

CERTIFICATION PREAPPROVAL (OSP)	APPLICATION #: OSP - 0409
OSHPD Special Seismic Certification Preapproval (OSP)	
Type: ☐ New ☐ Renewal	
Manufacturer Information	
Manufacturer: Siemens Healthcare GmbH	
Manufacturer's Technical Representative: Dieter Freitag	
Mailing Address: Siemensstr. 3, D-91301 Forchheim, Germany	
Telephone: +49 9191 185412	dieter@siemens-healthineers.com
Product Information	MA
Product Name: Luminos Agile MAX OSHPD	Y.
Product Type: Radiography & Fluoroscopy medical imaging system	The state of the s
Product Model Number: See attachments (List all unique product identification numbers and/or part numbers)	WWW.
General Description: Seismic enhancements incorporated into the test units and enhancements reshall be incorporated into the certified units. Motorized transverse table motion from Special Seismic Certification.	& fluoroscopy medical imaging system quired to address anomalies observed during the tests
Mounting Description: See attachments	300
Top I have	204.
Applicant Information	
Applicant Company Name: W.E. Gundy & Associates, Inc.	
Contact Person: Travis Soppe, SE	
Mailing Address: _1199 Shoreline Drive, Suite 310, Boise, ID 83702	
Telephone: (208) 342-5989 Ext. 115 Email: tsoppe	@wegai.com
I hereby agree to reimburse the Office of Statewide Health Faccordance with the California Administrative Code, 2016.	Planning and Development review fees in
Signature of Applicant:	Date: <u>8/01/2019</u>
Title: President Company Name: W.E. G	Sundy & Associates, Inc.

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"



OSHPD

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California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)
Company Name: W.E. Gundy & Associates, Inc.
Name: Travis Soppe, SE California License Number: S6115
Mailing Address: 1199 Shoreline Drive, Suite 310, Boise, ID 83702
Telephone: (208) 342-5989 Ext. 115 Email: <u>tsoppe@wegai.com</u>
Supports and Attachments Preapproval
 Supports and attachments are preapproved under OPM- (Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required) Supports and attachments are not preapproved
Certification Method OSHPD
 ✓ Testing in accordance with: ✓ ICC-ES AC156 ✓ Other (Please Specify):
BY:Timothy J Piland
Testing Laboratory DATE: 06/22/2021
Company Name: Environmental Testing Laboratory, Inc.
Contact Name: Brady Richard
Mailing Address: 11034 Indian Trail, Dallas, TX 75229-3513
Telephone: (972) 247-9657 Email: brady@etldallas.com





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OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

Seismic Parameters
Design in accordance with ASCE 7-10 Chapter 13: ⊠ Yes □ No
Design Basis of Equipment or Components (F _p /W _p) = Multiple, see attachments
S _{DS} (Design spectral response acceleration at short period, g) = 2.00
a _p (In-structure equipment or component amplification factor) = Multiple, see attachments
R _p (Equipment or component response modification factor) = Multiple, see attachments
Ω_0 (System overstrength factor) = Multiple, see attachments
I _p (Importance factor) = 1.5
z/h (Height factor ratio) = 1.0
Equipment or Component Natural Frequencies (Hz) = Multiple, see attachments
Overall dimensions and weight (or range thereof) = Multiple, see attachments
Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: Yes No
Design Basis of Equipment or Components (V/W) =
S _{DS} (Design spectral response acceleration at short period, g) =
S _{D1} (Design spectral response acceleration at 1 second period, g) =
R (Response modification coefficient) =
Ω ₀ (System overstrength factor) = By:Timothy J Piland
C _d (Deflection amplification factor) =
I_p (Importance factor) = 1.5 DATE: $06/22/2021$
Height to Center of Gravity above base =
Equipment or Component Natural Frequencies (Hz) =
Overall dimensions and weight (or range thereof) =
Tank(s) designed in accordance with ASME BPVC, 2015: Yes No
List of Attachments Supporting Special Seismic Certification
☐ Test Report(s) ☐ Drawings ☐ Calculations ☐ Manufacturer's Catalog
☐ Other(s) (Please Specify): Certified Product Line Matrix, UUT Summary Sheets, SE Certification Letter
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2025
1/1/02
Signature: Date: June 22, 2021
Print Name: Timothy J. Piland Title: SSE
Special Seismic Certification Valid Up to: $S_{DS}(g) = 2.00$ $z/h = See Above$
Condition of Approval (if applicable):

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





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TABLE 1

SIEMENS HEALTHCARE GmbH SPECIAL SEISMIC CERTIFICATION CERTIFIED SYSTEM AND COMPONENTS



Manufacturer: Siemens Healthcare GmbH

System: LUMINOS AGILE MAX "SEISMIC EDITION"

C 4 C 41)	Siemens	Di	Dimensions (in)			Mounting	UUT ²					
System Component ¹⁾	Part Number	Width	Depth	Height	(lb)	Mounting	UUI					
Ceiling Suspension Ysio X-Ray Tubes												
3D Stand Ysio 3m track-synchronized	7042232	167	119	32 - 103	754	ceiling	UUT _x -1					
3D Stand Ysio 4m track-synchronized	7042240	167	172	32 - 103	815	ceiling	interpolated					
3D Stand Ysio 4m track-automated	7042224	167 R	C 0172E	32 - 103	888	ceiling	UUT_w -1					
	C	eiling Sus	pension]	Displays								
DCS-2 with TUI (2 monitors)	10052164	167	27.9 - 55.1	63 - 102	392	ceiling	UUT _y -5					
DCS-2 without TUI (2 monitors)	10094053	167	27.9 - 55.1	50 - 89	400	ceiling	interpolated					
DCS-1 with TUI (1 monitor)	10052163	BY:Timot	27.9 - 55.1	a ₆₃ d ₁₀₂	419	ceiling	interpolated					
DCS-1 without TUI (1 monitor)	10094052	DA716806	27.9/-25.1	1 50 - 89	290	ceiling	UUT _x -6					
Patient Tables												
Luminos Agile MAX "Seismic Edition"	10762200	82.7	87.5	77.0	3970 ³⁾	floor	UUT _z -6A UUT _z -6B					

¹ All components are manufactured by Siemens Healthcare GmbH unless noted. Part numbers listed uniquely identify type of component, manufacturer, and material of construction for each sub-component within the tested units.

SEISMIC CERTIFICATION LIMITS System Component Code $S_{DS}(g)$ z/h I_{P} $\mathbf{R}_{\mathbf{P}}$ Ω_0 F_P/W_P $\mathbf{a}_{\mathbf{P}}$ Ceiling Suspension **CBC** 2.0 2.5 2.5 1.0 1.50 2.0 3.60 X-Ray Tubes 2016 Ceiling Suspension **CBC** 2.5 2.0 1.0 1.50 2.5 2.0 3.60 **Displays** 2016 **CBC** 2.0 Patient Tables 1.0 1.50 1.0 1.5 1.5 2.40 2016

The units were tested at different times and the subscripts on the UUTs reference the following seismic test reports: w = SQ35-1204-01-r3 x = SSC10-1010-02-r2 y = SQ35-1301-01-r1 z = SQ35-1415-02-r4

³ Patient table weight does not include simulated patient weights of 400lb.

TABLE 1

SIEMENS HEALTHCARE GmbH SPECIAL SEISMIC CERTIFICATION CERTIFIED SYSTEM AND COMPONENTS



Manufacturer: Siemens Healthcare GmbH

System: LUMINOS AGILE MAX "SEISMIC EDITION"

S + C +1)	Siemens	Siemens Dimensions (in)				Mauntina	UUT ²				
System Component ¹⁾	Part Number	Width	Depth	Height	(lb)	Mounting	UUT				
Wall Stands											
Tilting Bucky Wall Stand (right)	10681704	30.0	28.1	82.9	643	floor	UUT _z -2				
Tilting Bucky Wall Stand (left)	10681705	30.0	28.1	82.9	643	floor	same				
		Imagi	ing Syste	ms							
Flurospot Compact (FLC)	10762482	13.4	26.0	21.7	86	floor	UUT _z -3				
		Genera	itor Cabi	nets	2						
Polydoros F80-2	10096925	31.5	P-0409 17.3	86.5	826	floor/wall	UUT _x -5				
Wireless Access Points											
SCALANCE W700	108 <mark>6065</mark> 7	DATE: 06	/223/202	1 6.2	5.5	wall	UUT _z -7				

¹ All components are manufactured by Siemens Healthcare GmbH unless noted. Part numbers listed uniquely identify type of component, manufacturer, and material of construction for each sub-component within the tested units.

w = SQ35-1204-01-r3 x = SSC10-1010-02-r2 y = SQ35-1301-01-r1 z = SQ35-1415-02-r4

System Component	Code	$S_{DS}(g)$	z / h	I_P	$\mathbf{a}_{\mathbf{P}}$	R_{P}	Ω_0	$\mathbf{F}_{\mathbf{P}}$ / $\mathbf{W}_{\mathbf{P}}$
Wall Stands	CBC 2016	2.0	1.0	1.50	1.0	1.5	1.5	2.40
Imaging Systems	CBC 2016	2.0	1.0	1.50	1.0	2.5	2.0	1.44
Generator Cabinets	CBC 2016	2.0	1.0	1.50	2.5	6.0	2.0	1.50
Wireless Access Points	CBC 2016	2.0	1.0	1.50	1.0	2.5	2.0	1.44

² The units were tested at different times and the subscripts on the UUTs reference the following seismic test reports:

 $UUT_{x}-1$

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rails and connecting parts of the component bolt with 2 -M10 bolts (20 bolts total) to unistrut grid spaced at 26.0" on center. The unistrut grid consisted of Unistrut P1001 rails anchored with 2 - 3/8" bolts at each intersection to the ceiling fixture framing spaced at 20" on center.



Manufacturer: Siemens Healthcare GmbH

Test Location: Environmental Testing Laboratory

Component: X-Ray Tube Stand w/3m Bridge

Test Date: April 2010

Model Number: 7042232

Report Number: SSC10-1010-2 Rev. 2

UUT Function: X-Ray stand, ceiling suspended, for use in radiography imaging, fully synchronized

UUT Description: Component of the Luminos dRF System

UUT PROPERTIES

Waight (lb)		Dimensions (inches)		Natural Frequency (Hz)			
weight (10)	Weight (lb) Width Depth			FB	SS	V	
754	167	119	103	N/A	N/A	N/A	

The ceiling suspended tube stand moves laterally, rotates, and extends up and down to accommodate different patients and procedures. The system was tested in the normal operating position with the system horizontally centered, no rotation, and with a height of 50" from mounting point to bottom of collimator.

SEISMIC TEST PARAMETERS

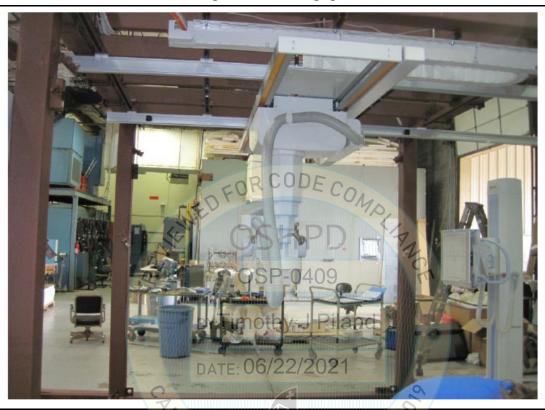
Building Code / Test Criteria	$S_{DS}(g)$	z / h	I_P	$A_{FLX-H}(g)$	$A_{RIG-H}(g)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$
CBC 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54

 $UUT_{w}-1$

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rails and connecting parts of the component bolt with 2 -M10 bolts (20 bolts total) to unistrut grid spaced at 27.0" on center. The unistrut grid consisted of Unistrut P1001 rails anchored with 2 - 3/8" bolts at each intersection to the ceiling fixture framing spaced at 32" on center.



Manufacturer: Siemens Healthcare GmbH Test Location: Environmental Testing Laboratory

Component: X-Ray Tube Stand w/ 4m Bridge Test Date: March / May 2012

Model Number: 7042224 Report Number: SQ35-1204-01 Rev. 3

UUT Function: X-Ray stand, ceiling suspended, for use in radiography imaging, fully automated

UUT Description: Component of the Luminos dRF System

UUT PROPERTIES

Weight (lh)		Dimensions (inches)		Natural Frequency (Hz)			
Weight (lb) Width Depth		Height	FB	SS	V		
888	167	172	32-103	N/A	N/A	N/A	

The ceiling suspended tube stand moves laterally, rotates, and extends up and down to accommodate different patients and procedures. The system was tested in the normal operating position with the system horizontally centered, no rotation, and with a height of 50" from mounting point to bottom of collimator.

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	$S_{DS}(g)$	z/h	I_{P}	$A_{FLX-H}(g)$	$A_{RIG-H}(g)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$
CBC 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54

 UUT_y-5

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rails and connecting parts of the component bolt with 2 -M10 bolts (20 bolts total) to unistrut grid spaced at 26.0" on center. The unistrut grid consisted of Unistrut P1001 rails anchored with 2 - 3/8" bolts at each intersection to the ceiling fixture framing spaced at 20" on center.



Manufacturer: Siemens Healthcare GmbH/Mavig				Test Location: Environmental Testing Laboratory				
Component: Ceiling Suspension Display (2 Monitors				Test Da	te: January	2013		
Model Number	Model Number: 10502164					Q35-1301-	01 Rev. 1	
UUT Function	n: Ceiling suspend	ed mount fe	or dual mo	nitors wit	th touch use	er interface	(TUI)	
UUT Descript	t ion: Component o	f the Lumi	nos Agile I	Max "Seis	smic Editio	n" system		
		τ	JUT PRO	PERTIE	S			
Weight (lb)		Dimensio	ns (inches))		Natur	al Frequenc	y (Hz)
weight (10)	Width	De	pth	Н	eight	FB	SS	V
393	167	27.9	- 55.1	63	- 102	N/A	N/A	N/A
		SEISM	IC TEST	PARAM	ETERS			
Building Cod	de / Test Criteria	$S_{DS}(g)$	z / h	I_{P}	$A_{FLX-H}(g)$	$A_{RIG-H}(g)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$
CBC 2016 /	CBC 2016 / ICC-ES AC156 2.00 1.0 1.5 3.20 2.40 1.34 0.54							
Note: The unit wa	as full of contents duri	ng testing and	l remained fu	inctional be	efore and after	the ICC-ES	AC156 test.	The unit

maintained structural integrity during and after the ICC-ES AC156 Test.

 UUT_x-6

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rails and connecting parts of the component bolt with 2 -M10 bolts (20 bolts total) to unistrut grid spaced at 26.0" on center. The unistrut grid consisted of Unistrut P1001 rails anchored with 2 - 3/8" bolts at each intersection to the ceiling fixture framing spaced at 20" on center.



Manufacture	r: Siemens Health	care GmbH	// Mavig	Test Location: Environmental Testing Laboratory				
Component:	Ceiling Suspensior	n Display (1	Monitor)	Test Da	te: April 20	010		
Model / Seria	l Number: 100940)52		Report 1	Number: S	SC10-1010)-2 Rev. 2	
UUT Functio	n: Ceiling suspend	led mount f	or single m	nonitor w	ithout toucl	n user inter	face (TUI)	
UUT Descrip	tion: Component o	of the Lumi	nos dRF S	ystem				
		1	UUT PRO	PERTIE	S			
Weight (lb)		Dimensio	ns (inches)	Natural Frequency (Hz)				
weight (10)	Width	De	pth	Н	eight	FB	SS	V
290	168	27.9	- 55.1	50) - 89	N/A	N/A	N/A
		SEISM	IC TEST	PARAM	ETERS			
Building Co	de / Test Criteria	$S_{DS}(g)$	z / h	I_P	$A_{FLX-H}(g)$	$A_{RIG-H}(g)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$
CBC 2016 /	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54

 UUT_z -6A

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid floor mounted with 12 - 3/4" grade 8 bolts.



Manufacturer: Siemens Healthcare GmbH Test Location: Environmental Testing Laboratory

Component: Luminos Agile Max - Horizontal Positio Test Date: July 2014

Model Number: 10762200 **Report Number:** SQ35-1415-02 Rev. 4

UUT Function: Motorized patient table and digital imaging device via fluoroscopy/radiography (Horizontal

UUT Description: Luminos Agile Max "Seismic Edition" system with patient table / detector in horizontal position. Pixium 3543 Ezh detector (10762402)

UUT PROPERTIES

Weight (lb)		Dimensions (inches)	Natural Frequency (Hz)			
with Patient	Width	Depth	Height	FB	SS	V
4,370	82.7	87.5	77	3.6	3.2	3.3

The patient table in the horizontal position moves vertically to accommodate different patients and procedures. The system was tested in the normal vertical operating position of 33" and with a total simulated patient weight of 400lbs.

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	$S_{DS}(g)$	z / h	I_{P}	$A_{FLX-H}(g)$	$A_{RIG-H}(g)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$
CBC 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54

UUT_z-6B

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid floor mounted with 12 - 3/4" grade 8 bolts.



Manufacturer: Siemens Healthcare GmbH Test Location: Environmental Testing Laboratory

Component: Luminos Agile Max - Vertical Position | Test Date: July 2014

Model Number: 10762200 Report Number: SQ35-1415-02 Rev. 4

UUT Function: Motorized patient table and digital imaging device via fluoroscopy/radiography (Vertical)

UUT Description: Luminos Agile Max "Seismic Edition" system with patient table / detector in vertical position. Pixium 3543 Ezh detector (10762402)

UUT PROPERTIES

Weight (lb)		Dimensions (inches)	Natural Frequency (Hz)			
	Width	Depth	Height	FB	SS	V
3,970	82.7	87.5	77	4.6	3.5	3.9
	-			-		

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	$S_{DS}(g)$	z / h	I_{P}	A _{FLX-H} (g)	A _{RIG-H} (g)	$A_{FLX-V}(g)$	A _{RIG-V} (g)
CBC 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54

 UUT_z-2

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid floor mounted with 4 - 5/8" grade 8 bolts.



Manufacturer: Siemens Healthcare GmbH Test Location: Environmental Testing Laboratory

Component: Tilting Bucky Wall Stand Test Date: July 2014

Model Number: 10681704 **Report Number:** SQ35-1415-02 Rev. 4

UUT Function: Radiographic wall stand for X-ray exposures

UUT Description: Component of the Luminos Agile Max "Seismic Edition" system with Pixium 3543 Ezh

detector (10762402)

UUT PROPERTIES

Weight (lb)		Dimensions (inches)	Natural Frequency (Hz)			
weight (10)	Width	Depth	Height	FB	SS	V
643	30	28.1	82.9	11.7	9.1	9.1

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	$S_{DS}(g)$	z / h	I_P	$A_{FLX-H}(g)$	$A_{RIG-H}(g)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$
CBC 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54

 UUT_z -3

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid floor mounted with 4 - 3/8" grade 8 bolts.



Manufacturer: Siemens Healthcare GmbH Test Location: Environmental Testing Laboratory

Component: Fluorospot Compact (FLC) Test Date: July 2014

Model Number: 10762482 **Report Number:** SQ35-1415-02 Rev. 4

UUT Function: Digital imaging solution for fluoroscopy and radiography

UUT Description: Component of the Luminos Agile Max "Seismic Edition" system

UUT PROPERTIES

Weight (lb)		Dimensions (inches)	Natural Frequency (Hz)			
	Width	Depth	Height	FB	SS	V
86	13.4	26	21.7	>33	>33	>33

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	$S_{DS}(g)$	z / h	I_P	$A_{FLX-H}(g)$	$A_{RIG-H}(g)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$
CBC 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54

 UUT_x-5

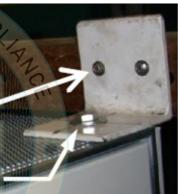
UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid wall mounted at top back side of unit with 4 - 1/4" grade 8 bolts and rigid floor mounted with 2 - 3/8" grade 8 bolts. Wall mount brackets constructed of 4" long L4x2.5x0.25 angles that bolt thru the short leg to the UUT with a single 1/2" grade 8 bolt.







Manufacturer: Siemens Healthcare GmbH/	Test Location: Environmental Testing Laboratory
Component: Polydoros F80 Generator Cabinet	Test Date: April 2010
Model Number: 10681704 / 7738680	Report Number: SSC10-1010-2 Rev. 2

UUT Function: Generator for radiography and fluoroscopy systems

UUT Description: Component of the Luminos dRF System

UUT PROPERTIES

Weight (lb)		Dimensions (inches)	Natural Frequency (Hz)			
	Width	Depth	Height	FB	SS	V
826	31.5	17.3	86.5	10.1	11.8	31.0

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	$S_{DS}(g)$	z / h	I_P	$A_{FLX-H}(g)$	$A_{RIG-H}(g)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$
CBC 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54

 UUT_z-7

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid wall mounted with 4 - #12 sheet metal screws and washers.





DATE: 06/22/2021

Manufacturer: Siemens Healthcare GmbH Test Location: Environmental Testing Laboratory

Component: SCALANCE W700 WiFi Access Point | Test Date: July 2014

Model Number: 10860657 **Report Number:** SQ35-1415-02 Rev. 4

UUT Function: Wireless waypoint for system

UUT Description: Component of the Luminos Agile Max "Seismic Edition" system

UUT PROPERTIES

Weight (lb)		Dimensions (inches)	Natural Frequency (Hz)			
	Width	Depth	Height	FB	SS	V
5.5	7.9	3.1	6.2	N/A	N/A	N/A

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	$S_{DS}(g)$	z/h	I_P	$A_{FLX-H}(g)$	$A_{RIG-H}(g)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$
CBC 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54