



3D Attach F Sample Seismic Qualification Data Package (SQDP)

| | | | |
|-------------|-------|------------|-------|
| SQDP File # | _____ | REVISION # | _____ |
| Prepared | _____ | Date | _____ |
| Reviewed | _____ | Date | _____ |
| Approved | _____ | Date | _____ |

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TAB A

QUALIFICATION SUMMARY/CONCLUSION



A QUALIFICATION SUMMARY/CONCLUSION



TAB B

REVISION HISTORY



B REVISION HISTORY

PAGE(S) REVISED

BASIS FOR CHANGE



TAB C

REFERENCES

C REFERENCES

1. IEEE Std 344-2004¹, "IEEE Recommended Practice for Seismic Qualification of Class 1E Equipment for Nuclear Power Generating Stations".

1. Section 3.11 provides the justification for the use of the latest version of the IEEE standards referenced in this section that have not been endorsed by existing Regulatory Guides. AREVA NP maintains the option to use current NRC-endorsed versions of the IEEE standards.



TAB D

OPEN ITEMS



D OPEN ITEMS

TAB E

COMPONENT DESCRIPTION/LOCATION/MOUNTING

| E. Component Description/Location/Mounting | Reference # |
|--|-------------|
| 1. Component Name: _____ | |
| Tag #: _____ | |
| Component Location | |
| Building: _____ Floor Elevation: _____ Room: _____ | |
| 2. Vendor: _____ | |
| Model #: _____ | |
| 3. Physical Description | |
| Weight: _____ Dimensions: _____ | |
| 4. Field Mounting Conditions | |
| Line Mounted: _____ Floor Mounted: _____ Wall Mounted: _____ | |
| Weld Length: _____ | |
| Bolt Size: _____ # of Bolts: _____ | |
| Other: _____ | |
| _____ | |
| 5. System in which Component is Located: _____ | |
| Active: _____ Passive: _____ | |
| Functional Description: | |
| _____ | |
| _____ | |



TAB F

DESIGN SPECIFICATION/REQUIRED LOADS

Reference #

F. Design Specification/Required Loads

1. Design Specification(s): _____

2. Required Response Spectra: _____
(Attach RRS- if applicable)

3. Required Damping: _____

4. Required Accelerations in Each Direction:
Vertical: _____ Front/Back: _____ Side/Side: _____5. Other Loads to be Considered:
Fatigue Effects: _____ Vibration Loads: _____
Internal Pressure: _____ Piping/Nozzle Loads: _____

Other Loads (if any):



TAB G

QUALIFICATION METHODS/QUALIFICATION REPORTS



| | Reference # |
|---|-------------|
| G. QUALIFICATION METHODS/QUALIFICATION REPORTS | |
| 1. Qualification Method(s): | |
| Analysis: _____ Test: _____ | |
| Combination of Analysis and Test: _____ | |
| 2. Qualification Report(s): | |
| Report #/Rev #/Date: _____ | |
| Report Title: _____ | |
| _____ | |
| _____ | |
| Report Prepared By: _____ | |



TAB H

QUALIFICATION BY TEST

| | Reference # |
|--|-------------|
| H. QUALIFICATION BY TEST (For Qualification by combination of Analysis and Testing complete both sections H & I) | |
| 1. Single Frequency: _____ Multi-Frequency: _____ Random: _____ | |
| 2. Single Axis: _____ Multi-Axis: _____ Tri-Axial: _____ <small>(Provide justification in Subsection H.15)</small> | |
| 3. Natural Frequency (Hz) in Each Direction Vertical: _____ S/S: _____ F/B: _____ | |
| 4. Number of Tests: OBE: _____ SSE: _____ | |
| 5. Frequency Range: _____ | |
| 6. TRS Envelopes RRS: Yes _____ No _____ N/A _____ | |
| 7. TRS Damping Used: _____ | |
| 8. Test Duration Meets IEEE 344 Requirements: Yes _____ No _____ | |
| 9. Input Acceleration Level OBE Vertical: _____ S/S: _____ F/B: _____ SSE Vertical: _____ S/S: _____ F/B: _____ | |
| 10. Functional Operability Verified: Yes _____ No _____ | |
| 11. Laboratory Mounting: Bolted: _____ Bolt Size: _____ # of Bolts: _____ Welded: _____ Weld Length: _____ | |
| 12. Orientation of Tested Equipment: Vertical _____ Horizontal _____ Other: _____ _____ | |

Reference #

H. QUALIFICATION BY TEST (CONT'D)

13. Test Results/Anomalies

14. Other Tests Performed

15. Justification When Using Single-Axis Testing

TAB I

QUALIFICATION BY ANALYSIS

Reference #

I. QUALIFICATION BY ANALYSIS

(For Qualification by combination of Analysis and Testing complete both sections H & I)

1. Qualification Using Static Analysis:

SDOF Model: YES _____ NO _____

Natural Frequency (Hz): _____

DLF Used: _____

Frame Type

Model: YES _____ NO _____

Natural Frequency in Each Direction (Hz):

Vertical: _____ S/S: _____ F/B: _____

Dynamic Load Factor (DLF) Used:

Vertical: _____ S/S: _____ F/B: _____

Method of Combining Responses

SSRS: _____ ABS: _____ Other: _____

Computer Code Used: _____

2. Qualification Using Dynamic Analysis:

Response Spectrum: _____ Time History: _____

Response Spectra Used: _____

Natural Frequency (Hz) in Each Direction

Vertical: _____ S/S: _____ F/B: _____

Acceleration used

Vertical: _____ S/S: _____ F/B: _____

Dynamic Load Factor (DLF) Used

Vertical: _____ S/S: _____ F/B: _____

Frequency Range: _____

No. of Modes Considered: _____

Mass Participation: _____

Method of Combining Dynamic Responses

SSRS: _____ ABS: _____ Other: _____

Computer Code Used: _____

Reference #

I. QUALIFICATION BY ANALYSIS (CONT'D)

3. Loading Applied

Dead Weight: _____
 Seismic Loads _____
 Pressure Loads _____
 Piping Loads _____
 Other Loads: _____

4. Stress Summary

| Critical Component | Calculated Stress | Allowable Stress |
|--------------------|-------------------|------------------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

5. Deflection Summary

| Critical Component | Calculated Stress | Allowable Stress (for Operability Evaluation) |
|--------------------|-------------------|--|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |



TAB J

INSTALLED VS. ANALYZED OR TESTED EQUIPMENT

| | | Reference # |
|----|--|-------------|
| J. | INSTALLED VS. ANALYZED OR TESTED EQUIPMENT | |
| 1. | A. Model Analyzed or Tested | |
| | | _____ |
| | | _____ |
| | B. Model Installed | |
| | | _____ |
| | | _____ |
| | C. Basis for Accepting Differences | |
| | | _____ |
| | | _____ |
| 2. | A. Equipment Mounting Analyzed or Tested | |
| | | _____ |
| | | _____ |
| | B. Equipment Mounting Installed | |
| | | _____ |
| | | _____ |
| | C. Basis for Accepting Differences | |
| | | _____ |
| | | _____ |
| | | _____ |
| | | _____ |



TAB K

MAINTENANCE REQUIREMENTS



K MAINTENANCE REQUIREMENTS

LIST OF ATTACHMENTS

- A. Equipment Drawings
- B. Required Response Spectra
- C. Test Response Spectra