



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: **OSP – 0358 – 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 EDGE 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: Floor (rigid base) mounted

**Applicant Information**

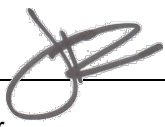
Applicant Company Name: **EASE Co.**

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

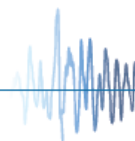
I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant:  Date: September 12, 2013

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 6/14/13)



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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.

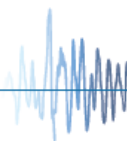
Contact Name: Brady Richard

Mailing Address: 11034 Indian Trail, Dallas, TX 75229-3513

Telephone: (972) 247-9657 Email: brady@etldallas.com

\*Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dvnamic Needs\*

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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 1, Table 2

$S_{DS}$  (Design spectral response acceleration at short period, g) = 2.0g

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

$R_p$  (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

$I_p$  (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  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) = \_\_\_\_\_

$\Omega_0$  (System overstrength factor) = \_\_\_\_\_

$C_d$  (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) = \_\_\_\_\_

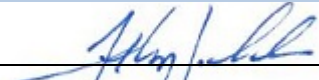
Tank(s) designed in accordance with ASME BPVC, 2010:  Yes  No

**List of Attachments Supporting Special Seismic Certification**

Test Report(s)  Drawings  Calculations  Manufacturer's Catalog

Other(s) (Please Specify): Attachments 1 & 2

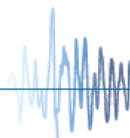
**OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2019**

Signature:  Date: December 19, 2014

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to :  $S_{DS}$  (g) = 2.0  $z/h$  = 1

Condition of Approval (if applicable): \_\_\_\_\_



**ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS**

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

Manufacturer	SIEMENS HEALTHCARE						
System	SOMATOM DEFINITION EDGE 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 EDGE Gantry	8098555	93.7	36.7	78	4851	Floor	UUT-1
<b>PATIENT TABLES</b>							
PHS-4 Patient Table	8097144	28.0	95.7 min – 174.5 max	31.25 min – 39 max	1100	Floor	UUT-2
MPT-2 Patient Table	08097102	27	97 min – 175 max	23.5 min – 37.25 max	1279	Floor	UUT-3
<b>POWER DISTRIBUTION UNITS</b>							
Power Distribution Cabinet (PDC)	10662877	35.4	27.2	76.8	1093	Floor	UUT-4
<b>IMAGE CONTROL &amp; RECONSTRUCTION</b>							
Image Control System (Fujitsu)	10864203	7.375	19	17	34	Floor	UUT-5
Image Reconstruction Sys.	10431954	12.2	30.7	19.7	109	Floor	UUT-6
Control Box	07741049	7.5	7	1.75	1.5	CTA	UUT-7
19" LCD Monitor (Siemens)	10656056	16.5	8.3	16.1	17.5	CTA	UUT-8
Keyboard (Fujitsu)	KB900 MED	18.25	7	1	2	CTA	UUT-9
Mount	<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. <b>Countertop Anchored (CTA):</b> unit is anchored to a counter, desk, or other piece of fixed furniture.						
Notes	1. 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> 2. Patient Table weight does not include 440 lb. simulated patient load present during testing. 3. All components are manufactured by Siemens Healthcare unless otherwise noted.						

**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 EDGE Gantry	8098555	2.40	2.0	1	1	1 ½	1 ½
PHS-4 Patient Table MPT-2 Patient Table	8097144 08097102	2.40	2.0	1	1	1 ½	1 ½
Image Control System (Fujitsu) Image Reconstruction Sys. Control Box 19" LCD Monitor (Siemens) Keyboard (Fujitsu)	10864203 10431954 07741049 10656056 KB900 MED	1.44	2.0	1	1	2 ½	2 ½
Power Distribution Cabinet (PDC)	10662877	1.50	2.0	1	2 ½	6	2 ½

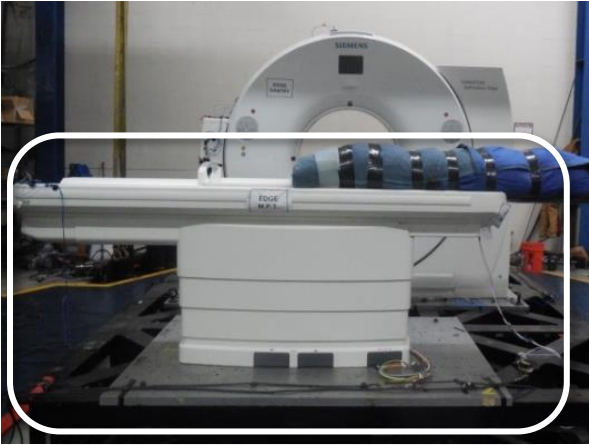
<b>UUT- 1 SOMATOM DEFINITION EDGE CT GANTRY</b>									
<b>MANUFACTURER:</b>		Siemens Healthcare							
<b>IDENTIFICATION:</b>		Model No.: 08098555							
<b>DESCRIPTION:</b>		Component of SOMATOM Definition Edge CT System Air cooled.							
<b>MOUNTING:</b>		Rigid Base (Floor) Mounted (4) – ¾” dia GR 8 bolts to interface plate							
<b>PROPERTIES:</b>									
DIMENSIONS (in.)					LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height	Weight (lb.)		Side-Axis	Front-Axis	Vertical-Axis		
93.7	36.7	77.9	4851		7.7	12.2	10.6		
<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- 2 PHS-4 PATIENT TABLE</b>									
<b>MANUFACTURER:</b>		Siemens Healthcare							
<b>IDENTIFICATION:</b>		Model No.: 08097144							
<b>DESCRIPTION:</b>		Component of SOMATOM Definition Edge CT System							
<b>MOUNTING:</b>		Rigid Base (Floor) Mounted using (4) – 5/8” dia. Gr. 8 bolt to aluminum interface plate.							
<b>PROPERTIES:</b>									
DIMENSIONS (in.)					LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height	Weight (lb.)		Side-Axis	Front-Axis	Vertical-Axis		
28.0	95.7 / 174.5	31.25 / 39	1100+440 Patient		2.8	7.4	7.9		
<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									




**ATTACHMENT 2: TEST SPECIMEN SUMMARY**


<b>UUT- 3 MPT-2 PATIENT TABLE</b>								
<b>MANUFACTURER:</b> Siemens Healthcare								
<b>IDENTIFICATION:</b> Model No.: 08097102								
<b>DESCRIPTION:</b> Component of SOMATOM Definition Edge CT System								
<b>MOUNTING:</b> Rigid Base (Floor) Mounted using (4) – 5/8" dia. Gr. 8 bolt to aluminum interface plate.								
<b>PROPERTIES:</b>								
DIMENSIONS (in.)				Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)			
Width	Depth	Height			Side-Axis	Front-Axis	Vertical-Axis	
27	97 / 175	23.5 / 37.25	1279 + 440lb Patient		3.2	3.5	9.3	
<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								

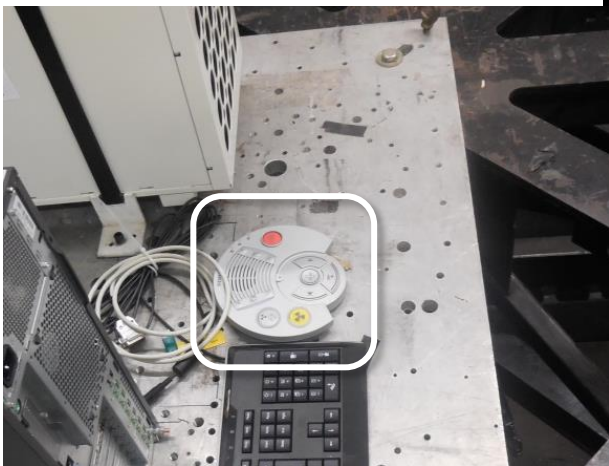
<b>UUT- 4 POWER DISTRIBUTION CABINET (PDC)</b>								
<b>MANUFACTURER:</b> Siemens Healthcare								
<b>IDENTIFICATION:</b> Model No.: 10662877								
<b>DESCRIPTION:</b> Component of SOMATOM Definition Edge CT System. Includes UPS option								
<b>MOUNTING:</b> Rigid Base (Floor) Mounted using (4) – 1/2" dia. Gr. 8 bolt to aluminum interface plate.								
<b>PROPERTIES:</b>								
DIMENSIONS (in.)				Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)			
Width	Depth	Height			Side-Axis	Front-Axis	Vertical-Axis	
35.4	27.2	76.8	1093		8.6	8.5	44.6	
<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								




**ATTACHMENT 2: TEST SPECIMEN SUMMARY**

<b>UUT- 5 IMAGE CONTROL SYSTEM (ICS)</b>								
<b>MANUFACTURER:</b> Fujitsu								
<b>IDENTIFICATION:</b> Model No.: 10864203								
<b>DESCRIPTION:</b> Component of SOMATOM Definition Edge CT System.								
<b>MOUNTING:</b> Rigid Base (Floor) Mounted using (4) - 3/8" dia. Allen head cap bolts w/ (4) - L2.5" x 2.5" x 1/4" x 2.5" and 2 straps w/ a working load of 200 lb.								
<b>PROPERTIES:</b>								
DIMENSIONS (in.)				Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)			
Width	Depth	Height	Side-Axis		Front-Axis	Vertical-Axis		
7.375	19	17	34		41.2	28.4	17.2	
<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								

<b>UUT- 6 IMAGE RECONSTRUCTION SYSTEM (IRS)</b>								
<b>MANUFACTURER:</b> Siemens Healthcare								
<b>IDENTIFICATION:</b> Model No.: 10431954								
<b>DESCRIPTION:</b> Component of SOMATOM Definition Edge CT System.								
<b>MOUNTING:</b> Rigid Base (Floor) Mounted using (4) - 3/8" diam. Allen head cap bolts w/ (4) - L2.5" x 2.5" x 1/4" x 2.5" and 2 straps w/ a working load of 200 lb.								
<b>PROPERTIES:</b>								
DIMENSIONS (in.)				Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)			
Width	Depth	Height	Side-Axis		Front-Axis	Vertical-Axis		
12.2	30.7	19.7	109		16.6	25.9	45.3	
<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								

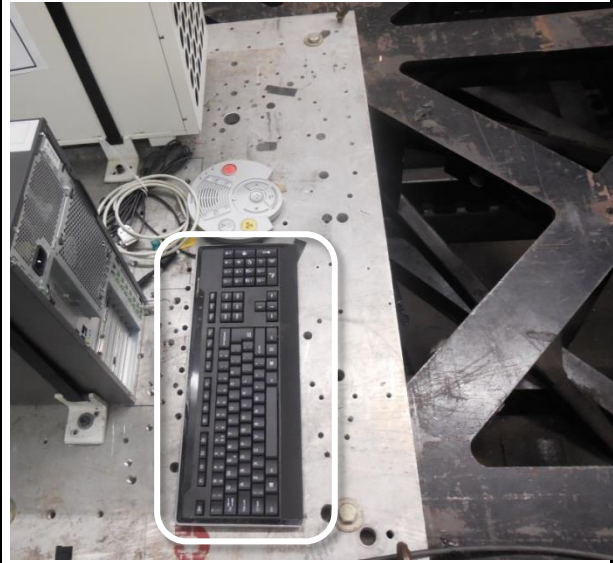
<b>UUT- 7 CONTROL BOX</b>								
<b>MANUFACTURER:</b>		Siemens Healthcare						
<b>IDENTIFICATION:</b>		Model No.: 07741049						
<b>DESCRIPTION:</b>		Component of SOMATOM Definition Edge CT System.						
<b>MOUNTING:</b>		Countertop Anchored using (2) – 1" x 2" Velcro hook & loop tape (industrial strength)						
								
<b>PROPERTIES:</b>								
DIMENSIONS (in.)				Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)			
Width	Depth	Height	Side-Axis		Front-Axis	Vertical-Axis		
7.5	7	1.75	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	3.2	2.4	1.34	0.54
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test								

<b>UUT- 8 19" LCD MONITOR</b>								
<b>MANUFACTURER:</b>		Siemens Healthcare						
<b>IDENTIFICATION:</b>		Model No.: 10656056						
<b>DESCRIPTION:</b>		Component of SOMATOM Definition Edge CT System.						
<b>MOUNTING:</b>		Countertop Anchored using <ul style="list-style-type: none"> <li>• (2) – 3/4" x 14" steel straps</li> <li>• (4) – #12 screws w/ 1.25" fender washers</li> </ul>						
								
<b>PROPERTIES:</b>								
DIMENSIONS (in.)				Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)			
Width	Depth	Height	Side-Axis		Front-Axis	Vertical-Axis		
16.5	8.3	16.1	17.5	8.6	15.3	___*		
<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								

\* monitoring error



**ATTACHMENT 2: TEST SPECIMEN SUMMARY**

<b>UUT- 9      KEYBOARD</b>								
<b>MANUFACTURER:</b>	Fujitsu							
<b>IDENTIFICATION:</b>	Model No.: KB900 MED US							
<b>DESCRIPTION:</b>	Component of SOMATOM Definition Edge CT System.							
<b>MOUNTING:</b>	Countertop Anchored using <ul style="list-style-type: none"> <li>• (2) – 1" x 2" Velcro hook &amp; loop tape (industrial strength) at top</li> <li>• (1) – 1" x 3" Velcro hook &amp; loop tape (industrial strength) at bottom</li> </ul>							
								
<b>PROPERTIES:</b>								
DIMENSIONS (in.)			Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height		Side-Axis	Front-Axis	Vertical-Axis		
18.25	7	1	2	-----	-----	-----		
<b>SHAKE TABLE TEST PARAMETERS</b>								
CODE	TEST CRITERIA	$S_{DS}$	z/h	$I_P$	$A_{FLX-H}$	$A_{RIG-H}$	$A_{FLX-V}$	$A_{RIG-V}$
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								