oshpd
State of California – Health and Human Services Agency
Office of Statewide Health Planning and Development
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 – 0022-10

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

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

Square D Speed-D and QED Switchboards — *Product Name*

Switchboards — *Product Type*

Floor mounted Speed-D, QED-2, & QED-S Switchboards — *Product model No (List all unique product identification numbers and/or serial numbers)*

General Description:

Floor-mounted switchboards; functions include main switch, fusible, and circuit breaker switchboards. Speed-D, QED-2, & QED-S are functionally and structurally similar.

3.0

Square D by Schneider Electric North America — *Applicant Company Name*

Philip Caldwell for Brett Wheless — *Contact Person*

1010 Airpark Center Dr., Nashville, TN 37217 — *Mailing Address*

615-844-8365 — *Telephone*

brett.wheless@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*

8/5/2010 — *Date*

Edison Expert — *Title*

Schneider Electric — *Company Name*

Registered Design Professional Preparing the Report

4.0

University of Alabama - Birmingham
Company Name

Lee Gholamreza Moradi | C41383
Contact Name | *California License Number*

4824 Sulphur Springs Rd, Hoover, AL 35226
Mailing Address

205-975-2718 | moradi@uab.edu
Telephone | *E-mail Address*

California Licensed Structural Engineer Review and Acceptance of the Report

5.0

Forell-Elsesser Engineers, Inc.
Company Name

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

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

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

Anchorage Pre-Approval

6.0

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

☒ Anchorage is not Pre-approved

Certification Method

7.0

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

☐ *Analysis*

☐ *Experience data*

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

Testing Laboratory (if applicable)

8.0

Wyle Laboratories | Ron Thornberry
Company Name | *Contact Name*

7800 Hwy 20, Huntsville, AL 35806
Mailing Address

(256) 837-4411
Telephone | 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) = 1.51, 1.05, & 2.25 based on S_{DS} values below

S_{DS} *(Spectral response acceleration at short period)* = Floor-mounted, 0 – 4,000A: **2.01**

Floor-mounted, 5,000A: **1.40**

Top-restrained, 0 - 5,000A: **3.00**

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

R_p *(Equipment or component response modification factor)* = 6.0

I_p *(Importance factor)* = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component fundamental period(s) = See Attached Resonant Frequency Summary

Building period limits (if any) = n/a

Overall dimensions and weight (or range thereof) = See Attached 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, CAN2-1708A.5 & AC156 Requirements Checklist	

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

Signature & Date	**8/5/10**
Chris Tokas, SHFR	**December 31, 2016**
Name & Title	*Approval Expiration Date*
Condition of Approval (if any):	S_{DS} (g) = **See Section 9.0** z/h = **1.0**
	Special Seismic Certification Valid Up to

Square D - Speed-D & QED 2/S Switchboards
Product Range Summary

Amperage	Width	Depth	Height	Service Wt.	Notes
Speed-D					
400A	26" - 36"	14" - 25"	91.5"	200 - 600 lbs	
600A	26" - 36"	14" - 25"	91.5"	200 - 600 lbs	
800A	26" - 36"	14" - 25"	91.5"	400 - 600 lbs	Test 55636r08 UUT1 - unrestr. & restrained 36"W x 14"D x 90"H x 508 lbs

Anchorange

Speed-D switchboards are rigidly anchored to concrete pad or slab through mounting holes in bottom frame, and in certain applications to vertical structure by steel X-brace at top of unit. Lateral forces are resisted by shear membrane action in the light gauge metal exterior sheathing. Shear is transfered to adjacent metal panels through screws into light gauge metal angle frames, then to anchorage to concrete at base, or through bracing to vertical structure at top.

Amperage	Width	Depth	Height	Service Wt.	Notes
QED 2/S					
400A - 600A	24" - 36"	24" - 48"	91.5"	500 - 1000 lbs	
800A - 2000A	24" - 48"	24" - 48"	91.5"	500 - 1000 lbs	
2000A - 2500A	24" - 54"	24" - 48"	91.5"	600 - 1900 lbs	Test 55636r08 UUT4 - unrestrained 42"W x 24.5"D x 91"H x 1,176 lbs
2500A - 3500A	24" - 54"	36" - 48"	91.5"	600 - 2400 lbs	
3500A - 5000A	24" - 54"	36" - 72"	91.5"	670 - 2730 lbs	Test 55636r08 UUT5 - top-restrained 54"W x 48"D x 91.5"H x 2,320 lbs Test 56256r08 UUT6 - unrestrained 48"W x 72"D x 91.5"H x 2,730 lbs

Anchorange

QED switchboards are rigidly anchored to concrete pad or slab through mounting holes in bottom frame, and in certain applications to vertical structure by steel X-brace at top of unit. Lateral forces are resisted by shear membrane action in the light gauge metal exterior sheathing. Shear is transfered to adjacent metal panels through screws into light gauge metal angle frames, then to anchorage to concrete at base, or through bracing to vertical structure at top.

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

Square D Speed-D and QED 2/S Switchboards
Resonant Frequency Summary

	UUT1 800A Speed-D Switchboard (508 lbs)		UUT4 2000A QED I-Line Switchboard (1,176 lbs)		UUT5 5000A QED NW Switchboard (2,320 lbs)		UUT6 4000A QED Switchboard (2,720 lbs)	
Direction	Frequency	Period	Frequency	Period	Frequency	Period	Frequency	Period
Front-Back	9.1 Hz	0.11 sec	6.9 Hz	0.14 sec	7.7 Hz	0.13 sec	6.5 Hz	0.15 sec
Side-Side	16.0 Hz	0.06 sec	7.8 Hz	0.13 sec	3.7 Hz	0.27 sec	5.2 Hz	0.19 sec
Vertical	8.2 Hz	0.12 sec	8.3 Hz	0.12 sec	8.9 Hz	0.11 sec	6.8 Hz	0.15 sec

Results are for resonance search tests without top supports installed.
The resonance frequencies of units with top supports is indeterminate; however, the above values for unrestrained units serve as a lower and upper bound for frequency and period, respectively.

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