



APPLICATION FOR PREAPPROVAL SPECIAL SEISMIC CERTIFICATION OF EQUIPMENT AND COMPONENTS

For Office Use Only

APPLICATION NO.

OSP – 0038-10

Check whether application is: NEW RENEWAL

1.0 Square D by Schneider Electric North America Philip Caldwell
Manufacturer *Manufacturer's Technical Representative*

1990 Sandifer Blvd, Seneca, SC 29678
Mailing Address

864-886-1471 philip.caldwell@us.schneider-electric.com
Telephone *E-mail Address*

2.0 Square D QED-6 Switchboards Switchgear Enclosure
Product Name *Product Type*

QED-6 Auxiliary, Main, Tie, & Feeder Units, 22"-36"W x 54"-72"D x 91.5"H
Product model No (List all unique product identification numbers and/or serial numbers)

General Description:
 Floor-mounted switchboards. Functions include electrical distribution, protection, and power quality management. QED-6 product line is structurally similar to the manufacturer's preapproved PZ4 product line.

3.0 Square D by Schneider Electric North America Philip Caldwell for Brett Wheless
Applicant Company Name *Contact Person*

1010 Airpark Center Dr., Nashville, TN 37217 *Philip J. Caldwell*
Mailing Address

615-844-8365 brett.wheless@us.schneider-electric.com
Telephone *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

2/18/2010
Date

Edison Expert
Title

Schneider Electric
Company Name

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4.0 Registered Design Professional Preparing the Report

University of Alabama - Birmingham

Company Name

Lee Gholamreza Moradi

Contact Name

C41383

California License Number

4824 Sulphur Springs Rd, Hoover, AL 35226

Mailing Address

205-975-2718

Telephone

moradi@uab.edu

E-mail Address

California Licensed Structural Engineer Review and Acceptance of the Report

5.0 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

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

70. 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

Company Name

Rod Thornberry

Contact Name

7800 Hwy 20, Huntsville, AL 35806

Mailing Address

256-837-4411

Telephone

E-mail:

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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) = 1.42

S_{DS} (Spectral response acceleration at short period) = 1.89

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 Attachment # 2

Building period limits (if any) = n/a

Overall dimensions and weight (or range thereof) = See Attachment # 1

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_o (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) =

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 Others (Please Specify): SE Acceptance Letter, Product Range Summary, Resonant Frequency Summary, CAN & AC156 Requirements Checklist

11.0 OSHPD Approval (For Office Use Only)

<p style="text-align: center;">Signature & Date Chris Tokas, SHFR</p> <p style="text-align: center;">Name & Title</p>	<p>3/1/2010</p>	<p>December 31, 2013</p> <p style="font-size: small;">Approval Expiration Date</p> <p>S_{DS} (g) = 1.89 z/h = 1.0</p> <p style="font-size: small;">Special Seismic Certification Valid Up to</p>
<p>Condition of Approval (if any):</p>		

ATTACHMENT #1
 OSP APPLICATION
 Square D - QED-6
 Product Range Summary

2/18/2010

QED-6 Switchgear - Product Range Summary For Inclusion in OSP Application					
Function	Width	Depth	Height	Max. Service Wt.	Notes
Auxiliary Sections					
Auxiliary - 22" Wide	22"	54"	91.5"	1,200 lbs	
Auxiliary - 22" Wide	22"	60"	91.5"	1,400 lbs	
Auxiliary - 22" Wide	22"	72"	91.5"	1,420 lbs	
Auxiliary - 30" Wide	30"	54"	91.5"	1,250 lbs	
Auxiliary - 30" Wide	30"	60"	91.5"	1,410 lbs	
Auxiliary - 30" Wide	30"	72"	91.5"	1,440 lbs	
Auxiliary - 36" Wide	36"	54"	91.5"	1,300 lbs	
Auxiliary - 36" Wide	36"	60"	91.5"	1,480 lbs	
Auxiliary - 36" Wide	36"	72"	91.5"	1,500 lbs	
Main Sections					
Main - 22" Wide	22"	54"	91.5"	1,540 lbs	
Main - 22" Wide	22"	60"	91.5"	1,590 lbs	
Main - 22" Wide	22"	72"	91.5"	1,630 lbs	
Main - 30" Wide	30"	54"	91.5"	1,800 lbs	
Main - 30" Wide	30"	60"	91.5"	1,860 lbs	
Main - 30" Wide	30"	72"	91.5"	1,920 lbs	
Main - 36" Wide	36"	54"	91.5"	1,810 lbs	
Main - 36" Wide	36"	60"	91.5"	1,860 lbs	
Main - 36" Wide	36"	72"	91.5"	3,515 lbs	Identical to Specimen No. 1*
Tie Sections					
Tie - 22" Wide	22"	54"	91.5"	1,420 lbs	
Tie - 22" Wide	22"	60"	91.5"	1,510 lbs	
Tie - 22" Wide	22"	72"	91.5"	2,030 lbs	
Tie - 30" Wide	30"	54"	91.5"	1,800 lbs	
Tie - 30" Wide	30"	60"	91.5"	1,840 lbs	
Tie - 30" Wide	30"	72"	91.5"	1,860 lbs	
Tie - 36" Wide	36"	60"	91.5"	2,400 lbs	
Tie - 36" Wide	36"	72"	91.5"	3,050 lbs	
Feeder/Distribution Sections					
Feeder/Distr. - 22" Wide	22"	54"	91.5"	1,420 lbs	
Feeder/Distr. - 22" Wide	22"	60"	91.5"	1,730 lbs	
Feeder/Distr. - 22" Wide	22"	72"	91.5"	2,470 lbs	Identical to Specimen No. 2*
Feeder/Distr. - 30" Wide	30"	54"	91.5"	2,000 lbs	
Feeder/Distr. - 30" Wide	30"	60"	91.5"	2,300 lbs	
Feeder/Distr. - 30" Wide	30"	72"	91.5"	2,300 lbs	
Feeder/Distr. - 36" Wide	36"	54"	91.5"	1,920 lbs	
Feeder/Distr. - 36" Wide	36"	60"	91.5"	2,030 lbs	
Feeder/Distr. - 36" Wide	36"	72"	91.5"	2,470 lbs	

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ATTACHMENT #1
OSP APPLICATION
Square D - QED-6
Product Range Summary

2/18/2010

***Note**

The specimens tested are within the manufacturer's PZ4 product line. However, the PZ4 product line is identical to the QED-6 product line in terms of the units' dimensions, approximate weights, and primary functions. The primary difference between the two product lines is the UL classification for the devices resulting from a slight variation in how the conductor bus that goes from unit to unit is braced. As the units are shake table tested individually, this bracing does not play a role in any of the tests under review. Therefore, for the purposes of this OSP, the PZ4 product line is considered to be equivalent and structurally similar to the QED-6 product line submitted for approval.

Anchorage

QED-6 Switchboards are rigidly anchored to the floor. Lateral forces are resisted by shear membrane action in the light gauge metal exterior sheathing. Shear is transferred to adjacent metal panels through screws into light gauge metal angle frames, then to light gauge bent metal mounting brackets then through anchorage to either vertical support structure or concrete pad/slab.

ATTACHMENT #2

OSP APPLICATION
Square D - QED-6
Resonant Frequency Summary

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QED-6 Switchgear - Resonant Frequency Summary

Direction	Specimen No. 1		Specimen No. 2	
	Frequency	Period	Frequency	Period
Side-to-Side	3.7 Hz	0.27 sec	3.3 Hz	0.30 sec
Front-to-Back	7.0 Hz	0.14 sec	7.0 Hz	0.14 sec
Vertical	12.6 Hz	0.08 sec	8.5 Hz	0.12 sec