206. | 256. |
| 14.00 | .0991 | .2063 | 3937. | 248. | 346. |
| 16.00 | .1264 | .3573 | 5247. | 294. | 415. |
| 18.00 | .1535 | .6440 | 9277. | 348. | 662. |
| 20.00 | .2022 | 1.8565 | 17231. | 403. | 1144. |
| 22.00 | .2447 | 2.8309 | 21551. | 450. | 1358. |
| 24.00 | .2912 | 3.9788 | 25882. | 496. | 1569. |
| 26.00 | .3418 | 5.4555 | 30501. | 541. | 1750. |
| 28.00 | .3964 | 7.3520 | 35431. | 584. | 1904. |
| 30.00 | .4550 | 9.7303 | 40682. | 627. | 2040. |
| 32.00 | .5177 | ***** | 46291. | 670. | 2176. |
| 34.00 | .5845 | ***** | 52260. | 713. | 2312. |
| 36.00 | .6553 | ***** | 58590. | 755. | 2448. |
| 38.00 | .7301 | ***** | 65281. | 797. | 2584. |
| 40.00 | .8090 | ***** | 72334. | 839. | 2720. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 7.41

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 14.43

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4E-9

POWNS FERRY CLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

FACTORY BUILDING PPV SHIELD WALL EL. 595.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 4.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING (FT) | FIRST PERIOD (SEC) | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|----------------------------|--------------------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 2.00 | .0018 | .0000 | 37. | 43. | 32. |
| 4.00 | .0059 | .0005 | 146. | 87. | 63. |
| 6.00 | .0134 | .0024 | 329. | 130. | 95. |
| 8.00 | .0237 | .0077 | 535. | 174. | 126. |
| 10.00 | .0371 | .0191 | 922. | 217. | 160. |
| 12.00 | .0534 | .0437 | 1452. | 261. | 222. |
| 14.00 | .0727 | .1054 | 2556. | 310. | 385. |
| 16.00 | .0950 | .1891 | 3544. | 363. | 505. |
| 18.00 | .1200 | .3070 | 4571. | 422. | 599. |
| 20.00 | .1484 | .5641 | 6679. | 488. | 771. |
| 22.00 | .1796 | 1.3496 | 12990. | 561. | 1369. |
| 24.00 | .2137 | 2.1321 | 17667. | 628. | 1853. |
| 26.00 | .2508 | 3.9428 | 20863. | 688. | 2090. |
| 28.00 | .2908 | 3.9683 | 24334. | 747. | 2362. |
| 30.00 | .3339 | 5.2336 | 28085. | 805. | 2592. |
| 32.00 | .3799 | 6.7792 | 32030. | 861. | 2809. |
| 34.00 | .4287 | 8.6413 | 36165. | 917. | 2984. |
| 36.00 | .4804 | ***** | 40551. | 972. | 3160. |
| 38.00 | .5357 | ***** | 45185. | 1028. | 3335. |
| 40.00 | .5938 | ***** | 50066. | 1082. | 3511. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 9.56

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 18.62

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 52-4E-9

BROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

REACTOR BUILDING RPV SHIELD WALL EL. 595.25 FT AND BELOW

HORIZONTAL RIGID RESPONSE = .580

VERTICAL RIGID RESPONSE = .130

CONDUIT MILD STEEL

CONDUIT SIZE: 5.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATEPAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VEPT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 2.00 | .0012 | .0000 | 30. | 61. | 44. |
| 4.00 | .0048 | .0003 | 120. | 121. | 83. |
| 6.00 | .0109 | .0016 | 271. | 182. | 132. |
| 8.00 | .0194 | .0051 | 481. | 242. | 176. |
| 10.00 | .0303 | .0126 | 752. | 303. | 220. |
| 12.00 | .0436 | .0266 | 1102. | 363. | 274. |
| 14.00 | .0593 | .0585 | 1762. | 426. | 313. |
| 16.00 | .0775 | .1117 | 2802. | 497. | 343. |
| 18.00 | .0980 | .2018 | 3702. | 572. | 399. |
| 20.00 | .1210 | .3114 | 4642. | 655. | 428. |
| 22.00 | .1464 | .5302 | 6436. | 747. | 1151. |
| 24.00 | .1743 | 1.2097 | 12068. | 849. | 1954. |
| 26.00 | .2045 | 1.9254 | 16750. | 946. | 2722. |
| 28.00 | .2372 | 2.6304 | 19839. | 1028. | 3081. |
| 30.00 | .2723 | 3.4762 | 22969. | 1113. | 3482. |
| 32.00 | .3098 | 4.5043 | 26222. | 1193. | 3799. |
| 34.00 | .3495 | 5.7454 | 29711. | 1274. | 4143. |
| 36.00 | .3921 | 7.2233 | 33335. | 1351. | 4406. |
| 38.00 | .4369 | 8.9559 | 37148. | 1429. | 4651. |
| 40.00 | .4841 | ***** | 41166. | 1506. | 4896. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 13.33

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 25.97

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE 52-4A-1

BROWN'S FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

DIESEL GENERATOR BUILDING EL. 595.0

HORIZONTAL RIGID RESPONSE = .504

VERTICAL RIGID RESPONSE = .290

CONDUIT MILD STEEL

CONDUIT SIZE: .500 INCH SCHEDULE NO. 1A

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS | |
|--------------------|-----------------|--|----------------------------|-------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 3.00 | .0170 | .0068 | 631. | 6. | 6. |
| 4.00 | .0302 | .0215 | 1211. | 8. | 8. |
| 5.00 | .0471 | .0524 | 1893. | 10. | 10. |
| 6.00 | .0679 | .1060 | 2725. | 12. | 12. |
| 7.00 | .0924 | .2013 | 3710. | 14. | 14. |
| 8.00 | .1207 | .3434 | 4845. | 16. | 16. |
| 9.00 | .1527 | .5300 | 6132. | 18. | 18. |
| 10.00 | .1885 | .8353 | 7571. | 20. | 20. |
| 11.00 | .2281 | 1.2273 | 9160. | 22. | 22. |
| 12.00 | .2715 | 1.7382 | 10902. | 24. | 24. |
| 13.00 | .3186 | 2.3941 | 12794. | 26. | 26. |
| 14.00 | .3696 | 3.2202 | 14838. | 28. | 28. |
| 15.00 | .4242 | 4.2437 | 17034. | 30. | 30. |
| 16.00 | .4827 | 5.4936 | 19381. | 32. | 32. |
| 17.00 | .5449 | 7.0012 | 21879. | 34. | 34. |
| 18.00 | .6109 | 8.7997 | 24529. | 36. | 36. |
| 19.00 | .6807 | ***** | 27330. | 38. | 38. |
| 20.00 | .7542 | ***** | 30282. | 40. | 40. |
| 21.00 | .8315 | ***** | 33386. | 42. | 42. |
| 22.00 | .9126 | ***** | 36642. | 44. | 44. |
| 23.00 | .9974 | ***** | 40048. | 46. | 46. |
| 24.00 | 1.0860 | ***** | 43606. | 48. | 47. |
| 25.00 | 1.1784 | ***** | 47316. | 50. | 49. |
| 26.00 | 1.2745 | ***** | 51177. | 52. | 51. |
| 27.00 | 1.3745 | ***** | 55180. | 54. | 53. |
| 28.00 | 1.4782 | ***** | 59353. | 56. | 55. |

A.14/ HORIZONTAL SEISMIC FORCE LB/FT. = .51

A.17/ VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.30

* = MAXIMUM ALLOWABLE SUPPORT SPACING

FORNNS Ferry NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

DIESEL GENERATOR BUILDING EL. 595.0

HORIZONTAL RIGID RESPONSE = .504

VERTICAL RIGID RESPONSE = .290

CONDUIT MILD STEEL

CONDUIT SIZE: .750 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0241 | .0137 | 965. | 11. | 11. |
| 5.00 | .0376 | .0334 | 1509. | 14. | 14. |
| 6.00 | .0542 | .0693 | 2172. | 17. | 16. |
| 7.00 | .0758 | .1283 | 2957. | 19. | 19. |
| 8.00 | .0964 | .2109 | 3862. | 22. | 22. |
| 9.00 | .1220 | .3507 | 4888. | 25. | 25. |
| 10.00 | .1506 | .5345 | 6034. | 28. | 27. |
| 11.00 | .1822 | .7826 | 7301. | 30. | 30. |
| 12.00 | .2188 | 1.1084 | 8689. | 33. | 33. |
| 13.00 | .2544 | 1.5266 | 10198. | 36. | 36. |
| 14.00 | .2951 | 2.0534 | 11827. | 39. | 39. |
| 15.00 | .3388 | 2.7060 | 13577. | 41. | 41. |
| 16.00 | .3854 | 3.5030 | 15447. | 44. | 44. |
| 17.00 | .4351 | 4.4643 | 17439. | 47. | 46. |
| 18.00 | .4878 | 5.6111 | 19551. | 50. | 49. |
| 19.00 | .5435 | 6.9658 | 21733. | 53. | 52. |
| 20.00 | .6022 | 8.5521 | 24137. | 55. | 55. |
| 21.00 | .6640 | ***** | 26611. | 58. | 57. |
| 22.00 | .7287 | ***** | 29205. | 61. | 60. |
| 23.00 | .7965 | ***** | 31921. | 64. | 63. |
| 24.00 | .8672 | ***** | 34757. | 66. | 66. |
| 25.00 | .9410 | ***** | 37713. | 69. | 65. |
| 26.00 | 1.0178 | ***** | 40791. | 72. | 71. |
| 27.00 | 1.0976 | ***** | 43989. | 75. | 74. |
| 28.00 | 1.1804 | ***** | 47308. | 77. | 77. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = .70

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 1.79

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4#-3

BROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SS- ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

DIESEL GENERATOR BUILDING EL. 595.0

HORIZONTAL RIGID RESPONSE = .504

VERTICAL RIGID RESPONSE = .290

CONDUIT MILD STEEL

CONDUIT SIZE: 1.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 4.00 | .0197 | .0092 | 810. | 17. | 17. |
| 5.00 | .0309 | .0224 | 1266. | 22. | 22. |
| 6.00 | .0444 | .0464 | 1823. | 26. | 26. |
| 7.00 | .0604 | .0860 | 2482. | 31. | 30. |
| 8.00 | .0789 | .1467 | 3242. | 35. | 35. |
| 9.00 | .0998 | .2350 | 4103. | 39. | 39. |
| 10.00 | .1233 | .3582 | 5065. | 44. | 43. |
| 11.00 | .1491 | .5245 | 6125. | 47. | 45. |
| 12.00 | .1775 | .7423 | 7293. | 52. | 52. |
| 13.00 | .2083 | 1.0232 | 8560. | 57. | 56. |
| 14.00 | .2416 | 1.3762 | 9927. | 61. | 60. |
| 15.00 | .2773 | 1.8136 | 11396. | 66. | 65. |
| 16.00 | .3155 | 2.3477 | 12966. | 70. | 69. |
| 17.00 | .3562 | 2.9920 | 14637. | 74. | 73. |
| 18.00 | .3994 | 3.7606 | 16410. | 79. | 78. |
| 19.00 | .4450 | 4.6686 | 18284. | 83. | 82. |
| 20.00 | .4930 | 5.7318 | 20259. | 87. | 85. |
| 21.00 | .5436 | 6.9670 | 22336. | 92. | 91. |
| 22.00 | .5966 | 8.3919 | 24514. | 96. | 95. |
| 23.00 | .6520 | ***** | 26793. | 101. | 99. |
| 24.00 | .7100 | ***** | 29174. | 105. | 104. |
| 25.00 | .7704 | ***** | 31655. | 109. | 108. |
| 26.00 | .8332 | ***** | 34238. | 114. | 112. |
| 27.00 | .8986 | ***** | 36923. | 118. | 117. |
| 28.00 | .9663 | ***** | 39709. | 122. | 121. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.11

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 2.83

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4F-4

BROWN FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SAFE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

DIESEL GENERATOR BUILDING EL. 595.0

HORIZONTAL RIGID RESPONSE = .504

VERTICAL RIGID RESPONSE = .290

CONDUIT MILD STEEL

CONDUIT SIZE: 1.500 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0134 | .0042 | 540. | 29. | 28. |
| 5.00 | .0209 | .0103 | 843. | 36. | 35. |
| 6.00 | .0301 | .0214 | 1214. | 43. | 42. |
| 7.00 | .0410 | .0396 | 1652. | 50. | 49. |
| 8.00 | .0536 | .0576 | 2159. | 57. | 57. |
| 9.00 | .0678 | .1083 | 2732. | 64. | 64. |
| 10.00 | .0837 | .1651 | 3373. | 71. | 71. |
| 11.00 | .1013 | .2416 | 4082. | 79. | 78. |
| 12.00 | .1205 | .3424 | 4857. | 86. | 85. |
| 13.00 | .1414 | .4716 | 5701. | 93. | 92. |
| 14.00 | .1640 | .6343 | 6611. | 100. | 99. |
| 15.00 | .1883 | .8359 | 7590. | 107. | 106. |
| 16.00 | .2142 | 1.0822 | 8635. | 114. | 113. |
| 17.00 | .2418 | 1.3791 | 9748. | 121. | 120. |
| 18.00 | .2711 | 1.7334 | 10929. | 129. | 127. |
| 19.00 | .3021 | 2.1519 | 12177. | 136. | 134. |
| 20.00 | .3347 | 2.6420 | 13493. | 143. | 141. |
| 21.00 | .3690 | 3.2114 | 14876. | 150. | 148. |
| 22.00 | .4050 | 3.8681 | 16326. | 157. | 155. |
| 23.00 | .4427 | 4.6209 | 17844. | 164. | 162. |
| 24.00 | .4820 | 5.4784 | 19429. | 172. | 170. |
| 25.00 | .5230 | 6.4502 | 21082. | 179. | 177. |
| 26.00 | .5657 | 7.5458 | 22803. | 186. | 184. |
| 27.00 | .6100 | 8.7754 | 24590. | 193. | 191. |
| 28.00 | .6561 | ***** | 26446. | 200. | 198. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 1.35

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 4.63

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4F-5

BROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

DIESEL GENERATOR BUILDING EL. 595.0

HORIZONTAL RIGID RESPONSE = .504

VERTICAL RIGID RESPONSE = .290

CONDUIT MILD STEEL

CONDUIT SIZE: 2.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0109 | .0028 | 447. | 41. | 40. |
| 5.00 | .0170 | .0068 | 698. | 51. | 50. |
| 6.00 | .0245 | .0142 | 1005. | 61. | 60. |
| 7.00 | .0334 | .0262 | 1368. | 71. | 70. |
| 8.00 | .0434 | .0448 | 1786. | 81. | 80. |
| 9.00 | .0552 | .0717 | 2261. | 91. | 90. |
| 10.00 | .0681 | .1093 | 2791. | 102. | 100. |
| 11.00 | .0824 | .1600 | 3378. | 112. | 111. |
| 12.00 | .0980 | .2267 | 4020. | 122. | 121. |
| 13.00 | .1151 | .3122 | 4717. | 132. | 131. |
| 14.00 | .1335 | .4199 | 5471. | 142. | 141. |
| 15.00 | .1532 | .5534 | 6281. | 152. | 151. |
| 16.00 | .1743 | .7164 | 7146. | 163. | 161. |
| 17.00 | .1968 | .9130 | 8067. | 173. | 171. |
| 18.00 | .2206 | 1.1475 | 9044. | 183. | 181. |
| 19.00 | .2458 | 1.4246 | 10077. | 193. | 191. |
| 20.00 | .2724 | 1.7490 | 11165. | 203. | 201. |
| 21.00 | .3003 | 2.1260 | 12310. | 213. | 211. |
| 22.00 | .3295 | 2.5608 | 13510. | 224. | 221. |
| 23.00 | .3602 | 3.0591 | 14766. | 234. | 231. |
| 24.00 | .3922 | 3.6268 | 16078. | 244. | 241. |
| 25.00 | .4256 | 4.2701 | 17446. | 254. | 251. |
| 26.00 | .4603 | 4.9954 | 18870. | 264. | 261. |
| 27.00 | .4964 | 5.8094 | 20349. | 274. | 271. |
| 28.00 | .5333 | 6.7191 | 21384. | 285. | 281. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 2.55

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 6.59

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4F-6

PADONS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

DIESEL GENERATOR BUILDING FL. 595.0

HORIZONTAL RIGID RESPONSE = .504

VERTICAL RIGID RESPONSE = .290

CONDUIT MILD STEEL

CONDUIT SIZE: 2.500 INCH SCHEDULE NO. 40

| SUPPORT SPACING (FT) | FIRST PERIOD (SEC) | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|----------------------------|--------------------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| 4.00 | .0095 | .0021 | 410. | 71. | 70. |
| 5.00 | .0145 | .0032 | 641. | 89. | 88. |
| 6.00 | .0214 | .0108 | 923. | 106. | 105. |
| 7.00 | .0291 | .0199 | 1257. | 124. | 123. |
| 8.00 | .0380 | .0340 | 1641. | 142. | 140. |
| 9.00 | .0480 | .0544 | 2077. | 159. | 158. |
| 10.00 | .0593 | .0830 | 2564. | 177. | 175. |
| 11.00 | .0713 | .1215 | 3103. | 195. | 193. |
| 12.00 | .0854 | .1720 | 3693. | 213. | 210. |
| 13.00 | .1002 | .2369 | 4334. | 230. | 228. |
| 14.00 | .1163 | .3187 | 5026. | 248. | 245. |
| 15.00 | .1335 | .4200 | 5770. | 266. | 263. |
| 16.00 | .1518 | .5437 | 6565. | 284. | 280. |
| 17.00 | .1714 | .6929 | 7411. | 301. | 298. |
| 18.00 | .1922 | .8709 | 8309. | 319. | 315. |
| 19.00 | .2141 | 1.0812 | 9258. | 337. | 333. |
| 20.00 | .2373 | 1.3274 | 10258. | 354. | 350. |
| 21.00 | .2616 | 1.6135 | 11309. | 372. | 368. |
| 22.00 | .2871 | 1.9434 | 12412. | 390. | 385. |
| * 23.00 | .3135 | 2.3216 | 13566. | 408. | 403. |
| 24.00 | .3417 | 2.7525 | 14771. | 425. | 420. |
| 25.00 | .3707 | 3.2407 | 16028. | 443. | 438. |
| 26.00 | .4010 | 3.7912 | 17336. | 461. | 455. |
| 27.00 | .4324 | 4.4090 | 18695. | 478. | 473. |
| 28.00 | .4650 | 5.0993 | 20105. | 496. | 490. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 4.49

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 11.49

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4F-7

BROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE- SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

DIESEL GENERATOR BUILDING EL. 595.0

HORIZONTAL RIGID RESPONSE = .504

VERTICAL RIGID RESPONSE = .290

CONDUIT MILD STEEL

CONDUIT SIZE: 3.000 INCH SCHEDULE NO. 1A

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 2.00 | .0020 | .0001 | 91. | 51. | 50. |
| 4.00 | .0081 | .0015 | 363. | 102. | 100. |
| 6.00 | .0182 | .0078 | 817. | 152. | 151. |
| 8.00 | .0324 | .0247 | 1452. | 203. | 201. |
| 10.00 | .0506 | .0603 | 2268. | 254. | 251. |
| 12.00 | .0728 | .1250 | 3266. | 305. | 301. |
| 14.00 | .0991 | .2316 | 4446. | 356. | 351. |
| 16.00 | .1294 | .3950 | 5807. | 406. | 402. |
| 18.00 | .1638 | .6328 | 7349. | 457. | 452. |
| 20.00 | .2022 | .9645 | 9073. | 508. | 502. |
| 22.00 | .2447 | 1.4121 | 10979. | 559. | 552. |
| 24.00 | .2912 | 1.9999 | 13065. | 610. | 603. |
| 26.00 | .3418 | 2.7546 | 15334. | 660. | 653. |
| 28.00 | .3964 | 3.7050 | 17753. | 711. | 703. |
| 30.00 | .4550 | 4.8825 | 20415. | 762. | 753. |
| 32.00 | .5177 | 6.3206 | 23227. | 813. | 803. |
| 34.00 | .5845 | 8.0552 | 26222. | 864. | 854. |
| 36.00 | .6553 | ***** | 29397. | 914. | 904. |
| 38.00 | .7301 | ***** | 32754. | 965. | 954. |
| 40.00 | .8090 | ***** | 36293. | 1016. | 1004. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 6.44

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 16.47

* = MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4F-6

MCOWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SEE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

DIESEL GENERATOR BUILDING EL. 595.0

HORIZONTAL RIGID RESPONSE = .504

VERTICAL RIGID RESPONSE = .290

CONDUIT MILD STEEL

CONDUIT SIZE: 4.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 2.00 | .0015 | .0001 | 63. | 66. | 65. |
| 4.00 | .0059 | .0008 | 251. | 131. | 130. |
| 6.00 | .0134 | .0042 | 565. | 197. | 194. |
| 8.00 | .0237 | .0133 | 1005. | 262. | 259. |
| 10.00 | .0371 | .0325 | 1570. | 328. | 324. |
| 12.00 | .0534 | .0673 | 2261. | 393. | 389. |
| 14.00 | .0727 | .1247 | 3077. | 459. | 454. |
| 16.00 | .0950 | .2127 | 4019. | 524. | 518. |
| 18.00 | .1202 | .3407 | 5087. | 590. | 583. |
| 20.00 | .1484 | .5192 | 6280. | 656. | 648. |
| 22.00 | .1796 | .7602 | 7599. | 721. | 713. |
| 24.00 | .2137 | 1.0767 | 9044. | 787. | 778. |
| 26.00 | .2508 | 1.4829 | 10614. | 852. | 842. |
| 28.00 | .2908 | 1.9946 | 12309. | 918. | 907. |
| * 30.00 | .3339 | 2.6285 | 14131. | 983. | 972. |
| 32.00 | .3799 | 3.4028 | 16077. | 1049. | 1037. |
| 34.00 | .4289 | 4.3366 | 18150. | 1114. | 1102. |
| 36.00 | .4809 | 5.4506 | 20348. | 1180. | 1166. |
| 38.00 | .5357 | 6.7665 | 22672. | 1246. | 1231. |
| 40.00 | .5936 | 8.3075 | 25121. | 1311. | 1296. |

AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 8.31

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 21.26

* - MAXIMUM ALLOWABLE SUPPORT SPACING

TABLE S2-4F-9

CROWNS FERRY NUCLEAR PLANT-CONDUIT CRITERIA

SSE ENVELOPE SEISMIC RESPONSE SPECTRUM (5% DAMPING) FOR:

DIESEL GENERATOR BUILDING - L. 595.0

HORIZONTAL RIGID RESPONSE = .504
VERTICAL RIGID RESPONSE = .290CONDUIT MILD STEEL
CONDUIT SIZE: 5.000 INCH SCHEDULE NO. NA

| SUPPORT SPACING | FIRST PERIOD | MAXIMUM SEISMIC DISPLACE- MENT (IN) | MAXIMUM STRESS (PSI) | LATERAL REACTIONS ===== | |
|--------------------|-----------------|--|----------------------------|----------------------------|----------------|
| | | | | VERT. (LB) | HORIZ. (LB) |
| (FT) | (SEC) | | | | |
| 2.00 | .0012 | .0000 | 52. | 91. | 90. |
| 4.00 | .0043 | .0006 | 207. | 183. | 181. |
| 6.00 | .0109 | .0028 | 465. | 274. | 271. |
| 8.00 | .0194 | .0088 | 526. | 366. | 361. |
| 10.00 | .0303 | .0216 | 1291. | 457. | 452. |
| 12.00 | .0436 | .0448 | 1359. | 548. | 542. |
| 14.00 | .0593 | .0729 | 2530. | 640. | 633. |
| 16.00 | .0775 | .1115 | 3305. | 731. | 723. |
| 18.00 | .0960 | .0266 | 4183. | 823. | 813. |
| 20.00 | .1210 | .3454 | 5164. | 914. | 904. |
| 22.00 | .1464 | .5056 | 6249. | 1006. | 994. |
| 24.00 | .1743 | .7161 | 7436. | 1097. | 1084. |
| 26.00 | .2045 | .9064 | 8727. | 1188. | 1175. |
| 28.00 | .2372 | 1.3267 | 10122. | 1280. | 1265. |
| 30.00 | .2723 | 1.7484 | 11619. | 1371. | 1355. |
| 32.00 | .3098 | 2.2634 | 13220. | 1463. | 1446. |
| 34.00 | .3496 | 2.8845 | 14924. | 1554. | 1536. |
| 36.00 | .3921 | 3.6255 | 16732. | 1645. | 1626. |
| 38.00 | .4369 | 4.5008 | 18643. | 1737. | 1717. |
| 40.00 | .4841 | 5.5258 | 20657. | 1828. | 1807. |

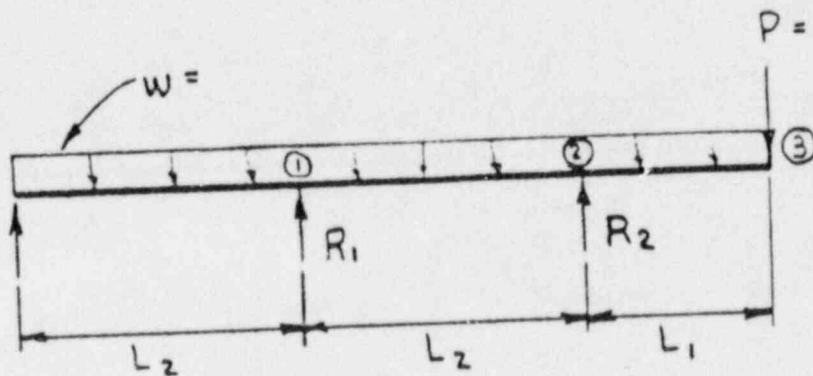
AXIAL HORIZONTAL SEISMIC FORCE LB/FT. = 11.58

AXIAL VERTICAL SEISMIC FORCE PLUS DEAD WEIGHT LB/FT. = 29.64

* - MAXIMUM ALLOWABLE SUPPORT SPACING

APPENDIX C

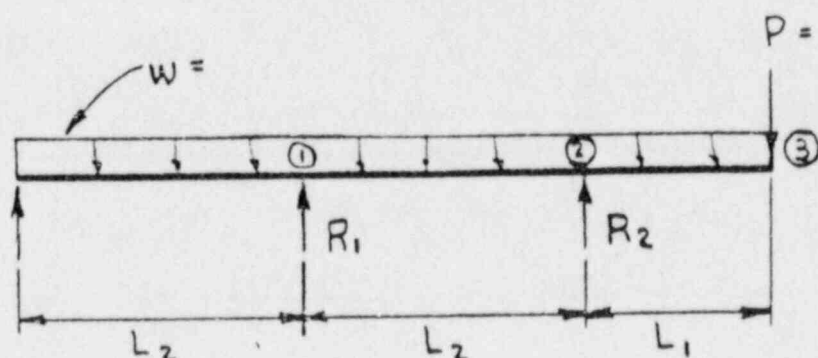
TABLE C-1



ALUMINUM 6063-T1
 CONDUIT SIZE 1 1/2"
 RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'
 DAMPING % SSE
 $f_{peak} = 5.29 \text{ Hz} - 6.47 \text{ Hz}$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|----------------------|------------|--------------------------|-------------------|-------|-------------------|
| | | | R_1 | R_2 | |
| $L_2 = 5 \text{ ft}$ | | | | | |
| 2 | 7.35 | 2297.9 | 3.8 | 6.3 | 0.22 |
| 3 | 4.51 | 3556.0 | 4.9 | 7.6 | 0.89 |
| 4 | 3.1 | 3343.9 | 4.4 | 6.0 | 1.25 |
| 5 | 2.3 | 3120.2 | 3.4 | 5.1 | 1.61 |
| $L_2 = 6 \text{ ft}$ | | | | | |
| 2 | 6.7 | 2248.7 | 3.9 | 6.0 | 0.34 |
| 3 | 4.2 | 3276.0 | 4.6 | 6.8 | 0.86 |
| 4 | 2.9 | 3189.7 | 4.3 | 5.6 | 1.26 |
| 5 | 2.2 | 2869.8 | 3.6 | 4.2 | 1.63 |
| $L_2 = 8 \text{ ft}$ | | | | | |
| 2 | 5.3 | 2119.7 | 3.9 | 5.4 | 0.35 |
| 3 | 3.7 | 2921.0 | 4.5 | 6.0 | 0.82 |
| 4 | 2.6 | 3053.6 | 4.5 | 5.5 | 1.24 |
| 5 | 2.0 | 2872.8 | 4.3 | 4.6 | 1.63 |

TABLE C-1



ALUMINUM 6063-T1

CONDUIT SIZE $\frac{1}{2}" \phi$ $z = .0407 \text{ in}^3$

RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'

DAMPING 15 % SSE

 $f_{\text{peak}} = 5.29 \text{ Hz} - 6.47 \text{ Hz}$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|------------|------------|--------------------------|-------------------|-------|-------------------|
| | | | R_1 | R_2 | |

 $L_2 = 10 \text{ ft}$

| | | | | | |
|---|------|--------|------|------|------|
| 2 | 4.50 | 2700.6 | 7.18 | 1.49 | .41 |
| 3 | 3.16 | 3619.7 | 6.56 | 8.04 | .83 |
| 4 | 2.38 | 3802.8 | 7.08 | 7.61 | 1.25 |
| 5 | 1.83 | 3670.0 | 7.20 | 6.78 | 1.64 |

 $L_2 = 12 \text{ ft}$

| | | | | | |
|---|------|--------|------|-------|------|
| 2 | 2.17 | 3423.5 | 8.06 | 7.85 | .87 |
| 3 | 2.60 | 5515.0 | 8.84 | 11.70 | 1.18 |
| 4 | 2.10 | 5251.5 | 9.37 | 10.49 | 1.40 |
| 5 | 1.67 | 4895.6 | 9.53 | 9.18 | 1.74 |

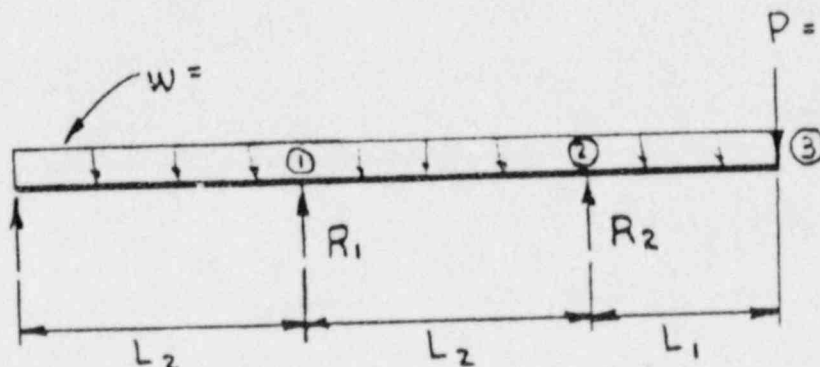
 $L_2 = 14 \text{ ft}$

| | | | | | |
|---|------|--------|------|-------|------|
| 2 | 2.24 | 3953.7 | 8.26 | 6.78 | 1.13 |
| 3 | 2.09 | 6407.3 | 8.71 | 12.01 | 1.74 |
| 4 | 1.81 | 6286.4 | 9.14 | 11.47 | 1.79 |
| 5 | 1.51 | 5565.2 | 9.10 | 9.71 | 1.92 |

 $L_2 = 15 \text{ ft}$

| | | | | | |
|---|------|--------|------|-------|------|
| 2 | 1.97 | 4090.2 | 8.13 | 5.76 | 1.21 |
| 3 | 1.86 | 6488.9 | 8.46 | 11.44 | 2.01 |
| 4 | 1.67 | 6406.4 | 8.38 | 11.05 | 2.03 |
| 5 | 1.42 | 5657.8 | 8.34 | 9.43 | 2.05 |

TABLE C-2



ALUMINUM 6063-T1

CONDUIT SIZE 3/4" Ø

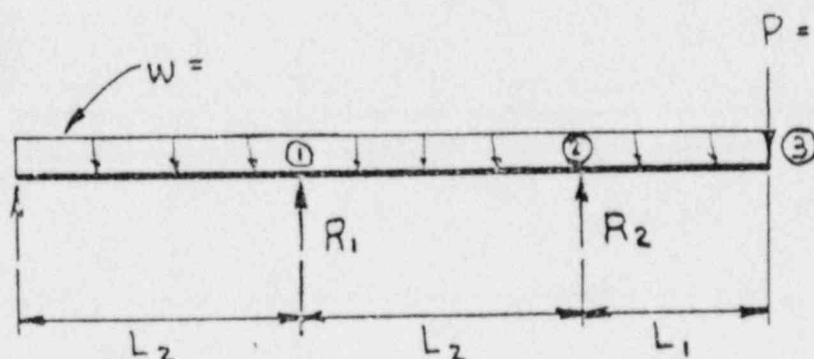
RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'

DAMPING % SSE

 $f_{peak} = 5.29 \text{ Hz} - 6.47 \text{ Hz}$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|----------------------|---------------|-----------------------------|-------------------|-------|-------------------------|
| | | | R_1 | R_2 | |
| $L_2 = 5 \text{ ft}$ | | | | | |
| 2 | 8.95 | 1929.85 | 5.45 | 9.2 | 0.22 |
| 3 | 5.5 | 2339.42 | 7.8 | 12.3 | 0.66 |
| 4 | 3.8 | 3551.0 | 7.7 | 11.0 | 1.07 |
| 5 | 2.8 | 3373.3 | 6.3 | 9.6 | 1.40 |
| $L_2 = 6 \text{ ft}$ | | | | | |
| 2 | 8.15 | 1832.6 | 5.3 | 8.4 | 0.23 |
| 3 | 5.1 | 3205.3 | 7.3 | 11.3 | 0.69 |
| 4 | 3.6 | 3354.9 | 7.2 | 10.1 | 1.1 |
| 5 | 2.7 | 3116.3 | 6.3 | 7.9 | 1.42 |
| $L_2 = 8 \text{ ft}$ | | | | | |
| 2 | 6.5 | 1704.6 | 5.4 | 7.5 | 0.23 |
| 3 | 4.5 | 2835.6 | 6.9 | 9.6 | 0.68 |
| 4 | 3.2 | 3059.3 | 7.0 | 9.0 | 1.06 |
| 5 | 2.4 | 2985.6 | 6.8 | 7.8 | 1.43 |

TABLE C-2



ALUMINUM 6063-T1
 CONDUIT SIZE $\frac{3}{4}" \phi$ $Z = .0706 in^3$
 RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'
 DAMPING 15 % SSE
 $f_{peak} = 5.29 Hz - 6.47 Hz$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|------------|------------|--------------------------|-------------------|-------|-------------------|
| | | | R_1 | R_2 | |

$L_2 = 10 ft$

| | | | | | |
|---|------|--------|------|-------|------|
| 2 | 4.90 | 2071.7 | 7.27 | 8.12 | .34 |
| 3 | 3.85 | 2854.4 | 7.96 | 10.06 | .64 |
| 4 | 2.90 | 3182.0 | 7.38 | 9.88 | 1.03 |
| 5 | 2.23 | 3202.2 | 7.40 | 9.03 | 1.41 |

$L_2 = 12 ft$

| | | | | | |
|---|------|--------|-------|-------|------|
| 2 | 3.63 | 2870.3 | 11.43 | 8.94 | .58 |
| 3 | 3.18 | 4329.4 | 11.99 | 15.27 | .85 |
| 4 | 2.56 | 4549.2 | 13.28 | 15.09 | 1.12 |
| 5 | 2.04 | 4464.7 | 13.91 | 13.83 | 1.47 |

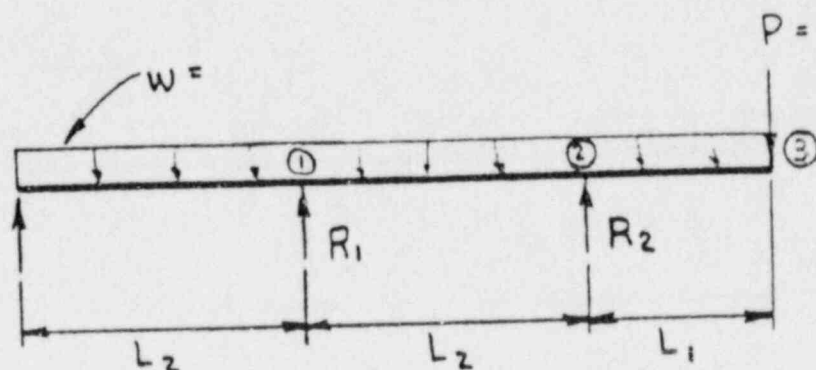
$L_2 = 14 ft$

| | | | | | |
|---|------|--------|-------|-------|------|
| 2 | 2.74 | 3738.9 | 13.09 | 8.05 | .81 |
| 3 | 2.55 | 5720.3 | 13.86 | 18.17 | 1.33 |
| 4 | 2.22 | 5918.9 | 14.77 | 18.40 | 1.44 |
| 5 | 1.84 | 5524.6 | 15.36 | 16.42 | 1.63 |

$L_2 = 15 ft$

| | | | | | |
|---|------|--------|-------|-------|------|
| 2 | 2.40 | 3923.3 | 13.03 | 7.04 | .89 |
| 3 | 2.28 | 5869.7 | 13.73 | 17.51 | 1.55 |
| 4 | 2.04 | 6438.2 | 14.56 | 19.03 | 1.69 |
| 5 | 1.74 | 5981.4 | 15.19 | 17.12 | 1.79 |

TABLE C-3



ALUMINUM 6063-T1

CONDUIT SIZE 1" Ø

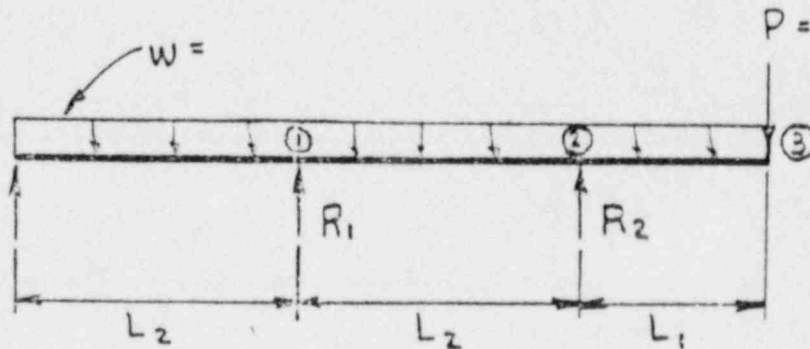
RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'

DAMPING % SSE

 $f_{peak} = 5.29 \text{ Hz} - 6.47 \text{ Hz}$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|----------------------|---------------|-----------------------------|-------------------|-------|-------------------------|
| | | | R_1 | R_2 | |
| $L_2 = 5 \text{ ft}$ | | | | | |
| 2 | 10.33 | 1825.4 | 7.5 | 16.2 | 0.16 |
| 3 | 6.34 | 3148.8 | 15.7 | 21.8 | 0.49 |
| 4 | 4.37 | 5925.5 | 15.5 | 22.7 | 0.94 |
| 5 | 3.23 | 3758.7 | 13.1 | 19.9 | 1.25 |
| $L_2 = 6 \text{ ft}$ | | | | | |
| 2 | 9.4 | 1719.2 | 8.96 | 14.55 | 0.17 |
| 3 | 5.94 | 3080.6 | 12.6 | 20.2 | 0.53 |
| 4 | 4.13 | 3626.7 | 13.9 | 20.4 | 0.96 |
| 5 | 3.1 | 3421.2 | 12.4 | 16.6 | 1.27 |
| $L_2 = 8 \text{ ft}$ | | | | | |
| 2 | 7.6 | 1723.8 | 10.25 | 14.2 | 0.19 |
| 3 | 5.2 | 2861.7 | 12.2 | 17.7 | 0.56 |
| 4 | 3.7 | 3288.6 | 13.9 | 17.5 | 0.67 |
| 5 | 2.82 | 3251.7 | 12.4 | 15.25 | 1.28 |

TABLE C-3



ALUMINUM 6063-T1

CONDUIT SIZE 1" ϕ

$Z = .1328 \text{ in}^3$

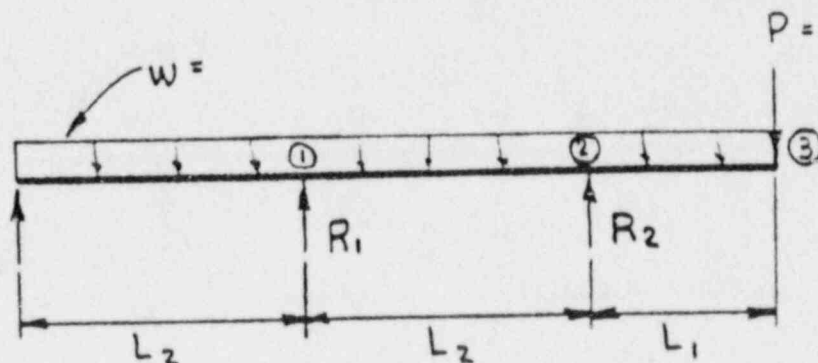
RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'

DAMPING 15 % SSE

$f_{\text{peak}} = 5.29 \text{ Hz} - 6.47 \text{ Hz}$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|-----------------------|------------|--------------------------|-------------------|-------|-------------------|
| | | | R_1 | R_2 | |
| $L_2 = 10 \text{ ft}$ | | | | | |
| 2 | 6.51 | 1138.0 | 9.93 | 2.28 | .12 |
| 3 | 4.48 | 2662.1 | 12.52 | 16.51 | .54 |
| 4 | 3.36 | 3090.1 | 13.03 | 16.61 | .91 |
| 5 | 2.59 | 3204.2 | 13.15 | 15.55 | 1.27 |
| $L_2 = 12 \text{ ft}$ | | | | | |
| 2 | 4.28 | 2455.9 | 18.23 | 13.93 | .41 |
| 3 | 3.72 | 2454.1 | 17.47 | 21.81 | .63 |
| 4 | 2.98 | 3906.8 | 19.54 | 22.82 | .93 |
| 5 | 2.37 | 4015.0 | 20.58 | 21.64 | 1.27 |
| $L_2 = 14 \text{ ft}$ | | | | | |
| 2 | 3.24 | 3650.2 | 23.54 | 11.98 | .62 |
| 3 | 3.00 | 5033.1 | 23.66 | 29.38 | 1.00 |
| 4 | 2.59 | 5620.3 | 26.11 | 32.27 | 1.17 |
| 5 | 2.15 | 5365.0 | 27.10 | 29.18 | 1.39 |
| $L_2 = 15 \text{ ft}$ | | | | | |
| 2 | 2.74 | 3154.7 | 24.10 | 10.69 | .69 |
| 3 | 2.18 | 5517.4 | 24.89 | 30.50 | 1.21 |
| 4 | 2.34 | 6193.0 | 26.35 | 33.98 | 1.36 |
| 5 | 2.03 | 5911.7 | 27.79 | 31.24 | 1.51 |

TABLE C-4



ALUMINUM 6063-T1

CONDUIT SIZE 1 1/2" ϕ

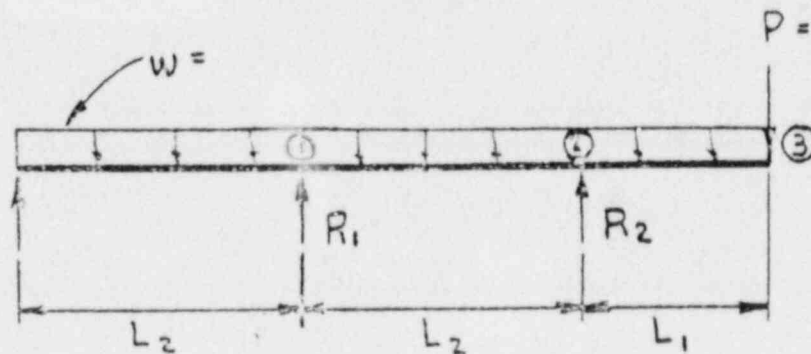
RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'

DAMPING % SSE

 $f_{\text{peak}} = 5.29 \text{ Hz} - 6.47 \text{ Hz}$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|----------------------|---------------|-----------------------------|-------------------|-------|-------------------------|
| | | | R_1 | R_2 | |
| $L_2 = 5 \text{ ft}$ | | | | | |
| 2 | 14.96 | 628.7 | 10.22 | 14.98 | 0.036 |
| 3 | 9.19 | 2167.5 | 22.94 | 36.7 | 0.24 |
| 4 | 6.3 | 3154.4 | 29.8 | 44.73 | 0.555 |
| 5 | 4.68 | 3983.2 | 33.6 | 51.40 | 0.92 |
| $L_2 = 6 \text{ ft}$ | | | | | |
| 2 | 13.65 | 640.9 | 10.54 | 14.91 | 0.032 |
| 3 | 8.6 | 2118.2 | 21.1 | 33.9 | 0.25 |
| 4 | 5.99 | 3134.9 | 27.5 | 41.92 | 0.57 |
| 5 | 4.46 | 3703.0 | 29.7 | 43.1 | 0.94 |
| $L_2 = 8 \text{ ft}$ | | | | | |
| 2 | 11.03 | 1045.3 | 14.2 | 20.5 | 0.025 |
| 3 | 7.55 | 1991.2 | 20.0 | 29.23 | 0.28 |
| 4 | 5.41 | 3012.72 | 25.01 | 37.4 | 0.63 |
| 5 | 4.08 | 3249.3 | 26.1 | 36.6 | 0.96 |

TABLE C-4



ALUMINUM 6063-T1

CONDUIT SIZE $1\frac{1}{2}" \phi$ $Z = .3262 \text{ in}^3$

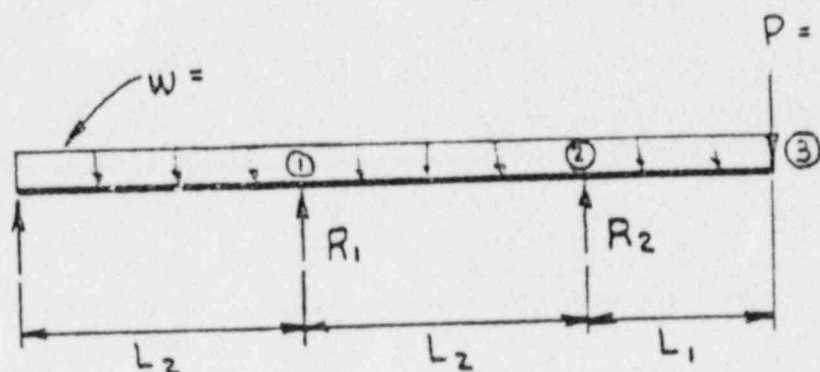
RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'

DAMPING 15 % SSE

$f_{\text{peak}} = 5.29 \text{ Hz} - 6.47 \text{ Hz}$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|-----------------------|------------|--------------------------|-------------------|-------|-------------------|
| | | | R_1 | R_2 | |
| $L_2 = 10 \text{ ft}$ | | | | | |
| 2 | 8.40 | 988.3 | 13.91 | 18.84 | .08 |
| 3 | 6.00 | 1840.6 | 19.66 | 26.78 | .28 |
| 4 | 4.87 | 2789.9 | 23.98 | 33.36 | .64 |
| 5 | 3.75 | 3040.5 | 24.48 | 32.44 | .94 |
| $L_2 = 12 \text{ ft}$ | | | | | |
| 2 | 6.25 | 1264.2 | 21.24 | 19.80 | .16 |
| 3 | 5.41 | 2004.7 | 22.62 | 28.36 | .32 |
| 4 | 4.33 | 2612.0 | 24.87 | 31.71 | .60 |
| 5 | 3.44 | 2924.3 | 25.58 | 31.78 | .90 |
| $L_2 = 14 \text{ ft}$ | | | | | |
| 2 | 4.74 | 2337.6 | 36.69 | 17.25 | .29 |
| 3 | 4.37 | 2599.7 | 32.30 | 33.57 | .46 |
| 4 | 3.77 | 3103.8 | 32.02 | 38.79 | .64 |
| 5 | 3.12 | 3452.6 | 35.03 | 40.28 | .90 |
| $L_2 = 15 \text{ ft}$ | | | | | |
| 2 | 4.16 | 2942.3 | 43.09 | 13.90 | .35 |
| 3 | 3.92 | 2881.6 | 37.46 | 35.01 | .57 |
| 4 | 3.49 | 3789.9 | 38.72 | 47.17 | .74 |
| 5 | 2.95 | 4061.4 | 42.01 | 48.26 | .95 |

TABLE C-5



5306

ALUMINUM 6063-T1

CONDUIT SIZE 2" Ø

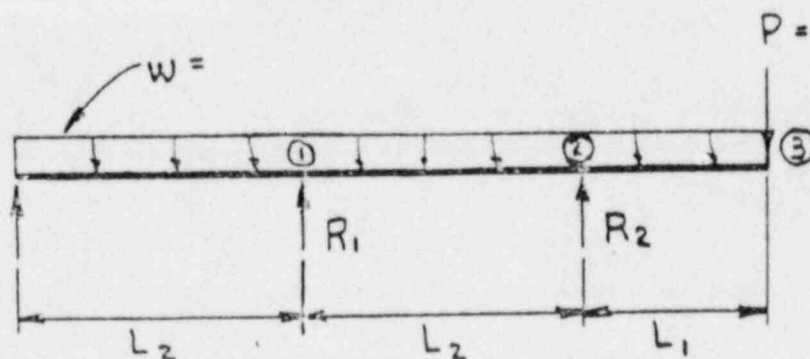
RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'

DAMPING % SSE

 $f_{peak} = 5.29 \text{ Hz} - 6.47 \text{ Hz}$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|----------------------|------------|--------------------------|-------------------|-------|-------------------|
| | | | R_1 | R_2 | |
| $L_2 = 5 \text{ ft}$ | | | | | |
| 2 | 18.2 | 540.1 | 15.2 | 22.2 | 0.024 |
| 3 | 11.2 | 2476.8 | 43.0 | 71.3 | 0.21 |
| 4 | 7.7 | 3640.5 | 57.5 | 88.6 | 0.49 |
| 5 | 5.7 | 4982.5 | 71.8 | 110.1 | 0.92 |
| $L_2 = 6 \text{ ft}$ | | | | | |
| 2 | 16.6 | 544.6 | 15.6 | 21.84 | 0.026 |
| 3 | 10.4 | 2398.5 | 38.6 | 64.74 | 0.23 |
| 4 | 7.3 | 3594.5 | 51.67 | 81.87 | 0.53 |
| 5 | 5.4 | 4803.6 | 63.3 | 95.81 | 0.98 |
| $L_2 = 8 \text{ ft}$ | | | | | |
| 2 | 13.3 | 1050.2 | 23.8 | 23.4 | 0.075 |
| 3 | 9.2 | 2160.1 | 33.8 | 53.2 | 0.25 |
| 4 | 6.6 | 3417.0 | 44.6 | 70.7 | 0.59 |
| 5 | 4.95 | 4429.1 | 53.65 | 80.5 | 1.04 |

TABLE C-5



ALUMINUM 6063-T1

CONDUIT SIZE 2" ϕ $Z = .5606 \text{ in}^3$

RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'

DAMPING 10% SSE

$f_{\text{peak}} = 5.29 \text{ Hz} - 6.47 \text{ Hz}$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|------------|------------|--------------------------|-------------------|-------|-------------------|
| | | | R_1 | R_2 | |

$L_2 = 10 \text{ ft}$

| | | | | | |
|---|-------|--------|-------|-------|------|
| 2 | 10.10 | 1205.3 | 31.57 | 35.93 | .10 |
| 3 | 7.87 | 2149.3 | 39.09 | 52.84 | .27 |
| 4 | 5.90 | 3190.7 | 43.47 | 62.99 | .62 |
| 5 | 4.55 | 3485.6 | 48.35 | 69.30 | 1.03 |

$L_2 = 12 \text{ ft}$

| | | | | | |
|---|------|--------|-------|-------|-----|
| 2 | 7.50 | 1883.5 | 58.11 | 38.16 | .18 |
| 3 | 6.52 | 1873.4 | 34.14 | 43.79 | .26 |
| 4 | 5.24 | 2913.3 | 42.99 | 56.65 | .60 |
| 5 | 4.16 | 3568.9 | 46.57 | 61.67 | .97 |

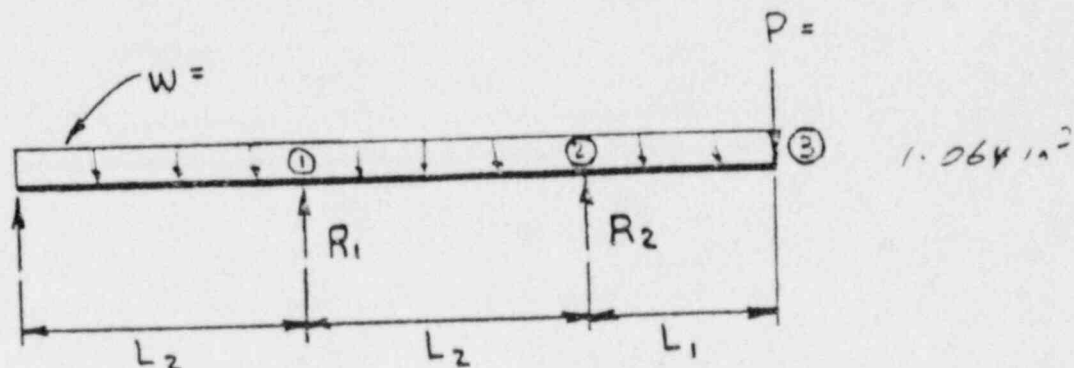
$L_2 = 14 \text{ ft}$

| | | | | | |
|---|------|--------|-------|-------|-----|
| 2 | 5.67 | 2040.1 | 55.20 | 26.21 | .21 |
| 3 | 5.26 | 2400.4 | 51.72 | 50.21 | .39 |
| 4 | 4.55 | 3101.6 | 51.05 | 60.94 | .61 |
| 5 | 3.77 | 3606.3 | 53.05 | 64.70 | .93 |

$L_2 = 15 \text{ ft}$

| | | | | | |
|---|------|--------|-------|-------|-----|
| 2 | 4.98 | 2979.3 | 74.70 | 21.37 | .29 |
| 3 | 4.70 | 2714.7 | 66.14 | 51.90 | .50 |
| 4 | 4.20 | 3450.9 | 59.17 | 66.98 | .68 |
| 5 | 3.57 | 3938.4 | 61.51 | 72.60 | .94 |

TABLE C-6



ALUMINUM 6063-T1

CONDUIT SIZE 2 1/2"

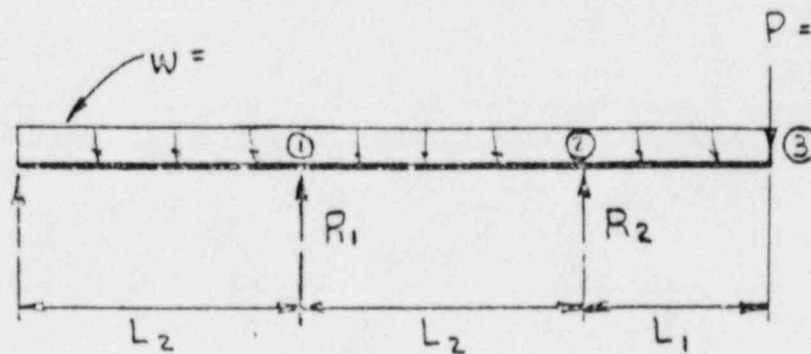
RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'

DAMPING % SSE

 $f_{peak} = 5.29 \text{ Hz} - 6.47 \text{ Hz}$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|----------------------|---------------|-----------------------------|-------------------|-------|-------------------------|
| | | | R_1 | R_2 | |
| $L_2 = 5 \text{ ft}$ | | | | | |
| 2 | 20.7 | 497.5 | 27.5 | 39.2 | 0.018 |
| 3 | 12.7 | 2321.7 | 77.4 | 127.3 | 0.16 |
| 4 | 8.73 | 3431.1 | 103.4 | 158.9 | 0.32 |
| 5 | 6.45 | 4716.6 | 129.3 | 198.4 | 0.72 |
| $L_2 = 6 \text{ ft}$ | | | | | |
| 2 | 18.8 | 510.8 | 28.6 | 39.3 | 0.019 |
| 3 | 11.9 | 2243.9 | 69.7 | 115.4 | 0.18 |
| 4 | 8.3 | 3385.2 | 93.3 | 146.9 | 0.41 |
| 5 | 6.14 | 4628.8 | 116.3 | 175.6 | 0.78 |
| $L_2 = 8 \text{ ft}$ | | | | | |
| 2 | 15.02 | 569.4 | 30.9 | 41.8 | 0.02 |
| 3 | 10.4 | 2007.8 | 61.1 | 94.2 | 0.19 |
| 4 | 7.4 | 3204.04 | 80.3 | 126.2 | 0.45 |
| 5 | 5.61 | 4509.1 | 100.6 | 155.3 | 0.87 |

TABLE C-6



ALUMINUM 6063-T1

CONDUIT SIZE $2\frac{1}{2}" \phi$ $Z = 1.064 \text{ in}^3$

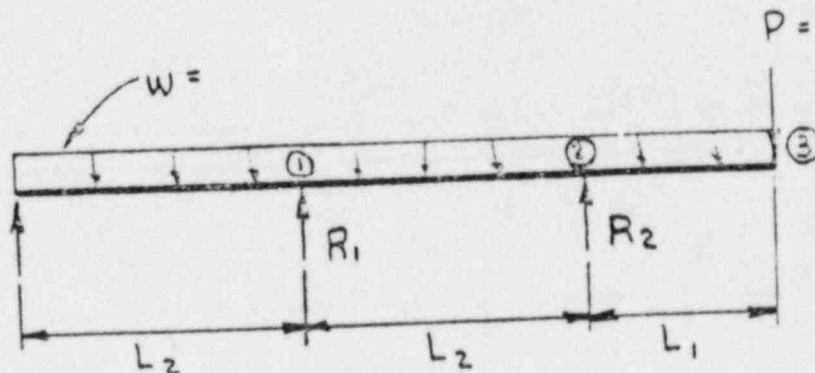
RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'

DAMPING 10 % SSE

$f_{\text{peak}} = 5.29 \text{ Hz} - 6.47 \text{ Hz}$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|-----------------------|------------|--------------------------|-------------------|--------|-------------------|
| | | | R_1 | R_2 | |
| $L_2 = 10 \text{ ft}$ | | | | | |
| 2 | 11.28 | 966.1 | 45.23 | 54.59 | .07 |
| 3 | 7.38 | 1909.8 | 66.23 | 88.54 | .20 |
| 4 | 6.68 | 2974.8 | 78.15 | 111.79 | .47 |
| 5 | 5.15 | 4115.6 | 92.78 | 134.67 | .89 |
| $L_2 = 12 \text{ ft}$ | | | | | |
| 2 | 9.33 | 1895.0 | 110.88 | 66.15 | .15 |
| 3 | 7.31 | 2277.3 | 89.18 | 102.32 | .25 |
| 4 | 5.92 | 2746.8 | 77.43 | 100.98 | .47 |
| 5 | 4.70 | 3703.5 | 88.70 | 118.56 | .86 |
| $L_2 = 14 \text{ ft}$ | | | | | |
| 2 | 6.29 | 1600.9 | 83.27 | 42.58 | .14 |
| 3 | 5.86 | 2139.4 | 86.52 | 84.72 | .29 |
| 4 | 5.11 | 2886.7 | 89.02 | 105.37 | .49 |
| 5 | 4.25 | 3541.5 | 94.48 | 116.31 | .80 |
| $L_2 = 15 \text{ ft}$ | | | | | |
| 2 | 5.52 | 2517.1 | 120.56 | 34.49 | .21 |
| 3 | 5.23 | 2417.3 | 112.51 | 86.35 | .38 |
| 4 | 4.70 | 3239.2 | 105.12 | 116.03 | .56 |
| 5 | 4.02 | 3754.4 | 106.17 | 125.75 | .81 |

TABLE C-7



1.724

ALUMINUM 6063-T1

CONDUIT SIZE 3" ϕ

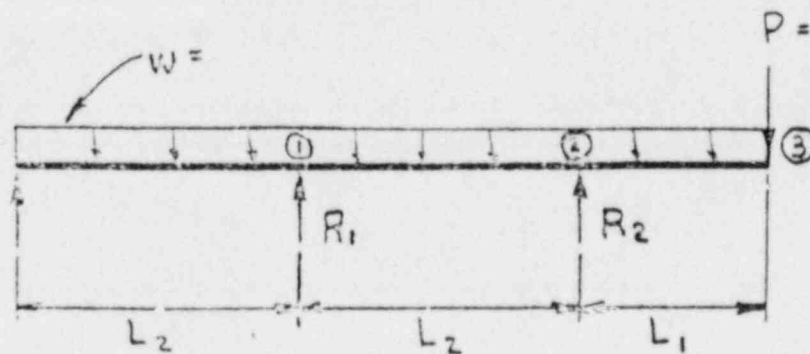
RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'

DAMPING % SSE

$f_{peak} = 5.29 \text{ Hz} - 6.47 \text{ Hz}$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|----------------------|------------|--------------------------|-------------------|-------|-------------------|
| | | | R_1 | R_2 | |
| $L_2 = 5 \text{ ft}$ | | | | | |
| 2 | 24.1 | 354.9 | 18.4 | 40.0 | 0.013 |
| 3 | 14.8 | 697.2 | 32.3 | 60.6 | 0.04 |
| 4 | 10.2 | 3099.67 | 152.2 | 233.0 | 0.28 |
| 5 | 7.5 | 4276.7 | 190.3 | 292.1 | 0.54 |
| $L_2 = 6 \text{ ft}$ | | | | | |
| 2 | 21.9 | 448.9 | 42.1 | 56.8 | 0.014 |
| 3 | 13.8 | 755.3 | 53.4 | 70.7 | 0.05 |
| 4 | 9.6 | 3056.3 | 127.6 | 215.5 | 0.30 |
| 5 | 7.13 | 4194.4 | 171.5 | 258.5 | 0.58 |
| $L_2 = 8 \text{ ft}$ | | | | | |
| 2 | 17.3 | 516.5 | 46.0 | 61.8 | 0.017 |
| 3 | 12.1 | 1792.0 | 90.1 | 136.7 | 0.14 |
| 4 | 8.64 | 2884.0 | 118.8 | 184.7 | 0.33 |
| 5 | 6.52 | 4079.8 | 148.9 | 228.4 | 0.65 |

TABLE C-7



ALUMINUM 6063-T1

CONDUIT SIZE 3" ϕ $Z = 1.724 \text{ in}^3$

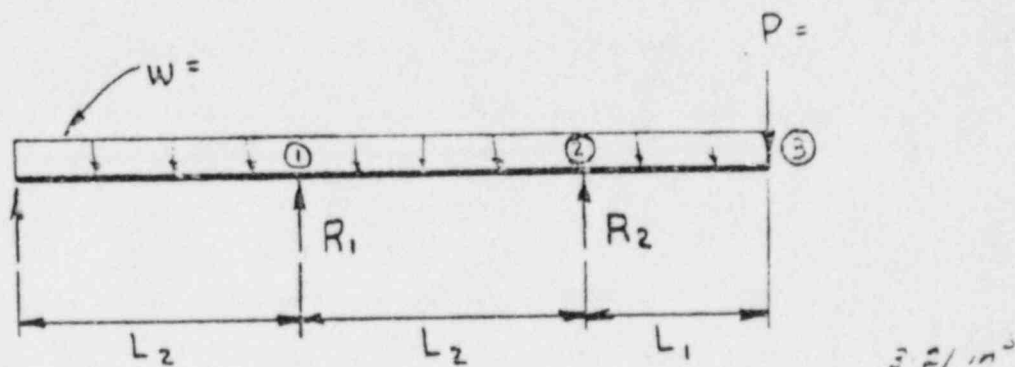
RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'

DAMPING 10 % SSE

$f_{\text{peak}} = 5.29 \text{ Hz} - 6.47 \text{ Hz}$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|-----------------------|------------|--------------------------|-------------------|--------|-------------------|
| | | | R_1 | R_2 | |
| $L_2 = 10 \text{ ft}$ | | | | | |
| 2 | 2.93 | 811.6 | 61.60 | 73.37 | .05 |
| 3 | 3.26 | 1592.6 | 88.26 | 117.97 | .14 |
| 4 | 3.75 | 2680.5 | 115.60 | 164.03 | .35 |
| 5 | 4.97 | 3886.6 | 140.14 | 204.98 | .69 |
| $L_2 = 12 \text{ ft}$ | | | | | |
| 2 | 2.51 | 1567.3 | 149.25 | 87.72 | .10 |
| 3 | 2.40 | 2019.0 | 131.34 | 144.88 | .18 |
| 4 | 2.84 | 2767.8 | 135.15 | 170.77 | .37 |
| 5 | 3.45 | 3612.4 | 137.81 | 185.09 | .70 |
| $L_2 = 14 \text{ ft}$ | | | | | |
| 2 | 2.17 | 2746.9 | 224.55 | 63.03 | .17 |
| 3 | 2.70 | 1709.9 | 104.97 | 111.62 | .19 |
| 4 | 3.88 | 2515.9 | 123.80 | 147.65 | .36 |
| 5 | 4.91 | 3375.1 | 140.20 | 179.82 | .67 |
| $L_2 = 15 \text{ ft}$ | | | | | |
| 2 | 2.29 | 1744.0 | 137.29 | 47.77 | .13 |
| 3 | 2.98 | 1973.9 | 142.65 | 115.18 | .25 |
| 4 | 3.10 | 2776.5 | 143.32 | 158.08 | .41 |
| 5 | 4.63 | 3429.3 | 149.08 | 177.79 | .66 |

TABLE C-8



ALUMINUM 6063-T1

CONDUIT SIZE 4" ϕ

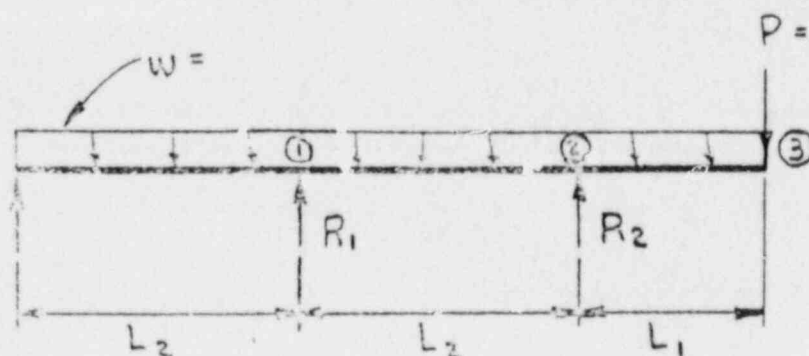
RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'

DAMPING 7% SSE

 $f_{\text{peak}} = 5.29 \text{ Hz} - 6.47 \text{ Hz}$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|----------------------|------------|--------------------------|-------------------|-------|-------------------|
| | | | R_1 | R_2 | |
| $L_2 = 5 \text{ ft}$ | | | | | |
| 2 | 33.5 | 206.9 | 20.1 | 41.4 | 0.006 |
| 3 | 20.6 | 494.6 | 42.6 | 79.9 | 0.023 |
| 4 | 14.2 | 834.5 | 69.3 | 117.0 | 0.06 |
| 5 | 10.4 | 1855.4 | 299.0 | 463.4 | 0.36 |
| $L_2 = 6 \text{ ft}$ | | | | | |
| 2 | 30.5 | 195.7 | 18.2 | 35.6 | 0.006 |
| 3 | 19.3 | 481.7 | 36.5 | 71.4 | 0.025 |
| 4 | 13.4 | 2629.6 | 211.2 | 341.7 | 0.20 |
| 5 | 9.95 | 3619.0 | 268.6 | 414.3 | 0.39 |
| $L_2 = 8 \text{ ft}$ | | | | | |
| 2 | 24.3 | 336.4 | 55.3 | 74.9 | 0.008 |
| 3 | 16.8 | 565.5 | 71.5 | 92.5 | 0.03 |
| 4 | 12.1 | 2453.6 | 175.6 | 285.9 | 0.23 |
| 5 | 9.1 | 3490.8 | 224.5 | 358.2 | 0.44 |

TABLE C-8



ALUMINUM 6063-T1

CONDUIT SIZE 4" $Z = 3.21 \text{ in}^3$

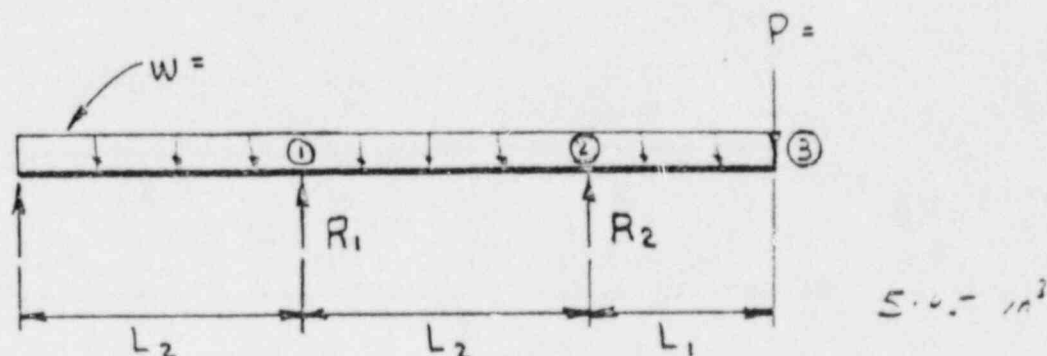
RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'

DAMPING 7% SSE

 $f_{\text{peak}} = 5.29 \text{ Hz} - 6.47 \text{ Hz}$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|-----------------------|------------|--------------------------|-------------------|--------|-------------------|
| | | | R_1 | R_2 | |
| $L_2 = 10 \text{ ft}$ | | | | | |
| 2 | 8.14 | 432.7 | 65.04 | 82.79 | .01 |
| 3 | 4.35 | 950.8 | 97.42 | 131.26 | .07 |
| 4 | 2.92 | 2188.4 | 155.65 | 236.07 | .23 |
| 5 | 2.33 | 3264.2 | 177.34 | 309.05 | .47 |
| $L_2 = 12 \text{ ft}$ | | | | | |
| 2 | 3.21 | 578.0 | 93.93 | 80.89 | .04 |
| 3 | 1.78 | 1106.0 | 112.11 | 132.11 | .09 |
| 4 | 1.36 | 1938.4 | 151.06 | 202.39 | .23 |
| 5 | 1.11 | 3520.7 | 191.68 | 274.38 | .48 |
| $L_2 = 14 \text{ ft}$ | | | | | |
| 2 | 2.12 | 1166.3 | 179.78 | 69.47 | .07 |
| 3 | 1.41 | 1551.6 | 207.04 | 172.57 | .15 |
| 4 | 1.03 | 2298.5 | 214.19 | 241.82 | .27 |
| 5 | 0.87 | 3098.9 | 224.00 | 285.56 | .49 |
| $L_2 = 15 \text{ ft}$ | | | | | |
| 2 | 1.71 | 2706.3 | 381.80 | 55.48 | .13 |
| 3 | 1.10 | 2179.3 | 303.59 | 186.38 | .21 |
| 4 | 0.87 | 2463.9 | 242.01 | 250.55 | .30 |
| 5 | 0.78 | 2673.8 | 192.01 | 238.63 | .46 |

TABLE C-9



ALUMINUM 6063-T1

CONDUIT SIZE 5" ϕ

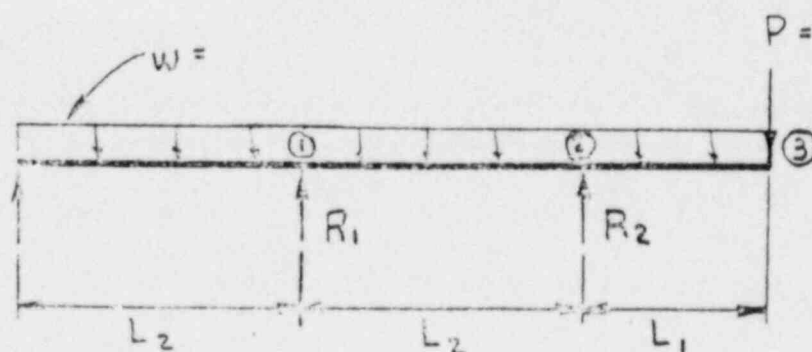
RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'

DAMPING % SSE

 $f_{\text{peak}} = 5.29 \text{ Hz} - 6.47 \text{ Hz}$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|----------------------|---------------|-----------------------------|-------------------|-------|-------------------------|
| | | | R_1 | R_2 | |
| $L_2 = 5 \text{ ft}$ | | | | | |
| 2 | 40.3 | 170.7 | 26.2 | 56.0 | 0.004 |
| 3 | 24.7 | 324.4 | 54.8 | 103.4 | 0.015 |
| 4 | 17.0 | 673.3 | 93.7 | 158.3 | 0.04 |
| 5 | 12.6 | 3134.3 | 432.0 | 669.2 | 0.25 |
| $L_2 = 6 \text{ ft}$ | | | | | |
| 2 | 36.6 | 158.1 | 25.0 | 49.0 | 0.004 |
| 3 | 23.1 | 323.7 | 49.5 | 96.7 | 0.016 |
| 4 | 16.1 | 672.0 | 81.2 | 146.4 | 0.04 |
| 5 | 12.0 | 3085.0 | 359.5 | 599.2 | 0.27 |
| $L_2 = 8 \text{ ft}$ | | | | | |
| 2 | 29.2 | 275.8 | 78.1 | 105.6 | 0.006 |
| 3 | 20.2 | 460.8 | 100.7 | 129.5 | 0.02 |
| 4 | 14.5 | 725.7 | 124.1 | 162.3 | 0.03 |
| 5 | 11.0 | 2979.0 | 324.2 | 518.3 | 0.3 |

TABLE C-9



ALUMINUM 6063-T1

CONDUIT SIZE 5" ϕ $Z = 5.45 \text{ in}^3$

RESPONSE SPECTRUM REACTOR BUILDING ELEV. 664.00'

DAMPING 7% SSE

 $f_{\text{peak}} = 5.29 \text{ Hz} - 6.47 \text{ Hz}$

| L_1 (ft) | f_n (Hz) | MAX CONDUIT STRESS (PSI) | SUPPORT LOAD (lb) | | END DISPL. (in) ③ |
|-----------------------|------------|--------------------------|-------------------|--------|-------------------|
| | | | R_1 | R_2 | |
| $L_2 = 10 \text{ ft}$ | | | | | |
| 2 | 2.92 | 351.5 | 88.25 | 116.46 | .01 |
| 3 | 17.28 | 518.0 | 108.97 | 138.34 | .02 |
| 4 | 13.01 | 1868.8 | 223.10 | 340.34 | .16 |
| 5 | 5.22 | 2784.9 | 283.92 | 446.34 | .32 |
| $L_2 = 12 \text{ ft}$ | | | | | |
| 2 | 15.19 | 426.8 | 122.82 | 114.77 | .02 |
| 3 | 1.22 | 792.2 | 140.37 | 175.80 | .05 |
| 4 | 5.1 | 1607.5 | 203.86 | 278.14 | .16 |
| 5 | 1.16 | 2529.6 | 261.66 | 382.82 | .33 |
| $L_2 = 14 \text{ ft}$ | | | | | |
| 2 | 12.51 | 632.5 | 167.21 | 94.23 | .03 |
| 3 | 1.1 | 951.8 | 178.07 | 184.57 | .07 |
| 4 | 4.23 | 1564.4 | 224.07 | 270.87 | .16 |
| 5 | 1.7 | 2401.1 | 276.84 | 361.42 | .33 |
| $L_2 = 15 \text{ ft}$ | | | | | |
| 2 | 1.12 | 1133.3 | 221.2 | 77.33 | .04 |
| 3 | 1.16 | 1121.1 | 300.5 | 197.62 | .10 |
| 4 | 1.14 | 1860.5 | 294.32 | 315.76 | .19 |
| 5 | 7.81 | 2668.8 | 327.76 | 349.89 | .35 |

APPENDIX D

BROWNS FERRY NUCLEAR PLANT (BFN)

TEST FOUNDED
DATA BASE STANDARDS (DBS)

I. Commentary

During the early stages of the as-built evaluation of the BFN electrical conduit installations, it was recognized that several recurring configuration groups were not in agreement with the criteria model.

The most common of these recurring groups was identified, and what is believed to be enveloping dimensions and sizes were established. Hardware was assembled to these enveloping conditions, and full scale seismic tests were performed to the full SSE level at BFN. In addition to the SSE levels, successively higher levels were tested in effort to establish the fragility level of the conduit. In most cases, the test machine limitations were reached before the specimen fragility was determined. The machine limitations were much greater than the required SSE level, assuring qualification plus margin for the hardware being tested.

II. Objective

The objective of these standards is to provide a documented, verified, enveloping, quantifiable, easy to use basis for qualifying conduit installations which approximate any configuration group found in these DBS but which lie outside the model from which the design criteria were developed.

III. Application

Any as-installed conduit installation which cannot be directly associated with the criteria model and for which a similar DBS may be found herein is a candidate for qualification by comparison to the respective DBS. There are six points of comparison to be made:

- A. Structural stability
- B. Geometric configuration
- C. Enveloping dimensions
- D. Material type
- E. Clamps used
- F. Support loads

IV. Qualification by DBS Method

A favorable point-by-point comparison, including informed engineering judgment where necessary, will result in seismic qualification to the particular DBS.

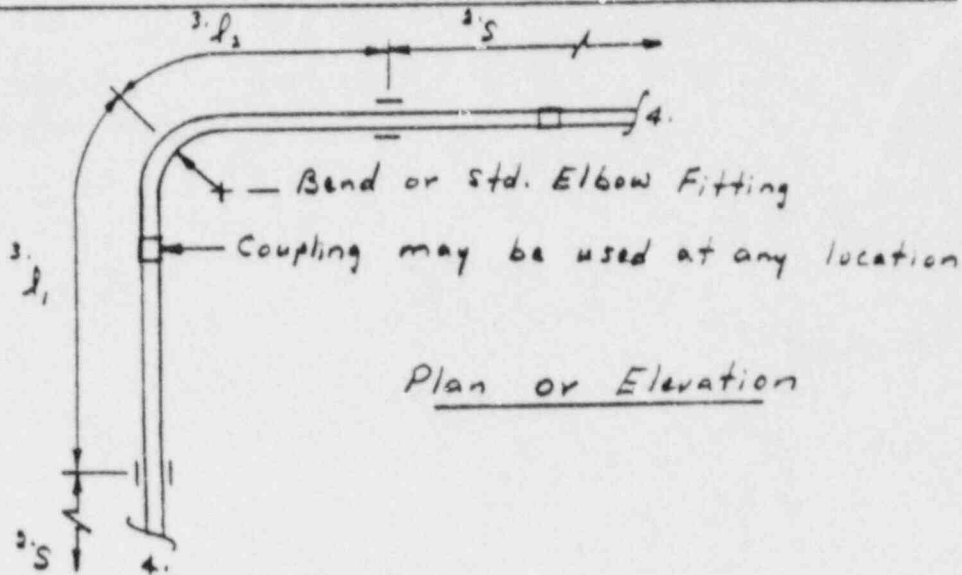
V. Quality Assurance

As for an, qualification, each condition must be identified, documented, and mapped. The point-by-point evaluation must be made, the results documented, and the records preserved. All applicable requirements of the program QA plan must be met.

BROWNS FERRY NUCLEAR PLANT
TEST FOUNDED
DATA BASE STANDARD

DBS No. N-1002-1

Prepared By CM Date 3/8/86
Verified By GDF Date 3-27-86



Material Aluminum or Steel
Conduit Size(s) 1/2" thru 5"

Comments/Conditions

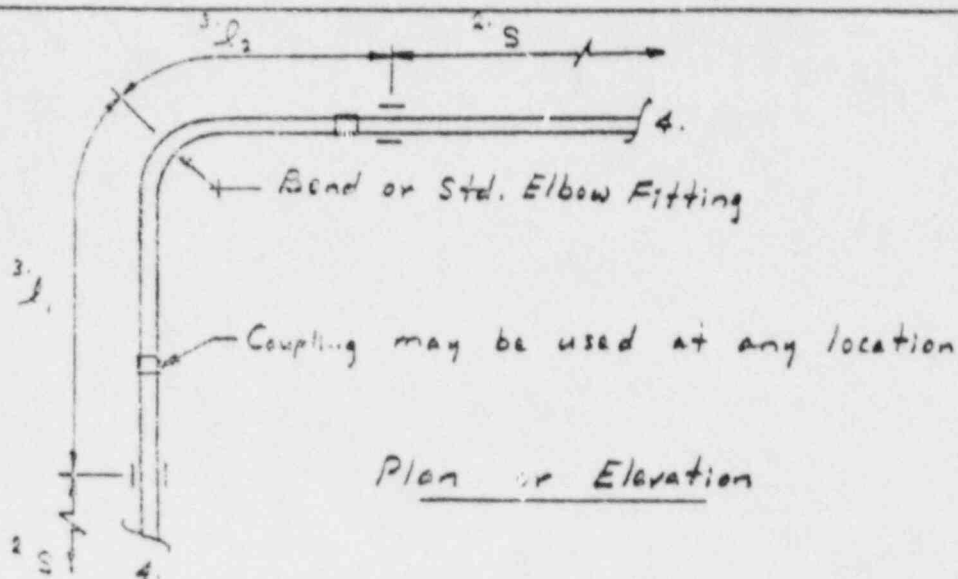
1. For steel conduit, this standard excludes use of 1-hole, 2-piece strap. For steel conduit with 1-hole, 2-piece clamp see standard DBS-N-1002-1A
2. S = Spans per BFN-50-723
3. $l_1 + l_2 \leq 10'$ for $1/2"$ thru $1"$ Conduit for any combination of l_1 and l_2 .
 $l_1 + l_2 \leq 15'$ for $1 1/2"$ thru $5"$ Conduit for any combination of l_1 and l_2
4. Sufficient support must be provided to assure structural stability.

BROWNS FERRY NUCLEAR PLANT
TEST FOUNDED
DATA BASE STANDARD

DBS No. N-1002-1A

Prepared By BME Date 2/27/86

Verified By GDF Date 3-27-86



Material 1 Steel
Conduit Size(s) 1/2" thru 5"

Comments/Conditions

1. For steel Conduit with 2-hole, 1-piece Clamp see standard DBS-N-1002-1.
2. $L \leq 8'$ for 1/2" thru 1" Conduit
 $S \leq 14'$ for 1/2" thru 5" Conduit
3. $L_1 + L_2 \leq 8'$ for 1/2" thru 1" Conduit for any combination of L_1 and L_2 .
 $L_1 + L_2 \leq 10'$ for 1/2" thru 5" Conduit for any combination of L_1 and L_2 .
4. Sufficient Support must be provided to assure structural stability.

BROWNS FERRY NUCLEAR PLANT
TEST FOUNDED
DATA BASE STANDARD

DBS No. N-1002-2

Prepared By BAM

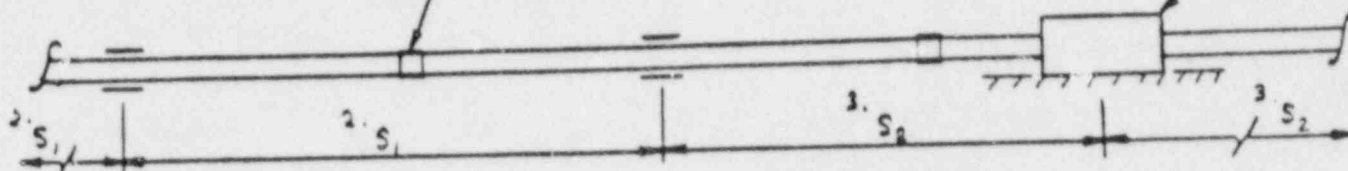
Date 3-27-86

Verified By GDF

Date 3-27-86

Couplings may be used
at any location.

⁴ Anchored Electrical Box



Material Aluminum or Steel
Conduit Size(s) 1/2" thru 5"

Comments/Conditions

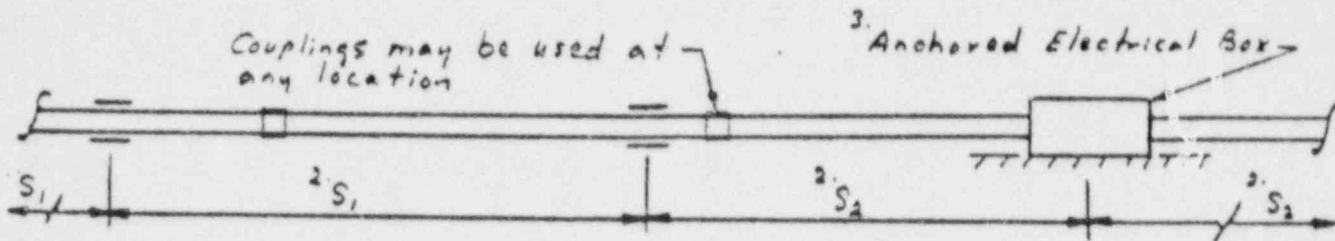
1. For steel conduit, this standard excludes use of 1-hole, 2-piece strap. For steel conduit with 1-hole, 2-piece strap see standard DBS N-1002-2A.
2. S_1 = Spans per BFN-50-723
3. $S_2 \leq 15'$ or that given in BFN-50-723, whichever is less.
4. To qualify as an "anchored" box, attachments to the structure must be judged to be equivalent to that required for a conduit support qualified under BFN-50-723 for the same size conduit.

BROWNS FERRY NUCLEAR PLANT
TEST FOUNDED
DATA BASE STANDARD

DBS No. N-1002-2 A

Prepared By BSN Date 3/29/86

Verified By GDE Date 3/27/86



Elevation

Material Steel
Conduit Size(s) $\frac{1}{2}$ " thru 5"

Comments/Conditions

1. For steel conduit with 2-hole, 1-piece clamp see standard DBS-N-1002-2
2. $S_1 = S_2 \leq 8'$ for $\frac{1}{2}$ " thru 1" Conduit
 $S_1 = S_2 \leq 10'$ for $\frac{1}{2}$ " thru 5" Conduit or that given in BFN-50-723, whichever is less.
3. To qualify as an "anchored" box, attachments to the structure must be judged to be equivalent to that required for a conduit support qualified under BFN-50-723 for the same size conduit.

BROWNS FERRY NUCLEAR PLANT
TEST FOUNDED
DATA BASE STANDARD

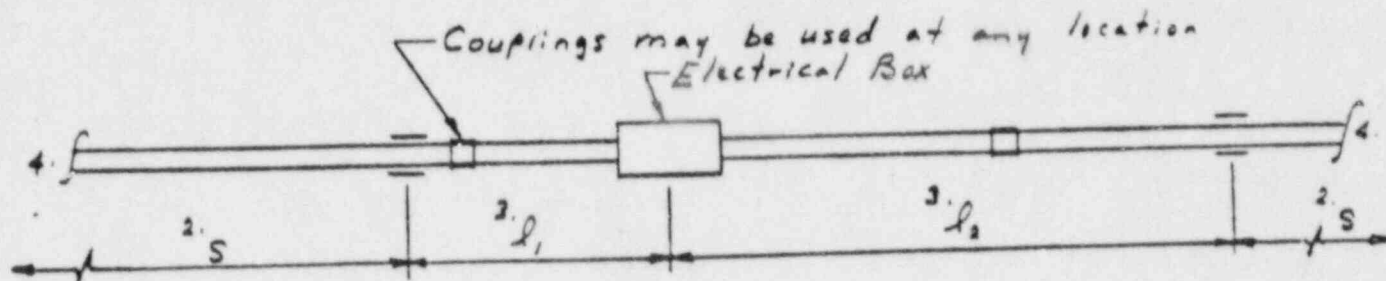
DBS No. N-1002-3

Prepared By BAM

Date 3/27/86

Verified By GDF

Date 3-27-86



Elevation

Material Aluminum or 1" Steel
Conduit Size(s) 1/2" thru 5"

Comments/Conditions

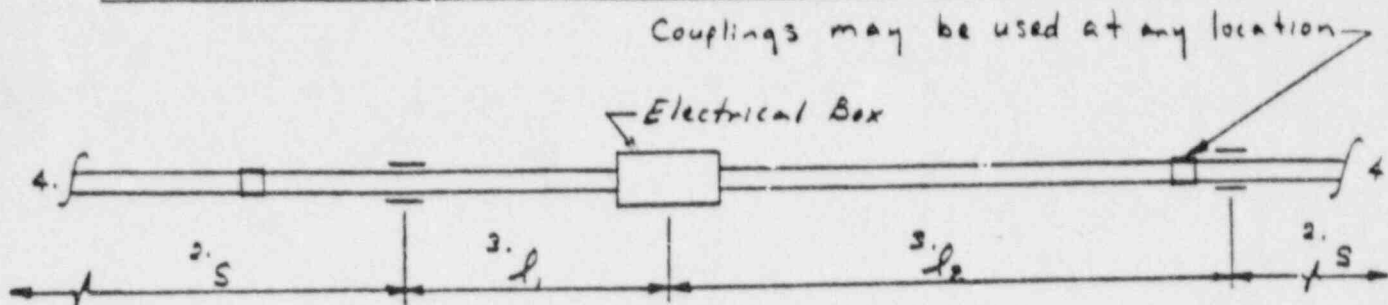
1. For steel Conduit, this standard excludes use of 1-hole, 2-piece strap. For steel Conduit with 1-hole, 2-piece strap see standard DBS N-1002-3A
2. S = Spans per BFN-50-723
3. $l_1 + l_2 \leq 10'$ for any combination of l_1 and l_2 .
4. Sufficient support must be provided to assure structural stability.

BROWNS FERRY NUCLEAR PLANT
TEST FOUNDED
DATA BASE STANDARD

DBS No. N-1002-3A

Prepared By BIM Date 3/17/84

Verified By GWT Date 3-22-84



Elevation

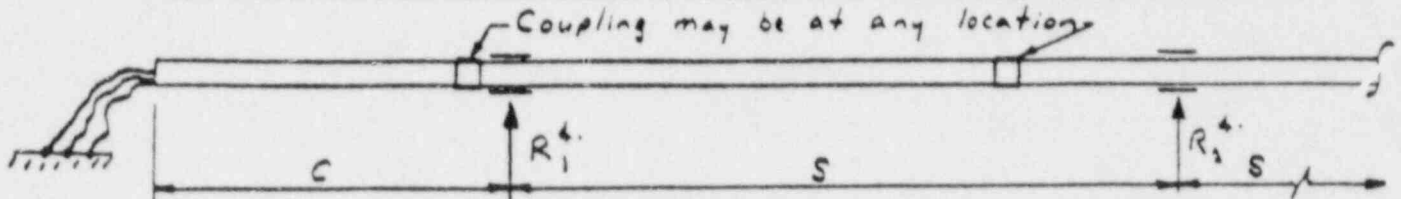
Material Steel with 1-hole, 2-piece strap
Conduit Size(s) 1/2" thru 5"

Comments/Conditions

1. For steel Conduit with 1-piece, 2-hole clamp see standard DBS N-1002-3
2. $S \leq 8'$ for 1/2" thru 1" Conduit
 $S \leq 14'$ for 1 1/2" thru 5" Conduit
3. $l_1 + l_2 \leq 5'$ for 1/2" thru 1" Conduit for any combination of l_1 and l_2 .
 $l_1 + l_2 \leq 10'$ for 1 1/2" thru 5" Conduit for any combination of l_1 and l_2 .
4. Sufficient support must be provided to assure structural stability.

BROWNS FERRY NUCLEAR PLANT
TEST FOUNDED
DATA BASE STANDARD

DBS No. N-1002-4
Prepared By BSM Date 1/27/86
Verified By GDF Date 3-27-86



^{1,3} Tabulation for Cantilever Length, C

| S | 2 1/2" | 3/4" | 1" | 1 1/2" | 2" | 2 1/2" | 3" | 4" | 5" |
|----|--------|------|----|--------|----|--------|----|----|----|
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 10 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 12 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 14 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 16 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |

Material Aluminum
Conduit Size (ø) - 1/2" thru 5"

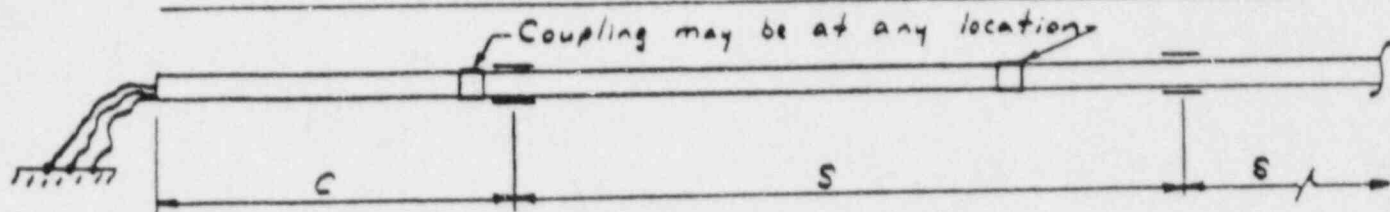
Comments/Conditions

1. Based upon full-scale dynamic testing to multiple SSE levels.
2. This size not tested - Engineering judgment used.
3. These lengths may be used if support design loads can be shown to accommodate the respective spans.
4. See BFN-50-723, Appendix C for support loads for R_1 and R_2 .

BROWNS FERRY NUCLEAR PLANT
TEST FOUNDED
DATA BASE STANDARD

DBS No. N-1002-4

Prepared By GDF Date 3-6
Verified By BAQ Date 7-28-66



Tabulation for Cantilever Length, C

| S | 1/2" | 3/4" | 1" | 1 1/2" | 2" | 2 1/2" | 3" | 4" | 5" |
|----|------|------|----|--------|----|--------|----|----|----|
| 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| 6 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 |
| 8 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 10 | 5 | 5 | 5 | 2 | 1 | 1 | 2 | 2 | 2 |
| 12 | 5 | 5 | 5 | 5 | 4 | 1 | 1 | 2 | 2 |
| 14 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 1 | 4 |
| 15 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 1 | 2 |

Material Aluminum
Conduit Size(s) 1/2" thru 5"

Comments/Conditions

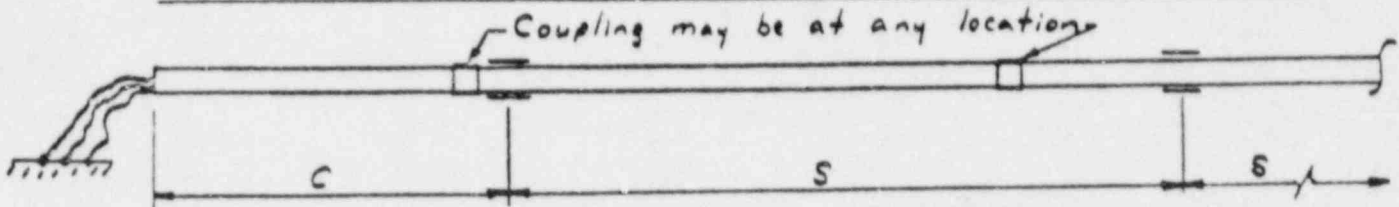
1. Allowable cantilever span length based on support loads not exceeding interior span allowables. (support load allowables - BFN-50-723)
2. These cantilever span lengths have been screened for worst condition and may be used directly without concern for support loads as long as BFN-50-723 is met.

BROWNS FERRY NUCLEAR PLANT
TEST FOUNDED
DATA BASE STANDARD

DBS No. N-1002-4A

Prepared By GDF Date 3-27-86

Verified By 1/1/87 Date 3-28-86



Tabulation for Cantilever Length, C

| S | 1/2" | 3/4" | 1" | 1 1/2" | 2" | 2 1/2" | 3" | 4" | 5" |
|----|------|------|----|--------|----|--------|----|----|----|
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 6 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 8 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 10 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 12 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 14 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 15 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |

Material Aluminum

Conduit Size(s) 1/2" thru 5"

Comments/Conditions

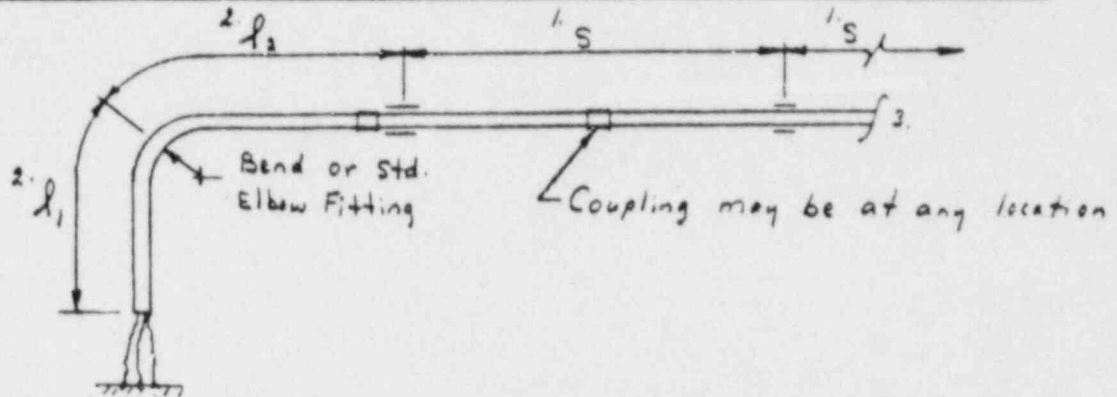
1. These cantilever spans were tested to levels much higher than SSE with no adverse effects. Consequently, conduit stress is not a limiting factor for these spans.
2. Where these cantilever spans exceed those in DBS-N-1002-4, Support loads given in Appendix C must be met.

BROWNS FERRY NUCLEAR PLANT
TEST FOUNDED
DATA BASE STANDARD

DBS No. N-1002- 5

Prepared By BMM Date 2/27/86

Verified By GDF Date 2-27-86



Caution: 1. Some rotation within fittings may occur during earthquake.
2. All fittings must be tight where subject to torsion.

Material Aluminum

Conduit Size(s) 1/2" thru 5"

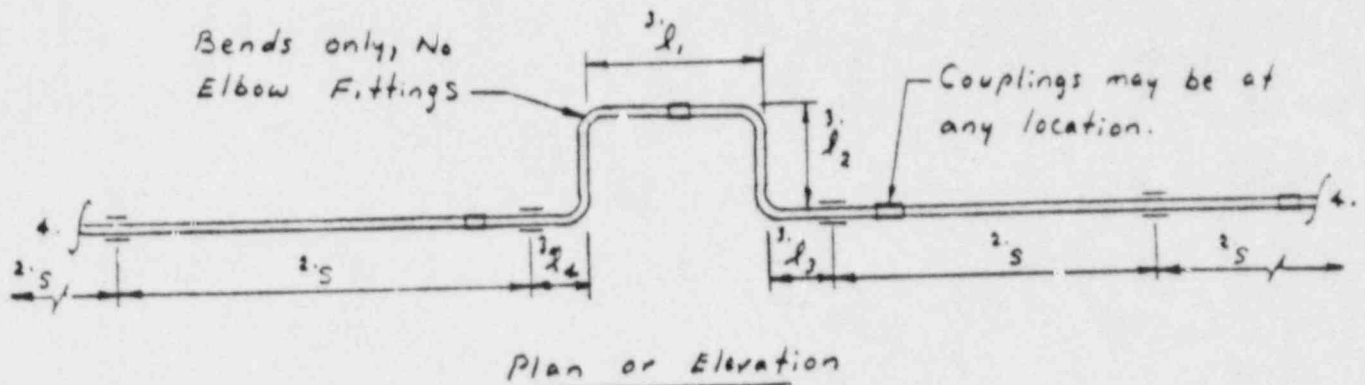
Comments/Conditions

1. S = Spans per BFN-50-723
2. $l_1 + l_2 \leq 5'$ for 1/2" thru 1" Conduit for $l_1 \leq 2'$.
 $l_1 + l_2 \leq 6'$ for 1 1/2" thru 5" Conduit for $l_1 \leq 3'$.
3. Provision must be made to resist torsion, either through Conduit routing or special design.

BROWNS FERRY NUCLEAR PLANT
TEST FOUNDED
DATA BASE STANDARD

DBS No. N-1002-6

Prepared By BMM Date 3/27/86
Verified By GDI Date 3-2-86



Material Aluminum or 1" steel
Conduit Size (in) 1/2" thru 2"

Comments/Conditions

1. For steel conduit, this standard excludes use of 1-hole, 2-piece strap. For steel conduit with 1-hole, 2-piece strap see Standard DBS-N-1002-6A.
2. S = Spans per BFN-50-723
3. For 1/2" thru 1" - $l_1 + 2l_2 + l_3 + l_4 \leq S$, $l_2 \leq 2'$, $l_3 \leq 1'$
For 1 1/2" and 2" - $l_1 + 2l_2 + l_3 + l_4 \leq S$, $l_2 \leq 3'$, $l_3 \leq 3'$
4. Provisions must be available for resisting torsion, either through conduit routing or special design.

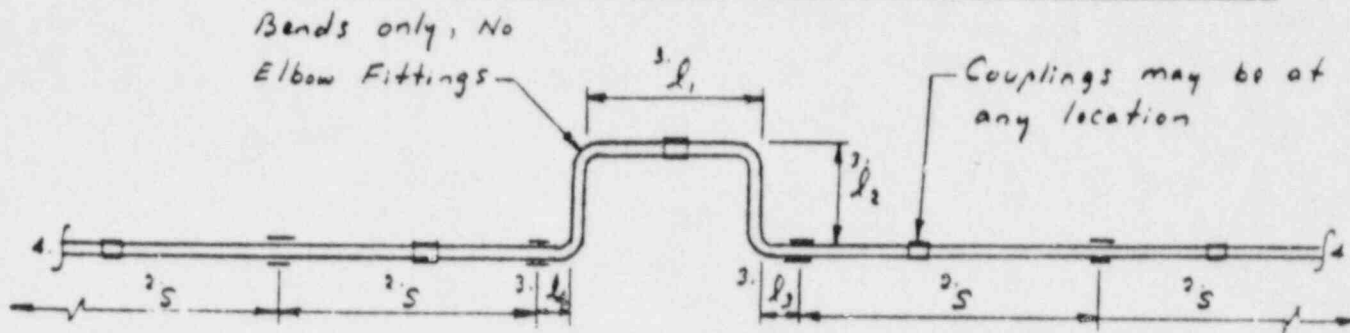
* Including 50% overspan allowance where supports allow.

DE02;066074.01

BROWNS FERRY NUCLEAR PLANT
TEST FOUNDED
DATA BASE STANDARD

DBS No. N-1002-6A

Prepared By BM Date 2/2/86
Verified By GDH Date 3-27-86



Plan or Elevation

Material 1" Steel
Conduit Size(s) 1/2" thru 2"

Comments/Conditions

1. For steel conduit with 2-hole, 1-piece clamp see standard DBS-N-1002-1.
2. S: spans per BFN-50-723
3. For 1/2" thru 1" - $l_1 + 2l_2 + l_3 + l_4 \leq 8'$, $l_2 \leq 2'$
For 1 1/2" and 2" - $l_1 + 2l_2 + l_3 + l_4 \leq 10'$, $l_2 \leq 3'$
4. Provisions must be available for resisting torsion, either through conduit routing or special design.

* No additional overspan is allowed.

DBS2;066074.01

BROWNS FERRY NUCLEAR PLANT
TEST FOUNDED
DATA BASE STANDARD

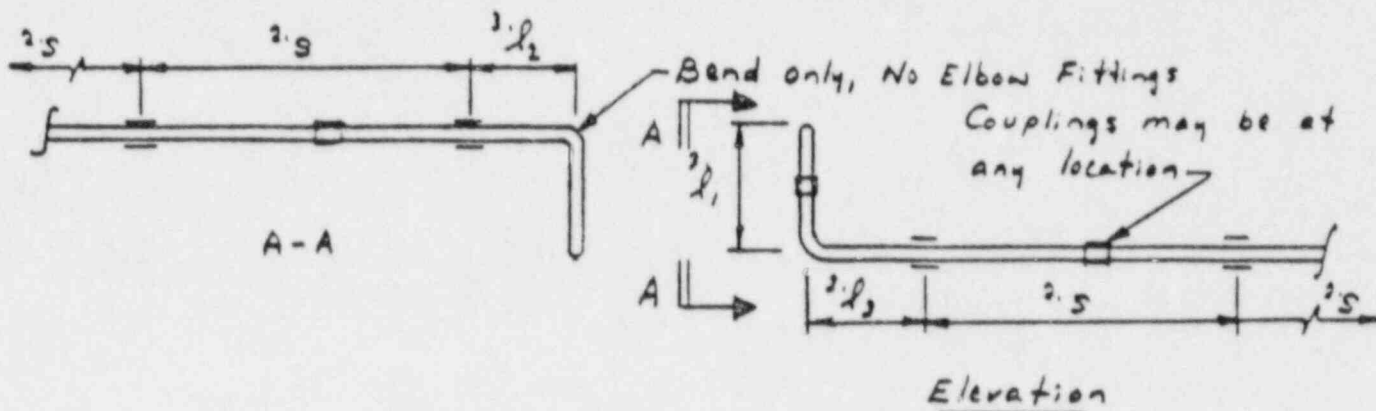
DBS No. N-1002-7

Prepared By BSE

Date 2/27/86

Verified By GDP

Date 3-27-86



Material Aluminum or Steel
Conduit Size(s) $\frac{1}{2}$ " thru 2"

Comments/Conditions

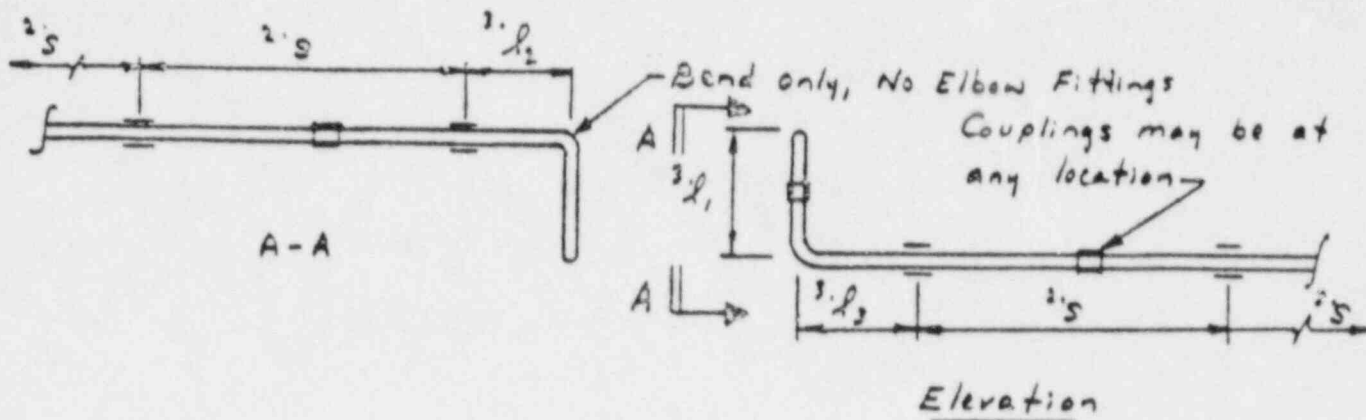
1. For Steel Conduit, this standard excludes use of 1-hole, 2-piece strap. For steel Conduit with 1-hole, 2-piece strap see standard DBS-N-1002-7A.
2. S = spans per BFN-50-723
3. For $\frac{1}{2}$ " thru 1" - $l_1 + l_2 + l_3 \leq S$, $l_1 \leq 3'$.
For $1\frac{1}{2}$ " and 2" - $l_1 + l_2 + l_3 \leq S$, $l_1 \leq 4'$.

* Including 50% overspan allowance where supports are adequate.

BROWNS FERRY NUCLEAR PLANT
TEST FOUNDED
DATA BASE STANDARD

DBS No. N-1002-7A

Prepared By BJP Date 2/22/65
Verified By GJS Date 3-27-65



Material 1" Steel
Conduit Size(s) $\frac{1}{2}$ " thru 2"

Comments/Conditions

1. For steel conduit with 2-hole, one piece clamp see standard DBS-N-1002-7.
2. S = Spans per BFN-50-723.
3. For $\frac{1}{2}$ " thru 1" - $L_1 + L_2 + L_3 \leq 8'$, $L_1 \leq 3'$
For $1\frac{1}{2}$ " and 2" - $L_1 + L_2 + L_3 \leq 10'$, $L_1 \leq 4'$

* No additional over span allowed.

BROWNS FERRY NUCLEAR PLANT
TEST FOUNDED
DATA BASE STANDARD

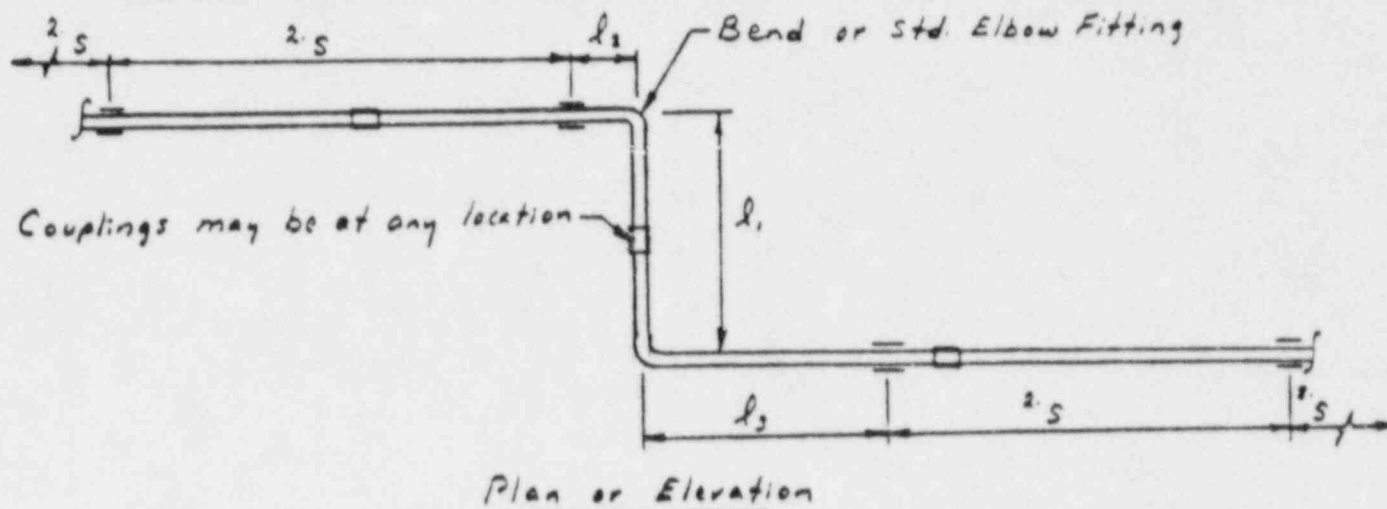
DBS No. N-1002-8

Prepared By AAZ

Date 2/22/86

Verified By G.D.F.

Date 3-2-86



Material Aluminum or 1. Steel
Conduit Size(s) 1/2" thru 3"

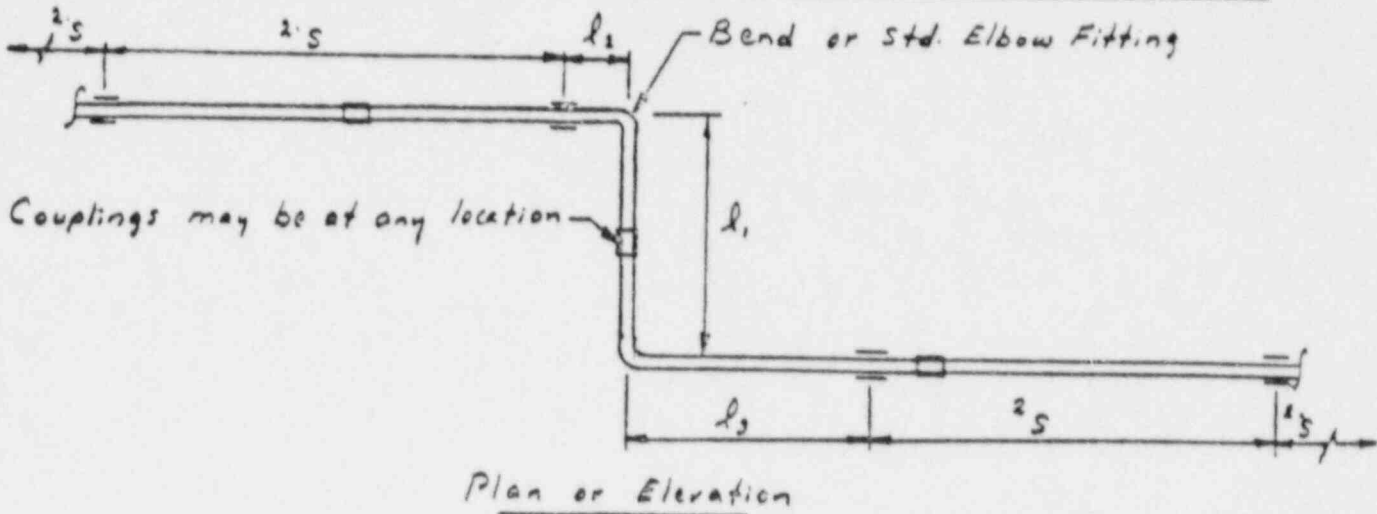
Comments/Conditions

1. For steel conduit, this standard excludes use of 1-hole, 2-piece strap. For steel conduit with 1-hole, 2-piece strap see standard DBS-N-1002-8A
2. S : Spans per BFN-50-723
3. For 1/2" thru 3" - $l_1 + l_2 + l_3 \leq 10'$, $l_1 \leq 3'-4"$

BROWNS FERRY NUCLEAR PLANT
TEST FOUNDATION
DATA BASE STANDARD

DBS No. N-1002-BA

Prepared By BAJ Date 3/22/86
Verified By SDF Date 3-22-86



Material 1" Steel
Conduit Size(s) 1/2" thru 3"

Comments/Conditions

1. For Steel Conduit with 2-hole, 1-piece clamp see standard DBS-N-1002-B
2. S = spans per BFN-50-723
3. For 1/2" thru 1" - $l_1 + l_2 + l_3 \leq 8'$, $l_1 \leq 3'-4"$
For 1 1/2" thru 3" - $l_1 + l_2 + l_3 \leq 10'$, $l_1 \leq 4'-0"$

EXCEPTION REQUEST AND APPROVAL FORM

| | |
|---|---|
| Design Criteria Number BFN-50-723 R0 | Exception Number EX-BFN-50-723-1 |
| Section(s) 3.0 and 4.0 | Plant and Unit(s) Browns Ferry Units 1, 2, and 3 |

☐ Check if Approved with Qualifications

REQUEST

APPROVAL

| | |
|--------------------------------------|-------------------------------------|
| Prepared <i>Ronnie L. Adams</i> | Prepared <i>Alan D. Swords</i> |
| Approved <i>Barry Marshall Jr</i> | Checked <i>Linda M. W. W. W.</i> |
| Date <i>5-8-86</i> | Approved <i>B B Nelly</i> |
| | Date <i>5/29/86</i> |

A. Summary Description of Exception

Allowable stresses in Section 3.0 for conduit and in Table 4.1-1 for conduit supports will be increased for interim qualification of Unit 2. The interim period is the remainder of Cycle 5 operation. The increased allowables are shown in Part B below.

B. Detailed Description and Justification of Exception

Exception to Section 3.0:

An allowable bending stress of $1.2 (S_y)/0.75(2.3) = 17,391$ psi; where $S_y = 25,000$ psi, may be used for interim qualification of ASTM A-72 or similar steel conduit. An allowable bending stress of $1.2 (S_y)/0.75(2.3) = 9,043$ psi; where $S_y = 13,000$ psi, may be used for interim qualification of aluminum conduit.

Exception to Table 4.1-1:

For interim qualification, the allowable stress in support members may be increased to 1.5 times normal AISC allowables except for shear. The allowable stress for shear may be increased to 1.25 times the normal AISC allowables. No additional increase is allowed for seismic.

Bolt anchors set in hardened concrete may be accepted for interim qualification with a factor of safety of 2.

C. Safety Considerations

Higher allowable stresses for interim qualification of supports and lower factors of safety for evaluating existing anchors will have little effect on the operability of the plant. If a seismic event occurs during interim operation, supports and conduits may experience greater deflections; however, based on full scale model testing, no catastrophic failures will occur. The conductors within the conduit will continue to carry current and the conduits will not fall.

D. Originating Organization Evaluation and Qualification

See Block C.