



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0545 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☒ New ☐ Renewal

Manufacturer Information

Manufacturer: Siemens Healthcare GmbH, Advanced Therapies, HC AT R&D HW

Manufacturer's Technical Representative: Martin Knierim

Mailing Address: Siemensstr. 1, 91301 Forchheim, Germany

Telephone: +49 9191 189539

Email: martin.knierim@siemens-healthineers.com

Product Information

Product Name: Artis Interventional System

Product Type: Motorized Operating Table Imaging System 10

Product Model Number: See Attachment

(List all unique product identification numbers and/or part numbers)

General Description: Multiple component operating table system used for interventional patient procedures.

Mounting Description: Rigid floor mounted and Rigid floor/wall mounted

Applicant Information

Applicant Company Name: W.E. Gundy & Associates, Inc.

Contact Person: Travis Soppe, SE

Mailing Address: 250 Bobwhite Ct, Suite 100, Boise, ID 83706

Telephone: (208) 342-5898 Ext. 115

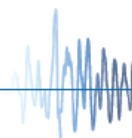
Email: tsoppe@wegai.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant:  Date: 12-27-2017

Title: Vice President Company Name: W.E. Gundy & Associates, Inc.

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





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

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: 250 Bobwhite Ct, Suite 100, Boise, ID 83706

Telephone: (208) 342-5898 Ext. 115 Email: tsoppe@wegai.com

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

☒ Testing in accordance with: ☒ ICC-ES AC156

☐ Other (Please Specify): OSP-0545-10

BY: Timothy J. Piland

DATE: 04/11/2018

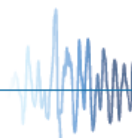
Testing Laboratory

Company Name: IABG mbH

Contact Name: Dr. Steffen Roedling

Mailing Address: Einsteinstrasse 20, Ottobrunn, Germany D-85521

Telephone: +49 (0) 89 / 6088-2052 Email: roedling@iabg.de





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Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: ☒ Yes ☐ No

Design Basis of Equipment or Components (F_p/W_p) = See Attachment

S_{DS} (Design spectral response acceleration at short period, g) = 2.00 (z/h = 1); 2.50 (z/h = 0)

a_p (In-structure equipment or component amplification factor) = Multiple, see attachment

R_p (Equipment or component response modification factor) = Multiple, see attachment

Ω_0 (System overstrength factor) = Multiple, see attachment

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1 (S_{DS} = 2.00); 0 (S_{DS} = 2.50)

Equipment or Component Natural Frequencies (Hz) = Multiple, see attachment

Overall dimensions and weight (or range thereof) = Multiple, see attachment

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

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 System Matrix, UUT Summary Sheets, Subcomponent Certification Letter

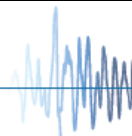
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature: Timothy J. Piland Date: April 11, 2018

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to : S_{DS} (g) = See Above z/h = See Above

Condition of Approval (if applicable): _____



SIEMENS HEALTHCARE GmbH
SPECIAL SEISMIC CERTIFICATION
CERTIFIED SYSTEM AND COMPONENTS



Manufacturer: Siemens Healthcare GmbH

System: Artis Interventional System

System Component ¹	Siemens Part Number	Dimensions (in)			Weight (lb)	Mounting	UUT
		Width	Length	Height			
Patient Table OR	10992200	113.6"	27.0"	38.0"	1,200 ²	floor	UUT-1A/B
SC Main VE	11115700	39.4"	25.6"	74.8"	870	floor / wall	UUT-2
AXIS-VE	10910323	23.7"	37.2"	28.0"	290	floor	UUT-3
FD Cooling	10848724	23.6"	19.1"	11.8"	55 ³	floor	UUT-4
Tube Cooling Unit	11321256	16.5"	20.5"	30.7"	80 ³	floor	UUT-5

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

2) Patient table weight does not include 510lb simulated weight.

3) Cooling unit weights include operating fluids.

SEISMIC CERTIFICATION LIMITS

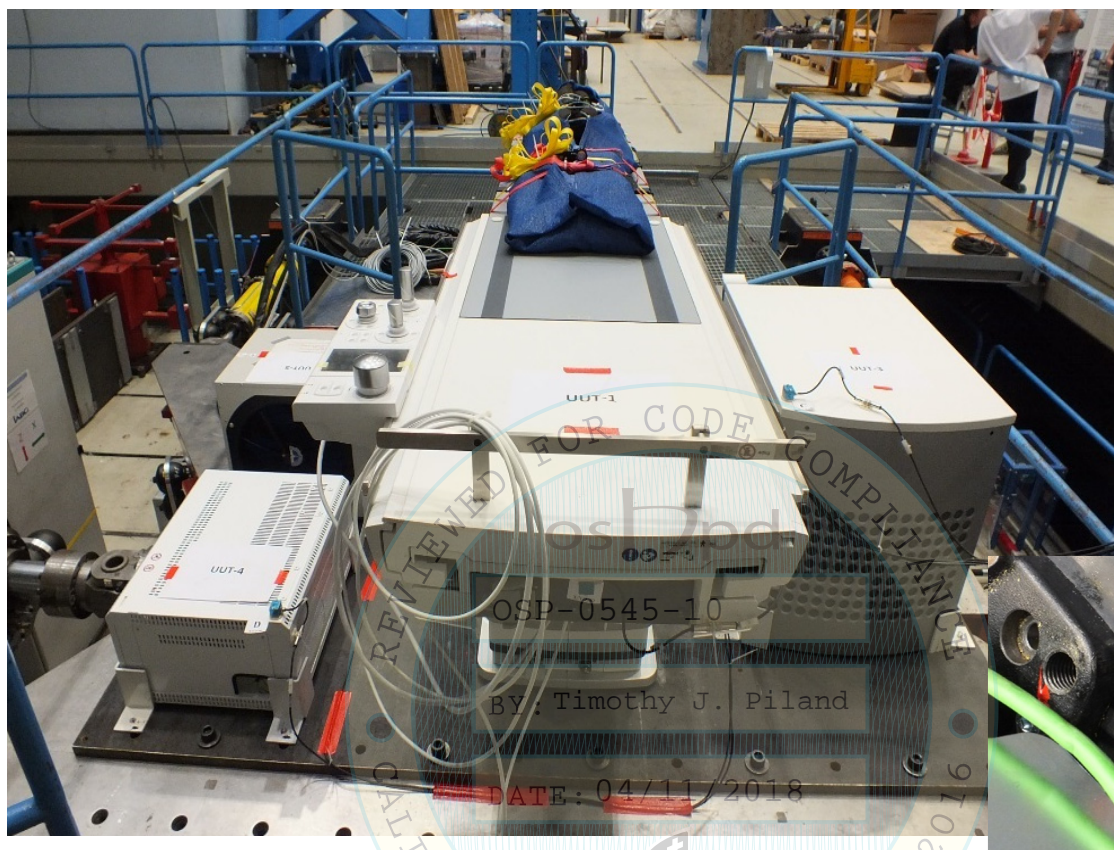
System Component	Code	S _{DS} (g)	z / h	I _p	a _p	R _p	Ω ₀	F _P / W _P
Patient Table OR	CBC 2016 ASCE 7-10	2.0	1.0	1.50	1.0	1.5	1.5	2.40
		2.5	0					1.13
SC Main VE		2.0	1.0	1.50	2.5	6.0	2.0	1.50
		2.5	0					1.13
AXIS-VE		2.0	1.0	1.50	1.0	2.5	2.0	1.44
		2.5	0					1.13
FD Cooling		2.0	1.0	1.50	1.0	2.5	2.0	1.44
		2.5	0					1.13
Tube Cooling Unit		2.0	1.0	1.50	1.0	2.5	2.0	1.44
		2.5	0					1.13

UUT-1A

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid floor mounted with 4 - M16 grade 10.9 bolts



Manufacturer: Siemens Healthcare GmbH

Component: Patient OR Table - 0° Rotation

Model / Serial Number:

10992200 / 1003

UUT Function: Patient Table with integrated x-ray system

UUT Description: Component of Artis Interventional System

Test Location: IABG mbH, Germany

Test Date: September 2017

UUT PROPERTIES

Weight (lb) with Patient	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,708	113.6" - 162.8"	27.0"	29.5" - 43.3"	8.4	2.7	3.7

The patient table moves vertically, horizontally, and rotates to accommodate different patients and procedures. The system was tested in its normal operating position with 0° rotation, a longitudinal extension of 24.8", and height of 38.0". The system was tested with a total simulated patient weight of 510lbs.

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		
	2.50	0.0	1.5			1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-1B

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid floor mounted with 4 - M16 grade 10.9 bolts



Manufacturer: Siemens Healthcare GmbH

Component: Patient OR Table - 30° Rotation

Model / Serial Number:

10992200 / 1003

UUT Function: Patient Table with integrated x-ray system

UUT Description: Component of Artis Interventional System

Test Location: IABG mbH, Germany

Test Date: September 2017

UUT PROPERTIES

Weight (lb) with Patient	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,708	113.6" - 162.8"	27.0"	29.5" - 43.3"	3.6	2.5	3.7

The patient table moves vertically, horizontally, and rotates to accommodate different patients and procedures. The system was tested in its normal operating position with 30° rotation, a longitudinal extension of 24.8", and height of 38.0". The system was tested with a total simulated patient weight of 510lbs.

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		
	2.50	0.0	1.5			1.67	0.67

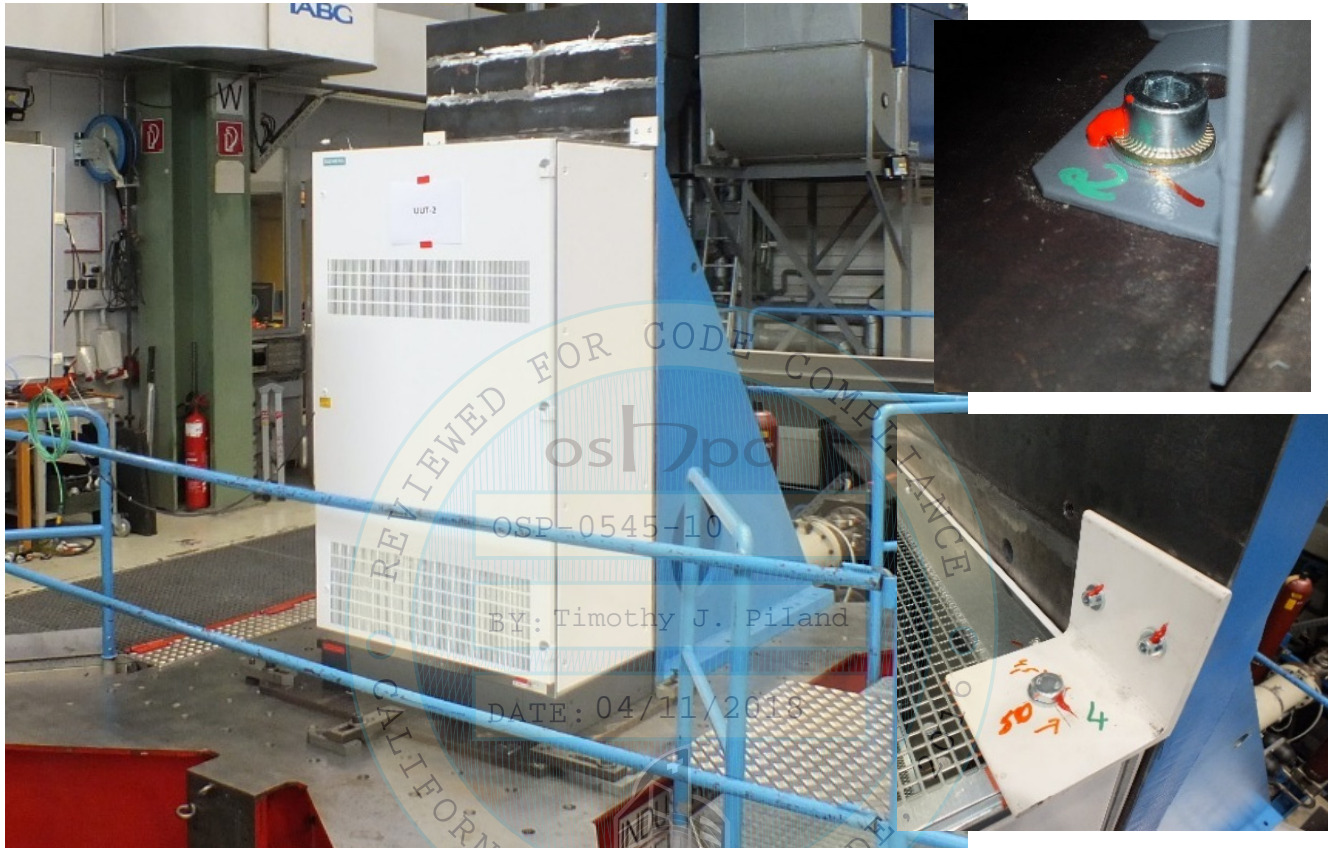
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-2

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid Floor/Wall mount with 2 - M10 grade 8.8 bolts to the floor and 4 - M6 grade 8.8 bolts to the wall fixture. The M6 bolts to the wall fixture are connected to the UUT with 2 - L3x4x0.25x3" A36 angle brackets and 2 - M12 grade 8.8 bolts.



Manufacturer: Siemens Healthcare GmbH

Component: System Cabinet

Model / Serial Number:

11115700 / 1042

UUT Function: System Cabinet hosting OR Patient Table computers and control components

UUT Description: Component of Artis Interventional System

Test Location: IABG mbH, Germany

Test Date: September 2017

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
870	39.4"	25.6"	74.8"	>33	17.0	>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		
	2.50	0.0	1.5			1.67	0.67

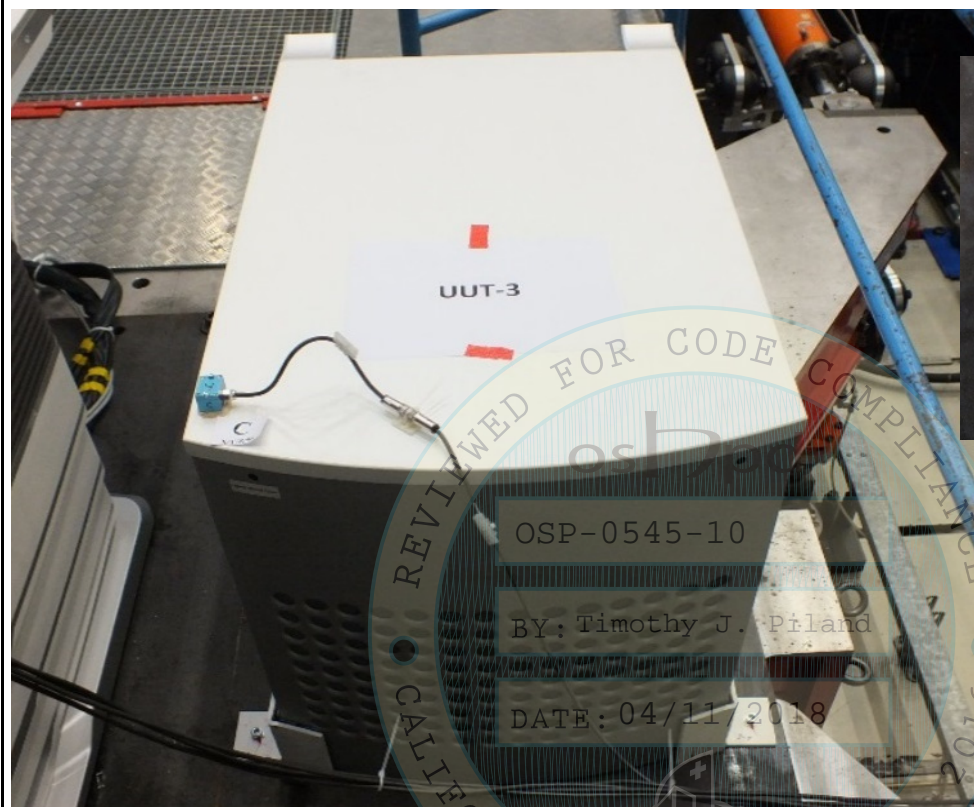
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-3

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid Floor mounted using Siemens provided seismic restraint kit. Seismic restraint kit includes steel corner brackets bolted to the floor with 4 - M10 grade 8.8 bolts and attached to the unit with 2"x2" 3M Dual Lock (SJ3550).



Manufacturer: Siemens Healthcare GmbH

Component: AXIS-VE

Model / Serial Number: 10910323 / 1046

UUT Function: Houses image system hardware used for interfacing and debugging patient table.

UUT Description: Component of Artis Interventional System

Test Location: IABG mbH, Germany

Test Date: September 2017

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
290	23.7"	37.2"	28.0"	23.6	18.1	27.2

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		
	2.50	0.0	1.5			1.67	0.67

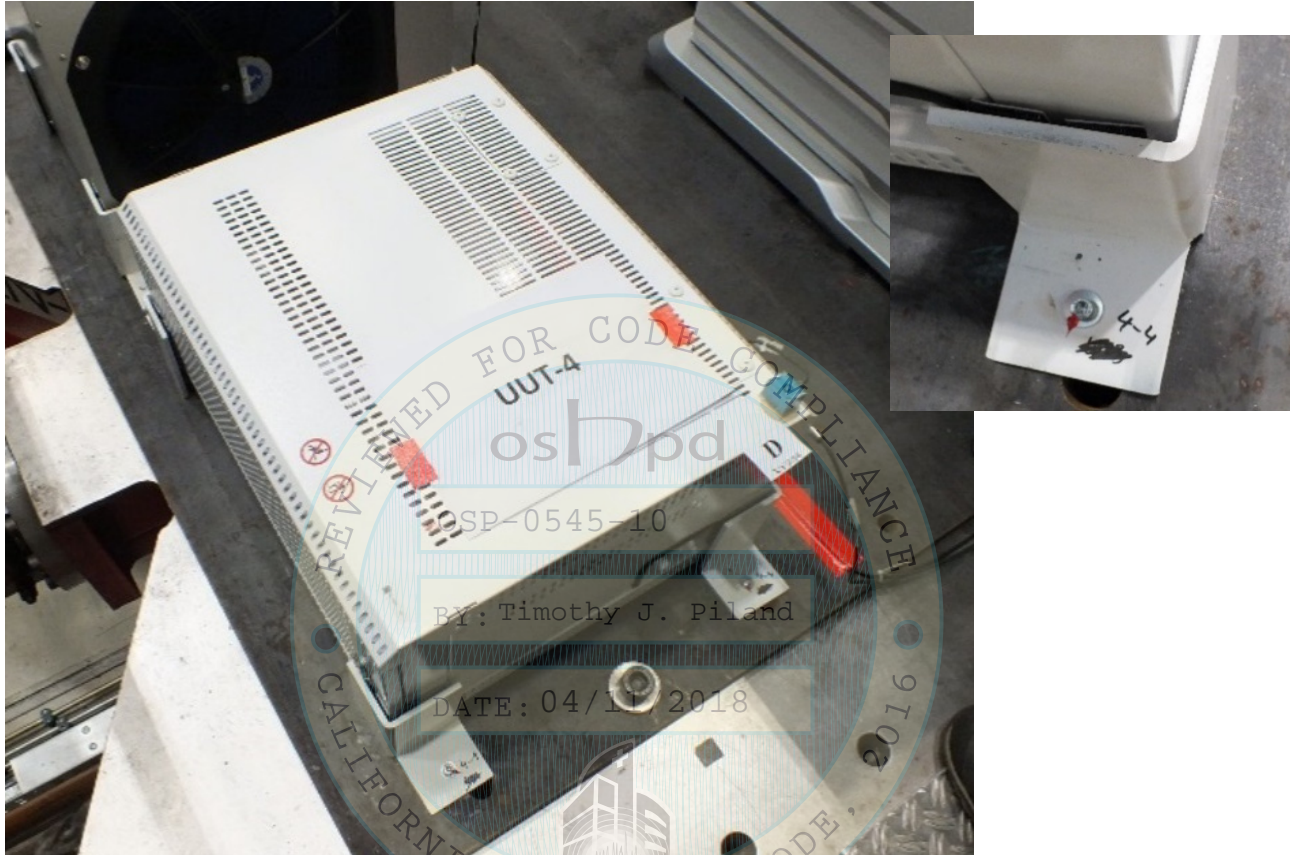
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-4

UNIT UNDER TEST (UUT) **SUMMARY SHEET**



Mounting Details: Rigid Floor mounted using Siemens provided seismic restraint kit. Seismic restraint kit includes steel corner brackets bolted to the floor with 4 - M6 grade 8.8 bolts and attached to the unit with 2"x2" 3M Dual Lock (SJ3550).



Manufacturer: Siemens Healthcare GmbH

Component: FD Cooling

Model / Serial Number: 10848724 / 2899

UUT Function: Chiller cooling unit for x-ray system

UUT Description: Component of Artis Interventional System

Test Location: IABG mbH, Germany

Test Date: September 2017

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
55	23.6"	19.1"	11.8"	>33	>33	>33

Weight includes operating fluid.

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		
	2.50	0.0	1.5			1.67	0.67

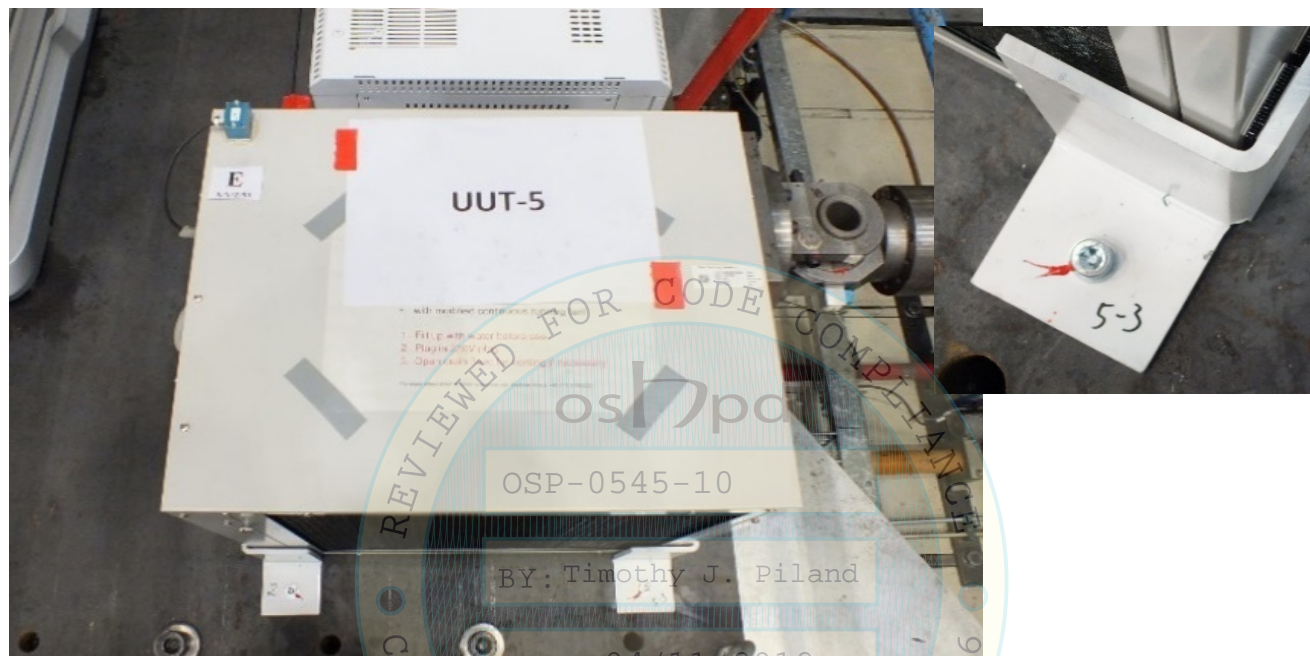
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-5

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid Floor mounted using Siemens provided seismic restraint kit. Seismic restraint kit includes steel corner brackets bolted to the floor with 4 - M10 grade 8.8 bolts and attached to the unit with 2"x2" 3M Dual Lock (SJ3550).



Manufacturer: Siemens Healthcare GmbH

Component: Tube Cooling Unit

Model / Serial Number: 11321256 / 00001

UUT Function: Chiller cooling unit for x-ray system

UUT Description: Component of Artis Interventional System

Test Location: IABG mbH, Germany

Test Date: September 2017

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
80	16.5"	20.5"	30.7"	30.0	30.0	>33

Weight includes operating fluid.

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		
	2.50	0.0	1.5			1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.