APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0428

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Eaton

Manufacturer's Technical Representative: Mike Henricks

Mailing Address: 114 Old State Road, Ellisville, MO 63021

Telephone: 636-527-1366 Email: MikeCHenricks@eaton.com

Product Information

Product Name: Quik-Spec or Pow-R-Line 3FQS Panelboards

Product Type: Low Voltage Distribution Panelboards

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

General Description: Low Voltage Distribution Panelboards, NEMA 1 and 3R, 600V, 400A.

Mounting Description: Rigid wall mounted.

Applicant Information

Applicant Company Name: Eaton

Contact Person: Eddie Wilkie

Mailing Address: 175 Vista Blvd, Arden, NC 28704

Telephone: 828-651-0707 Email: eddiewilkie@eaton.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: Eddie Wilkie Date: 12/2/19

Title: Director of Engineering Company Name: Eaton

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

Company Name: ISAT

Name: William V. Joerger California License Number: SE 4545

Mailing Address: 1020 Crews Road, Quite Q, Matthews, NC 28105

Telephone: 510-714-0216 Email: wvjoerger@isatsb.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: NTS Laboratories

Contact Name: Tom Boonarkat

Mailing Address: P.O. Box 77777, Huntsville, AL 35807

Telephone: 256-716-4291 Email: Tom.Boonarkat@nts.com

Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 2.08

S_{DS} (Design spectral response acceleration at short period, g) = 2.77

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

Equipment or Component Natural Frequencies (Hz) = N/A

Overall dimensions and weight (or range thereof) = See Product Range Summary

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):

OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2025

Signature: William Staehlin Date: February 25, 2021

Print Name: William Staehlin Title: Senior Structural Engineer

Special Seismic Certification Valid Up to: S_{DS} (g) = 2.77 z/h = 1.0

Condition of Approval (if applicable):

Certified Product Range Summary
Quik-Spec(QSCP)/Pow-R-Line 3FQS Panelboards

Model	UUT Identifier[2]	Continuous Current Rating (Amps)	Bus Material	Width (in.)	Depth (in.)	Height (in.)	Weight (lbs.)	S_{DS}	F_p/W_p	NEMA Enclosure Type	UUT Status
Quik-Spec(QSCP)/PRL3FQS	P0002	30	Cu	20.38	6.00	33.00	90	2.77	2.08	1	37
	QSCP/PRL3FQS	30-400	Cu	20	5.75	33, 50, 59, 69	170	2.77	2.08	1	Interpolated
	QSCP/PRL3FQS	30-400	Cu	20	7.70	34.5, 51.5, 60.5, 70.5	194	2.77	2.08	3R	Interpolated
	QSCP4	400	Cu	20.25	6.25	59	170	2.77	2.08	1	21
	P0001	400	Cu	21.25	7.75	72.75	194	2.77	2.08	3R	36

1. Manufactured by Eaton
2. Configured to order product. Unique identifiers provided for each panelboard.

Quik-Spec(QSCP)/Pow-R-Line 3FQS Panelboards

Certified Subcomponents: Enclosures[1,2,3]

Model	NEMA Enclosure Type	Enclosure Mounting	Dimensions (inches)[4]			Weight (lbs.)	S_{DS}	F_p/W_p	Test Status
			Width	Depth	Height				
Quik-Spec (QSCP)/PRL3FQS	1	Wall	20.00	5.75	33.00	90	2.77	2.08	UUT 37
	1	Wall	20.00	5.75	50.00	128	2.77	2.08	Interpolated
	1	Wall	20.00	5.75	59.00	135	2.77	2.08	Interpolated
	1	Wall	20.00	5.75	69.00	143	2.77	2.08	Interpolated
	3R[5]	Wall	20.00	7.70	34.50	93	2.77	2.08	Interpolated
	3R[5]	Wall	20.00	7.70	51.50	131	2.77	2.08	Interpolated
	3R[5]	Wall	20.00	7.70	60.50	170	2.77	2.08	Interpolated
	3R[5]	Wall	20.00	7.70	70.50	194	2.77	2.08	Interpolated
	1	Wall	20.00	5.75	59.00	170	2.77	2.08	UUT 21
	3R[5]	Wall	20.00	7.75	72.75	194	2.77	2.08	UUT 36

1. All enclosures manufactured by Eaton
2. All enclosures made from powder coated, mild carbon steel.
3. All enclosures utilize a common mounting configuration.
4. Enclosure dimensions only. Does not include extraneous items such as hardware or handles.
5. NEMA 3R enclosures include drip shield ansd gasket material.

Certified Subcomponents: Switches

Model	Continuous Rating (Amperes)	Poles	Approximate Weight (lbs.)	Manufacturer	Test Status	S_{DS} (g)	F_p/W_p
CCPB-1-15CF	15	1	0.34		UUT 36, 37		
CCPB-2-15CF	15	2	0.68		Interpolated		
CCPB-3-15CF	15	3	1.02		UUT 36		
CCPB-1-20CF	20	1	0.34		Interpolated		
CCPB-2-20CF	20	2	0.68		Interpolated		
CCPB-3-20CF	20	3	1.02		Interpolated		
CCPB-1-30CF	30	1	0.34		Interpolated		
CCPB-2-30CF	30	2	0.68		Interpolated		
CCPB-3-30CF	30	3	1.02		Interpolated		
CCPB-1-40CF	40	1	0.34		Interpolated		
CCPB-2-40CF	40	2	0.68		Interpolated		
CCPB-3-40CF	40	3	1.02		Interpolated		
CCPB-1-50CF	50	1	0.34		UUT 36		
CCPB-2-50CF	50	2	0.68		Interpolated		
CCPB-3-50CF	50	3	1.02	Eaton	UUT 36	2.77	2.08
CCPB-1-60CF	60	1	0.34		Interpolated		
CCPB-2-60CF	60	2	0.68		Interpolated		
CCPB-3-60CF	60	3	1.02		Interpolated		
CCPB-1-70CF	70	1	0.34		Interpolated		
CCPB-2-70CF	70	2	0.68		Interpolated		
CCPB-3-70CF	70	3	1.02		Interpolated		
CCPB-1-90CF	90	1	0.34		Interpolated		
CCPB-2-90CF	90	2	0.68		Interpolated		
CCPB-3-90CF	90	3	1.02		Interpolated		
CCPB-1-100CF	100	1	0.34		UUT 36		
CCPB-2-100CF	100	2	0.68		Interpolated		
CCPB-3-100CF	100	3	1.02		UUT 36, UUT 21		
CDNF200U03	200	3	3.48		Interpolated		
CDNF400U03	400	3	6.75		UUT 36		

UUT 21 (Unit Under Test) Summary Sheet

Manufacturer: Eaton

Model Number: QSCP4 (Quik-Spec/Pow-R-Line 3FQS)

Product Construction Summary:
Cabinet is constructed of powder coated coated, mild carbon steel, NEMA 3R rating.

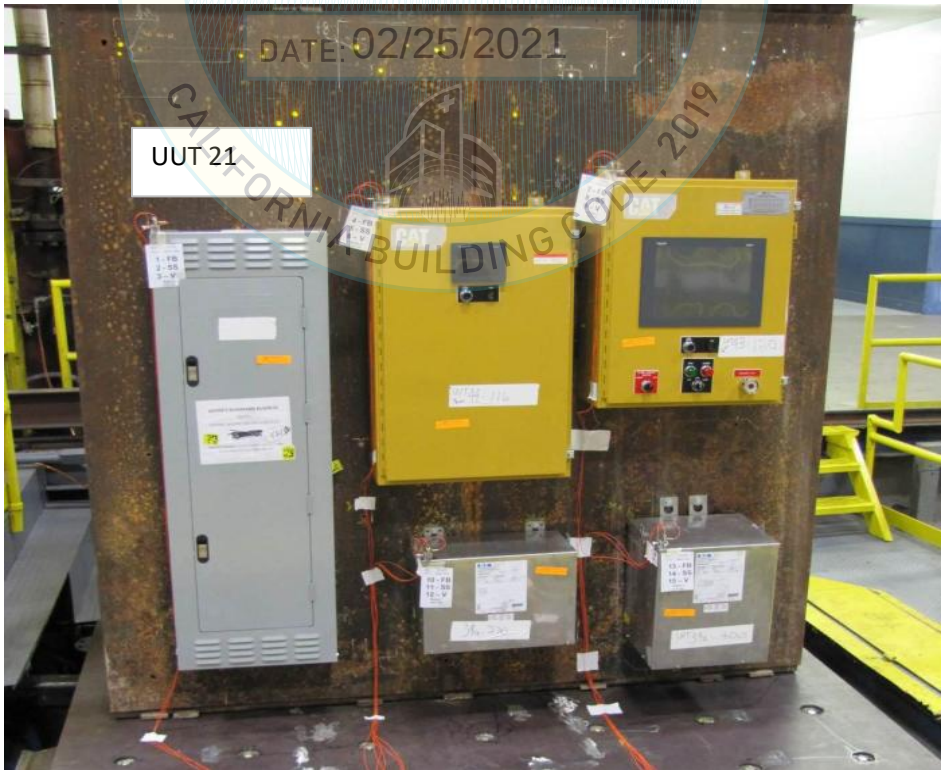
Options/Component Summary: CCPB-3-100CF

UUT Properties (As Tested)						
Weight (lbs.)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Width	Depth	Height	Front-Back	Side-Side	Vertical
170	20.25	6.25	59.00	N/A	N/A	N/A

Seismic Test Parameters									
Building Code	Test Criteria	C.G.-Height (in.)	Sds (g)*	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2019	ICC-ES AC156	N/A	2.77	1	1.5	4.43	3.32	1.86	0.75

UUT maintained structural integrity and functionality as observed in post test inspection and operation checks.

*S_{DS} value is determined from input motions during test.



UUT 21 was mounted to a rigid wall fixture with (5) 5/16" bolts (Grade 5). The fixture (carbon steel) was welded to the shake table.

UUT 36 (Unit Under Test) Summary Sheet

Manufacturer: Eaton

Model Number: P0001 (Quik-Spec/Pow-R-Line 3FQS)

Product Construction Summary:
Cabinet is constructed of powder coated, mild carbon steel, NEMA 3R rating.

Options/Component Summary: CCPB-1-15CF, CCPB-1-50CF, CCPB-1-100CF, CCPB-3-15CF, CCPB-3-50CF, CCPB-3-100CF

UUT Properties (As Tested)

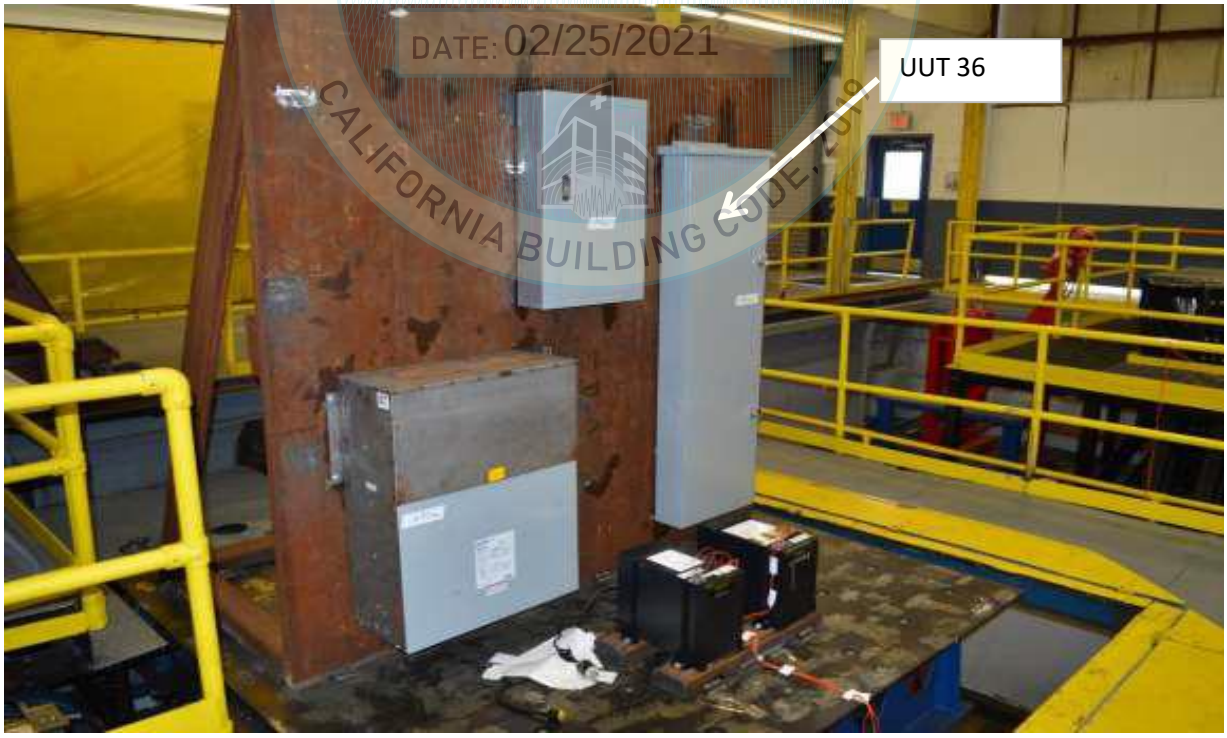
Weight (lbs.)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Width	Depth	Height	Front-Back	Side-Side	Vertical
194	21.25	7.75	72.75	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	C.G.-Height (in.)	Sds (g)*	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2019	ICC-ES AC156	N/A	2.77	1	1.5	4.43	3.32	1.86	0.75

UUT maintained structural integrity and functionality as observed in post test inspection and operation checks.

*S_{DS} value is determined from input motions during test.



UUT 36 was mounted to a rigid wall fixture with (4) 1/4" bolts (Grade 5). The fixture (carbon steel) was welded to the shake table.

UUT 37 (Unit Under Test) Summary Sheet

Manufacturer: Eaton

Model Number: P0002 (Quik-Spec/Pow-r-Line/3FQS)

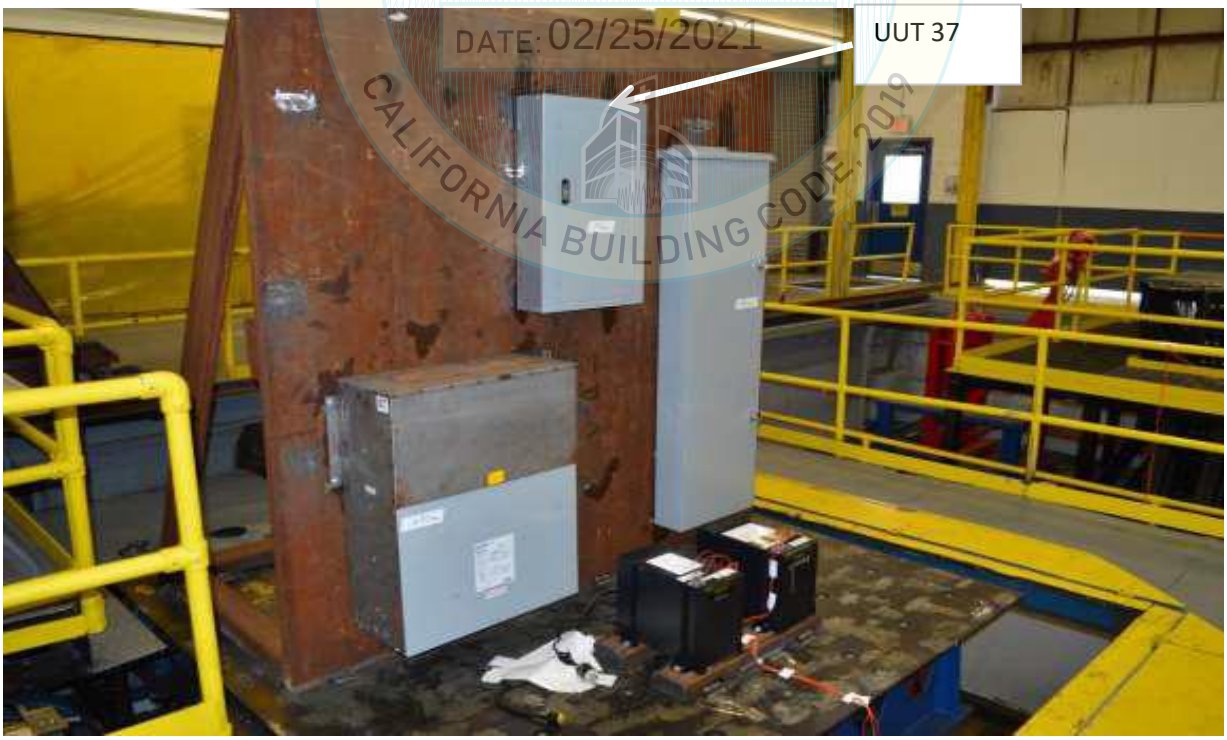
Product Construction Summary:
Cabinet is constructed of powder coated, mild carbon steel, NEMA 1 rating.

Options/Component Summary: CCPB-1-15CF

UUT Properties (As Tested)									
Weight (lbs.)		Dimensions (inches)			Lowest Natural Frequency (Hz)				
		Width	Depth	Height	Front-Back		Side-Side		Vertical
90		20.38	6.00	33.00	N/A		N/A		N/A
Seismic Test Parameters									
Building Code	Test Criteria	C.G.-Height (in.)	Sds (g)*	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2019	ICC-ES AC156	N/A	2.77	1	1.5	4.43	3.32	1.86	0.75

UUT maintained structural integrity and functionality as observed in post test inspection and operation checks.

*S_{DS} value is determined from input motions during test.



UUT 37 was mounted to a rigid wall fixture with (4) 1/4" bolts (Grade 5). The fixture (carbon steel) was welded to the shake table.