



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: **OSP – 0469 – 10**

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: **PHILIPS HEALTHCARE**

Manufacturer's Technical Representative: Julie Petrie

Mailing Address: 595 Miner Road, Highland Heights, OH 44143

Telephone: ON FILE Email: ON FILE

Product Information

Product Name: **Brilliance Big Bore CT Base System & Brilliance Big Bore CT For Oncology**

Product Type: Computed Tomography (CT) medical imaging system.

Product Model Number: See Attachment 1

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

General Description: Multiple component systems for the provision of Computed Tomography medical diagnostic imaging. Seismic certification is limited to system components listed in Attachment 1 Table 1. Seismic enhancements incorporated into the test units and enhancements required to address anomalies observed during the tests shall be incorporated into the certified units.

Mounting Description: See Attachment 1, Table 1.

Applicant Information

Applicant Company Name: **EASE LLC**

Contact Person: JONATHAN ROBERSON, S.E.

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

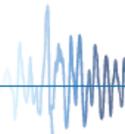
Telephone: (406) 541-EASE (3273) Email: j.roberson@easeco.com

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

Signature of Applicant:  Date: August 8, 2016

Title: Principal Engineer Company Name: EASE LLC

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





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

Company Name: EASE LLC
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: 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) = See Attachment 1, Table 2

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

Ω_0 (System overstrength factor) = See Attachment 1, Table 2

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = See Attachment 1, Table 2

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) = _____

Ω_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, 2015: Yes No

List of Attachments Supporting Special Seismic Certification

Test Report(s) Drawings Calculations Manufacturer's Catalog

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

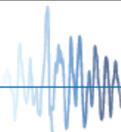
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature:  Date: 9/8/16

Print Name: M. R. Karim Title: SHFR

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

Condition of Approval (if applicable): _____



ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

TABLE 1:

MANUFACTURER		PHILIPS HEALTHCARE						
SYSTEM		BRILLIANCE BIG BORE CT BASE SYSTEM / BRILLIANCE BIG BORE CT FOR ONCOLOGY (459800867871)						
COMPONENT	PART NO.	DIMENSIONS (IN.)			APPROX. WT. (LB.)	MOUNTING	BASIS	
		W	D	H				
GANTRY								
GANTRY, BRILLIANCE BIG BORE ^[3]	459800746192	99	39	78.7	4503	Rigid Base	UUT1602-1	
-LH Actuator, Seismic	459800121282							
-RH Actuator, Seismic	459800121292							
PATIENT TABLE								
Patient Support, Bariatric ^[3]	453567391361	22.7	107.4	25.4 min	890 ^[2]	Rigid Base	UUT1602-2	
CONSOLE								
LCC CRC RACK DVI ^[3] including:	455012005711	24.0	35.5	29.9	307	Rigid Base	UUT1503-A3	
Common Host Computer (CRC) (HP z440)	459800918411							
CIRS Computer (HP z840)	459800914091							
LCC CRC RACK DVI ^[3] including:	455012005711	24.0	35.5	29.9	307	Rigid Base	INT	
Common Host Computer (CRC) (HP z440)	459800918411							
CIRS Computer (HP z840)	459800914241							
LCC CRC RACK DVI ^[3] including:	455012005711	24.0	35.5	29.9	307	Rigid Base	INT	
Common Host Computer (CRC) (HP z440)	459800918411							
CIRS Computer (CIRS, HP z840 E5-2630v3 No Raid, SN5BP)	459800914211							
CRC RACK IMR ^[3] including:	459800444991	24.0	35.5	29.9	316	Rigid Base	UUT1503-A1	
CIRS Computer S1 (CIRS, HP z840 E5-2630v3 4Drv, SN5BP, ACQ4e)	459800912731							
CIRS Computer S2 (CIRS, HP z840 E5-2630v3 No Raid, SN5BP)	459800914211							
MISC								
CT BOX ASSEMBLY ^[3]	453567027195	15.8	4	3.5	4	CTA	UUT1603-6	
MOUNTING	Floor (Rigid Base): free-standing, base-mounted tower configuration with the component rigidly attached to a supporting structure and no lateral support above the base. CTA (Countertop Anchored): refers to a condition where the unit is anchored to a counter, desk, or other piece of fixed furniture.							
NOTES	1. BASIS: <ul style="list-style-type: none"> • UUT#: Indicates that a test specimen matching these characteristics was tested as part of this testing program. • INT (Interpolate or extrapolate): model not specifically tested and which seismic qualification is established through evaluation of testing of other, similar models in the product line. 2. Patient table weight does not include the 500 LB patient load present during testing. 3. Component requires use of Philips Healthcare Seismic Kit (Part No. 4598 008 81561 or equivalent).							

TABLE 2: ASCE 7-10 DESIGN BASIS FOR EQUIPMENT

COMPONENT	PART No.	F _p /W _p	S _{DS}	z/h	a _p	R _p	Ω ₀
Gantry LH Actuator, Seismic RH Actuator, Seismic	459800746192	2.40	2.0	1	1	1 ½	1 ½
	459800121282	1.125	2.5	0			
	459800121292						
Patient Table	453567391361	2.40	2.0	1	1	1 ½	1 ½
		1.125	2.5	0			
LCC CRC RACK DVI including: Common Host Computer (CRC) (HP z440) CIRS Computer (HP z840)	455012005711 459800918411 459800914091	1.80	2.5	1	1	2 ½	2
LCC CRC RACK DVI including: Common Host Computer (CRC) (HP z440) CIRS Computer (HP z840)	455012005711 459800918411 459800914241	1.80	2.5	1	1	2 ½	2
LCC CRC RACK DVI including: Common Host Computer (CRC) (HP z440) CIRS Computer (HP z840)	455012005711 459800918411 459800914211	1.80	2.5	1	1	2 ½	2
CRC RACK IMR including: CIRS Computer S1 CIRS Computer S2	459800444991 459800912731 459800914211	1.80	2.5	1	1	2 ½	2
CT Box	453567027195	1.44	2.0	1	1	2 ½	2
		1.125	2.5	0			

ATTACHMENT 2: TEST SPECIMEN SUMMARY

UUT1602- 1 Brilliance Big Bore CT Gantry									
MANUFACTURER:		Philips Healthcare							
IDENTIFICATION:		Model No.: 459800746192							
DESCRIPTION:		Subcomponent of the Brilliance Big Bore CT system							
MOUNTING:		Floor mounted using (8) - 3/4" dia GR 8 bolts							
									
PROPERTIES:									
DIMENSIONS (in.)					Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)			
Width	Depth	Height				Front-Axis	Side-Axis	Vertical-Axis	
99	39	78.7			4.4	4.8	23.6		
SHAKE TABLE TEST PARAMETERS									
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	2.0 2.5	1 0	1.5	3.20 2.50	2.40 1.00	1.34 1.68	0.54 0.68	
Unit maintained structural integrity and remained functional per manufacturer requirement.									

UUT1602- 2 Brilliance Big Bore CT Patient Table									
MANUFACTURER:		Philips Healthcare							
IDENTIFICATION:		Model No.: 453567391361							
		Serial No.: 921012							
DESCRIPTION:		Subcomponent of the Brilliance Big Bore CT system							
MOUNTING:		Floor mounted using (5) – 5/8" dia GR 8 bolts							
									
PROPERTIES:									
DIMENSIONS (in.)					Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)			
Width	Depth	Height				Side-Axis	Front-Axis	Vertical-Axis	
22.7	107.4	36			908	3.3	7.3	4.7	
SHAKE TABLE TEST PARAMETERS									
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	2.0 2.5	1 0	1.5	3.20 2.50	2.40 1.00	1.34 1.68	0.54 0.68	
Unit maintained structural integrity and remained functional per manufacturer requirement.									

ATTACHMENT 2: TEST SPECIMEN SUMMARY

UUT1503- A1 CRC RACK IMR									
MANUFACTURER:		Philips Healthcare							
IDENTIFICATION:		Rack	CIRS S1	CIRS S2					
		459800444991 Rev C	459800912731	459800914211					
DESCRIPTION:		CRC RACK IMR including: <ul style="list-style-type: none"> CIRS S1 (CIRS, HP z840 E5-2630v3 4Drv, SN5BP, ACQ4e) CIRS S2 (CIRS, HP z840 E5-2630v3 No Raid, SN5BP) Gen 5.X Console Seismic Kit (REF: 4598 008 81561) The Test Specimen was fully populated at time of test.							
MOUNTING:		Floor mounted using (4) -3/8" dia. Allen head cap screws to aluminum interface plate.							
PROPERTIES:									
DIMENSIONS (in.)				Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height	Side-Axis		Front-Axis	Vertical-Axis			
24.0	35.5	29.9	316		8.1	6.6	9.2		
SHAKE TABLE TEST PARAMETERS									
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	2.5	1.0	1.5	4.00	3.00	1.68	0.68	
Unit maintained structural integrity and remained functional per manufacturer requirement.									



UUT1503- A3 LCC CRC RACK DVI									
MANUFACTURER:		Philips Healthcare							
IDENTIFICATION:		Rack	(CRC)	CIRS					
		455012005711 Rev B	459800918411	459800914091					
DESCRIPTION:		LCC CRC RACK DVI consist of : <ul style="list-style-type: none"> Common Host Computer (CRC) (Host, HP z440, CAN, Adaptor) CIRS Computer (CIRS, HP z840 E5-2620v3 4Drv, SN5BP, ACQ4e) Gen 5.X Console Seismic Kit (REF: 4598 008 81561) The Test Specimen was fully populated at time of test.							
MOUNTING:		Floor mounted using (4) -3/8" dia. Allen head cap screws to aluminum interface plate.							
PROPERTIES:									
DIMENSIONS (in.)				Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height	Front-Axis		Side-Axis	Vertical-Axis			
24.0	35.5	29.9	307		9.4	5.6	20.8		
SHAKE TABLE TEST PARAMETERS									
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	2.5	1	1.5	4.00	3.00	1.68	0.68	
Unit maintained structural integrity and remained functional per manufacturer requirement.									



ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT1603- 6 CT Box								
MANUFACTURER:	Philips Healthcare							
IDENTIFICATION:	Model No.: 453567027195 Rev:F Serial No.: 232							
DESCRIPTION:	Component of the Ingenuity CT system. Unit is common to multiple CT systems.							
MOUNTING:	Floor mounted using (2) – 2" x 1" Velcro strips							
PROPERTIES:								
DIMENSIONS (in.)			Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height		Front-Axis	Side-Axis	Vertical-Axis		
15.8	4	3.5	4	22.4	>50	>50		
SHAKE TABLE TEST PARAMETERS								
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	2.0	1	1.5	3.20	2.40	1.34	0.54
		2.5	0		2.50	1.00	1.68	0.68
Unit maintained structural integrity and remained functional per manufacturer requirement.								