



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

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

OFFICE USE ONLY

APPLICATION #: **OSP – 0421 – 10**

**OSHPD Special Seismic Certification Preapproval (OSP)**

Type:  New  Renewal

**Manufacturer Information**

Manufacturer: **SIEMENS HEALTHCARE**

Manufacturer's Technical Representative: Carri Catalano

Mailing Address: 51 Valley Stream Parkway, Malvern, PA 19355

Telephone: (888) 826-9702 Email: On File

**Product Information**

Product Name: **SOMATOM FORCE CT SYSTEM**

Product Type: Computed Tomography (CT) medical imaging

Product Model Number: See Attachment 1, Table 1

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

General Description: Multiple component system for the provision of Computed Tomography medical diagnostic imaging.

Mounting Description: See Attachment 1, Table 1

**Applicant Information**

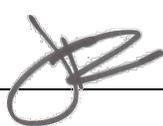
Applicant Company Name: **EASE Co.**

Contact Person: Jonathan Roberson, S.E.

Mailing Address: 5877 Pine Ave, Suite 210, Chino Hills, CA. 91709

Telephone: (909) 606-7622 Email: j.roberson@easeco.com

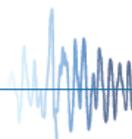
I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant:  Date: January 13, 2015

Title: Principal Engineer Company Name: EASE Co.

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

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY  
OSH-FD-759 (REV 10/21/14)



**OSHPD**



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

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

Company Name: EASE Co.

Name: Jonathan Roberson, S.E. California License Number: S4197

Mailing Address: 5877 Pine Ave, Suite 210, Chino Hills, CA. 91709

Telephone: (909) 606-7622 Email: j.roberson@easeco.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): \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

**Testing Laboratory**

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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Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: [X] Yes [ ] No

Design Basis of Equipment or Components (Fp/Wp) = See Attachment 1, Table 2

Sds (Design spectral response acceleration at short period, g) = 2.0g

ap (In-structure equipment or component amplification factor) = See Attachment 1, Table 2

Rp (Equipment or component response modification factor) = See Attachment 1, Table 2

Omega\_0 (System overstrength factor) = 1.5 for Gantries & Patient Tables; 2.5 all others

Ip (Importance factor) = 1.5

z/h (Height factor ratio) = 1

Equipment or Component Natural Frequencies (Hz) = See Attachment 2

Overall dimensions and weight (or range thereof) = See Attachment 1, Table 1

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: [ ] Yes [X] No

Design Basis of Equipment or Components (V/W) =

Sds (Design spectral response acceleration at short period, g) =

Sd1 (Design spectral response acceleration at 1 second period, g) =

R (Response modification coefficient) =

Omega\_0 (System overstrength factor) =

Cd (Deflection amplification factor) =

Ip (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, 2010: [ ] Yes [X] No

List of Attachments Supporting Special Seismic Certification

[X] Test Report(s) [ ] Drawings [ ] Calculations [ ] Manufacturer's Catalog

[X] Other(s) (Please Specify): Attachments 1 & 2

OSHPD Approval (For Office Use Only) - Approval Expires on December 31, 2019

Signature: [Signature] Date: March 2, 2015

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to : Sds (g) = 2.0 z/h = 1

Condition of Approval (if applicable): Approval is limited to components identical to tested units.



**ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS**

**TABLE 1: SEISMIC CERTIFIED SYSTEMS & COMPONENTS**

Manufacturer	SIEMENS HEALTHCARE						
System	SOMATOM FORCE COMPUTED TOMOGRAPHY (CT) SYSTEM						
COMPONENT	PART NO.	DIMENSIONS (IN.)			MAX. WT. (LB.)	MOUNTING	BASIS <sup>1)</sup>
		W	D	H			
<b>GANTRIES</b>							
SOMATOM Definition FORCE Gantry	10742327	94.5	46.5	78.4	5880	Floor	UUT1
<b>PATIENT TABLES</b>							
PHS-5 Patient Table	10742323	29.5	100.5 min – 179.5 max	24.3 min – 41.7 max	1066	Floor	UUT2
MPT-4 Patient Table	10742324	27.8	99.5 min – 179.5 max	23 min – 38.5 max	1388	Floor	UUT3
<b>POWER DISTRIBUTION UNITS</b>							
Power Distribution Cabinet (PDC)	10757110	47.2	29.5	75.2	2027	Wall/Floor	UUT4
<b>IMAGE CONTROL &amp; RECONSTRUCTION</b>							
Image Control System	10864203	7.3	18.9	16.9	34	Floor	UUT5
Image Reconstruction System	10742951	12.2	27	19.7	86	Floor	UUT6
Control Box	10742499	7.5	7	1.5	1.5	CTA	UUT7
19" LCD Monitor (Siemens)	10520199	16.75	8.75	18.5	21	CTA	UUT8A
Keyboard (Fujitsu)	KB900 MED US	18.375	7.125	0.75	2	CTA	UUT8B
Mount	<p><b>Rigid Base Mount (Floor Mount):</b> free-standing, base-mounted tower configuration with the component rigidly attached to a supporting structure and no lateral support above the base.</p> <p><b>CTA (CounterTop Anchored):</b> unit is anchored to a counter, desk, or other piece of fixed furniture.</p> <p><b>Wall/Floor:</b> unit bears on, and is anchored directly to the supporting floor. In addition, lateral restraint anchoring the unit to an adjacent wall or other supporting structure is provided along the height of the equipment</p>						
Notes	<ol style="list-style-type: none"> <li>BASIS: <ul style="list-style-type: none"> <li>UUT#: Indicates that a test specimen matching these characteristics was tested as part of this testing program.</li> </ul> </li> <li>Patient Table weight does not include 440 lb. simulated patient load present during testing.</li> <li>All components are manufactured by Siemens Healthcare unless otherwise noted.</li> </ol>						

**TABLE 2: ASCE 7-10 DESIGN BASIS FOR EQUIPMENT**

COMPONENT	MODEL No.	F <sub>p</sub> /W <sub>p</sub>	S <sub>DS</sub>	z/h	a <sub>p</sub>	R <sub>p</sub>	Ω <sub>0</sub>
SOMATOM Definition FORCE Gantry	10742327	2.40	2.0	1	1	1 ½	1 ½
PHS-5 Patient Table MPT-4 Patient Table	10742323 10742324	2.40	2.0	1	1	1 ½	1 ½
Image Control System Image Reconstruction System Control Box 19" LCD Monitor (Siemens) Keyboard (Fujitsu)	10864203 10742951 10742499 10520199 KB900 MED US	1.44	2.0	1	1	2 ½	2 ½
Power Distribution Cabinet (PDC)	10757110	1.50	2.0	1	2 ½	6	2 ½

<b>UUT- 1      SOMATOM Force Gantry</b>	
<b>MANUFACTURER:</b>	Siemens Healthcare
<b>IDENTIFICATION:</b>	Model No.: 10742327 Computed Tomography (CT) medical imaging system
<b>DESCRIPTION:</b>	Subcomponent of SOMATOM Force CT Systems.
<b>MOUNTING:</b>	Floor mounted using (4) - 5/8" dia GR 8 bolts



**PROPERTIES:**

DIMENSIONS (in.)			Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height		FRONT-AXIS	SIDE-AXIS	VERTICAL-AXIS
94.5	46.5	78.4	5880	6.7	11.2	10.2

**SHAKE TABLE TEST PARAMETERS**

CODE	TEST CRITERIA	S <sub>DS</sub>	z/h	I <sub>P</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2013	ICC-ES AC156-12	2.0	1.0	1.5	3.20	2.40	1.34	0.54

Unit maintained structural integrity and functionality after the ICC-ES AC 156 test

<b>UUT- 2      Patient Handling System 5 (PHS-5)</b>	
<b>MANUFACTURER:</b>	Siemens Healthcare
<b>IDENTIFICATION:</b>	Model No.: 10742323 Computed Tomography (CT) medical imaging system
<b>DESCRIPTION:</b>	Subcomponent of SOMATOM Force CT Systems.
<b>MOUNTING:</b>	Floor mounted using (4) – 5/8" dia GR 8 bolts



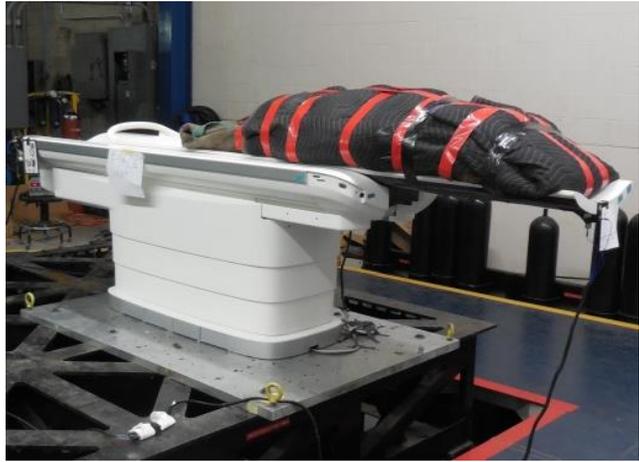
**PROPERTIES:**

DIMENSIONS (in.)			Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height		SIDE-AXIS	FRONT-AXIS	VERTICAL-AXIS
29.5	100.5 min – 179.5 max	24.3 min – 41.7 max	1066	2.6	2.9	10.7

**SHAKE TABLE TEST PARAMETERS**

CODE	TEST CRITERIA	S <sub>DS</sub>	z/h	I <sub>P</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2013	ICC-ES AC156-12	2.0	1.0	1.5	3.2	2.4	1.34	0.54

Unit maintained structural integrity and functionality after the ICC-ES AC 156 test

<b>UUT- 3      Multi Purpose Table 4 (MPT4)</b>								
<b>MANUFACTURER:</b>	Siemens Healthcare							
<b>IDENTIFICATION:</b>	Model No.: 10742324 Computed Tomography (CT) medical imaging system							
<b>DESCRIPTION:</b>	Subcomponent of SOMATOM Force CT Systems.							
<b>MOUNTING:</b>	Floor mounted using (4) – 5/8” dia GR 8 bolts							
								
<b>PROPERTIES:</b>								
DIMENSIONS (in.)			Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height		SIDE-AXIS	FRONT-AXIS	VERTICAL-AXIS		
27.8	99.5 min – 179.5 max	23 min – 38.5 max	1388	3.3	2.7	7.7		
<b>SHAKE TABLE TEST PARAMETERS</b>								
CODE	TEST CRITERIA	S <sub>DS</sub>	z/h	I <sub>P</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2013	ICC-ES AC156-12	2.0	1.0	1.5	3.20	2.40	1.34	0.54
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test								

<b>UUT- 4      Power Distribution Cabinet (PDC)</b>								
<b>MANUFACTURER:</b>	Siemens Healthcare							
<b>IDENTIFICATION:</b>	Model No.: 10757110 Computed Tomography (CT) medical imaging system							
<b>DESCRIPTION:</b>	Subcomponent of SOMATOM Force CT Systems.							
<b>MOUNTING:</b>	Wall/Floor mounted using (4) - 5/16” dia machine bolts to the wall and (2) – ½” dia GR 8 bolts to floor							
								
<b>PROPERTIES:</b>								
DIMENSIONS (in.)			Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height		SIDE-AXIS	FRONT-AXIS	VERTICAL-AXIS		
47.2	29.5	75.2	2027	12.7	13.2	38.7		
<b>SHAKE TABLE TEST PARAMETERS</b>								
CODE	TEST CRITERIA	S <sub>DS</sub>	z/h	I <sub>P</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2013	ICC-ES AC156-12	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test								

UUT- 5 Image Control System (Tower 12)								
MANUFACTURER:		Siemens Healthcare						
IDENTIFICATION:		Model No.: 10864203						
DESCRIPTION:		Computed Tomography (CT) medical imaging system						
MOUNTING:		Subcomponent of SOMATOM Force CT Systems.						
		Floor mounted using (4) – 3/8" dia GR 8						
								
PROPERTIES:								
DIMENSIONS (in.)				Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)			
Width	Depth	Height	SIDE-AXIS		FRONT-AXIS	VERTICAL-AXIS		
7.3	18.9	16.9	34	30.2	>50	33.2		
SHAKE TABLE TEST PARAMETERS								
CODE	TEST CRITERIA	S <sub>DS</sub>	z/h	I <sub>P</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2013	ICC-ES AC156-12	2.0	1.0	1.5	3.20	2.40	1.34	0.54
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test								

UUT- 6 Image Reconstruction System (IRSmx4 Tower)								
MANUFACTURER:		Siemens Healthcare						
IDENTIFICATION:		Model No.: 10742951						
DESCRIPTION:		Computed Tomography (CT) medical imaging system						
MOUNTING:		Subcomponent of SOMATOM Force CT Systems.						
		Floor mounted using (4) – 3/8" dia GR 8						
								
PROPERTIES:								
DIMENSIONS (in.)				Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)			
Width	Depth	Height	SIDE-AXIS		FRONT-AXIS	VERTICAL-AXIS		
12.2	27	19.7	86	14.6	17.5	33.9		
SHAKE TABLE TEST PARAMETERS								
CODE	TEST CRITERIA	S <sub>DS</sub>	z/h	I <sub>P</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2013	ICC-ES AC156-12	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test								

**ATTACHMENT 2: TEST SPECIMEN SUMMARY**

<b>UUT- 7 Control Box</b>	
<b>MANUFACTURER:</b>	Siemens Healthcare
<b>IDENTIFICATION:</b>	Model No.: 10742499
<b>DESCRIPTION:</b>	Computed Tomography (CT) medical imaging system Subcomponent of SOMATOM Force CT Systems.
<b>MOUNTING:</b>	Countertop anchor mounted using (2) – 1" x 2" Velcro strips

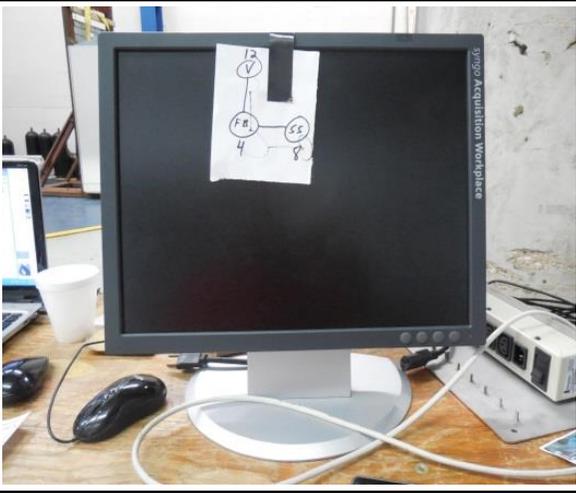


<b>PROPERTIES:</b>							
DIMENSIONS (in.)				Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	SIDE-AXIS		FRONT-AXIS	VERTICAL-AXIS	
7.5	7	1.5	1.5	N/A	N/A	N/A	

<b>SHAKE TABLE TEST PARAMETERS</b>								
CODE	TEST CRITERIA	S <sub>DS</sub>	z/h	I <sub>P</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2013	ICC-ES AC156-12	2.0	1.0	1.5	3.20	2.40	1.34	0.54

Unit maintained structural integrity and functionality after the ICC-ES AC 156 test

<b>UUT- 8A 19" LCD Monitor</b>	
<b>MANUFACTURER:</b>	Siemens Healthcare
<b>IDENTIFICATION:</b>	Model No.: 10520199
<b>DESCRIPTION:</b>	Computed Tomography (CT) medical imaging system Subcomponent of SOMATOM Force CT Systems.
<b>MOUNTING:</b>	Countertop anchor mounted using (4) - #12 wood screws and fender washers thru steel straps



<b>PROPERTIES:</b>							
DIMENSIONS (in.)				Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	FRONT-AXIS		SIDE-AXIS	VERTICAL-AXIS	
16.75	8.75	18.5	21	6.7	10.8	>50	

<b>SHAKE TABLE TEST PARAMETERS</b>								
CODE	TEST CRITERIA	S <sub>DS</sub>	z/h	I <sub>P</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2013	ICC-ES AC156-12	2.0	1.0	1.5	3.2	2.4	1.34	0.54

Unit maintained structural integrity and functionality after the ICC-ES AC 156 test

UUT- 8B Fujitsu KB900 MED US Keyboard											
MANUFACTURER:				Fujitsu Technology Solutions							
IDENTIFICATION:				Model No.: KB900 MED US							
				Computed Tomography (CT) medical imaging system							
DESCRIPTION:				Subcomponent of SOMATOM Force CT Systems.							
MOUNTING:				Countertop anchor mounted using (1) – 1” x 3” Velcro Tape and (2) – 1” x 2” Velcro tape.							
PROPERTIES:											
DIMENSIONS (in.)					Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)					
Width		Depth		Height		FRONT-AXIS	SIDE-AXIS	VERTICAL-AXIS			
18.375		7.125		0.75	2	N/A	N/A	N/A			
SHAKE TABLE TEST PARAMETERS											
CODE	TEST CRITERIA	S <sub>DS</sub>	z/h	I <sub>P</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>			
CBC 2013	ICC-ES AC156-12	2.0	1.0	1.5	3.20	2.40	1.34	0.54			
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test											