



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

**APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)**

OFFICE USE ONLY

APPLICATION #: OSP – 0157-10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: G&W Electric

Manufacturer's Technical Representative: Janet Ache

Mailing Address: 3500 West 127th Street, Blue Island, IL 60406

Telephone: 708-297-3736

Email: jache@gwelec.com

Product Information

Product Name: SF6 Insulated Padmount & Vault Switchgear

Product Type: Transmission & Distribution Power Products

Product Model Number: See Attachment A

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

General Description: Enclosed and non-enclosed switches

Mounting Description: Base mounted - rigid

Applicant Information

Applicant Company Name: TRU Compliance, LLC

Contact Person: Matt Tobolski, S.E.

Mailing Address: 960 SW Disk Dr., Suite 104, Bend, OR 97702

Telephone: 844.878.0200

Email: mtobolski@trucompliance.com

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

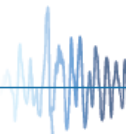
Signature of Applicant: _____

Date: 10/27/2016

Title: President

Company Name: TRU Compliance, LLC

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





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

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

Company Name: TRU Compliance, LLC

Name: Matt Tobolski, S.E. California License Number: S5648

Mailing Address: 960 SW Disk Dr., Suite 104, Bend, OR 97702

Telephone: 844.878.0200 Email: mtobolski@trucompliance.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): _____

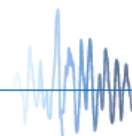
Testing Laboratory

Company Name: Clark Dynamic Test Lab

Contact Name: Robert Francis

Mailing Address: 1801 Route 51 South, Building 8, Jefferson Hills, PA 15025

Telephone: (412) 387-1001 Email: rfrancis@clarktesting.com





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Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 1.87

S_{DS} (Design spectral response acceleration at short period, g) = 2.50

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) = 1.0

Equipment or Component Natural Frequencies (Hz) = See Attachment A

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

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): Attachment A

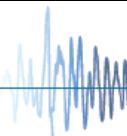
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature:  Date: 11/30/2016

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to : S_{DS} (g) = 2.5 z/h = 1.0

Condition of Approval (if applicable): _____



SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

16046-CR-001, rev. 0



Manufacturer: G&W Electric						TABLE 1	
Model Line: SF6 Insulated Padmount & Vault Switchgear							
Certified Product Construction Summary: Galvanized steel or stainless steel welded tank. Galvanized steel or stainless steel support assembly. Galvanized steel or stainless steel enclosure. 38 kV rating.							
Certified Options Summary: See Table 2							
Mounting Configuration: Base mounted - rigid Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.							
Building Code: CBC 2016		Seismic Certification Limits:			$S_{DS} = 2.5 g$	$z/h=1.0$	$I_p = 1.5$
					$S_{DS} = 2.5 g$	$z/h=0.0$	
Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
PRAM 9" Spacing of LP Mechanisms w/ Enclosure	2-Way	54	36	90	1,550		
	3-Way	54	45	90	1,682		
	4-Way	54	54	90	1,800		
	5-Way	54	63	90	2,400		
	6-Way	54	72	90	2,600		
SPRAM 12.5" Spacing of LP Mechanisms w/ Enclosure	2-Way	67	40	90	1,300		
	3-Way	67	53	90	1,700		
	4-Way	67	66	90	2,100		
	5-Way	67	79	90	2,500		
	6-Way	67	92	90	2,900		
PNI 12.5" Spacing of NI&LP Mechanisms w/ Enclosure	2-Way	68	54	90	2,200	UUT: SS enc, spt and tank	1
	3-Way	68	68	90	2,637		
	4-Way	68	82	90	3,075		
	5-Way	68	96	90	3,512		
	6-Way	68	112	90	3,950	UUT: GS enc, spt and tank	2

UNIT UNDER TEST (UUT) SUMMARY SHEET

16046-CR-001, rev. 0



Manufacturer: G&W Electric	UUT 1
Model Line: SF6 Insulated Padmount & Vault Switchgear	
Model Number: PNI - 2-Way	
Serial Number: 2011-0219-0002	

Product Construction Summary:
Stainless steel welded tank. Stainless steel support assembly. Stainless steel enclosure. 38 kV rating.

Options/Subcomponent Summary:
Controls: G&W Electric Type 3.1; **LP Switch:** CCS 611GZE8101; **Internal Auxiliary Contacts:** Omron V-15G2-1C25-K, Honeywell BA-2RV2-A2.

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
2035	68	54	90	19.3	8.3	>33

<i>UUT Highest Passed Seismic Run Information</i>								
Building Code	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	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Test Mounting Details:



Unit mounted to table using (8) 5/8"-11 Hex Head Bolts.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

16046-CR-001, rev. 0



Manufacturer: G&W Electric	UUT 2
Model Line: SF6 Insulated Padmount & Vault Switchgear	
Model Number: PNI - 6-Way	
Serial Number: 2011-0219-0001	

Product Construction Summary:
Galvanized steel welded tank. Galvanized steel support assembly. Galvanized steel enclosure. 38 kV rating.

Options/Subcomponent Summary:
Controls: G&W Electric Type 2.0; **LP Switch:** CCS 611GZE8101; **Internal Auxiliary Contacts:** Omron V-15G2-1C25-K, Honeywell BA-2RV2-A2.

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
3825	68	112	90	16.3	19.5	13.5

UUT Highest Passed Seismic Run Information

Building Code	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	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Test Mounting Details:



Unit mounted to table using (8) 5/8"-11 Hex Head Bolts.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



16046-CR-001, rev. 0

Manufacturer: G&W Electric	UUT 3
Model Line: SF6 Insulated Padmount & Vault Switchgear	
Model Number: SRAM - 2-Way Serial Number: 2011-0429-0001	

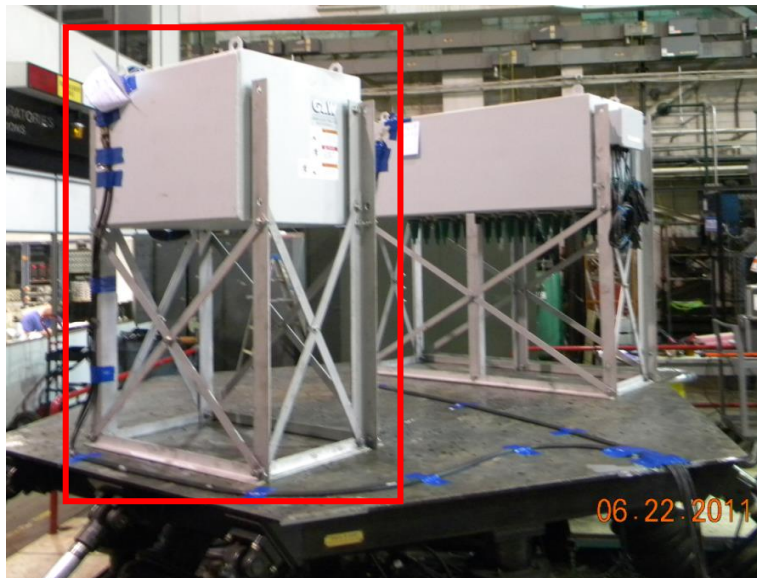
Product Construction Summary:
Stainless steel welded tank. Stainless steel support assembly. 38 kV rating.

Options/Subcomponent Summary:
LP Switch: CCS 611GZE8101; **Internal Auxiliary Contacts:** Omron V-15G2-1C25-K, Honeywell BA-2RV2-A2.

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
750	30	32	64	18.7	19.8	>33

<i>UUT Highest Passed Seismic Run Information</i>								
Building Code	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	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Test Mounting Details:



Unit mounted to table using (4) 5/8"-11 Hex Head Bolts.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



16046-CR-001, rev. 0

Manufacturer: G&W Electric	UUT 4
Model Line: SF6 Insulated Padmount & Vault Switchgear	
Model Number: RAM - 6-Way	
Serial Number: 2011-0419-0003	

Product Construction Summary:
Stainless steel welded tank. Stainless steel support assembly. 38 kV rating.

Options/Subcomponent Summary:
LP Switch: CCS 611GZE8101; **Internal Auxiliary Contacts:** Omron V-15G2-1C25-K, Honeywell BA-2RV2-A2.

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1175	30	60	67	14.2	19.5	>33

UUT Highest Passed Seismic Run Information

Building Code	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	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Test Mounting Details:



Unit mounted to table using (4) 5/8"-11 Hex Head Bolts.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.