



APPLICATION FOR PREAPPROVAL SPECIAL SEISMIC CERTIFICATION OF EQUIPMENT AND COMPONENTS

For Office Use Only

APPLICATION NO. OSP – 0287-10

Check whether application is: NEW RENEWAL

1.0 Earthsafe Systems, Inc. Bill Edwards
Manufacturer *Manufacturer's Technical Representative*

7320 South Madison, Willowbrook, IL 60527
Mailing Address

(630) 794-5100 x117 bill.edwards@earthsafe.com
Telephone *E-mail Address*

2.0 GenCentric, OmniPlex, OmniPlus, CentraPlex Emergency Power Fuel Systems Control
Product Name *Product Type*

See "Product Range Summary"
Product Model No. (List all unique product identification numbers and/or serial numbers)

General Description: Rigid wall mounted emergency power fuel system control panels.

3.0 Earthsafe Systems, Inc. Bill Edwards
Applicant Company Name *Contact Person*

7320 South Madison, Willowbrook, IL 60527
Mailing Address

(630) 794-5100 x117 bill.edwards@earthsafe.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.

Signature of Applicant

Engineer
Title

8/17/2012
Date

Earthsafe Systems, Inc.
Company Name



Registered Design Professional Preparing the Report

4.0 Forell/Elsesser Engineers
Company Name

Caroline Tsang, SE S5372
Contact Name *California License Number*

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

415-837-0700 c.tsang@forell.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 National Technical Systems Deepa Sheety
Company Name *Contact Name*

38995 Cherry Street, Newark, CA94560
Mailing Address

(510)578-3500 Deepa.shetty@nts.com
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) = 2.08

S_{DS} (Spectral response acceleration at short period) = 2.77g

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) = N/A

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, CBC 2010 & AC156 Requirements Checklist

11.0 OSHPD Approval (For Office Use Only)

8/8/2012

December 31, 2016

Signature & Date

Approval Expiration Date

M. R. Karim, SHFR

S_{DS} (g) = **2.77**

z/h = **1.0**

Name & Title

Special Seismic Certification Valid Up to

Condition of Approval (if any):

**Earthsafe - Emergency Power Fuel Systems Control Panel
Product Range Summary**

Unit	Width	Depth	Height	Max. Weight	Construction Material^{1,2,3}	Notes	Test Status
C80 GenCentric Control Module	12.0 in	6.0 in	12.0 in	18.0 lbs	18-16 ga CFS	4	UUT-1
C800 OmniPlex Control Module	12.0 in	6.0 in	16.0 in	20.0 lbs	18-16 ga CFS	4	Interpolated
C890 OmniPlus Control Module	16.0 in	6.0 in	16.0 in	35.0 lbs	18-16 ga CFS	4	Interpolated
C915 CentraPlex Control Module	24.0 in	8.0 in	30.0 in	88.0 lbs	18-16 ga CFS	4	UUT-2

Notes

1. All enclosures are NEMA 4 rated.
2. CFS= cold-formed carbon steel
3. 16 ga. CFS enclosure door and 18 ga. CFS enclosure body
4. Wall mounted.

**Earth Safe - Emergency Power Fuel Systems Control Panel
Product Range Summary**

Internal Components	Manufacturer	Part #	Testing Status
Enclosures			
12"x6"x12" NEMA 4 Control Panel	Hoffman	C-SD12126	UUT-1
12"x6"x16" NEMA 4 Control Panel	Hoffman	C-SD16126	Interpolated
16"x6"x16" NEMA 4 Control Panel	Hoffman	C-SD16166	Interpolated
24"x8"x30" NEMA 4 Control Panel	Hoffman	C-SD30248	UUT-2
Circuit Breaker			
5A Circuit Breaker	A-B	1489-A1C050	UUT-2
10A Circuit Breaker	A-B	1489-A1C100	UUT-2
20A Circuit Breaker	A-B	1489-A1C200	UUT-2
Control Pad			
24vdc GT01R, RS232 Touchpad	Panasonic	AIGT0230B	UUT-1
24vdc G-05, RS232 Touchpad	Panasonic	AIG05SQ02D	Interpolated
24vdc GT32M, RS232 Touchpad	Panasonic	AIG32MQ02D	UUT-2
Switch			
3-Position Switch	IDEC	HW1S-3TF20	UUT-1, UUT-2
Fuses			
2A Fuse	Bussman	MDA-2	UUT-1
5A Fuse	Bussman	MDA-5	UUT-1, UUT-2
10A Fuse	Bussman	MDA-10	UUT-1
Power Supply			
24V Power Supply 15 Watt/0.6A	IDEC	PS5R-SB24	UUT-1, UUT-2
Relays			
2-Pole, 120v Relay	IDEC	RH2B-UAC120	UUT-2
Control Relay	A-B	700CF220D	UUT-2
24 VDC Relay	A-B	700-HK32Z24	UUT-1
120 Vac Relay	A-B	700-HK32A1	UUT-2
Ethernet Switch			
5-Port Ethernet Switch	CC	EISK5-100T	UUT-2

TEST SUMMARY

Tested Unit UUT-1 (Smallest Unit)

C801 GenCentric Control Module

18-16 ga Carbon Steel NEMA 4 enclosure

12"H X 12"W X 7"D

Weight: 17 lbs

Wall Mounted with (4) – 3/8" dia lag screws



Internal Components	Manufacturer	Part #
12"x6"x12" NEMA 4 Control Panel	Hoffman	C-SD12126
24vdc GT01R, RS232 Touchpad	Panasonic	AIGT0230B
3-Position Switch	IDEC	HW1S-3TF20
2A Fuse	Bussman	MDA-2
5A Fuse	Bussman	MDA-5
10A Fuse	Bussman	MDA-10
24V Power Supply 15 Watt/0.6A	IDEC	PS5R-SB24
24 VDC Relay	A-B	700-HK32Z24

Tested Unit UUT-2 (Largest Unit)

C910 CentraPlex Control Module
 18-16 ga Carbon Steel NEMA 4 enclosure
 30”H X 24”W X 9”D
 Weight: 88 lbs

Wall Mounted with (4) – 3/8” lag screws



Internal Components	Manufacturer	Part #
24"x8"x30" NEMA 4 Control Panel	Hoffman	C-SD30248
5A Circuit Breaker	A-B	1489-A1C050
10A Circuit Breaker	A-B	1489-A1C100
20A Circuit Breaker	A-B	1489-A1C200
24vdc GT32M, RS232 Touchpad	Panasonic	AIG32MQ02D
3-Position Switch	IDEC	HW1S-3TF20
5A Fuse	Bussman	MDA-5
24V Power Supply 15 Watt/0.6A	IDEC	PS5R-SB24
2-Pole, 120v Relay	IDEC	RH2B-UAC120
Control Relay	A-B	700CF220D
120 Vac Relay	A-B	700-HK32A1
5-Port Ethernet Switch	CC	EISK5-100T