



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

**APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)**

OFFICE USE ONLY

APPLICATION #: OSP-0390

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: SIEMENS HEALTHCARE

Manufacturer's Technical Representative: Hu Yong

Mailing Address: 278 Zhou Zhu Rd., PuDong New District, Sh 201318

Telephone: (8621) 388-9500

Email: zhiyong.hu@siemens-healthineers.com

Product Information

Product Name: CT Systems

Product Type: NA

Product Model Number: See attachments

General Description: Multiple component systems for the provision of Computed Tomography medical diagnostic applications.

Mounting Description: Rigid, Floor Mounted

Tested Seismic Enhancements: None

Applicant Information

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

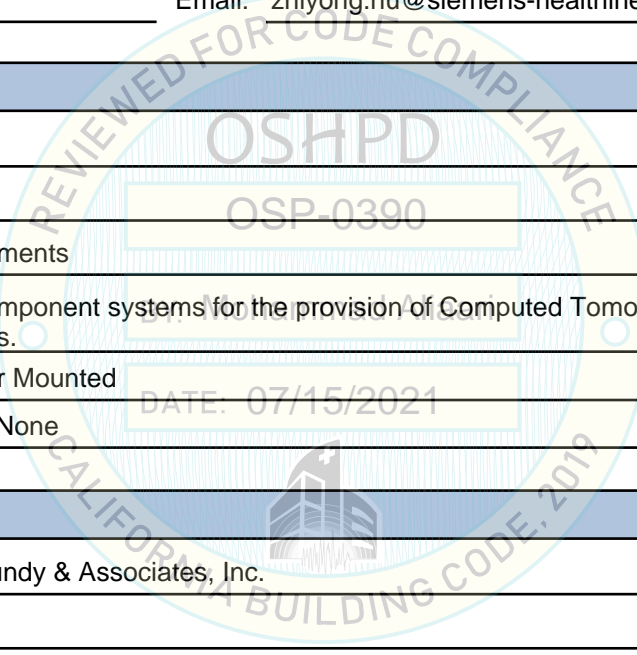
Contact Person: Travis Soppe

Mailing Address: 1199 Shoreline Drive, Boise, ID 83702

Telephone: (208) 342-5989

Email: tsoppe@wegai.com

Title: President





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California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

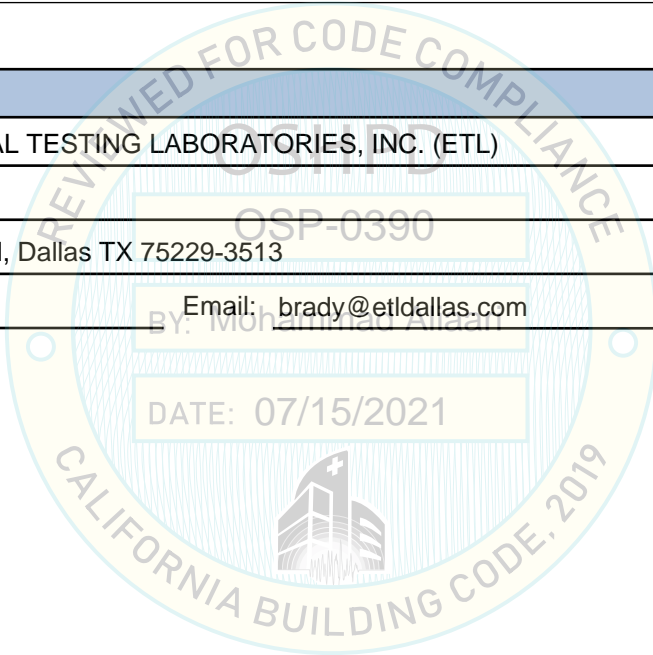
Company Name: W.E. GUNDY & ASSOCIATES INC.
Name: Travis Soppe California License Number: S6115
Mailing Address: P.O. Box 9121, Boise, ID 83707
Telephone: (208) 342-5989 Email: tsoppe@wegai.com

Certification Method

GR-63-Core ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3
 Other (Please Specify): _____

Testing Laboratory

Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)
Contact Person: Brady Richard
Mailing Address: 11034 Indian Trail, Dallas TX 75229-3513
Telephone: (972) 247-9657 Email: brady@etldallas.com





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Seismic Parameters

Design Basis of Equipment or Components (Fp/Wp) = See attachments
SDS (Design spectral response acceleration at short period, g) = See attachments
ap (Amplification factor) = See attachments
Rp (Response modification factor) = See attachments
Omega (System overstrength factor) = See Attachment
Ip (Importance factor) = 1.5
z/h (Height ratio factor) = 1 and 0
Natural frequencies (Hz) = See attachments
Overall dimensions and weight = See attachments

OSHPD Approval (For Office Use Only) - Approval Expires on 12/31/2025

Date: 7/15/2021
Name: Mohammad Aliaari Title: Senior Structural Engineer
Special Seismic Certification Valid Up to: SDS (g) = See Above z/h = See Above
Condition of Approval (if applicable):

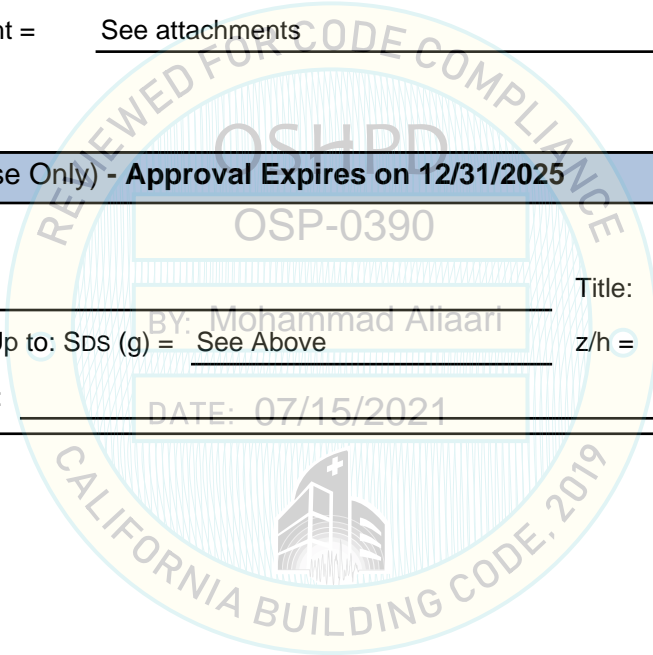


TABLE 1	SIEMENS HEALTHCARE GmbH					 WEGAI <small>W.E. GUNDY & ASSOCIATES, INC.</small> <small>STRUCTURAL & EARTHQUAKE ENGINEERING</small>		
	SPECIAL SEISMIC CERTIFICATION							
CERTIFIED SYSTEM AND COMPONENTS								

Manufacturer: Siemens Healthcare GmbH

System: SOMATOM Perspective CT

System Component ¹⁾	Siemens Part Number	Dimensions (in)			Weight (lb)	Mounting	UUT
		Width	Depth	Height			

Gantries

SOMATOM Perspective	10495243	89.6	26.8	71.7	2941	floor	UUT-1
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Patient Tables

Patient Table	10355389	97.4 - 121.9	27.6	37.3	753	floor	UUT-2 ²
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Image Control and Reconstruction

Image Control System	10661038	8.5	20.6	17.5	48	floor	UUT-3
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Image Reconstruction System	10661000	7.0	25.5	17.8	61	floor	UUT-4
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Line Control Box

Line Control Box	10165884	11.8	29.5	32.0	249	floor	UUT-5
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Power Supply

Eaton EX 2200 UPS	07735090	5.1	19.0	17.6	69	floor	UUT-6
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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.

² Patient table weight does not include simulated patient weights of 440lb.

SEISMIC CERTIFICATION LIMITS

System Component	Code	S _{DS} (g)	z / h	I _p	a _p	R _p	Ω ₀	F _p / W _p
Gantries	CBC 2019	2.00	1.0	1.50	1.0	1.5	1.5	2.40
Patient Tables	CBC 2019	2.00	1.0	1.50	1.0	1.5	1.5	2.40
Image Control and Reconstruction	CBC 2019	1.67	1.0	1.50	1.0	2.5	2.0	1.20
Line Control Box	CBC 2019	1.67	1.0	1.50	1.0	2.5	2.0	1.20
Power Supply	CBC 2019	1.67	1.0	1.50	1.0	2.5	2.0	1.20

UUT-1

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



Mounting Details: Rigid floor mounted with 4 - 1/2" grade 8 bolts



Manufacturer: Siemens Healthcare GmbH **Test Location:** Environmental Testing Laboratory

Component: SOMATOM Perspective Gantry **Test Date:** January 2014

Model Number: 10495243 **Report Number:** SQ35-1401-01 Rev.1

UUT Function: Continuous rotating detector for high-resolution data acquisition

UUT Description: Component of the SOMATOM Perspective CT system

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
2,941	89.6	26.8	71.7	4.2	5.9	15.3

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 2019 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40		
	2.50	0.0	1.5			1.68	0.68

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 mounted with 4 - 1/2" grade 8 bolts.



Manufacturer: Siemens Healthcare GmbH	Test Location: Environmental Testing Laboratory
Component: Patient Table	Test Date: January 2014
Model Number: 10355389	Report Number: SQ35-1401-01 Rev.1
UUT Function: Motorized patient table	
UUT Description: Component of SOMATOM CT Systems	

UUT PROPERTIES

Weight (lb) with Patient*	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,193	97.4 - 121.9	27.6	37.3	3.1	5.3	4.8

*The patient table moves vertically and horizontally to accommodate different patients and procedures. The system was tested in the normal vertical operating position, with the table top extended, and a total simulated patient weight of 440lbs.

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 2019 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40		
	2.50	0.0	1.5			1.68	0.68

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 with two hand-tightened, 1" wide straps (300lb WLL), thru L2.5x2.5x1/4" x 2.5" brackets positioned on either side of the unit (spaced 12" apart). The four angle brackets are attached to a 3/4" plywood floor with (2) 1/4" wood screws in each bracket.



Manufacturer: Siemens Healthcare GmbH	Test Location: Environmental Testing Laboratory
Component: Image Control System	Test Date: January 2014
Model Number: 10661038	Report Number: SQ35-1401-01 Rev.1
UUT Function: Computer for data acquisition, image reconstruction, and processing	
UUT Description: Component of SOMATOM CT Systems	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
48	8.5	20.6	17.5	19.8	31.9	>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 2019 / ICC-ES AC156	1.67	1.0	1.5	2.67	2.00		
	2.50	0.0	1.5			1.68	0.68

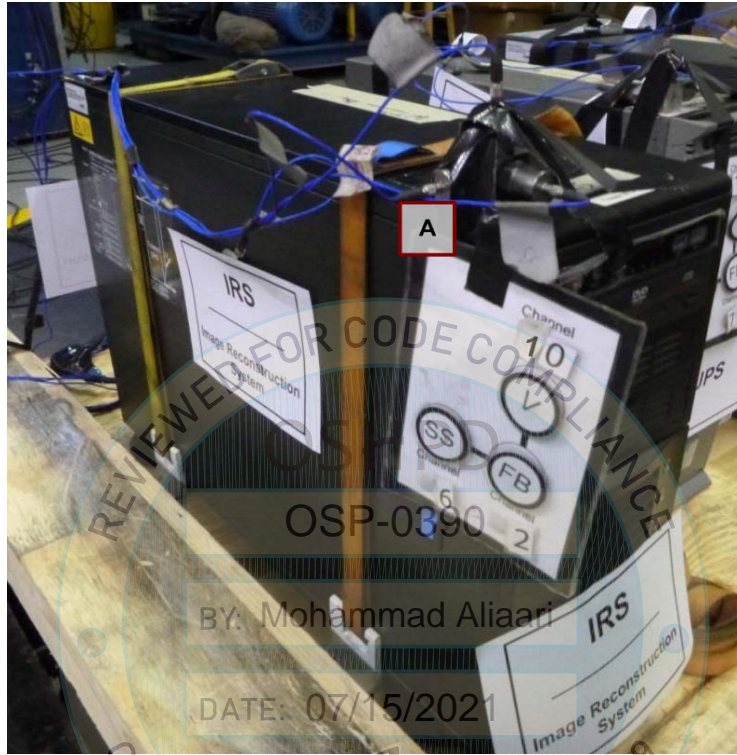
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-4

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



Mounting Details: Rigid floor mounted with two hand-tightened, 1" wide straps (300lb WLL), thru L2.5x2.5x1/4" x 2.5" brackets positioned on either side of the unit (spaced 12" apart). The four angle brackets are attached to a 3/4" plywood floor with (2) 1/4" wood screws in each bracket.



Manufacturer: Siemens Healthcare GmbH **Test Location:** Environmental Testing Laboratory

Component: Image Reconstruction System **Test Date:** January 2014

Model Number: 10661000 **Report Number:** SQ35-1401-01 Rev.1

UUT Function: Computer for data acquisition, image reconstruction, and processing

UUT Description: Component of SOMATOM CT Systems

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
61	7.0	25.5	17.8	17.1	25.9	28.7

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 2019 / ICC-ES AC156	1.67	1.0	1.5	2.67	2.00		
	2.50	0.0	1.5			1.68	0.68

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 with 4 - 3/8" grade 8 bolts



Manufacturer: Siemens Healthcare GmbH **Test Location:** Environmental Testing Laboratory

Component: Line Control Box **Test Date:** January 2014

Model Number: 10165884 **Report Number:** SQ35-1401-01 Rev.1

UUT Function: System controls

UUT Description: Component of SOMATOM CT Systems

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
249	11.8	29.5	32.0	13.9	25.3	>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 2019 / ICC-ES AC156	1.67	1.0	1.5	2.67	2.00		
	2.50	0.0	1.5			1.68	0.68

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-6

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



Mounting Details: Rigid floor mounted with two hand-tightened, 1" wide straps (300lb WLL), thru L2.5x2.5x1/4" x 2.5" brackets positioned on either side of the unit (spaced 12" apart). The four angle brackets are attached to a 3/4" plywood floor with (2) 1/4" wood screws in each bracket.



Manufacturer: Siemens Healthcare GmbH **Test Location:** Environmental Testing Laboratory

Component: Eaton EX 2200 UPS **Test Date:** January 2014

Model Number: 07735090 **Report Number:** SQ35-1401-01 Rev.1

UUT Function: Uninterruptable power supply

UUT Description: Component of SOMATOM CT Systems

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
69	5.1	19.0	17.6	10.9	25.9	28.2

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 2019 / ICC-ES AC156	1.67	1.0	1.5	2.67	2.00		
	2.50	0.0	1.5			1.68	0.68

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.