APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0139-10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: H.R. Kirkland Co., Inc.

Manufacturer's Technical Representative: Tricia Kirkland

Mailing Address: 4935 Allison Street, #13, Arvada, CO 80002

Telephone: 800.247.2303 Email: tricia@hrkirkland.com

Product Information

Product Name: Graphic Annunciator Panels

Product Type: Graphic Annunciator Panels

Product Model Number: See Attachment A
(List all unique product identification numbers and/or part numbers)

General Description: Fire alarm annunciator panels with graphic display, switches, and LEDs.

Mounting Description: Rigidly mounted to wall

Applicant Information

Applicant Company Name: TRU Compliance, LLC

Contact Person: Derrick A. Watkins, S.E.

Mailing Address: 960 SW Disk Dr., Suite 104, Bend, OR 97702

Telephone: 844.878.0200 Email: dwatkins@trucompliance.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: Derrick Watkins Date: 11/28/2016

Title: Executive Vice President Company Name: TRU Compliance, LLC

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

Company Name: TRU Compliance, LLC

Name: Derrick A. Watkins, S.E. California License Number: S5257

Mailing Address: 960 SW Disk Dr., Suite 104, Bend, OR 97702

Telephone: 844.878.0200 Email: dwatkins@trucompliance.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: ANCO Engineers, Inc.

Contact Name: Paul Ibanez

Mailing Address: 1965-A 33rd Street, Boulder, CO 80301

Telephone: 303.443.7580 x239 Email: paul@ancoengineers.com

Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: ☒ Yes ☐ No

Design Basis of Equipment or Components (F_p/W_p) = 1.7

S_{DS} (Design spectral response acceleration at short period, g) = 2.28

a_p (In-structure equipment or component amplification factor) = 2.5

R_p (Equipment or component response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

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

Overall dimensions and weight (or range thereof) = See Attachment A

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): Attachment A

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

Signature:  Date: 12/28/2016

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to : S_{DS} (g) = 2.28 z/h = 1.0

Condition of Approval (if applicable):

SPECIAL SEISMIC CERTIFICATION
CERTIFIED COMPONENT MATRIX

16052-CR-001, rev. 0

Manufacturer: H.R. Kirkland Co., Inc.
Model Line: Graphic Annunciator Panels

TABLE 1

Certified Product Construction Summary:

Carbon steel "Backbox" enclosure and door frame; NVGR Extrusion door mounting bracket. The addition of "-L" to the model number indicates a unit which has the door hinged on the long side of the panel as opposed to the short side.

Certified Options Summary:

Surface or semi-flush wall mounted; Backplane mounting panel on standoffs in Backbox for mounting drivers; G10 fiberglass electrical insulation on door panel. See table 2 for a listing of all other certified subcomponents and options.

Mounting Configuration:

Wall mounted - rigid

Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2016 ***Seismic Certification Limits:*** S_{DS} = 2.28 g z/h=1.0 I_P = 1.5

Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
Graphic Annunciator Panels	RSE-L-GR-GP4	5	24	30	53		Interp.
	RSE-GR-GP4	5	30	24	53		2
	RSF-L-GR-GP4	5	30	41.6	94.5		Interp.
	RSF-GR-GP4	5	41.6	30	94.5		1
	RSG-L-GR-GP4	5	41	53	165.5		Interp.
	RSG-GR-GP4	5	53	41	165.5		3

SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX

16052-CR-001, rev. 0

TRU COMPLIANCE

Manufacturer: H.R. Kirkland Co., Inc.
Model Line: Graphic Annunciator Panels
Table Description: Electrical Components

TABLE 2

Building Code: CBC 2016 ***Seismic Certification Limits:*** S_{DS} = 2.28 g z/h = 1.0 I_P = 1.5

Component Type	Manufacturer	Model	Description	Notes	UUT
Switches	C&K Rotary	ES1054	Switch	UUT1: qty (3); UUT2: qty (2); UUT: qty (3)	1,2,3
	Chicago Lock	ES1004	Switch		1,2,3
	SQ	ES4001	Switch		1,2,3
		ES4000	Switch	UUT1: qty (3); UUT2: qty (2); UUT: qty (3)	1,2,3
		ES3003	Switch		1,2,3
	Toggles	ES2001	Switch	UUT1: qty (4); UUT2: qty (4); UUT: qty (4)	1,2,3
	C&K Key	ES1061	Switch		1,2,3
LEDs	King Bright	5mm Super Bright	Standard LED Red/Green/Yellow/White	UUT1: qty (34); UUT2: qty (26); UUT: qty (34)	1,2,3
Relays	Panasonic	ER1007	Lamptest Relay		1,2,3
		ER1012	Lamptest Relay		1,2,3
Drivers	EST	3-ANNCPU	Driver		1,2,3
		3-EVPWRA	Driver		1,2,3
		3-EVDVRA	Driver		1,2,3
	Simplex Grinnell	4100-7401	Driver		1,2
		4100-7402	Driver		1,2
		4100-7403	Driver		1,2
	Notifier	LDM-32	Driver		1,2,3
		LDM-E32	Driver		1,2,3
		SCS-8L	Driver		1,2,3
		SCE-8L	Driver		1,2,3
	Siemens	XLS-OCM-16	Driver		1,2,3
		XLS-SIM-16	Driver		1,2,3
	Hardwired	EP-1012-8	Driver		1,2,3

UNIT UNDER TEST (UUT) SUMMARY SHEET

16052-CR-001, rev. 0

UUT 1

Manufacturer:	H.R. Kirkland Co., Inc.		
Model Line:	Graphic Annunciator Panels		
Model Number:	RSF-GR-GP4	***Serial Number:***	N/A

Product Construction Summary:

Annunciator Back box with frame door (hinged on short side) and GP-4 graphic annunciator panel installed in door frame.

Options/Subcomponent Summary:

See Table 2 for a complete listing of included subcomponents.

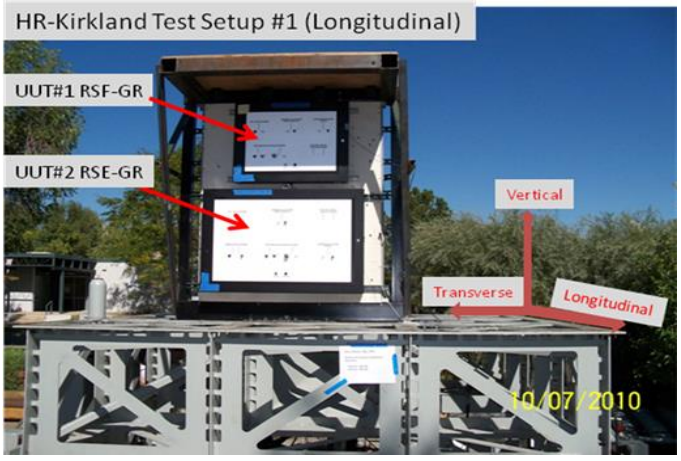
UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
94.5	5	41.6	30	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building 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	2.28	1.0	1.5	3.65	2.74	2.43	1.82

Test Mounting Details:



Rigid wall mounted using (4) 1/4" bolts into spring nuts in strut channel.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

16052-CR-001, rev. 0

UUT 2

Manufacturer:	H.R. Kirkland Co., Inc.		
Model Line:	Graphic Annunciator Panels		
Model Number:	RSE-GR-GP4	***Serial Number:***	N/A

Product Construction Summary:

Annunciator Back box with frame door (hinged on short side) and GP-4 graphic annunciator panel installed in door frame.

Options/Subcomponent Summary:

See Table 2 for a complete listing of included subcomponents.

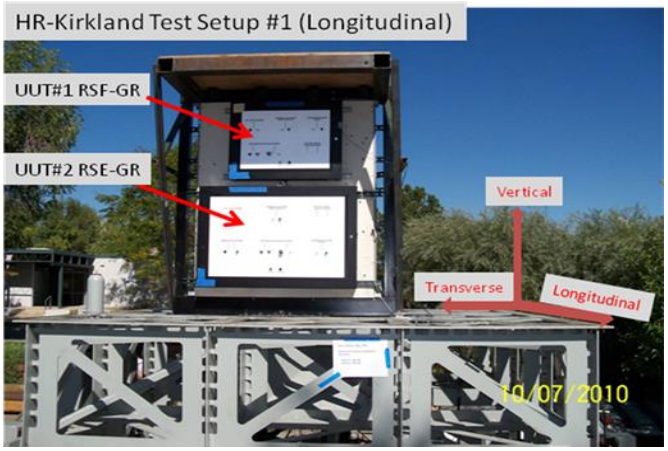
UUT Properties

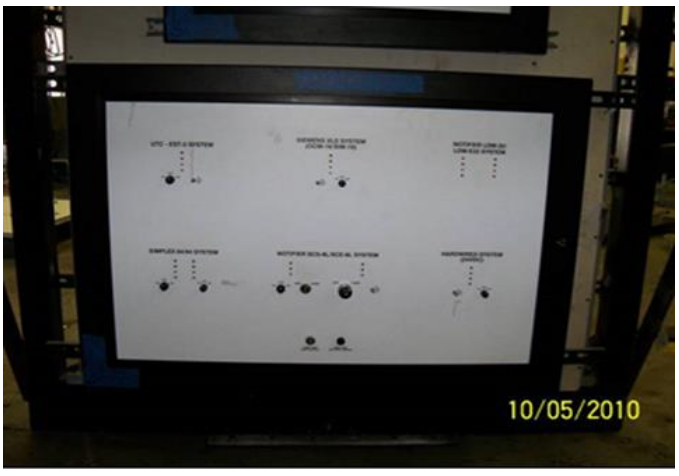
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
53	5	30	24	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building 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	2.28	1.0	1.5	3.65	2.74	2.43	1.82

Test Mounting Details:





Rigid wall mounted using (4) 1/4" bolts into spring nuts in strut channel.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

16052-CR-001, rev. 0

UUT 3

Manufacturer: H.R. Kirkland Co., Inc.
Model Line: Graphic Annunciator Panels
Model Number: RSG-GR-GP4 ***Serial Number:*** N/A

Product Construction Summary:
Annunciator Back box with frame door (hinged on short side) and GP-4 graphic annunciator panel installed in door frame.

Options/Subcomponent Summary:
See Table 2 for a complete listing of included subcomponents.

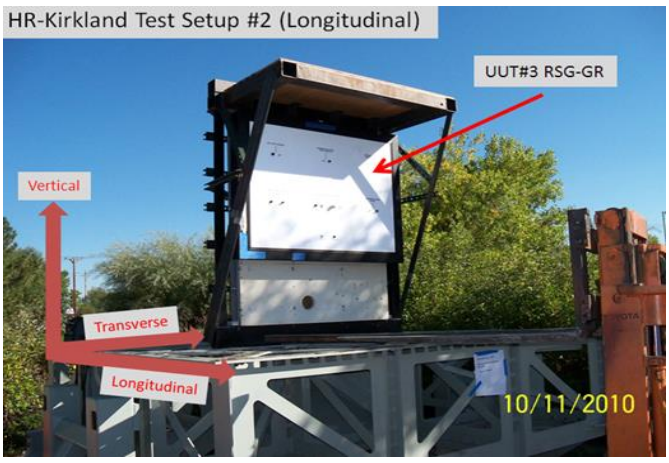
UUT Properties

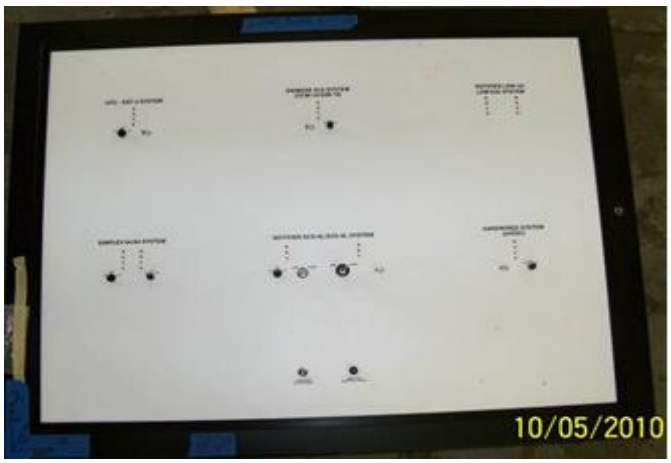
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
165.5	5	53	41	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building 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	2.28	1.0	1.5	3.65	2.74	2.43	1.82

Test Mounting Details:





Rigid wall mounted using (4) 1/4" bolts into spring nuts in strut channel.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.