



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC  
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0022 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Square D by Schneider Electric

Manufacturer's Technical Representative: Jeffrey A. Gatscher, Fellow Engineer

Mailing Address: 330 Weakley Lane, Smyrna, TN 37167

Telephone: 615-459-8466 Email: jeff.gatscher@schneider-electric.com

Product Information

Product Name: Square D Power-Style™ QED and Speed D Switchboards.

Product Type: NEMA Switchboards – Low Voltage (600 Volts and Below)

Product Model Number: Power-Style™ QED-2 and Speed D (see Certified Product Listing tables)

(List all unique product identification numbers and/or part numbers)

General Description: Switchboards are integrated, low voltage, power and control systems and may include main switches, fusible and circuit breaker functions (see Certified Major Sub-Component tables). Sheet metal framed enclosures come in NEMA Type 1 and Type 3R ratings. Modifications to UUTs and those required to address anomalies observed during the tests shall be incorporated into the production units.

Mounting Description: Rigid floor mounted.

Applicant Information

Applicant Company Name: Square D by Schneider Electric

Contact Person: Scott Cavanaugh

Mailing Address: 1010 Airpark Center Drive, Nashville, TN 37217

Telephone: 615-844-8633 Email: scott.cavanaugh@schneider-electric.com

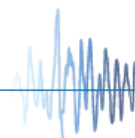
I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant: Scott Cavanaugh Date: 10/10/2016

Title: Staff Marketing Specialist Company Name: Schneider Electric

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY  
OSH-FD-759 (REV 12/16/15)



OSHPD

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**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
FACILITIES DEVELOPMENT DIVISION**

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

Company Name: Forell/Elsesser Engineers, Inc.  
Name: Marco Scanu, SE California License Number: S4454  
Mailing Address: 160 Pine St., 6<sup>th</sup> Flr., San Francisco, CA 94111  
Telephone: (415) 837-0700 Email: m.scanu@forell.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**

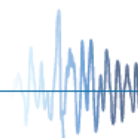
- ☒ Testing in accordance with: ☒ ICC-ES AC156
- ☐ Other (Please Specify): \_\_\_\_\_

**Testing Laboratory 1**

Company Name: NTS – Huntsville (formerly Wyle Laboratories)  
Contact Name: Tom Boonarkat – Engineering Manager, Nuclear and Commercial Test Department  
Mailing Address: 7800 Highway 20 West, Huntsville, AL 35806  
Telephone: 256-837-4411 Email: tom.boonarkat@nts.com

**Testing Laboratory 2**

Company Name: Applied Technical Services, Inc  
Contact Name: David N. Common – Senior Test Engineer, Dynamics Testing  
Mailing Address: 1049 Triad Court, Marietta, GA 30062  
Telephone: 678-444-2905 Email: dcommon@atslab.com





# OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

## Seismic Parameters

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

Design Basis of Equipment or Components ( $F_p/W_p$ ) = See Certified Product Listing tables

$S_{DS}$  (Design spectral response acceleration at short period, g) = See Certified Product Listing tables

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

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

$\Omega_0$  (System overstrength factor) = 2.0

$I_p$  (Importance factor) = 1.5

$z/h$  (Height factor ratio) = 1.0 (also evaluated at grade elevation  $z/h=0$ )

Equipment or Component Natural Frequencies (Hz) = See UUT Summary Sheets

Overall dimensions and weight (or range thereof) = See Certified Product Listing tables

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) = \_\_\_\_\_

$\Omega_0$  (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): Certified Products Table, Certified Sub-Components Table, UUT Summary Sheets

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

Signature: 

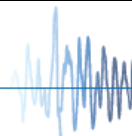
Date: 1/19/17

Print Name: M. R. Karim

Title: SHFR

Special Seismic Certification Valid Up to :  $S_{DS}$  (g) = See Above  $z/h$  = See Above

Condition of Approval (if applicable): \_\_\_\_\_





## Certified Product Listing

### QED-2 and Speed D Low Voltage Switchboards

**Manufacturer:** Square D by Schneider Electric

**Product Category:** Switchboard – Low Voltage (600 Volts and Below)

**Product Line Model:** Power-Style™ QED-2 Switchboards

**Product Options:** Power Distribution and Control Switchboard Sections with Masterpact® Power Circuit Breakers in System Ampacity Ratings from 400A to 5000A Copper and Aluminum Main Bus packaged in NEMA Type 1 and Type 3R Enclosures.

**Product Mounting:** Rigid Floor Mount

QED-2 Power-Style™ Low Voltage Switchboards <sup>1</sup>											
Voltage Rating (V)	Ampacity Rating <sup>2</sup> (A)	NEMA Enclosure Type <sup>3</sup>	Width (in.)	Depth (in.)	Height <sup>4</sup> (in.)	Max. Weight (lbs)	Test Status	Certification Level <sup>5</sup>			
								z/h = 0		z/h = 1	
								S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>	S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>
120 – 600	400 – 5000	1	36	24	91.5	572	NTS PR048901-TR-16, UUT-2	2.28	1.03	2.13	1.60
		1	24-48	24 – 72	91.5	1740	Interpolated/Extrapolated	2.28	1.03	2.13	1.60
		3R	24-48	36 – 72	91.5	1740	Interpolated/Extrapolated	2.28	1.03	2.13	1.60
		1	48	72	91.5	1740	Wyle 56256R08, UUT-6A	3.45	1.55	2.38	1.79
		3R	54	36	91.5	1404	NTS PR051315-TR-16, UUT-2	2.29	1.03	2.02	1.52
		1	54	24 – 72	91.5	1740	Interpolated/Extrapolated	1.83	0.82	1.67	1.25
		3R	54	36 – 72	91.5	1740	Interpolated/Extrapolated	1.83	0.82	1.67	1.25
		1	54	24 – 72	91.5	2852	Interpolated/Extrapolated	1.83	0.82	1.67	1.25
		3R	54	36 – 72	91.5	2852	Interpolated/Extrapolated	1.83	0.82	1.67	1.25
		1	54	72	91.5	2852	NTS PR051315-TR-16, UUT-4	1.83	0.82	1.67	1.25
<b>Notes:</b>											
1. Dimensions and weights are for individual switchboard sections. Sections may be installed alone or bayed together.											
2. Main bus ampacity rating is for both copper and aluminum bus (see Certified Major Sub-Components table).											
3. NEMA Enclosure Types 1 and 3R are constructed of carbon steel sheet with powder-coated finish.											
4. Maximum height does not include optional 48” top hat extension (see Certified Major Sub-Components table).											
5. Certification level is limited to the lower rating of either the product section, as listed here, or the internal sub-components, as listed on the Certified Major Sub-Components table.											



## Certified Product Listing

### QED-2 and Speed D Low Voltage Switchboards

**Manufacturer:** Square D by Schneider Electric

**Product Category:** Switchboard – Low Voltage (600 Volts and Below)

**Product Line Model:** Power-Style™ Speed D Switchboards

**Product Options:** Power Distribution and Control Switchboard Sections with Powerpact® Circuit Breakers in System Ampacity Ratings from 400A to 800A Copper and Aluminum Main Bus packaged in NEMA Type 1 and Type 3R Enclosures.

**Product Mounting:** Rigid Floor Mount

Speed D Power-Style™ Low Voltage Switchboards <sup>1</sup>												
Voltage Rating (V)	Ampacity Rating <sup>2</sup> (A)	NEMA Enclosure Type <sup>3</sup>	Width (in.)	Depth (in.)	Height (in.)	Max. Weight (lbs)	Catalog Number <sup>4</sup>	Test Status	Certification Level <sup>5</sup>			
									Grade (z/h = 0)		Grade (z/h = 0)	
									S <sub>DS</sub>	F <sub>P</sub> /W <sub>P</sub>	S <sub>DS</sub>	F <sub>P</sub> /W <sub>P</sub>
120 – 600	400 – 800	1	11.5	14	91.5	157	SA10LW	NTS PR048901-TR-16, UUT-1B	2.28	1.03	2.13	1.60
		3R	11.5	30	91.5	175	SA10LW	Interpolated	2.28	1.03	2.13	1.60
		1	26-36	14	91.5	595	S*	Interpolated	2.28	1.03	2.13	1.60
		3R	26	30	91.5	580	S*	Interpolated	2.28	1.03	2.13	1.60
		3R	36	30	91.5	633	SF344IR	NTS PR048901-TR-16, UUT-1A	2.28	1.03	2.13	1.60

**Notes:**

- Dimensions and weights are for individual switchboard sections. Sections may be installed alone or bayed together.
- Main bus ampacity rating is for both copper and aluminum bus (see Certified Major Sub-Components table).
- NEMA Enclosure Types 1 and 3R are constructed of carbon steel sheet with powder-coated finish.
- Speed D Switchboards are identified by commercial reference numbers (i.e. Catalog Number). The following nomenclature define the seven digits of the Speed D catalog numbering system. The 11.5 inch wide switchboard is an optional wireway section and has a unique catalog number (SA10LW) that does not vary:
  - 1<sup>st</sup> Digit → S = Speed D Switchboard
  - 2<sup>nd</sup> Digit → B = Breaker or F = Fused
  - 3<sup>rd</sup> Digit → 1 = Single Phase or 3 = Three Phase
  - 4<sup>th</sup> Digit → 2 = 240 Volt or 4 = 480 Volt
  - 5<sup>th</sup> Digit → 4 = 400 Amp or 6 = 600 Amp or 8 = 800 Amp
  - 6<sup>th</sup> Digit → Q = NQ Panelboard Distribution Breakers or I = I-Line Panelboard Distribution Breakers or W = Main Distribution Breaker
  - 7<sup>th</sup> Digit → S = Indoor Enclosure or R Outdoor Enclosure
- Certification level is limited to the lower rating of either the product section, as listed here, or the internal sub-components, as listed on the Certified Major Sub-Components table.



## Certified Major Sub-Components Listing QED-2 and Speed D Low Voltage Switchboards

Switchboard Enclosure Extensions								
Option Type <sup>1</sup>	Switchboard Type	Manufacturer	Description / Identifier	Test Status	Certification Level <sup>2</sup>			
					Grade (z/h = 0)		Roof (z/h = 1)	
					S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>	S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>
Top Extension	QED-2	Square D by Schneider Electric	12" top hat height enclosure extension	Extrapolated	3.30	1.49	1.78	1.34
Top Extension	QED-2	Square D by Schneider Electric	24" top hat height enclosure extension	Extrapolated	3.30	1.49	1.78	1.34
Top Extension	QED-2	Square D by Schneider Electric	36" top hat height enclosure extension	Extrapolated	3.30	1.49	1.78	1.34
Top Extension	QED-2	Square D by Schneider Electric	48" top hat height enclosure extension	Wyle 58835R11, UUT1	3.30	1.49	1.78	1.34
<b>Notes:</b> 1. Enclosure extensions are constructed of carbon steel sheet, with powder-coated finish. 2. Certification level is limited to the lower rating of either the Certified Major Sub-Components Listing, as listed here, or the product section, as listed on the Certified Product Listing table.								



## Certified Major Sub-Components Listing QED-2 and Speed D Low Voltage Switchboards

Switchboard Major Sub-Components									
Sub-Component Type	Rated Voltage (V)	Rated Current (A)	Manufacturer	Part Number / Identifier	Test Status <sup>1</sup>	Certification Level <sup>2</sup>			
						Grade (z/h = 0)		Roof (z/h = 1)	
						S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>	S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>
Masterpact Air Circuit Breakers	120–600	800	Schneider Electric	NT*	Extrapolated <sup>3</sup>	2.25	1.01	1.38	1.04
		800–5000	Schneider Electric	NW*	Extrapolated	2.25	1.01	1.38	1.04
		2000	Schneider Electric	NW20H2	Wyle 57725R10, UUT-12	2.25	1.01	1.38	1.04
		5000	Schneider Electric	NW50H2	Wyle 57725R10, UUT-12	2.25	1.01	1.38	1.04
Molded Case Circuit Breaker / Switch	120–240	70	Schneider Electric	QD70	NTS PR051315-TR-16, UUT2	2.29	1.03	2.02	1.52
		70-225	Schneider Electric	Q*	Interpolated	2.29	1.03	1.73	1.30
	120–600	15-150	Schneider Electric	H*	Interpolated	2.29	1.03	1.73	1.30
		30-250	Schneider Electric	J*	Interpolated	2.29	1.03	1.73	1.30
		30-600	Schneider Electric	L*	Interpolated	2.29	1.03	1.73	1.30
		30-800	Schneider Electric	M*	Interpolated	2.29	1.03	1.73	1.30
		250-1200	Schneider Electric	P*	Interpolated	2.29	1.03	1.73	1.30
		20-125	Schneider Electric	B*	Interpolated	2.29	1.03	1.73	1.30
		15-100	Schneider Electric	F*	Interpolated	2.29	1.03	1.73	1.30
		20-250	Schneider Electric	K*	Interpolated	2.29	1.03	1.73	1.30
		600-2500	Schneider Electric	R*	Interpolated	2.29	1.03	1.73	1.30
		2500	Schneider Electric	RJF3620	Wyle 55636R08, UUT2	2.95	1.33	1.73	1.30
Power Switches – Transfer	120–600	30	ASCO	D07ATSA30030N500	NTS PR051315-TR-16, UUT3	2.29	1.03	2.02	1.52
		30–4000	ASCO	*47A*5	Interpolated	2.29	1.03	2.02	1.52
		4000	ASCO	G7ACTSB34000N500	Wyle 56256R08, UUT6	3.45	1.55	2.38	1.79
Power Switches – QMB	120–600	30	Schneider Electric	QMB361TW	NTS PR048901-TR-16, UUT2	2.28	1.03	2.13	1.60
		30–1200	Schneider Electric	QMB	Interpolated	2.28	1.03	2.13	1.60
		1200	Schneider Electric	QMB368W	NTS PR048901-TR-16, UUT3	2.28	1.03	2.13	1.60
Power Switches – CMM – Circuit Breaker	120–600	60	Schneider Electric	HJ060	NTS PR051315-TR-16, UUT1	2.29	1.03	2.02	1.52
		60-200	Schneider Electric	HJ*, JJ*	Interpolated	2.29	1.03	2.02	1.52
		200	Schneider Electric	JJ250	NTS PR051315-TR-16, UUT1	2.29	1.03	2.02	1.52

### Notes:

- The sub-components listed here include part numbers which identify configuration, manufacturer, and materials. Tested sub-components and interpolated items have the same manufacturer and materials and have similar configuration and construction as the tested units.
- Certification level is limited to the lower rating of either the Certified Major Sub-Components Listing, as listed here, or the product section, as listed on the Certified Product Listing table.
- NT\* Masterpact Circuit Breaker is the same material, same manufacturer, and similar construction as NW\* Masterpact Circuit Breakers.
- 1<sup>st</sup> digit correlates to frame sizes D, J, H, and G. See attached reference nomenclature sheet (page 23 of ASCO catalog).
- See attached reference nomenclature sheets for interpolated units. See note 4 above regarding prefix of part number.

# ASCO® 7000 SERIES Ordering Information

To order an ASCO 7000 SERIES Power Transfer Switch, complete the following catalog number:

7    A                      TS                      +    A                      +    3                      +    400                      +    N                      +    5X                      +    C

		Product		Neutral Code*		Phase Poles	Amperes	Voltage Code		Grp Code	Enclosure	
A	Automatic	TS	Conventional 2-Position	---	No Neutral	2	30	A	115	5X-optional accessories	---	No enclosure
						3	70	B	120		C	Type 1 enclosure
N	Non-Automatic	TB	Open Transition Bypass	A	Solid Neutral	100	100	C	208		F	Type 3R <sup>3</sup> enclosure
						150	150	D	220		G	Type 4 enclosure
		CTS	Closed Transition	B	Switched Neutral	200 <sup>1</sup>	200 <sup>1</sup>	E	230		H	Type 4X <sup>2</sup> enclosure (304 stainless steel)
						230 <sup>1</sup>	230 <sup>1</sup>	F	240		L	Type 12 enclosure
		CTB	Closed Transition Bypass	C	Overlapping Neutral	260	260	J	400		M	Type 3R <sup>3</sup> secure double door
						400	400	K	415		N	Type 4 secure double door
M	Manually Operated	DTS	Delayed Transition	C		600	600	L	440		P	Type 4X <sup>2</sup> secure double door (304 stainless steel)
						800	800	M	460		Q	Type 12 secure double door
		DTB	Delayed Transition Bypass	1000	1000	N	480	R	Type 3RX <sup>2</sup> secure double door (304 stainless steel)			
				1200	1200	P	550	U	Type 4X enclosure (316 stainless steel)			
				1600	1600	Q	575	V	Type 4X secure double door (316 stainless steel)			
				2000	2000	R	600					
				2600	2600							
				3000	3000							
4000	4000											

\*Notes: 1. 200 and 230 amp switch limited to 480 volts maximum.

2. Type 304 stainless steel is standard. To provide an improved reduction in corrosion in salt or marine environments, specify optional type 316 stainless steel.

3. Type 3R enclosures are not suitable for installations conducive to windblown snow or rain conditions.

4. Conventional switch neutral is provided on closed and delayed transition transfer products when specified.

5. A comprehensive ASCO Limited Guardian Warranty covers 7000 Series Power Transfer Switch(s) and warrants the product to be free of defects in material and workmanship from date of shipment. The warranty provides:

- 2 years for labor and travel expenses (extendable in 1 year increments up to 5 years for a nominal fee).
- 5 years for parts (2 years for circuit breakers).
- 10 years for main contacts.

Refer to Publication 3227 for warranty details, terms and conditions.

The Example Catalog Number above is 7ATS3400N5XC  
(X is used to specify optional accessories).

## Transfer Switch Configurations

7ATS, 7NTS, 7ADTS, 7ACTS, 7NDTS, 7NCTS

Sizes of UL-Listed Solderless Screw-Type  
Terminals for External Power Connections

Switch Rating amps	Max # of Conductors per Terminal	Range of AL-CU Conductor Sizes
30 - 230 <sup>3</sup> ATS & NTS Only	One	#14 to 4/0 AWG
150*, 260, 400 *150 for CTS and DTS Only	One	#4 AWG to 600 MCM
	Two	#1/0 AWG to 250 MCM
600	Two	#1/0 AWG to 600 MCM
800-1200 <sup>1</sup>	Four	#1/0 AWG to 600 MCM
1600-2000 <sup>2</sup>	Six	#1/0 AWG to 600 MCM
2600-3000 <sup>2</sup>	Twelve	#1/0 AWG to 600 MCM
4000 <sup>2</sup>	Twelve	#2/0 AWG to 600 MCM

Notes: 1. Unit is designed for top cable entry of emergency and load and bottom entry of normal. Optionally, the switch may be supplied with reverse source and/or bottom entry load, when specified.

2. All main terminals are rear connected.

## Transfer/Bypass Configurations

7ATB, 7NTB, 7ADTB, 7ACTB, 7NDTB, 7NCTB

Sizes of UL-Listed Solderless Screw-Type  
Terminal for Power Connections

Switch Rating amps	Max # of Conductors per Terminal	Range of AL-CU Conductor Sizes
150, 200, 230 260, 400	One	# 4 AWG to 600 MCM
	Two	# 1/0 AWG to 250 MCM
600 <sup>4</sup>	Two	# 2 AWG to 600 MCM
800, 1000, 1200 Front Connect	Three	# 1/0 AWG to 600 MCM
800, 1000, 1200 <sup>4</sup>	Four	# 1/0 AWG to 600 MCM
1600-2000 <sup>4</sup>	Six	# 1/0 AWG to 600 MCM
2600, 3000 <sup>4</sup>	Ten	# 1/0 AWG to 600 MCM
4000 <sup>4</sup>	Twelve	# 2 AWG to 600 MCM

3. 200 and 230 amp rating for copper conductors only for transfer switch configurations only.

4. All main terminals are rear connected. A front connected version is available in 600 and 1200 amp ratings only with top cable entry only. See pages 25-27 for dimensional data and additional information.



# ASCO® 7000 SERIES Designed to Fit Anywhere\*

## 2-Position Transfer Switching 7ATS, 7NTS (Non-Bypass)

Frame	Switch Rating Amps	Width Inches (mm)	Height Inches (mm)	Depth Inches (mm)
<b>Enclosed UL Type 1<sup>2</sup></b>				
D	30, 70, 100, 150, 200, 230	18 (457)	48 (1219)	13 (330)
J	260, 400	24 (610)	56 (1422)	14 (356)
J	600	24 (610)	63 (1600)	17 (432)
H	80	<b>NOT APPLICABLE</b>		1829
H				2210
G	1600, 2000 <sup>3</sup>	30 (762)	51 (2311)	60 (1524)
G	1600, 2000 <sup>3</sup> (Front Connected)	38 (965)	87 (2210)	23 (584)
G	2600, 3000 <sup>1</sup>	38 (965)	91 (2311)	60 (1524)
G	4000 <sup>1</sup>	60 (1524)	92 (2311)	72 (1829)
<b>Open Configuration</b>				
D	30, 70, 100, 125, 150, 200, 230	10¼ (260)	10¼ (260)	5½ (140)
J	260, 400	18½ (470)	25 (635)	8 (203)
J	600	19 (483)	30 (762)	9⅞ (251)
H	800, 1000, 1200	27 (686)	31 (787)	12⅞ (327)
G	1600, 2000	33¼ (845)	28 (711)	26¼ (667)
G	2600, 3000	33¼ (845)	29 (711)	30¾ (781)
G	4000	60 (1524)	70 (1778)	53 (1272)

### Notes:

1. Enclosures are free-standing with removable top, sides, and back.
2. Consult ASCO for dimensions on enclosures other than UL type 1.
3. Order accessory 40MY for 1600A and 40NY for 2000A F/C design.

\* All dimensions and weights shown are approximate and should not be used for construction purposes. Certified dimensions can be furnished upon request.

FOR REFERENCE ONLY



## Certified Major Sub-Components Listing QED-2 and Speed D Low Voltage Switchboards

Switchboard Major Sub-Components (Cont.)									
Sub-Component Type	Rated Voltage (V)	Rated Current (A)	Manufacturer	Part Number / Identifier	Test Status <sup>1</sup>	Certification Level <sup>2</sup>			
						Grade (z/h = 0)		Roof (z/h = 1)	
						S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>	S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>
Power Switches – CMM – Fused Switch	120–600	100	Schneider Electric	FTL3100	NTS PR051315-TR-16, UUT1	2.29	1.03	2.02	1.52
		100-200	Schneider Electric	FTL*	Interpolated	2.29	1.03	2.02	1.52
		200	Schneider Electric	FTL3200	NTS PR051315-TR-16, UUT1	2.29	1.03	2.02	1.52
Power Switches – QMJ	120–600	30	Schneider Electric	QMJ361T	NTS PR048901-TR-16, UUT2	2.28	1.03	2.13	1.60
		30–600	Schneider Electric	QMJ*	Interpolated	2.28	1.03	2.13	1.60
		600	Schneider Electric	QMJ366	NTS PR048901-TR-16, UUT3	2.28	1.03	2.13	1.60
Power Bus – Main	120–600	400	Schneider Electric	Aluminum	NTS PR048901-TR-16, UUT2	2.28	1.03	2.13	1.60
		400–3200	Schneider Electric	Aluminum	Interpolated	2.28	1.03	2.13	1.60
		3200	Schneider Electric	Aluminum	NTS PR048901-TR-16, UUT3	2.28	1.03	2.13	1.60
		400	Schneider Electric	Copper	NTS PR051315-TR-16, UUT3	2.29	1.03	2.02	1.52
		400–5000	Schneider Electric	Copper	Interpolated	2.29	1.03	1.73	1.30
		5000	Schneider Electric	Copper	Wyle 55636R08, UUT2	2.95	1.33	1.73	1.30
Sub Feed Lug Kits	120–600	100-800	Schneider Electric	SL*	Extrapolated	2.29	1.03	2.02	1.52
		800	Schneider Electric	SL800M5	NTS PR051315-TR-16, UUT2	2.29	1.03	2.02	1.52
		400-1200	Schneider Electric	SL*, S33*	Interpolated	2.29	1.03	2.02	1.52
		1200	Schneider Electric	S33930	NTS PR047058-TR-16, UUT2	3.64	1.64	2.78	2.09
Surge Protection Device	120–600	NA	Schneider Electric	HL2IMA12C1	NTS PR051315-TR-16, UUT2	2.29	1.03	2.02	1.52
		NA	Schneider Electric	HR*, HL*	Extrapolated <sup>3</sup>	2.29	1.03	2.02	1.52
		NA	Schneider Electric	TVS4IMA16B	Wyle 55636R08, UUT5	2.16	0.97	1.33	1.00
		NA	Schneider Electric	TVS*	Interpolated	2.16	0.97	1.33	1.00
		NA	Schneider Electric	TVS4IMA48B	Wyle 55636R08, UUT2	2.95	1.33	1.73	1.30
		NA	Schneider Electric	QMB4IMA12	NTS PR048901-TR-16, UUT2	2.28	1.03	2.13	1.60
		NA	Schneider Electric	QMB*	Interpolated	2.28	1.03	2.13	1.60
		NA	Schneider Electric	QMB4IMA24	NTS PR048901-TR-16, UUT3	2.28	1.03	2.13	1.60
Smart Cell	120–600	NA	Schneider Electric	ICWL2422M01	NTS PR051315-TR-16, UUT2	2.29	1.03	2.02	1.52
		NA	Schneider Electric	ICW*	Extrapolated <sup>4</sup>	2.29	1.03	2.02	1.52

**Notes:**

1. The sub-components listed here include part numbers which identify configuration, manufacturer, and materials. Tested sub-components and interpolated items have the same manufacturer and materials and have similar configuration and construction as the tested units.
2. Certification level is limited to the lower rating of either the Certified Major Sub-Components Listing, as listed here, or the product section, as listed on the Certified Product Listing table.
3. The HR and HL Surge Protection Devices are structurally identical, the only difference is rating and software.
4. Smart Cell Devices are structurally identical, the only difference is rating and software.



## Certified Major Sub-Components Listing QED-2 and Speed D Low Voltage Switchboards

Switchboard Major Sub-Components (Cont.)									
Sub-Component Type	Rated Voltage (V)	Rated Current (kVA)	Manufacturer	Part Number / Identifier	Test Status <sup>1</sup>	Certification Level <sup>2</sup>			
						Grade (z/h = 0)		Roof (z/h = 1)	
						S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>	S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>
Dry Type Transformers – Single Phase – Aluminum	120–600	5	Schneider Electric	5S1HFOC	Wyle 71437R13, UUT3	2.58	1.16	2.30	1.73
		5–25	Schneider Electric	*H* <sup>3</sup>	Interpolated	2.34	1.05	1.61	1.21
		25	Schneider Electric	EE25S3H	ATS D191457R1, UUT17H	2.34	1.05	1.61	1.21
Dry Type Transformers – Single Phase – Copper	120–600	0.5	Schneider Electric	9070T500D1	Wyle 55636R08, UUT2	2.95	1.33	1.73	1.30
		0.5–3	Schneider Electric	9070T*	Interpolated	2.88	1.30	1.73	1.30
		3	Schneider Electric	9070T3000D1	Wyle 51551-5, UUT1	2.88	1.30	2.39	1.79
Surge Arrestor	120–600	NA	Schneider Electric	SDSA3650	NTS PR048901-TR-16, UUT3	2.28	1.03	2.13	1.60
Powermeters	120–600	NA	Schneider Electric	PM5563	NTS PR051315-TR-16, UUT3	2.29	1.03	2.02	1.52
		NA	Schneider Electric	PM8243	NTS PR051315-TR-16, UUT4	1.83	0.82	1.67	1.25
Protective Trip Relay System	120–600	NA	Crompton	252-PVP, 252-PSG, 256-PLD	Wyle 71052R13, UUT2	2.11	0.95	2.11	1.58
Arc Flash Protective Rely	120–600	NA	Schneider Electric	Vamp 321	Wyle 71052R13, UUT2	2.11	0.95	2.11	1.58
Magelis HMI Display	120–600	NA	Schneider Electric	XBTGT	Wyle 71052R13, UUT2	2.11	0.95	2.11	1.58
600V, 70A, F-frame Molded Case Circuit Breaker	120–600	NA	Schneider Electric	FIL26070	Wyle 71052R13, UUT2	2.11	0.95	2.11	1.58
Modicon Premium Programmable Logic Controller	120–600	NA	Schneider Electric	TSXDEY16A4	Wyle 71052R13, UUT2	2.11	0.95	2.11	1.58
Voltage Transformer, 600V, 150VA, 4:1 Ratio	120–600	NA	Schneider Electric	460R-480	Wyle 71052R13, UUT2	2.11	0.95	2.11	1.58
Uninterruptible Power Supply	120–600	NA	Eaton	Evolution 1550	Wyle 71052R13, UUT2	2.11	0.95	2.11	1.58
24VDC Power Supply	120–600	NA	PULS	ML50.111	Wyle 71052R13, UUT2	2.11	0.95	2.11	1.58
Overload Relay, TeSys D Contactor	120–600	NA	Schneider Electric	LC1D40A	Wyle 71052R13, UUT2	2.11	0.95	2.11	1.58
Traveling Lifter Assembly <sup>4</sup>	NA	NA	Schneider Electric	80280-051-5X	Wyle 71052R13, UUT2	2.11	0.95	2.11	1.58

**Notes:**

1. The sub-components listed here include part numbers which identify configuration, manufacturer, and materials. Tested sub-components and interpolated items have the same manufacturer and materials and have similar configuration and construction as the tested units.
2. Certification level is limited to the lower rating of either the Certified Major Sub-Components Listing, as listed here, or the product section, as listed on the Certified Product Listing table.
3. Single phase aluminum transformers are covered by this listing. Leading and/or trailing characters, as seen in the tested versions, will be present in the catalog #.
4. Traveling Lifter Assembly must be secured to unit with manufacturer supplied ties when not in use.

## UUT Summary

### Power-Style Low Voltage Switchboard

UUT Product Information			
Manufacturer	Product Category	Product Line Model	Identification Number
Square D by Schneider Electric	Switchboards – Low Voltage	Power-Style Speed D	SF344IR (UUT-1A), SA10LW (UUT-1B)

UUT Test Report Association				
Test Lab	Report No.	Report Date	Test Run No.	UUT Designation
NTS – Huntsville	PR048901-TR-16	06/30/2016	5	UUT-1

UUT Notes / Description	
<ol style="list-style-type: none"> <li>The UUT is a floor mounted low voltage (480V – 400A) switchboard lineup consisting of a 36" wide x 30" deep Speed D, Distribution Section (UUT-1A) with copper bus connected to an 11.5" wide x 14" deep Speed D Loadside Wireway Section (UUT-1B). Speed D Distribution Section weight is approximately 633 lbs and Speed D Loadside Wireway Section weight is approximately 157 lbs. The switchboard distribution section (UUT-1A) is packaged as NEMA Type 3R outdoor enclosure and the switchboard wireway section (UUT-1B) is packaged as NEMA Type 1 indoor enclosure</li> <li>The NEMA Type 3R and Type 1 enclosures are constructed of carbon steel sheet, with powder-coated finish</li> <li>UUT full of contents during testing.</li> </ol>	

UUT Properties (As Tested)								
Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment	
	Height	Width	Depth	F-B	S-S	V	Type	Anchorage
790	91.5	47	30	6.2	10.5	>33.3	Rigid floor mounted	(6) 3/8-16 grade 5 bolts and flat washers at 25 ft-lbs torque.

UUT Seismic Test Parameters								
Building Codes	Test Criteria	$S_{Ds}$ (g)	$z/h$	$I_p$	$A_{FLX-H}$ (g)	$A_{RIG-H}$ (g)	$A_{FLX-V}$ (g)	$A_{RIG-V}$ (g)
CBC 2016	ICC-ES AC156	2.13	1	1.5	3.41	2.56	1.43	0.57

UUT Seismic Test Results	
✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks	



UUT Major Components		
Description	Manufacturer	Part No. / Identifier
Enclosure – NEMA Type 3R, Carbon Steel Sheet	Square D by Schneider Electric	36W x 30D x 91.5H
Enclosure – NEMA Type 1, Carbon Steel Sheet	Square D by Schneider Electric	11.5W x 14D x 91.5H
Switch, Molded Case, 400A, 600V	Square D by Schneider Electric	LHF36000M8076
Relay, Ground Fault, with Steel Mounts	Bender	BPGF100
Fuse, Current Limiting, 400A, 600V	Bussmann	JJS-400
Copper Bus, 400A	Square D by Schneider Electric	400A Busing, Copper

## UUT Summary

### Power-Style Low Voltage Switchboard

UUT Product Information			
Manufacturer	Product Category	Product Line Model	Identification Number
Square D by Schneider Electric	Switchboards – Low Voltage	Power-Style QED-2	37983649-001

UUT Test Report Association				
Test Lab	Report No.	Report Date	Test Run No.	UUT Designation
NTS – Huntsville	PR048901-TR-16	06/30/2016	5	UUT-2

UUT Notes / Description
<ol style="list-style-type: none"> <li>The UUT is a floor mounted low voltage QED-2 switchboard distribution section 36" wide x 24" deep, 600V - 400A system ratings with aluminum bus packaged as NEMA Type 1 indoor enclosure.</li> <li>The NEMA Type 1 enclosure is constructed of carbon steel sheet, with powder-coated finish</li> <li>UUT full of contents during testing.</li> </ol>

UUT Properties (As Tested)								
Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment	
	Height	Width	Depth	F-B	S-S	V	Type	Anchorage
572	91.5	36	24	17	9	29.5	Rigid floor mounted	(4) 1/2-13 grade 5 bolts and flat washers at 60 ft-lbs torque.

UUT Seismic Test Parameters									
Building Codes	Test Criteria	$S_{Ds}$ (g)	$z/h$	$I_p$	$A_{FLX-H}$ (g)	$A_{RIG-H}$ (g)	$A_{FLX-V}$ (g)	$A_{RIG-V}$ (g)	
CBC 2016	ICC-ES AC156	2.13	1	1.5	3.41	2.56	1.43	0.57	

UUT Seismic Test Results
✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks



UUT Major Components		
Description	Manufacturer	Part No. / Identifier
Enclosure – NEMA Type 1, Carbon Steel Sheet	Square D by Schneider Electric	36W x 24D x 91.5H
Switch, QMJ Branch, 30A, 600V	Square D by Schneider Electric	QMJ361T
Switch, QMB Branch, 30A, 600V	Square D by Schneider Electric	QMB361TW
Aluminum Bus, 400A	Square D by Schneider Electric	400A Busing, Aluminum
Surge Protective Device (SPD), 120kA	Square D by Schneider Electric	QMB4IMA12
Fuse, Current Limiting, 30A, 600V	Bussmann	FRS-R-30
Fuse, Current Limiting, 30A, 600V	Bussmann	FRS-PJ-30SP



## UUT Summary

### Power-Style Low Voltage Switchboard

UUT Product Information			
Manufacturer	Product Category	Product Line Model	Identification Number
Square D by Schneider Electric	Switchboards – Low Voltage	Power-Style QED-2	37983649-002

UUT Test Report Association				
Test Lab	Report No.	Report Date	Test Run No.	UUT Designation
NTS – Huntsville	PR048901-TR-16	06/30/2016	5	UUT-3

UUT Notes / Description
<ol style="list-style-type: none"> <li>The UUT is a floor mounted low voltage QED-2 switchboard distribution section 48" wide x 48" deep, 600V - 3200A system ratings with aluminum bus packaged as NEMA Type 1 indoor enclosure.</li> <li>The NEMA Type 1 enclosure is constructed of carbon steel sheet, with powder-coated finish</li> <li>UUT full of contents during testing.</li> </ol>

UUT Properties (As Tested)								
Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment	
	Height	Width	Depth	F-B	S-S	V	Type	Anchorage
1210	91.5	48	48	10.5	5	17	Rigid floor mounted	(6) 1/2-13 grade 5 bolts and flat washers at 60 ft-lbs torque.

UUT Seismic Test Parameters									
Building Codes	Test Criteria	$S_{Ds}$ (g)	$z/h$	$I_p$	$A_{FLX-H}$ (g)	$A_{RIG-H}$ (g)	$A_{FLX-V}$ (g)	$A_{RIG-V}$ (g)	
CBC 2016	ICC-ES AC156	2.13	1	1.5	3.41	2.56	1.43	0.57	

UUT Seismic Test Results
✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks



UUT Major Components		
Description	Manufacturer	Part No. / Identifier
Enclosure – NEMA Type 1, Carbon Steel Sheet	Square D by Schneider Electric	48W x 48D x 91.5H
Switch, QMJ Branch, 600A, 600V	Square D by Schneider Electric	QMJ366
Switch, QMB Branch, 1200A, 600V	Square D by Schneider Electric	QMB368W
Aluminum Bus, 3200A	Square D by Schneider Electric	3200A Busing, Aluminum
Surge Arrestor	Square D by Schneider Electric	SDSA3650
Surge Protective Device (SPD), 240kA	Square D by Schneider Electric	QMB4IMA24
Fuse, Current Limiting, 600A, 600V	Bussmann	FRS-R-600



## UUT Summary

### Power-Style Low Voltage Switchboard

UUT Product Information			
Manufacturer	Product Category	Product Line Model	Identification Number
Square D by Schneider Electric	Switchboards – Low Voltage	Power-Style QED-2, Commercial Multi Metering (CMM)	38064461-002

UUT Test Report Association				
Test Lab	Report No.	Report Date	Test Run No.	UUT Designation
NTS – Huntsville	PR051315-TR-16	08/31/2016	9	UUT-1

UUT Notes / Description
<ol style="list-style-type: none"> <li>The UUT is a floor mounted low voltage QED-2, Commercial Multi Metering, switchboard section 36" wide x 24" deep, 600V – 800A system ratings with copper bus packaged as NEMA Type 1 indoor enclosure.</li> <li>The NEMA Type 1 enclosure is constructed of carbon steel sheet, with powder-coated finish</li> <li>UUT full of contents during testing.</li> </ol>

UUT Properties (As Tested)								
Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment	
	Height	Width	Depth	F-B	S-S	V	Type	Anchorage
642	91.5	36	24	11	12	>33.3	Rigid floor mounted	(4) 1/2-13 grade 5 bolts and flat washers at 65 ft-lbs torque.

UUT Seismic Test Parameters									
Building Codes	Test Criteria	$S_{Ds}$ (g)	$z/h$	$I_p$	$A_{FLX-H}$ (g)	$A_{RIG-H}$ (g)	$A_{FLX-V}$ (g)	$A_{RIG-V}$ (g)	
CBC 2016	ICC-ES AC156	2.02	1	1.5	3.23	2.42	1.35	0.54	

UUT Seismic Test Results
✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks



UUT Major Components		
Description	Manufacturer	Part No. / Identifier
Enclosure – NEMA Type 1, Carbon Steel Sheet	Square D by Schneider Electric	36W x 24D x 91.5H
Circuit breaker (2)	Square D by Schneider Electric	Powerpact HJ060 (2)
Circuit breaker	Square D by Schneider Electric	Powerpact HJ150
Circuit breaker	Square D by Schneider Electric	Powerpact JJ250
Fused switch, 100A	Square D by Schneider Electric	FTL3100
Fused switch, 200A	Square D by Schneider Electric	FTL3200
Copper Bus, 800A	Square D by Schneider Electric	800A Busing, Copper



## UUT Summary

### Power-Style Low Voltage Switchboard

UUT Product Information			
Manufacturer	Product Category	Product Line Model	Identification Number
Square D by Schneider Electric	Switchboards – Low Voltage	Power-Style QED-2, I-Line	38064461-001

UUT Test Report Association				
Test Lab	Report No.	Report Date	Test Run No.	UUT Designation
NTS – Huntsville	PR051315-TR-16	08/31/2016	9	UUT-2

UUT Notes / Description
<ol style="list-style-type: none"> <li>The UUT is a floor mounted low voltage QED-2, I-Line Distribution, switchboard section 54" wide x 36" deep, 600V – 3000A system ratings with aluminum bus packaged as NEMA Type 3R outdoor enclosure.</li> <li>The NEMA Type 3R enclosure is constructed of carbon steel sheet, with powder-coated finish</li> <li>UUT full of contents during testing.</li> </ol>

UUT Properties (As Tested)								
Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment	
	Height	Width	Depth	F-B	S-S	V	Type	Anchorage
1404	91.5	54	36	10	7.5	>33.3	Rigid floor mounted	(6) 1/2-13 grade 5 bolts and flat washers at 65 ft-lbs torque.

UUT Seismic Test Parameters									
Building Codes	Test Criteria	$S_{Ds}$ (g)	$z/h$	$I_p$	$A_{FLX-H}$ (g)	$A_{RIG-H}$ (g)	$A_{FLX-V}$ (g)	$A_{RIG-V}$ (g)	
CBC 2016	ICC-ES AC156	2.02	1	1.5	3.23	2.42	1.35	0.54	

UUT Seismic Test Results
✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks



UUT Major Components		
Description	Manufacturer	Part No. / Identifier
Enclosure – NEMA Type 3R, Carbon Steel Sheet	Square D by Schneider Electric	54W x 36D x 91.5H
Smart Cell	Square D by Schneider Electric	ICWL2422M01
1 pole breaker	Square D by Schneider Electric	Powerpact B
2 pole breaker	Square D by Schneider Electric	Powerpact B
3 pole breaker	Square D by Schneider Electric	Powerpact B J 125H
2 pole breaker	Square D by Schneider Electric	QD 70
3 pole breaker	Square D by Schneider Electric	QD 225
Sub Feed lugs	Square D by Schneider Electric	SL800M5
Surge Protective Device	Square D by Schneider Electric	HL2IMA12C1
Surge arrestor	Square D by Schneider Electric	SDSA3650
Aluminum bus 3000 amp	Square D by Schneider Electric	Aluminum bus 3000 amp

## UUT Summary

### Power-Style Low Voltage Switchboard

UUT Product Information			
Manufacturer	Product Category	Product Line Model	Identification Number
Square D by Schneider Electric	Switchboards – Low Voltage	Power-Style QED-2	38063598-002

UUT Test Report Association				
Test Lab	Report No.	Report Date	Test Run No.	UUT Designation
NTS – Huntsville	PR051315-TR-16	08/31/2016	9	UUT-3

UUT Notes / Description
<ol style="list-style-type: none"> <li>1. The UUT is a floor mounted low voltage QED-2, Transfer Switch Distribution, switchboard section 30" wide x 24" deep, 600V – 400A system ratings with copper bus packaged as NEMA Type 1 indoor enclosure.</li> <li>2. The NEMA Type 1 enclosure is constructed of carbon steel sheet, with powder-coated finish</li> <li>3. UUT full of contents during testing.</li> </ol>

UUT Properties (As Tested)								
Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment	
	Height	Width	Depth	F-B	S-S	V	Type	Anchorage
428	91.5	30	24	15	9.5	>33.3	Rigid floor mounted	(4) 1/2-13 grade 5 bolts and flat washers at 65 ft-lbs torque.

UUT Seismic Test Parameters								
Building Codes	Test Criteria	$S_{Ds}$ (g)	$z/h$	$I_p$	$A_{FLX-H}$ (g)	$A_{RIG-H}$ (g)	$A_{FLX-V}$ (g)	$A_{RIG-V}$ (g)
CBC 2016	ICC-ES AC156	2.02	1	1.5	3.23	2.42	1.35	0.54

UUT Seismic Test Results	
✓	The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

[illegible]

[illegible]

## UUT Summary

### HVL/cc MV Load Current Interrupter Switchgear

UUT Product Information			
Manufacturer	Product Category	Product Line Model	Identification Number
Square D by Schneider Electric	Switchgear – Medium Voltage Metal Enclosed	2.4–17.5 kV NEMA Type 1 HVL/cc Load Current Interrupter Switchgear	FO# 17-30373199-001

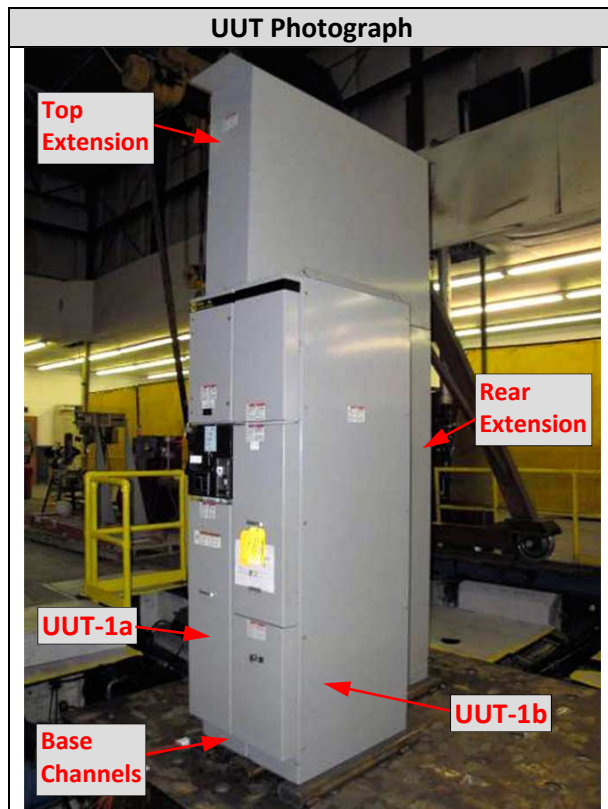
UUT Test Report Association				
Test Lab	Report No.	Report Date	Test Run No.	UUT Designation
Wyle Laboratories	58835R11	11/10/2011	5	UUT-1

UUT Notes / Description	
<ol style="list-style-type: none"> <li>The UUT is a medium voltage (2.4kV – 17.5kV) metal-enclosed HVL/cc load current interrupter switch assembly consisting of a 14.75" wide x 37.25" deep distribution section (UUT-1a) connected to a 14.75" wide x 37.25" deep auxiliary transition section (UUT-1b) packaged in NEMA Type 1 enclosures with 4" base channels. A 30" rear extension and a 48" pull box top extension were added to the standard NEMA Type 1 enclosure (UUT-1a) making the UUT total height at 142" and UUT total depth at 67.25". UUT-1a section weight is approximately 1,035 lbs and UUT-1b section weight is approximately 520 lbs..</li> <li>NEMA Type 1 enclosures and optional extensions and base channels are constructed of carbon steel sheet, with powder-coated finish.</li> <li>UUT full of contents during testing.</li> </ol>	

UUT Properties (As Tested)								
Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment	
	Height	Width	Depth	F-B	S-S	V	Type	Anchorage
1,555	142	29.5	67.25	15	3.95	14.5	Rigid floor mounted	(10) 3/8-16 grade 5 bolts and Belleville conical spring washers at 35 ft-lbs torque.

UUT Seismic Test Parameters									
Building Codes	Test Criteria	$S_{Ds}$ (g)	$z/h$	$I_p$	$A_{FLX-H}$ (g)	$A_{RIG-H}$ (g)	$A_{FLX-V}$ (g)	$A_{RIG-V}$ (g)	
CBC 2016	ICC-ES AC156	1.78	1	1.5	2.85	2.14	1.19	0.48	

UUT Seismic Test Results	
✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks	



UUT Major Components		
Description	Manufacturer	Part No. / Identifier
Enclosure – NEMA Type 1	Square D	14.75W x 37.25D x 90H
Enclosure Base Channel	Square D	14.75W x 37.25D x 4H
Enclosure Base Channel	Square D	14.75W x 30D x 4H
Enclosure Rear Extension	Square D	14.75W x 30D x 90H
Enclosure Top Extension	Square D	14.75W x 67.25D x 48H
600A Main Bus, Copper, Tin Plated	Square D	600A Copper, Tin Plated, Bus
Switch, OTM, 5kV, 600A, Ungroundable	Square D	44044-241-51
Fuse, Current Limiting, 65E, 17.5kV, Type DIN/E	Square D by Bussman	175GFMSJD65E



[illegible]

## UUT Summary

### Power-Style Low Voltage Switchboard

UUT Product Information			
Manufacturer	Product Category	Product Line Model	Identification Number
Square D by Schneider Electric	Switchboards – Low Voltage	Power-Style QED-2	FO# 085-24861930-001

UUT Test Report Association				
Test Lab	Report No.	Report Date	Test Run No.	UUT Designation
Wyle Laboratories	55636R08	10/20/2008	46	UUT-2

UUT Notes / Description	
<ol style="list-style-type: none"> <li>The UUT is a low voltage QED-2 switchboard section 36" wide x 24" deep, 2000A, floor mounted section containing a mid-located 2000A PowerPact R circuit breaker connected to a top located copper bus with lugs on bottom, packaged as a NEMA Type 1 indoor enclosure.</li> <li>The NEMA Type 1 enclosure is constructed of carbon steel sheet, with powder-coated finish.</li> <li>UUT full of contents during testing.</li> </ol>	

UUT Properties (As Tested)								
Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment	
	Height	Width	Depth	F-B	S-S	V	Type	Anchorage
895	91.5	36	24.5	7.3	7.7	7.8	Rigid floor mounted	(4) ½-13 grade 5 bolts and Belleville conical washers at 70 ft-lb torque.

UUT Seismic Test Parameters									
Building Codes	Test Criteria	$S_{Ds}$ (g)	$z/h$	$I_p$	$A_{FLX-H}$ (g)	$A_{RIG-H}$ (g)	$A_{FLX-V}$ (g)	$A_{RIG-V}$ (g)	
CBC 2016	ICC-ES AC156	1.73	1	1.5	2.77	2.08	1.16	0.46	

UUT Seismic Test Results	
✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks	



UUT Major Components		
Description	Manufacturer	Part No. / Identifier
Enclosure – NEMA Type 1, Carbon Steel Sheet	Square D by Schneider Electric	36W x 24D x 91.5H
TVSS 480V 3P-4W 480KA	Square D	TVS41MA48B
PowerPact Molded Case Circuit Breaker, R-frame - 2000A	Square D	RJF3620
3P FH Molded Case Switch	Square D	FHL36000M4200
Main bus - copper bars - 2000A	Square D	2000A Cu Bus
CM4250, PowerLogic Circuit Monitor, Control Power 90-305VAC/ 50VA; 100-300VDC/ 30W	Square D	CM4250
PowerLogic Circuit Monitor LCD Display	Square D	CMDLC
2000AF Main Neutral CT	Square D	S48896
Transformer, 500VA, 240/480:120vac	Square D	9070T500D1

[illegible]



## UUT Summary

### Power-Style Low Voltage Switchboard

UUT Product Information			
Manufacturer	Product Category	Product Line Model	Identification Number
Square D by Schneider Electric	Switchboards – Low Voltage	Power-Style QED-2	FO# 24817279-001

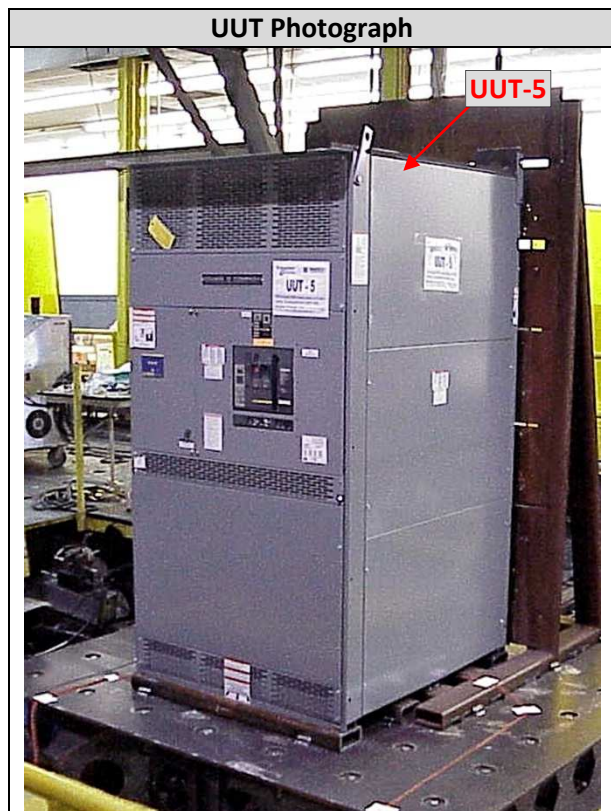
UUT Test Report Association				
Test Lab	Report No.	Report Date	Test Run No.	UUT Designation
Wyle Laboratories	55636R08	10/20/2008	35	UUT-5

UUT Notes / Description
<ol style="list-style-type: none"> <li>1. The UUT is a low voltage QED-2 switchboard section 48" wide x 54" deep, floor mounted, with 5000A NW main over Public Utility Compartment with mid-located 5000A copper thru bus, packaged as a NEMA Type 1 indoor enclosure.</li> <li>2. The NEMA Type 1 enclosure is constructed of carbon steel sheet, with powder-coated finish.</li> <li>3. UUT full of contents during testing.</li> </ol>

UUT Properties (As Tested)								
Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment	
	Height	Width	Depth	F-B	S-S	V	Type	Anchorage
2320	91.5	48	54	7.8	3.6	19	Rigid floor mounted	(6) ½-13 grade 5 bolts and Belleville conical washers at 70 ft-lb torque.

UUT Seismic Test Parameters								
Building Codes	Test Criteria	$S_{Ds}$ (g)	$z/h$	$I_p$	$A_{FLX-H}$ (g)	$A_{RIG-H}$ (g)	$A_{FLX-V}$ (g)	$A_{RIG-V}$ (g)
CBC 2016	ICC-ES AC156	1.33	1	1.5	2.13	1.60	0.89	0.36

UUT Seismic Test Results	
✓	The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

[illegible]



## UUT Summary

### Motor Control Center – LV – Model 6

UUT Product Information			
Manufacturer	Product Category	Product Line Model	Identification Number
Square D by Schneider Electric	Motor Control Center – Low Voltage	MCC - LV Model 6	FO# 32678983-010

UUT Test Report Association				
Test Lab	Report No.	Report Date	Test Run No.	UUT Designation
Wyle Laboratories	71437R13	02/04/2014	12	UUT-3

UUT Notes / Description
<ol style="list-style-type: none"> <li>The UUT is a low voltage Model 6 MCC section, 31" wide x 32" deep, with a size 1 ATS48 softstart plug on unit and a 5kVA distribution transformer packaged in a NEMA Type 3R enclosure.</li> <li>The NEMA Type 3R enclosure is constructed of carbon steel sheet, with powder-coated finish</li> <li>UUT full of contents during testing.</li> </ol>

UUT Properties (As Tested)								
Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment	
	Height	Width	Depth	F-B	S-S	V	Type	Anchorage
970	101.5	31.6	32	4.5	7.1	15.5	Rigid floor mounted	(9) 1/2-13 grade 5 bolts and Bellville conical spring washers at 70 ft-lbs torque.

UUT Seismic Test Parameters									
Building Codes	Test Criteria	$S_{Ds}$ (g)	$z/h$	$I_p$	$A_{FLX-H}$ (g)	$A_{RIG-H}$ (g)	$A_{FLX-V}$ (g)	$A_{RIG-V}$ (g)	
CBC 2016	ICC-ES AC156	2.30	1	1.5	3.68	2.76	1.54	0.62	

UUT Seismic Test Results
✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks



UUT Major Components		
Description	Manufacturer	Part No. / Identifier
Enclosure – NEMA Type 3R, Carbon Steel Sheet	Square D by Schneider Electric	31W x32D x 101.5H
800A Horizontal Bus, Copper, Tin Plated	Schneider Electric	800A Copper, Tin Plated, Bus
600A Vertical Bus Copper, Tin Plated	Schneider Electric	600A Copper, Tin Plated, Bus
300A Vertical Bus Copper, Tin Plated	Schneider Electric	300A Copper, Tin Plated, Bus
ATS48 Soft start	Schneider Electric	ATS48D22Y
5kVA Distribution Transformer – Aluminum Windings	Schneider Electric	5S1HFOC
IEC Size D Contactors	Schneider Electric	LC1D25G7
Molded Case Circuit Breaker, H-Frame, 600V 15A	Schneider Electric	HJL36015
Molded Case Circuit Breaker, H-Frame, 600V 40A	Schneider Electric	HLL36040SA

## UUT Summary

### Low Voltage Transformers - Ventilated

UUT Product Information			
Manufacturer	Product Category	Product Line Model	Identification Number
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, Style H	EE25S3H

UUT Test Report Association				
Test Lab	Report No.	Report Date	Test Run No.	UUT Designation
Applied Technical Services, Inc.	D191457 – Rev 1	02/25/2013	1	UUT-17H

UUT Notes / Description
1. The UUT is a low voltage (25 kVA), single phase transformer with aluminum windings packaged into a ventilated enclosure.
2. The NEMA Type 2 enclosure number 17H is constructed of carbon steel sheet, with powder-coated finish
3. UUT full of contents during testing.

UUT Properties (As Tested)								
Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment	
	Height	Width	Depth	F-B	S-S	V	Type	Anchorage
290	37	20	16	6.5	19	6.8	Rigid floor mounted	(4) 7/16-14 grade 5 bolts and flat washers at 593 in-lb torque.

UUT Seismic Test Parameters								
Building Codes	Test Criteria	$S_{Ds}$ (g)	$z/h$	$I_p$	$A_{FLX-H}$ (g)	$A_{RIG-H}$ (g)	$A_{FLX-V}$ (g)	$A_{RIG-V}$ (g)
CBC 2016	ICC-ES AC156	1.61	1	1.5	2.58	1.93	1.08	0.43

UUT Seismic Test Results	
✓	The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

[illegible]

[illegible]



## UUT Summary

### Power-Zone 4 (PZ4) Arc Resisting Low Voltage Switchgear

UUT Product Information			
Manufacturer	Product Category	Product Line Model	Identification Number
Square D by Schneider Electric	Switchgear – Low Voltage Drawout	Power-Zone 4 Arc Resisting	FO # 31232009-002

UUT Test Report Association				
Test Lab	Report No.	Report Date	Test Run No.	UUT Designation
Wyle Laboratories	71052R13	10/03/2013	10	UUT-2

UUT Notes / Description
<ol style="list-style-type: none"> <li>The UUT is a low voltage PZ4 Arc Resisting switchgear main tie section (incoming transformer connection) with roof exhaust plenum, 36" wide x 80" deep, 5000A, NEMA Type 1 enclosure (ANSI Type 2B rating).</li> <li>Roof exhaust plenum supported at a distance 96" from enclosure side panel. Exhaust plenum adds 15" to enclosure height. The NEMA Type 1 enclosure and plenum are constructed of carbon steel sheet, with powder-coated finish</li> <li>UUT full of contents during testing.</li> </ol>

UUT Properties (As Tested)								
Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment	
	Height	Width	Depth	F-B	S-S	V	Type	Anchorage
4,125	91.5	36	80	11.2	7.5	>33.3	Rigid floor mounted	(6) 1/2-13 grade 5 bolts and Belleville conical washers at 65 ft-lbs torque.

UUT Seismic Test Parameters								
Building Codes	Test Criteria	$S_{Ds}$ (g)	$z/h$	$I_p$	$A_{FLX-H}$ (g)	$A_{RIG-H}$ (g)	$A_{FLX-V}$ (g)	$A_{RIG-V}$ (g)
CBC 2016	ICC-ES AC156	2.11	1	1.5	3.38	2.53	1.41	0.56

UUT Seismic Test Results
✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks



UUT Major Components		
Description	Manufacturer	Part No. / Identifier
Enclosure – NEMA Type 1, Carbon Steel Sheet	Square D	36W x 80D x 91.5H
Roof Exhaust Plenum	Square D	15H x 132W x 22D
Masterpact NW ArcBlok Y Frame - 5000A	Square D	NW50H3 ArcBlok
Overhead Traveling Lifter Assy	Square D	80280-051-5X
Main bus - copper bars - 5000A	Square D	5000A Cu Bus
Arc Flash Protective Rely	Square D	Vamp 321
Uninterruptible Power Supply	Eaton	Evolution 1550
Programmable Logic Controller	Square D	Modicon Premium TSXDEY16A4
24VDC Power Supply	PULS	ML50.111
600V, 70A, F-frame Molded Case Circuit Breaker	Square D	FIL26070
15kVA, 1 Ø, Transformer, Al Windings	Square D	EE15S3HOC
Protective Trip Relay System	Crompton	252-PVP, 252-PSG, 256-PLD
Overload Relay, TeSys D Contactor	Square D	LC1D40A
Magelis HMI Display	Square D	XBTGT
Voltage Transformer, 600V, 150VA, 4:1 Ratio	Square D	460R-480