APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0315 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: **GE HEALTHCARE**

Manufacturer's Technical Representative: Tom Farnow

Mailing Address: 3000 N. Grandview Blvd., Waukesha, WI 53188-1696

Telephone: 888-406-1101 Email: Tom.Farnow@gehcseismic.com

Product Information

Product Name: SEE ATTACHMENT 1

Product Type: Power Distribution Box / Chiller / UPS / Transformer / Main Disconnect Panel

Product Model Number: SEE ATTACHMENT 1
(List all unique product identification numbers and/or part numbers)

General Description: Miscellaneous components of medical diagnostic imaging systems.

Mounting Description: Wall Mounted, Wall/Floor Mounted and rigid base (Floor) mounted. See Attachment 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, 2013.

Signature of Applicant: Date: 11/23/2015

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**

S_{DS} (Design spectral response acceleration at short period, g) = **SEE ATTACHMENT 1**

a_p (In-structure equipment or component amplification factor) = **SEE ATTACHMENT 1**

R_p (Equipment or component response modification factor) = **SEE ATTACHMENT 1**

Ω_0 (System overstrength factor) = **2**

I_p (Importance factor) = **1.5**

z/h (Height factor ratio) = **SEE ATTACHMENT 1**

Equipment or Component Natural Frequencies (Hz) = **SEE ATTACHMENT 2**

Overall dimensions and weight (or range thereof) = **SEE ATTACHMENT 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, 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 11, 2022

Signature: Date: December 11, 2015

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):

ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

TABLE 1:

Distributor	**GE HEALTHCARE**
Product Type	**SEE BELOW**

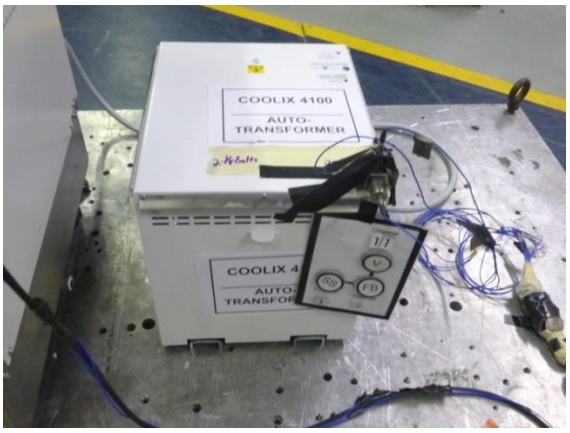
COMPONENT	MODEL NUMBER	APPROX. DIMENSIONS (IN.) W	D	H	MAX. WT. (LB.)	MOUNT	BASIS [1]	F_P/W_P	S_{DS}	z/h	a_P	R_P	Ω_0
POWER DISTRIBUTION BOXES													
INNOVA 2121/3131-IQ PDB (GE Consumer & Industrial)	5180854	40	15.125	80.5	868	Wall/Floor	UUT-3	1.44 1.17	2.0 2.6	1 0	1	2 ½	2 ½
INNOVA 2121/3131-IQ PDB (GE Consumer & Industrial)	5180854-2	40	15.125	80.5	868	Wall/Floor	SAME	1.44 1.17	2.0 2.6	1 0	1	2 ½	2 ½
INNOVA 2100/3100/4100-IQ PDB (GE Consumer & Industrial)	5313644	27	9	73	326	Wall	UUT-4	1.44 1.17	2.0 2.6	1 0	1	2 ½	2 ½
MAIN DISCONNECT PANEL													
TWIN MR DISCONNECT (GE Electrical Distribution Equipment S A De C V)	M3088TM / E4505CG	26.88	9.25	68.88	350	Wall	UUT-B1	1.44 1.13	2.0 2.5	1 0	1	2 ½	2 ½
CHILLERS													
Coolix 4100 Chiller (SMC Corp)	5373058	21.8	24	42.625	325 [2]	Floor [3]	UUT-2	1.44 1.17	2.0 2.6	1 0	1	2 ½	2 ½
TRANSFORMERS													
Coolix 4100 Autotransformer (Myrra SAS)	5373059	12	14.5	13.4	100	Floor	UUT-1	1.44 1.17	2.0 2.6	1 0	1	2 ½	2 ½
UPS													
EATON 6kVA UPS	PW9135G6000 -XL3U	5.25	25.25	18.5	128	Floor [3]	UUT-A1	1.44 1.17	2.0 2.6	1 0	1	2 ½	2 ½
Powercom 2 kVA UPS	E4502KB	7.6	18.1	15.2	71	Floor [3]	UUT-C1	1.44 1.17	2.0 2.6	1 0	1	2 ½	2 ½

Mount	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. Wall/Floor: 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. Wall: unit is fully supported by a building wall or partition.
Notes	1. BASIS: • UUT#: Indicates that a test specimen matching these characteristics was tested as part of this testing program. • SAME: Model is physically, mechanically & electrically the same as test specimen. Difference is limited to model number, color, software and/or GE manufacturing location. • INT (Interpolate/Extrapolate): indicates a model that was not specifically tested, and by which seismic certification is established through evaluation of testing of other, similar models in the product line 2. Weight for Coolix 4100 Chiller includes the weight of coolant fluid at full operating level (58 lb). 3. The GE Healthcare seismic mounting hardware used in testing program shall be installed.

ATTACHMENT 2: TEST SPECIMEN SUMMARY

UUT- 1 COOLIX 4100 AUTOTRANSFORMER

MANUFACTURER:	Myrra SAS
IDENTIFICATION:	Model No.: 5373059 Serial No.: 00242-V04
DESCRIPTION:	System Component of medical diagnostic imaging system. Autotransformer for the Coolix 4100 Chiller.
MOUNTING:	Floor Mounted using (2) - 3/8" dia bolts



PROPERTIES:

DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	Front-Axis	Side-Axis	Vert-Axis
12	14.5	13.4	100	4.6	4.3	9.9

SHAKE TABLE TEST PARAMETERS

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	2.0 2.6	1.0 0.0	1.5	3.2 2.6	2.4 1.04	1.34 1.74	0.54 0.70

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

UUT- 2 COOLIX 4100 CHILLER

MANUFACTURER:	SMC Corporation
IDENTIFICATION:	Model No.: 5373058 Serial No.: RP001-v05
DESCRIPTION:	System Component of medical diagnostic imaging system. Process water chiller for medical imaging system. The chiller was tested with cooling fluid a full operating level.
MOUNTING:	Floor Mounted using (4) – 3/8" dia bolts

PROPERTIES:

DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	Transverse-Axis	Longitudinal-Axis	Vertical-Axis
21.8	24	42.625	276 Dry / 325 Wet	7.2	42.5	>50

SHAKE TABLE TEST PARAMETERS

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	2.0 2.6	1.0 0.0	1.5	3.2 2.6	2.4 1.04	1.34 1.74	0.54 0.70

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

UUT- 3 INNOVA 2121/3131-IQ PDB (BI-PLANE)

MANUFACTURER:	GE Consumer & Industrial
IDENTIFICATION:	Model No.: CR243B10466 Serial No.: 989021 GEHC No. 5180854
DESCRIPTION:	System Component of medical diagnostic imaging system.
MOUNTING:	Wall/Floor mounted using (4) – 3/8" dia bolts to floor & (2) – 3/8" dia bolts to wall.

PROPERTIES:

DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	Front-Axis	Side-Axis	Vert-Axis
40	15.125	80.5	868	---	---	---

SHAKE TABLE TEST PARAMETERS

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	2.0 2.6	1.0 0.0	1.5	3.2 2.6	2.4 1.04	1.34 1.74	0.54 0.70

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

UUT- 4 INNOVA 2100/3100/4100-IQ PDB (SINGLE PLANE)

MANUFACTURER:	GE Consumer & Industrial
IDENTIFICATION:	Model No.: CR243B10469 Serial No.: 990558 GEHC No. 5313644
DESCRIPTION:	System Component of medical diagnostic imaging system.
MOUNTING:	Wall mounted using (4) – 3/8" DIA BOLTS

PROPERTIES:

DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	Transverse-Axis	Longitudinal-Axis	Vertical-Axis
27	9	73	326	---	---	---

SHAKE TABLE TEST PARAMETERS

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	2.0 2.6	1.0 0.0	1.5	3.2 2.6	2.4 1.04	1.34 1.74	0.54 0.70

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

UUT- A1 Eaton 6kVA UPS

MANUFACTURER:	EATON
IDENTIFICATION:	Model PW9135G6000-XL3U
	Part No. 103006720-6591
DESCRIPTION:	6kVA UPS w/ GE Healthcare seismic mounting hardware assembly (GE # E4502YB)
MOUNTING:	Rigid base mounted in tower configuration using GE Healthcare seismic mounting hardware assembly w/ (6) – 3/8" diameter socket head cap screws w/ washers to aluminum interface plate.

PROPERTIES:

DIMENSIONS (in.)			Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height		Front-Axis	Side-Axis	Vert-Axis
5.25	25.25	18.5	128	7.9	25.5	7.5

SHAKE TABLE TEST PARAMETERS

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	2.0 2.6	1.0 0.0	1.5	3.2 2.6	2.4 1.04	1.34 1.74	0.54 0.70

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

UUT- B1 M3088TM Main Disconnect Panel

MANUFACTURER:	GE Electrical Distribution Equipment S A De C V
IDENTIFICATION:	Catalog No.: M3088TM
	Model No.: CR243B10453
DESCRIPTION:	Main Disconnect Panel for Signa Creator / Signa Explorer
MOUNTING:	Wall Mount using (4) – ¼" dia bolts with 1.25" O.D. fender washers

PROPERTIES:

DIMENSIONS (in.)			Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height		Transverse-Axis	Longitudinal-Axis	Vertical-Axis
26.88	9.25	68.88	350	25.1	14.2	34.3

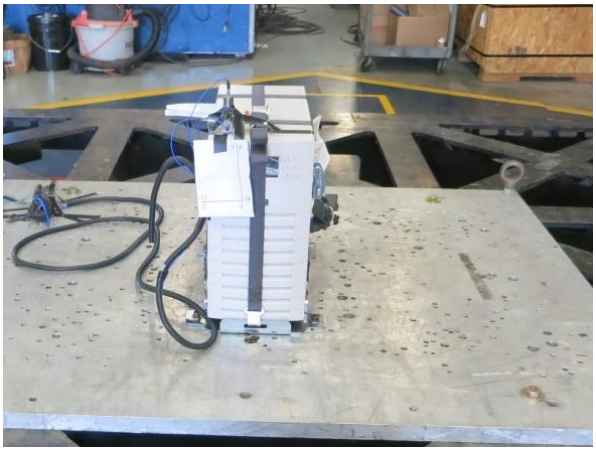
SHAKE TABLE TEST PARAMETERS

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	2.0 2.5	1.0 0.0	1.5	3.2 2.5	2.4 1.0	1.34 1.68	0.54 0.68

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

UUT- C1 Powercom 2kVA UPS

MANUFACTURER:	Powercom
IDENTIFICATION:	GE Catalog No.: E4502KB
DESCRIPTION:	2 KVA UPS w/ GEHC Seismic mounting hardware assembly (GE P/N 5725685)
MOUNTING:	Rigid base mounted in tower configuration using GE Healthcare seismic mounting hardware assembly (GE P/N 5725322) w/ (4) – 3/8" diam. Allen head cap through mounting bracket to interface plate. UPS secured to mounting bracket with (3) -1" wide nylon straps w/ metal cam buckle (333 LB WLL) pulled taut.



PROPERTIES:

DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	Front-Axis	Side-Axis	Vertical-Axis
7.6	18.1	15.2	71	48.0	24.7	>50

SHAKE TABLE TEST PARAMETERS

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	2.0 2.6	1.0 0.0	1.5	3.2 2.6	2.4 1.04	1.34 1.74	0.54 0.70

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