



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

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

TABLE OF CONTENTS

<u>DESCRIPTION</u>	<u>TAB</u>
Qualification Summary/Conclusion	A
Revision History	B
References (optional)	C
Open Items (optional)	D
Component Description/Location/Mounting	E
Design Specification/Required Loads	F
Qualification Methods/Qualification Reports	G
Qualification by Test	H
Qualification by Analysis	I
Installed vs. Analyzed/Tested Equipment	J
Maintenance Requirements	K
Attachments (optional)	



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: _____
(Provide justification in Subsection H.15)
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