Facilities Development Division www.oshpd.ca.gov/fdd
400 R Street. Suite 200, Sacramento, California 95811-6213 Phone (916) 440-8300 Fax (916) 654-2973

APPLICATION FOR PREAPPROVAL

SPECIAL SEISMIC CERTIFICATION OF EQUIPMENT AND COMPONENTS

For Office Use Only

APPLICATION NO.

OSP – 0194-10

Check whether application is: NEW [X] RENEWAL [ ]

1.0

Square D by Schneider Electric North America
Manufacturer

Philip Caldwell
Manufacturer's Technical Representative

1990 Sandifer Blvd, Seneca, SC 29678
Mailing Address

(864) 886-1471
Telephone

philip.caldwell@us.schneider-electric.com
E-mail Address

2.0

48 Vdc and 125Vdc System Battery Rack
Product Name

Battery Racks
Product Type

ABT48VOSHPD and ABT125VOSHPD
Product Model No. (List all unique product identification numbers and/or serial numbers)

General Description: Rigid floor mounted 48 Vdc System battery rack with (8) lead acid 3CC-5M battery blocs and 125 Vdc System battery rack with (20) lead acid 3CC-9M battery blocks from the Power Safe CC battery series. Racks are made of plastic coated steel (S235).

3.0

Square D by Schneider Electric North America
Applicant Company Name

Philip Caldwell
Contact Person

1990 Sandifer Blvd, Seneca, SC 29678
Mailing Address

(864) 886-1471
Telephone

philip.caldwell@us.schneider-electric.com
E-mail Address

I hereby agree to reimburse the Office of Statewide Health Planning and Development for the actual costs incurred by the department for review.

Philip J. Caldwell
Signature of Applicant

6/29/2011
Date

Edison Expert
Title

Square D by Schneider Electric
Company Name

4.0 ***Registered Design Professional Preparing the Report***

ANCO Engineering, Inc.
Company Name

John Stoessel — *Contact Name*
CE-37259 — *California License Number*

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

(951) 768-3838 — *Telephone*
E-mail Address

5.0 ***California Licensed Structural Engineer Review and Acceptance of the Report***

Forell-Elsesser Engineers, Inc.
Company Name

Marco Scanu, SE — *Contact Name*
S4454 — *California License Number*

160 Pine St., 6th Flr., San Francisco, CA 94111
Mailing Address

415-837-0700 — *Telephone*
m.scanu@forell.com — *E-mail Address*

6.0 ***Anchorage Pre-Approval***

☐ *Anchorage is pre-approved under OPA-*
(Separate application for anchorage pre-approval is required)

☒ Anchorage is not Pre-approved

7.0 ***Certification Method***

☒ *Testing in accordance with:* ☒ *ICC-ES AC-156* ☐ *Other (Please Specify):*

☐ *Analysis*
☐ *Experience data*
☐ *Combination of Testing, Analysis, and/or Experience Data (Please Specify):*

8.0 ***Testing Laboratory (if applicable)***

ANCO Engineers, Inc. — *Company Name*
Conor Byrne — *Contact Name*

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

(303) 443-7580x233 — *Telephone*
conor@ancoengineers.com — *E-mail*

Approval Parameters

9.0

Design in accordance with ASCE 7-05 Chapter 13: ☒ Yes ☐ No

Design Basis of Equipment or Components (F_p/W_p) = 1.20g

S_{DS} *(Spectral response acceleration at short period)* = 1.67g

a_p *(In-structure equipment or component amplification factor)* = 1.0

R_p *(Equipment or component response modification factor)* = 2.5

I_p *(Importance factor)* = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component fundamental period(s) = See attachment, "Resonant Frequency Summary"

Building period limits (if any) = n/a

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

Equipment or Components @ grade designed in accordance with ASCE 7-05 Chapter 15: ☐ Yes ☒ No

Design Basis of Equipment or Components (V/W) =

S_{DS} *(Spectral response acceleration at short period)* =

S_1 *(Spectral response acceleration at 1 second period)* =

R (Response modification coefficient)=1.0

Ω_0 *(System overstrength factor) =1.0*

C_d *(Deflection amplification factor) =1.0*

I_p *(Importance factor) =1.5*

Height to Center of Gravity above base =

Equipment or Component fundamental period(s) = *Sec*

Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2007: ☐ Yes ☒ No

10.0 ***List of attachments supporting the special seismic certification of equipment or components:***

☒	*Test Report*	☐	*Drawings*	☐	*Manufacturer's Catalog*
☒	*Calculations*	☒	*Other (Please Specify):*	SE Acceptance Letter, Product Range Summary, CBC 2010 & AC156 Requirements Checklist	

11.0 ***OSHPD Approval*** *(For Office Use Only)*

6/29/2011	**December 31, 2016**
Signature & Date	*Approval Expiration Date*
M. R. Karim, SHFR	S_{DS} (g) = **1.67** z/h = **1.0**
Name & Title	*Special Seismic Certification Valid Up to*

Condition of Approval (if any):

Square D Battery Racks
Product Range Summary

	Width	Depth	Height	Weight	Notes
Racks					
48 Vdc System	23.2 in	17.8 in	47.8 in	737.0 lbs	1
125 Vdc System	23.2 in	66.0 in	47.8 in	2484.0 lbs	2
PowerSafe Lead Acid CC Batteries					3
3CC-5M	9 in	7 in	14.8 in	74.0 lbs	4
3CC-9M	9 in	12.2 in	14.8 in	132.0 lbs	5

Notes

1. Contains 3CC-5M battery blocs.
2. Contains 3CC-9M battery blocs.
3. PowerSafe CC Series batteries are provided by Enersys
4. Installed in the 48Vdc System Rack only
5. Installed in the 125Vdc System Rack only

	Part No.	Testing Status
Racks		
48Vdc System	ABT48VOSHPD	Tested
125 Vdc System	ABT125VOSHPD	Tested
Batteries (Lead Acid)		
3CC-5M	3CC-5M	Tested
3CC-9M	3CC-9M	Tested

FORELL/ELSESSER ENGINEERS, INC.
160 Pine Street, 6th Floor
San Francisco, CA 94111

Test Summary

Tested Unit #1 (UUT1)
125 Vdc System with (20) 3CC-9M battery blocs
23.2"W x 66.0"D x 47.75"H, 2848 lbs
Floor mounted using (6) ½"-13 Grade 8 bolts.

UUT#1 is on the right

Internal Components:

Item#	Part #	Description
1	ABT125VOSHPD	125Vdc Battery Rack
2	3CC-9M	3CC-9M Battery Blocs

Tested Unit #2 (UUT2)
48 Vdc System with (8) 3CC-5M battery blocs
23.2"W x 17.8"D x 47.75"H, 737 lbs
Floor mounted using (4) ½"-13 Grade 8 bolts.

UUT#2 is on the left

Internal Components:

Item#	Part #	Description
1	ABT48VOSHPD	48 Vdc Battery Rack
2	3CC-5M	3CC-5M Battery Blocs

Square D Battery Racks
Resonant Frequency Summary

	UUT 1		UUT 2	
Direction	Frequency	Period	Frequency	Period
Front-Back	9.1 Hz	0.11 sec	14.30 Hz	0.07 sec
Side-Side	10.27 Hz	0.10 sec	10.90 Hz	0.09 sec
Vertical	N/A	N/A	N/A	N/A

FORELL/ELSESSER ENGINEERS, INC.
Structural Engineers
160 Pine St., 6th Floor
San Francisco, CA 94111