OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0463 – 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: **Ingenuity CT / Ingenuity CORE CT / Ingenuity CORE 128 CT**

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 enhancements incorporated into the test units 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: November 17, 2016

Title: Principal Engineer Company Name: EASE LLC

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

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: December 23, 2016

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): Approval is limited to units identical to tested units.

ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

TABLE 1:

MANUFACTURER	**PHILIPS HEALTHCARE**
SYSTEM	**Ingenuity CT** (459800781191) **Ingenuity CORE CT** (459800760241 / 459800760271) **Ingenuity CORE 128 CT** (459800781161 / 459800781171)

COMPONENT	PART NO.	DIMENSIONS (IN.) W	D	H	APPROX. WT. (LB.)	MOUNTING	BASIS
GANTRY							
Ingenuity CT including:	459800708861	93.5	37	78.9	4336	Rigid Base	UUT4
LH Actuator, Seismic	459800121282						
RH Actuator, Seismic	459800121292						
PATIENT TABLE							
Patient Support, Extended	459800021211	22.7	117.6	41.375	918 [2]	Rigid Base	UUT5
Patient Support, Bariatric [5]	453567391361	22.7	107.4	25.4 min	908 [4]	Rigid Base	UUT-A1602-2
CONSOLE							
CRC RACK IMR [3] including:	459800444991	24.0	35.5	29.9	316	Rigid Base	UUT1
CIRS S1 (HP z840)	459800912731						
CIRS S2 (HP z840)	459800914211						
HOST RACK - IMR [3] including:	459800444981	13.0	35.3	29.9	172	Rigid Base	UUT2
Common Host Computer (CRC) (HP z440)	459800918411						
LCC CRC RACK DVI [3] including:	455012005711	24.0	35.5	29.9	307	Rigid Base	UUT3
Common Host Computer (CRC) (HP z440)	459800918411						
CIRS Computer (HP z840)	459800914091						
MISC							
CT BOX ASSEMBLY	453567027195	15.8	4	3.5	4	CTA	UUT6

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: • UUT#: Indicates that a test specimen matching these characteristics was tested as part of this testing program. 2. Patient table weight does not include 450 LB patient load present during testing. 3. Requires use of Philips Healthcare Gen 5.X Console Seismic Kit (Part No. 4598 008 81561) or equivalent. 4. Patient table weight does not include 500 LB patient load present during testing. 5. 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	459800708861 459800121282 459800121292	2.40	2.0	1	1	1 ½	1 ½
		1.125	2.5	0			
Patient Table	459800021211 453567391361	2.40	2.0	1	1	1 ½	1 ½
		1.125	2.5	0			
CRC RACK - IMR CIRS S1 (HP z840) CIRS S2 (HP z840)	459800444991 459800912731 459800914211	1.80	2.5	1	1	2 ½	2
HOST RACK - IMR Common Host Computer (CRC) (HP z440)	459800444981 459800918411	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 459800914091	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			

UUT- 1 CRC RACK IMR

MANUFACTURER:	Philips Healthcare
IDENTIFICATION:	Rack: 459800444991 Rev C; CIRS S1: 459800912731; CIRS S2: 459800914211
DESCRIPTION:	CRC RACK IMR including: • 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.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	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 2013	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.68	0.68

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

UUT- 2 Host Rack - IMR

MANUFACTURER:	Philips Healthcare
IDENTIFICATION:	Rack: 459800444981 Rev D; Common Host: 459800918411
DESCRIPTION:	Host Rack - IMR including: • Common Host Computer (CRC) (Host HP z440, CAN, Adaptor) • 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.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	Side-Axis	Front-Axis	Vertical-Axis
13.0	35.3	29.9	172	8.3	3.9	25.1

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 2013	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.68	0.68

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

UUT- 3 LCC CRC RACK DVI

MANUFACTURER:	Philips Healthcare
IDENTIFICATION:	Rack (CRC) CIRS 455012005711 Rev B 459800918411 459800914091
DESCRIPTION:	LCC CRC RACK DVI consist of : • 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.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	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 2013	ICC-ES AC156	2.5	1	1.5	4.00	3.00	1.68	0.68

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

UUT- 4 Ingenuity CT Gantry

MANUFACTURER:	Philips Healthcare
IDENTIFICATION:	REF No.: 459800708861 Serial No.: 80680
DESCRIPTION:	Component of the Ingenuity CT system
MOUNTING:	Floor mounted using (8) - ¾" dia GR 8 bolts

PROPERTIES:

DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	Front-Axis	Side-Axis	Vertical-Axis
93.5	37	78.9	4336	7.0	6.5	22.2

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	2.0 2.5	1 0	1.5	3.20	2.40	1.68	0.68

Unit maintained structural integrity and remained functional per manufacturer requirement.

UUT- 5 Ingenuity CT Patient Table

MANUFACTURER:	Philips Healthcare
IDENTIFICATION:	Part No.: 459800778261 REV:B
	TYPE No,: 459800722541REV:C
	Serial No.: 941090
DESCRIPTION:	Component of the Ingenuity CT system
MOUNTING:	Floor mounted using (5) - 5/8" dia GR 8 bolts

PROPERTIES:

DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	Front-Axis	Side-Axis	Vertical-Axis
22.7	117.6	41.375	918 + 450 patient	7	24.5	4.4

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	2.40	1.68	0.68

Unit maintained structural integrity and remained functional per manufacturer requirement.

UUT- 6 Ingenuity CT CT Box

MANUFACTURER:	Philips Healthcare
IDENTIFICATION:	Model No.: 453567027195 Rev:F
	Serial No.: 232
DESCRIPTION:	Component of the Ingenuity CT system
MOUNTING:	Floor mounted using (2) – 2" x 1" Velcro strips

PROPERTIES:

DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	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 2.5	1 0	1.5	3.20	2.40	1.68	0.68

Unit maintained structural integrity and remained functional per manufacturer requirement.

ATTACHMENT 2: TEST SPECIMEN SUMMARY

UUT-A1602- 2	**Patient Support, Bariatric**
MANUFACTURER:	Philips Healthcare
IDENTIFICATION:	Model No.: 453567391361
	Serial No.: 921012
DESCRIPTION:	Component of the Brilliance Big Bore CT & Ingenuity CT systems.
MOUNTING:	Floor mounted using (5) – 5/8" dia GR 8 bolts

PROPERTIES:

DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	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	2.40	1.68	0.68

Unit maintained structural integrity and remained functional per manufacturer requirement.