APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0176-10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: **Bender Incorporated**

Manufacturer's Technical Representative: Tom Lenker

Mailing Address: 420 Eagleview Blvd., Exton PA 19341-1116

Telephone: 800.356.4266 Email: tom.lenker@bender-us.com

Product Information

Product Name: Bender Isolated Power Panels

Product Type: Isolated Power Panels

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

General Description: Isolated power panels (IP), Dual isolated power panels (IX and ID) and Surgical Facility Centers (SFC).
Seismic enhancements made to the test units and modifications required to address the anomalies observed during the tests shall be incorporated into the production units.

Mounting Description: Rigidly mounted to recessed wall

Applicant Information

Applicant Company Name: **SEEStudio, Inc.**

Contact Person: Dan Junker, SE

Mailing Address: 1281 9th Ave. san Diego, CA 92101, Suite 1101

Telephone: 619.606.5058 Email: djunker@seestudioinc.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: 12-22-16

Title: Principal Engineer Company Name: SEEStudio, Inc.

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

Company Name: **SEEStudio, Inc.**

Name: Dan Junker, SE California License Number: S6178

Mailing Address: 1281 9th Ave. san Diego, CA 92101, Suite 1101

Telephone: 619.606.5058 Email: djunker@seestudioinc.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: Clark Dynamic Test Laboratory, Inc.

Contact Name: Robert Francis, General Manager

Mailing Address: 1801 Route 51 Jefferson Hills, PA 15025

Telephone: 412.387.1004 Email: rfrancis@clarktesting.com

Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 1.85

S_{DS} (Design spectral response acceleration at short period, g) = 2.46

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 Attachments

Overall dimensions and weight (or range thereof) = See Attachments

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): SEES Certified Component Summary

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

Signature: Date: 2/24/2017

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to : S_{DS} (g) = 2.46 z/h = 1.0

Condition of Approval (if applicable):

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SPECIAL SEISMIC CERTIFICATION

CERTIFIED COMPONENTS

TABLE **1**

MANUFACTURER: Bender Incorporated

MODEL LINE: Dual Isolated Power Panels: IX & ID

TABLE DESCRIPTION: **Power Panels**

CONSTRUCTION SUMMARY:

Enclosure constructed in accordance to UL 50. Bolt-on loadcenter type required. Painted carbon steel enclosure w/ stainless front.

OPTIONS SUMMARY:

Primary: 120V-480V. Secondary: 120V-240V. Dual Voltage: 120V secondary 5kVA-10kVA.
Transformer Manufacturer: Bender. Loadcenter manufacturer: Square D.
Panels are labeled Bender or Schneider Electric (model numbers may be preceded by the letter "S").

CERTIFICATION PARAMETERS:

Building Code: CBC 2016

Component Importance Factor: $I_p = 1.5$

S_{DS} at z/h = 1.0: $S_{DS} = 2.46g$

MOUNTING SUMMARY:

Recessed wall mounting only. Unit anchorage shall be designed on a project specific basis by SEOR. Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

NOTES:

Model Line	Model	Max Dimensions (in)			Weight (lb)	Description	UUT
		Depth	Width	Height			
Dual Isolated Power Panels (ID)	5 kVA	8.0	36.0	74.0	480	Single Transformer	
	10 kVA	8.0	36.0	74.0	555		
	7.5 kVA	8.0	36.0	74.0	510		
	25 kVA	14.0	36.0	53.0	600		
Dual Isolated Power Panels (IX)	5 kVA	8.0	36.0	74.0	480	Dual Transformer	
	10 kVA	8.0	36.0	74.0	555		
	7.5 kVA	8.0	36.0	74.0	510		
	25 kVA	14.0	36.0	53.0	600		1

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SPECIAL SEISMIC CERTIFICATION

CERTIFIED COMPONENTS

TABLE **2**

MANUFACTURER: Bender Incorporated

MODEL LINE: Isolated Power Panels: IP

TABLE DESCRIPTION: **Power Panels**

CONSTRUCTION SUMMARY:

Enclosure constructed in accordance to UL 50. Bolt-on loadcenter type required. Painted carbon steel enclosure w/ stainless front.

OPTIONS SUMMARY:

Primary: 120V-480V. Secondary: 120V-240V. Receptacles with ground jacks, circuit control.
Transformer Manufacturer: Bender. Loadcenter manufacturer: Square D.
Panels are labeled Bender or Schneider Electric (model numbers may be preceded by the letter "S").

CERTIFICATION PARAMETERS:

Building Code: CBC 2016

Component Importance Factor: $I_p = 1.5$

S_{DS} at z/h = 1.0: $S_{DS} = 2.46g$

MOUNTING SUMMARY:

Recessed wall mounting only. Unit anchorage shall be designed on a project specific basis by SEOR. Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

NOTES:

Model Line	Model	Max Dimensions (in)			Weight (lb)	Description	UUT
		Depth	Width	Height			
Standard Isolation Power Panel	3	8.0	26.0	50.0	230		
	5	8.0	26.0	50.0	250		3
	7	8.0	26.0	50.0	300		
	10	8.0	26.0	50.0	340		
	15	12.0	32.0	53.0	500		
	25	14.0	32.0	53.0	600		2

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SPECIAL SEISMIC CERTIFICATION

CERTIFIED COMPONENTS

TABLE **3**

MANUFACTURER: Bender Incorporated

MODEL LINE: Isolated Power Panels: IP

TABLE DESCRIPTION: **Surgical Facility Center (SFC)**

CONSTRUCTION SUMMARY:

Enclosure constructed in accordance to UL 50. Bolt-on loadcenter type required. Painted carbon steel enclosure w/ stainless front.

OPTIONS SUMMARY:

Primary: 120V-480V. Secondary: 120V-240V.
Transformer Manufacturer: Bender. Loadcenter manufacturer: Square D.
Panels are labeled Bender or Schneider Electric (model numbers may be preceded by the letter "S").

CERTIFICATION PARAMETERS:

Building Code: CBC 2016

Component Importance Factor: $I_p = 1.5$

S_{DS} at z/h = 1.0: $S_{DS} = 2.46g$

MOUNTING SUMMARY:

Recessed wall mounting only. Unit anchorage shall be designed on a project specific basis by SEOR. Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

NOTES:

Model Line	Model	Max Dimensions (in)			Weight (lb)	Description	UUT
		Depth	Width	Height			
Surgical Facility Center	3 kVA	8.0	52.0	44.0	385		
	5 kVA	8.0	52.0	44.0	400		
	7.5 kVA	8.0	52.0	44.0	435		
	10 kVA	8.0	52.0	44.0	455		4

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SPECIAL SEISMIC CERTIFICATION

UNIT UNDER TEST (UUT) DESCRIPTION

UUT **1**

MANUFACTURER: Bender Incorporated

MODEL LINE: IX & ID Isolated Power Panels

MODEL NUMBER: **IX10DA10DAS**

CONSTRUCTION SUMMARY:

Enclosure constructed in accordance to UL 50. Painted carbon steel enclosure with stainless steel front panel and doors.

OPTIONS SUMMARY:

Bender incorporated transformer & Schneider Electric loadcenter.

TEST PARAMETERS:

Building Code: CBC 2016

Component Importance Factor: $I_p = 1.5$

Test Criteria: AC-156

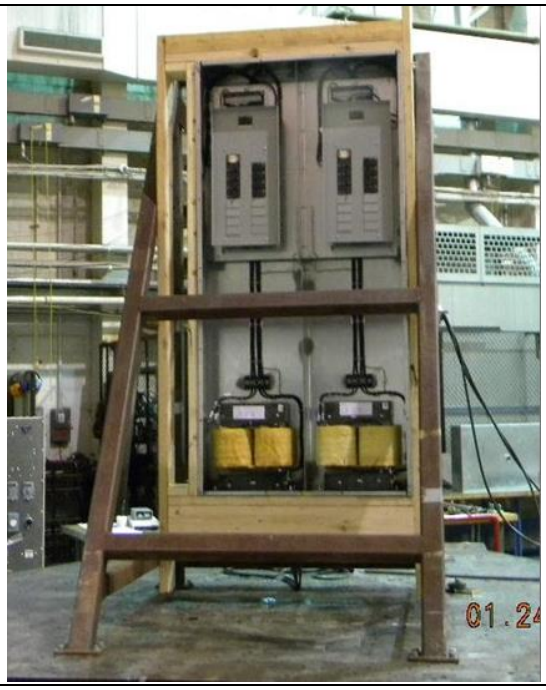
MOUNTING SUMMARY:

Recessed wall mounted using (4) groups of (2) 5/16" bolts spaced 2" from top or bottom of each corner of the enclosure and 2" apart.

NOTES:

Contents were included in testing per operating conditions.

UUT IMAGE



UUT PROPERTIES

Dimensions (in)			Weight (lb)	First Natural Frequency (Hz)		
Depth	Width	Height		F-B	S-S	Vert
8.0	34.0	72.0	600	N/A	N/A	N/A

UNIT MAINTAINED STRUCTURAL INTEGRITY AND REMAINED OPERATIONAL

PER MANUFACTURER REQUIREMENT WHEN SUBJECTED TO THE FOLLOWING TEST PARAMETERS

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.46	1.0	3.94	2.95	1.64	0.66

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SPECIAL SEISMIC CERTIFICATION

UNIT UNDER TEST (UUT) DESCRIPTION

UUT **2**

MANUFACTURER: Bender Incorporated

MODEL LINE: IP Isolated Power Panels

MODEL NUMBER: **IP25EBSPN18A68H2**

CONSTRUCTION SUMMARY:

Enclosure constructed in accordance to UL 50. Painted carbon steel enclosure with stainless steel front panel and doors.

OPTIONS SUMMARY:

Bender incorporated transformer & Schneider Electric loadcenter. Circuit control option.

TEST PARAMETERS:

Building Code: CBC 2016

Component Importance Factor: $I_p = 1.5$

Test Criteria: AC-156

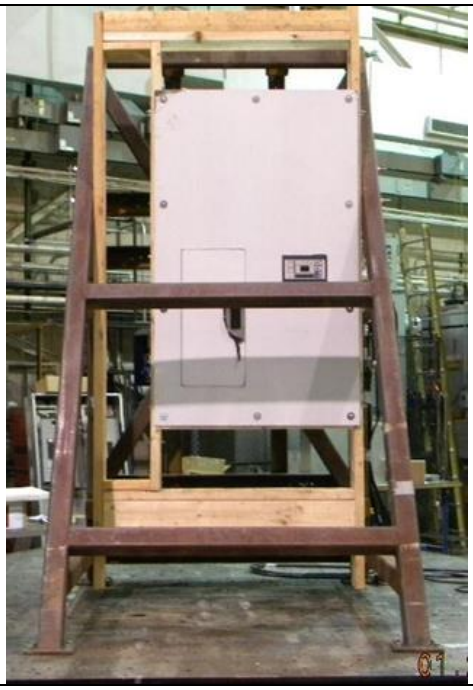
MOUNTING SUMMARY:

Recessed wall mounted using (4) groups of (2) 5/16" bolts spaced 2" from top or bottom of each corner of the enclosure and 2" apart.

NOTES:

Contents were included in testing per operating conditions.

UUT IMAGE



UUT PROPERTIES

Dimensions (in)			Weight (lb)	First Natural Frequency (Hz)		
Depth	Width	Height		F-B	S-S	Vert
14.0	30.0	51.0	600	N/A	N/A	N/A

UNIT MAINTAINED STRUCTURAL INTEGRITY AND REMAINED OPERATIONAL

PER MANUFACTURER REQUIREMENT WHEN SUBJECTED TO THE FOLLOWING TEST PARAMETERS

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.46	1.0	3.94	2.95	1.64	0.66

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SPECIAL SEISMIC CERTIFICATION

UNIT UNDER TEST (UUT) DESCRIPTION

UUT **3**

MANUFACTURER: Bender Incorporated

MODEL LINE: IP Isolated Power Panels

MODEL NUMBER: **IP05BA**

CONSTRUCTION SUMMARY:

Enclosure constructed in accordance to UL 50. Painted carbon steel enclosure with stainless steel front panel and doors.

OPTIONS SUMMARY:

Bender incorporated transformer & Schneider Electric loadcenter. Receptacles with ground jacks option.

TEST PARAMETERS:

Building Code: CBC 2016

Component Importance Factor: $I_p = 1.5$

Test Criteria: AC-156

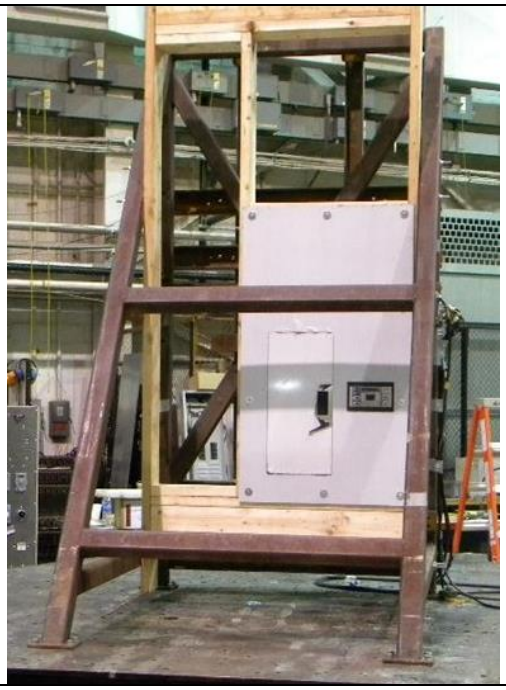
MOUNTING SUMMARY:

Recessed wall mounted using (4) groups of (2) 5/16" bolts spaced 2" from top or bottom of each corner of the enclosure and 2" apart.

NOTES:

Contents were included in testing per operating conditions.

UUT IMAGE



UUT PROPERTIES

Dimensions (in)			Weight (lb)	First Natural Frequency (Hz)		
Depth	Width	Height		F-B	S-S	Vert
6.0	24.0	43.0	195	N/A	N/A	N/A

UNIT MAINTAINED STRUCTURAL INTEGRITY AND REMAINED OPERATIONAL

PER MANUFACTURER REQUIREMENT WHEN SUBJECTED TO THE FOLLOWING TEST PARAMETERS

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.46	1.0	3.94	2.95	1.64	0.66

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SPECIAL SEISMIC CERTIFICATION

UNIT UNDER TEST (UUT) DESCRIPTION

UUT **4**

MANUFACTURER: Bender Incorporated

MODEL LINE: Surgical Facility Center (SFC)

MODEL NUMBER: **SFC-10BA1-S2/8P16-4-6D1-3Y-E**

CONSTRUCTION SUMMARY:

Enclosure constructed in accordance to UL 50. Painted carbon steel enclosure with stainless steel front panel and doors.

OPTIONS SUMMARY:

Bender incorporated transformer & Schneider Electric loadcenter.

TEST PARAMETERS:

Building Code: CBC 2016

Component Importance Factor: $I_p = 1.5$

Test Criteria: AC-156

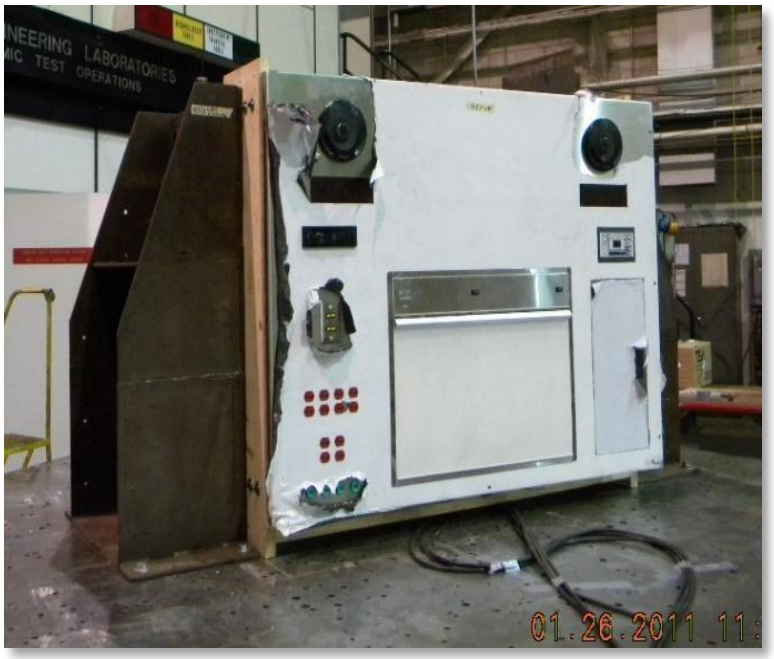
MOUNTING SUMMARY:

Flush wall mount using (4) groups of (2) 5/16" bolts spaced 2" from top or bottom of each corner of the enclosure and 2" apart. (4) ¼"x2"lag bolts at backplane.

NOTES:

Contents were included in testing per operating conditions.

UUT IMAGE



UUT PROPERTIES

Dimensions (in)			Weight (lb)	First Natural Frequency (Hz)		
Depth	Width	Height		F-B	S-S	Vert
8.0	50.0	50.0	455	N/A	N/A	N/A

UNIT MAINTAINED STRUCTURAL INTEGRITY AND REMAINED OPERATIONAL

PER MANUFACTURER REQUIREMENT WHEN SUBJECTED TO THE FOLLOWING TEST PARAMETERS

S_{DS} (g)	z/h	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.46	1.0	3.94	2.95	1.64	0.66