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 – 0106-10

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

1.0

General Electric Company — *Manufacturer*

Amit Patel — *Manufacturer's Technical Representative*

41 Woodford Ave.; Plainville, CT 06062 — *Mailing Address*

860-747-7693 — *Telephone*

amit.patel2@ge.com — *E-mail Address*

2.0

Limitamp MV MCC — *Product Name*

Medium Voltage Motor Control Centers — *Product Type*

CR 194 (Controllers) & IC1074 (Loadbreak Switches); auxiliary units have varying product numbers — *Product Model No. (List all unique product identification numbers and/or serial numbers)*

General Description: Limitamp MV Motor Control Centers are floor-mounted units consisting of MCC sections, auxiliary sections, and loadbreak switch sections. They are typically installed indoor in multiple sections. Outdoor installation enclosures are not addressed.

3.0

General Electric Company — *Applicant Company Name*

Amit Patel — *Contact Person*

41 Woodford Ave.; Plainville, CT 06062 — *Mailing Address*

860-747-7693 — *Telephone*

amit.patel2@ge.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.

Amit Patel — *Signature of Applicant*

8/12/2010 — *Date*

Systems Engineer — *Title*

General Electric Company — *Company Name*

Registered Design Professional Preparing the Report

4.0

W. E. Gundy & Associates
Company Name

William E. Gundy | CE-26539
Contact Name | *California License Number*

P.O. Box 2900; Hailey, ID 83333
Mailing Address

208-788-5989 | wegai@mindspring.com
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 | Rod 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) = 1.38g

S_{DS} *(Spectral response acceleration at short period)* = 1.84g

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, "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, CAN2-1708A.5 & AC156 Requirements Checklist

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

8/12/10	**December 31, 2016**
Signature & Date	*Approval Expiration Date*
Chris Tokas, SHFR	S_{DS} (g) = **1.84** z/h = **1.0**
Name & Title	*Special Seismic Certification Valid Up to*

Condition of Approval (if any):

OSP APPLICATION

GE Industrial Solutions - Limitamp MV Motor Control Centers

Product Range Summary

GE Industrial Solutions - Limitamp MV Motor Control Centers
Product Range Summary

	Width	Depth	Height	Max. Service Weight	Notes
Motor Control Center - CR 194					
400A One High	26 in	30 in	90 in	4,000 lbs	
400A One High	34 in	30 in	90 in	4,000 lbs	(tested)
400A One High	36 in	30 in	90 in	4,000 lbs	(tested)
400A One High	40 in	30 in	90 in	4,000 lbs	
800A One High	48 in	30 in	90 in	4,000 lbs	UUT1
400A Two High	36 in	30 in	90 in	4,000 lbs	UUT4
400A Two High	40 in	30 in	90 in	4,000 lbs	(tested)
Auxiliary Sections					
Aux. Enclosure	22 in	30 in	90 in	2,700 lbs	
Aux. Enclosure	32 in	30 in	90 in	2,700 lbs	UUT2, UUT1*
Aux. Enclosure	38 in	30 in	90 in	2,700 lbs	
Aux. Enclosure	42 in	30 in	90 in	2,700 lbs	
Aux. Enclosure	44 in	30 in	90 in	2,700 lbs	
Loadbreak Switches - IC1704					
600A	34 in	30 in	90 in	1,700 lbs	
600A	38 in	30 in	90 in	1,700 lbs	
600A	42 in	30 in	90 in	1,700 lbs	
600A	44 in	30 in	90 in	1,700 lbs	
1200A	38 in	30 in	90 in	1,700 lbs	UUT3

*Between UUT2 and one section of UUT1, there were two 32" Auxiliary Section tests (400A & 800A).

**All tested units had indoor enclosures.

Anchorage

GE Limitamp MV MCC units 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 concrete pad/slab.

GE Industrial Solutions - Limitamp MV Motor Control Centers
Resonant Frequency Summary

	UUT1 - MCC Starter 4,000 lbs		UUT2 - Auxiliary 1,300 lbs		UUT3 - Loadbreak Switch 1,000 lbs		UUT4 - MCC 2-High w/ Drawout 2,000 lbs	
Direction	Frequency	Period	Frequency	Period	Frequency	Period	Frequency	Period
Front-Back	9.5 Hz	0.11 sec	10.5 Hz	0.10 sec	12.0 Hz	0.08 sec	9.0 Hz	0.11 sec
Side-Side	11.0 Hz	0.09 sec	16.0 Hz	0.06 sec	14.0 Hz	0.07 sec	8.5 Hz	0.12 sec
Vertical	15.0 Hz	0.07 sec	18.0 Hz	0.06 sec	16.0 Hz	0.06 sec	22.5 Hz	0.04 sec

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